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Prospects of Manufacturing and Service Sector Growth in India

Role and Impact of Social Protection Programmes

Emerging Features of Trade and Trade Policy

Growth and its Drivers in Uttar Pradesh and Uttrakhand

Environment, Climate Change and Sustainable Development



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FROM SECRETARY'S DESK

The Uttar Pradesh-Uttarakhand Economic Association (UPUEA), founded in 2005, has seen impressive growth in its short tenure. Membership has exploded tenfold in less than fifteen years to about 1800 life members, showcasing the association's increasing significance. The UPUEA, Society for Promotion of Economics in both states, is a premier society of economists. It actively contributes to the field of economics by publishing its research findings. It further promotes economic exploration through annual conferences, providing a platform for economists to share research and collaborate. These conferences are experiencing a rise in participation, with growing numbers of delegates, paper presenters, and esteemed resource persons. Overall, UPUEA's dedication to organizing high-quality events and fostering research collaboration makes it a key player in advancing economic understanding within Uttar Pradesh and Uttarakhand.

The Uttar Pradesh-Uttarakhand Economic Association (UPUEA) is gearing up for its 19th Annual National Conference, a three-day event scheduled for April 13th-15th, 2024. We have received more than Three Hundred Sixty (360) Research papers under the broad theme of the conference: **Sustaining Growth with Equity: Sectoral Growth, Trade and Social Protection in the 21st Century**. A pre-Conference research workshop for the young researchers has been organized on 13th April 2024 to acquaint the researchers with various nuances of the research. This year's conference delves into the dynamic forces shaping the Indian economy, with a particular focus on the state of Uttar Pradesh and Uttarakhand. Researchers and economists have a great opportunity to contribute their expertise by submitting papers on five key sub-themes.

- ***Growth Prospects of Manufacturing and Service Sectors in India,***
- ***The Impact of Social Protection Programs,***

- *Emerging Trends in Trade and Trade Policy,*
- *The Drivers of Economic Growth in Uttar Pradesh and Uttarakhand*
- *Environment, Climate and Sustainable Development.*

All accepted papers will be published within the conference proceedings, creating a valuable record of scholarly contributions. However, the organizers have encountered a recurring challenge: *delayed paper submissions*. This has resulted in last-minute scrambling and potential disruptions to the conference schedule. Despite persistent and frequent reminder to the members to contribute their papers as per schedule, we continue to receive the late response under the pretext of late information, leading to accomplishment of further steps in haste. While we've disseminated information about the conference and deadlines, we understand that occasionally, important details might require reiteration. To ensure a well-organized event and allow ample time for the publication of full papers in the conference proceedings, we kindly request all interested members to reach out to the General Secretary or Organizing Secretary in March for any clarifications or updates. By adhering to the specified page limits, members can contribute to a well-organized and informative conference. We appreciate your understanding and look forward to receiving your valuable research contributions. The Uttar Pradesh-Uttarakhand Economic Association (UPUEA), a well-established organization for over a decade, recognizes the need to adapt with the time. With the national economy rapidly evolving, the association acknowledges new challenges facing the economies of Uttar Pradesh and Uttarakhand, particularly in agriculture and rural development. To address these challenges, the UPUEA sees the current times, as an opportune moment for critical reflection. The association proposes an objective discussion to analyze both the successes and failures of past development efforts. This analysis aims to identify crucial strategies with the potential to unlock growth across all sectors.

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(Vinod Kumar Srivastava)
General Secretary, Upuea.

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Theme 1
Prospects of Manufacturing and Service Sector
Growth in India

Role of Micro Small and Medium Enterprises (MSMEs) in Employment Generation in India

Abhijit Maurya & Dr. Sweta Kumari

1. Abstract:

The micro, small, and medium enterprises (MSMEs) sector is playing a very crucial role in the socioeconomic development of our country. This sector has immense potential for rapid and inclusive growth and development of the Indian economy. It helps in inclusive industrial development and meets domestic as well as global demands by producing a diverse range of products with low capital costs. By optimally utilizing regional resources, it helps reduce regional imbalances, migration, and poverty. This sector is also playing an important role in the structural change of the Indian economy, from agrarian to industrialized. It contributes a large share of GDP and creates a large number of employment opportunities. In India, MSMEs are in second place in employment generation after the agriculture sector. Due to its significant contribution to the Indian economy, the government is providing various types of support through various policies and programs for its expansion and growth. This research paper analyzes the importance of micro, small, and medium enterprises (MSMEs) in employment generation in India. This paper presents a comparative analysis of the growth of two basic parameters of MSMEs, employment and number of MSMEs, based on the Fourth All India MSME Census, 2006–07, and the NSS 73rd round survey, 2015–16.

2. Keywords: MSME, Employment, Manufacturing sector, service sector.

3. Introduction:

The Micro, Small and Medium Enterprises (MSMEs) sector is the need of the hour for rapid growth and expansion of an economy. In an economy, it plays crucial role to achieve many socio-economic objectives like employment generation, export promotion, developing entrepreneurial attitudes among youth, reducing regional inequality, enhancing optimum use of

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local resources, reducing unequal distribution of wealth, promoting gender equality, etc. It is estimated that there are 150 million MSMEs in 130 countries, which contributes to approximately 65% of all employment.¹

In the Indian economy, the micro, small and medium enterprises (MSME) sector is playing an important role in Socioeconomic Development of the country. It has immense potential for inclusive industrial development and meeting the domestic as well as global demands by producing diverse range of products with low capital costs. It is the sector that provides the larger employment in India after the agriculture sector. The path to achieving the goals and objectives to fulfill the new India's vision like 'Amrit Kaal' 'self-reliant India', 'make in India' and 'Startup India' etc., goes through the expansion of MSMEs.

There is no definition of MSMEs that is accepted internationally. Most countries in the world define and classify MSMEs on the basis of the number of workers, investment, and turnovers. In India, the classification of MSMEs is based on investment in plants and machinery and turnover of enterprises. As per the provisions of the 'Micro, Small & Medium Enterprises Development (MSMED) Act, 2006', MSMEs are classified as follows:

- a micro enterprise, where the investment in plant and machinery or equipment does not exceed one crore rupees and turnover does not exceed five crore rupees;
- a small enterprise, where the investment in plant and machinery or equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees; and
- a medium enterprise, where the investment in plant and machinery or equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.

Table:1 Classification of MSMEs

Type of Enterprises	Investment in plant and machinery or equipment does not exceed	turnover does not exceed
Micro	1 crore rupees	5 crore rupees
Small	10 crore rupees	50 crore rupees
Medium	50 crore rupees	250 crore rupees

Source: MSME Annual Report 2022-23

Review of Literature:

Fatima, M., and Akhtar, S. J. (2023), in their research paper, '*An overview of micro, small, and medium enterprises (MSMES) in the state of Uttar Pradesh*', revealed that, Uttar Pradesh has immense potential for the expansion and improvement of Micro, Small, and Medium Enterprises (MSMEs) due to its rich social, physical, and industrial infrastructure,

abundant supply of skilled and semi-skilled labour, large market demand for goods and services, and political stability. They further revealed that the Uttar Pradesh government is more concerned about MSMEs regional growth and provides various assistance for growth and expansion of MSMEs through various schemes, policies, and programs.

Mukherjee, S. (2018), in her research paper '*Challenges to Indian Micro Small Scale and Medium Enterprises in The Era of Globalization*' examines the Indian coir industry's export trajectory over the previous five years. The main reason for its declining export competitiveness was shown to be a lack of adequate technologies. She concludes that more investment in modern technology and research and development (R&D), greater adoption of the digital platform, technology transfer, increased investment in HR, enhanced access to finance, and liberal business policies can all help it become more competitive globally. The investigation also contains a detailed examination of the various steps implemented by the Indian government to promote the technological growth of Indian MSMEs.

Biswas, A. (2015), has explained in his research paper '*Opportunities and Constraints for Indian MSMEs*' that the Indian MSMEs sector has untapped potential and great opportunities for its growth. It plays an important role in employment generation, balanced regional growth, export promotion, and entrepreneurship development. Although the MSMEs sector is supported by various government policies, schemes, and programs for its growth and expansion, it is facing many challenges. The author revealed that the main hurdles to MSMEs sector growth are the absence of adequate and timely credit, poor infrastructure, technological backwardness, ineffective marketing strategies, a lack of skilled manpower, and the unavailability of raw materials and other inputs.

Ghouse, S. M. (2014), has revealed in his research paper, '*Export Competitiveness of India: The Role of MSMEs to Play!*' that India's MSMEs sector plays a significant role in the country's exports and has the potential to grow further if it can raise the standard of its products and attract more foreign buyers. The export competitiveness of Indian MSMEs can be promoted by working on the key performance areas of the sector, like finance, government support, innovation, technology advancement, intra- and inter-firm coordination, human resources development, branding and IPRs, liberalization, etc. The author further explained that the key barriers or challenges of export competitiveness of Indian MSMEs sector are technology obsolescence, high cost of credit, collateral requirements, raw material costs, improper infrastructural facilities, lack of skilled manpower, etc. A healthy involvement of the government, private sector and the international sector can help in promoting export competitiveness of Indian MSMEs sector.

Pujar, M. (2014), in her research paper '*MSMEs and Employment in India: An Analytical Study*' explained that the MSMEs sector is playing a critical role in the socioeconomic development of India. It helps to tackle many socioeconomic problems in the Indian economy, such as unemployment, regional imbalances, and poverty, and significantly contributes to the gross domestic product (GDP). The author analyzed the MSMEs sector contribution on the

basis of two parameters: the number of enterprises and employment generation, in three ways: area-wise (rural and urban), sector-wise (micro, small, and medium), and activity-wise (manufacturing, repair and maintenance, and services). And the author found the following results: 1. In terms of two primary metrics, the number of firms and employment, urban areas had a higher percentage of the registered MSME sector than rural areas. 2. The microsector was a significant part of the MSME sector, accounting for a large number of firms and employment opportunities. 3. Manufacturing enterprises are the most prevalent in activity-based distribution, accounting for more enterprises and employment than repair, maintenance, and service activities.

Objectives:

- The main objective of the study is to analyse the role of MSME sector in employment generation.
- The second objective of the study to analyse the growth of MSMEs

Research Methodology:

The current research study is mainly based on secondary data which is descriptive in nature. The data collected from various sources like, journals, research papers, reports, government websites, Ministry of MSME, Ministry of Statistics and Programme Implementation, etc. By using Microsoft excel, the data have been presented in the form of graphs and table.

Data Analysis and Discussion:

The following table indicates comprehensive information on the basic parameters of the MSMEs sector, extracted from both the Fourth All India MSME Census, 2006–07, and the NSS 73rd round survey, 2015–16. The table shows that the MSMEs sector is showing tremendous growth in the expansion of MSMEs units and employment generation both in the manufacturing and service sectors. On the basis of Table 1, a comparative analysis of the expansion of MSMEs in India and employment generation through MSMEs over the past decade has been made with the help of Graphs 1 and 2, respectively.

Table:2
Growth of MSMEs

(Figures in lakhs)

Parameter	NSS 73 rd Round# 2015-16	Fourth All India Census of MSMEs, 2006-07	Annual compound Growth Rate (%)
No.of MSMEs (Total)	633.88	361.76	6.43
Manufacturing	196.65	115.00	6.14
Services	437.23	246.76	6.56
Employment (Total)	1109.89	805.24	3.63
Manufacturing	360.42	320.03	1.33
Services Sector	749.47	485.21	4.95

Source: MSMEs Annual Report 2018-19

The total number of MSMEs and the total number of Employment in the MSMEs sector during the fourth all-India MSME Census 2006–07 were 361.76 lakhs and 805.24 lakhs, respectively, while the number of manufacturing sector and service sector MSMEs was 115.00 lakhs and 246.76 lakhs, respectively, and the number of Employment in the manufacturing sector and service sector was 320.03 lakhs and 485.21 lakhs, respectively. NSS 73rd round, 2015-16 data shows, the total number of MSMEs and the total number of employees are 633.88 lakhs and 1109.65 lakhs, respectively. The number of manufacturing and service sector MSMEs is 196.65 lakhs and 437.23 lakhs, respectively, and the number of Employment in the manufacturing and service sectors is 360.42 lakhs and 749.47 lakhs, respectively. Annual Compound Growth Rate of No. of MSMEs and Total No. of Employment is 6.43% and 3.63%, respectively, whereas no. of manufacturing and service sector MSME's annual compound growth rate is 6.14% and 6.56%, respectively, and no. of employment in manufacturing and service sector MSME's annual compound growth rate is 1.33% and 4.95%, respectively.

The comparative analysis of the given data shows both number of MSMEs and no. of employment in both manufacturing and service sector MSMEs has increased over a decade.

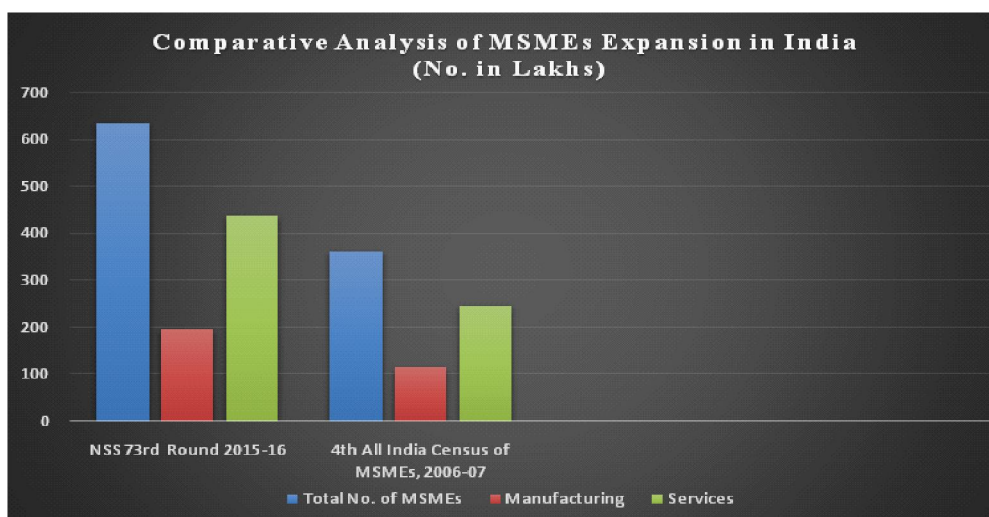
Figure1: Comparative Analysis of MSMEs Expansion in India

Figure 1 (based on Table 2), shows the comparative analysis of MSMEs growth over a decade by comparison on the basis of comprehensive data on MSMEs obtained from the Fourth All India Census of MSMEs, 2006–07, and the NSS 73rd round, 2015–16. Figure 1 shows that the total number of MSMEs in both the manufacturing and service sectors has increased over the past decade. In the Fourth All India Census of MSMEs, 2006–07, the total number of MSMEs was 361.76 lakhs (manufacturing sector: 115.00 lakhs and service sector: 246.76), which increased in the NSS 73rd round, 2015–16, by 633.88 lakhs (manufacturing sector: 360.42 lakhs and service sector: 437.23 lakhs).

Figure:2 Comparative Analysis of No. of Employment generation in MSMEs sector

Figure 2 (based on tabe2), shows the comparative analysis of no. of employment generation in MSMEs sector over a decade by comparison on the basis of comprehensive data on MSMEs obtained from Fourth all India Census of MSMEs, 2006-07 and NSS 73rd round survey, 2015-16. Figure 2 shows number of Employment both in manufacturing as well as service sector increases over decade. Graph1 shows that, In the Fourth All India Census of MSMEs, 2006–07, the total number of employment opportunities were 805.24 lakhs (manufacturing sector: 320.03 lakhs and service sector: 485.21), which increased in the NSS 73rd round, 2015–16, by 1109.89 lakhs (manufacturing sector: 320.03 lakhs and service sector: 749.47).

Table 3: Distribution of Enterprises Category Wise

(Numbers in lakh)

Sector	Micro	Small	Medium	Total	Share (%)
Rural	324.09	0.78	0.01	324.88	51
Urban	306.43	2.53	0.04	309.00	49
All	630.52	3.31	0.05	633.88	100

Source: MSME Annual Report 2022-23

Table 3 shows the distribution of enterprises category-wise. The total number of MSMEs is 633.88 lakhs (Micro: 630.52 lakhs, Small: 3.31 lakhs, and Medium: 0.05 lakhs). In rural areas, the total number of MSMEs is 324.88 lakhs (Micro: 324.09 lakhs, Small: 0.78 lakhs, and Medium: 0.01 lakhs), with a percentage share of 51%. In urban areas, the total number of MSMEs is 309.00 lakhs (Micro: 306 lakhs, Small: 2.53 lakhs, and Medium: 0.04 lakhs), with a percentage share of 49%. The data shows MSMEs total distribution in rural areas is greater than in urban areas, but the distribution of small and medium-sized enterprises in urban areas is greater than in rural areas.

Table 4: Distribution of employment by type of Enterprises in Rural and Urban Areas

(Numbers in lakh)

Sector	Micro	Small	Medium	Total	Share (%)
Rural	324.09	0.78	0.01	324.88	51
Urban	306.43	2.53	0.04	309.00	49
All	630.52	3.31	0.05	633.88	100

Source: MSME Annual Report: 2022-23

The Table 4 shows the distribution of employment by type of enterprise in rural and Urban Areas. The total number of employees in the MSMEs sector is 1109.89 lakhs (Micro: 1076.19 lakhs, Small: 31.95 lakhs, and Medium: 1.75 lakhs). In rural areas, the total number of employees in the MSMEs sector is 497.78 lakhs (Micro: 489.30 lakhs, Small: 7.88 lakhs, and Medium: 0.60 lakhs), with a percentage share of 45%. In urban areas, the total number of employees in the MSMEs sector is 612.10 lakhs (Micro: 586.88 lakhs, Small: 24.06 lakhs, and Medium: 1.16 lakhs), with a percentage share of 55%. The data shows that the total employment generation in rural areas of the MSMEs sector is less than in urban areas.

Findings:

1. The total number of MSMEs and the total number of employment opportunities in the MSMEs sector have shown tremendous increases over decades.
2. The number of MSMEs in both the manufacturing and service sectors has increased over the decades, but service sector MSMEs have increased more rapidly than manufacturing sector MSMEs in both the number of MSMEs and employment opportunities.
3. MSMEs total distribution in rural areas are greater than Urban areas but the Distribution of Small and medium size enterprises in urban areas are greater than rural areas.
4. % share of Distribution of MSME in rural areas is greater than the urban areas.
5. The total number of employment generation in rural areas of MSMEs sector is less than urban areas.

6. % share of employment generation in MSMEs in rural areas is less than the urban areas.

Conclusion:

MSMEs sector is playing a critical role in the socioeconomic development of India. It helps to tackle many socioeconomic problems in the Indian economy, such as unemployment, regional imbalances, and poverty, and significantly contributes to the gross domestic product (GDP). It has immense growth potential and plays a critical role in manufacturing and the value chain. This sector is also playing an important role in the structural change of the Indian economy, from agrarian to industrialized. It contributes a large share of GDP and creates a large number of employment opportunities. In India, MSMEs are in second place in employment generation after the agriculture sector. The present study proved successfully that the MSMEs sector is playing a very crucial role in employment generation, growth, and expansion of micro, small, and medium-sized enterprises in India.

Limitations:

1. There is Absence of empirical analyses. The paper is purely based on secondary data.
2. Data Constrains, majority of data extracted from NSS 73rd round survey (2015-16) and Fourth All India Census of MSME (2006-07), and DCMSMEs (2018-19 to 2021-22).

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Endnotes

¹Fatima, M., & Akhtar, S. J. (2023). An overview of micro, small and medium enterprises (MSMES) in the state of Uttar Pradesh. *EPRA International Journal of Economic and Business Review (JEER)*, 11(1), 1-10.

An Analysis of Shrinkflation in Indian Market: Manufacturing and Service Sector

Prabhat Kumar & Dr. Shashi Lata Singh

Abstract

The primary objective of this study is to analyse the extent of shrinkflation in the Indian market, including its prevalence in various industries especially in manufacturing and service sector. To achieve this goal, a descriptive research methodology has been employed, utilizing secondary data obtained from credible sources. The study aims to examine several aspects of shrinkflation, including its prevalence in the Indian market, its causes, impact on consumers, and responses from the government and regulatory bodies. Furthermore, the study examines the regulatory measures taken by the government to mitigate the effects of shrinkflation and identifies possible solutions to this problem. Finally, the results of this study provide insights into the extent of shrinkflation in the Indian market and the government's approach to addressing this issue, considering the welfare and transparency of society.

Keywords: *Shrinkflation, Competition Commission of India, Economic Times, Business Today, Inflation*

1. Introduction

The shrinkflation is one of the phenomena of hidden inflation. It's the inflation you're not supposed to see. (Durbin, 2022). In the competitive market when a producer reduces its quantity in place of increasing price because of inflation or high input costs then it occurs. It is quietly acceptable and easy to maintain the demand of the product or service without taking more money from the consumer. In Indian market where it implements in different large sellers of FMCG manufactures and in-service sector as well as a rational consumer, it knows the inflation and high input costs of production sector and knows that he is paying equal to the inflation. This can lead to consumers paying more for less, which can be frustrating and confusing. Shrinkflation has been seen in various industries and markets around the world, including in India.

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In recent years, this trend has been observed in the Indian market across a variety of consumer goods, including packaged food, personal care products, and household items. This has raised concerns among consumers and policymakers, as it may lead to a decline in the purchasing power of consumers and contribute to inflation.

In the Indian context, shrinkflation has become a major issue in recent years. According to a study by the Consumer Protection Council, nearly 60% of packaged food products in India have witnessed shrinkflation in the past few years (Consumer Protection Council, 2021). Similarly, a study by the Indian Institute of Public Administration found that the phenomenon of shrinkflation was observed across a variety of consumer goods, including personal care products and household items (Indian Institute of Public Administration, 2020).

2. Review of Literature

The literature on shrinkflation is limited. The concept of shrinkflation has been discussed in the literature for several years. According to a study by the UK Office for National Statistics, the phenomenon of shrinkflation has been observed in the UK market for more than a decade (Office for National Statistics, 2016). Similarly, a study by the Australian Competition and Consumer Commission found that shrinkflation was prevalent in the Australian market as well (Australian Competition and Consumer Commission, 2018). The Indian manufacturing sector has experienced a phenomenon known as “shrinkflation,” where the left-hand tail of the firm-size distribution thickens significantly following deregulation (Alfaro, 2012). This has led to a decline in resource misallocation, but the dominance of large incumbent firms remains unchallenged. In the service sector, the rapid growth of modern services, particularly in IT-BPO, has raised questions about the sustainability of this growth (Eichengreen, 2010). The “hollowing-out” of the manufacturing sector, characterized by a decline in domestic value addition, has been attributed to trade facilitation measures (Banga, 2014). These trends suggest a complex and evolving landscape in both the manufacturing and service sectors, with implications for firm size, resource allocation, and the quality of growth. The economic slowdown in India, exacerbated by the COVID-19 pandemic, has led to a contraction in GDP growth and a decline in industrial output and private sector investment (Singh, 2020). This has been accompanied by a sharp disinflation, driven by a moderation of expectations and rationalization of Minimum Support Prices (MSPs) (Chinoy, 2016). However, high food inflation remains a concern, particularly for the poor (Jain, 2016).

3. Objectives

This paper examines shrinkflation in the Indian market with the following objectives:

1. Definition and explanation of shrinkflation: A clear and concise definition and explain how it differs from traditional inflation.
2. Prevalence: Assess the extent and impact of shrinkflation across industries in India.

3. Causes: Analyse contributing factors like cost pressures, shifting consumer demands, and competitive dynamics.
4. Consumer Impact: Investigate how shrinkflation influences purchasing behaviour and overall consumer satisfaction.
5. Government Response: Evaluate regulatory actions taken by Indian authorities to address shrinkflation, including issuing guidelines and investigations.
6. Solutions: Propose measures such as enhanced transparency and stronger consumer protections to mitigate shrinkflation effects in the Indian market.

3.1 Definition and explanation of shrinkflation:

Shrinkflation is a phenomenon where the quantity of a product decreases over time, but the price remains the same or increases slightly. This means that consumers are paying the same or more money for a smaller product. Dworsky said shrinkflation appeals to manufacturers because they know customers will notice price increases but won't keep track of net weights or small details, like the number of sheets on a roll of toilet paper. (Durbin, 2022).

Shrinkflation is different from traditional inflation, which is a general increase in prices over time. Inflation is typically measured by the Consumer Price Index (CPI), which tracks the average price of a basket of goods and services. When there is inflation, the value of money decreases, and consumers need to pay more to purchase the same goods and services.

It allows manufacturers to maintain their profit margins while potentially misleading consumers into believing that they are still paying the same price for the same amount of product. This phenomenon has attracted considerable attention from consumer protection agencies and advocacy groups in recent years.

According to the Australian Competition and Consumer Commission (ACCC), shrinkflation is one of several practices associated with the use of shelf space fees in the grocery sector. The ACCC defines shelf space fees as "payments made by suppliers to retailers for access to retail shelf space, often including payment for preferential positioning and promotion of their products" (Australian Competition and Consumer Commission, 2018, p. 4).

In India, a survey conducted by the Consumer Protection Council (CPC) in 2021 found that shrinkflation was a common practice among manufacturers of packaged goods, particularly in the food and beverage sector. The CPC's survey found that nearly 80% of the products examined had reduced in size over the past year, with only 20% of manufacturers reducing their prices in response (Consumer Protection Council, 2021).

Similarly, a study conducted by the Indian Institute of Public Administration in 2020 found that shrinkflation was prevalent in the consumer goods industry, particularly in the case of food and beverage products. The study found that manufacturers were reducing the size or quantity of their products while maintaining the same price, resulting in a hidden price increase for consumers (Indian Institute of Public Administration, 2020).

3.2 Prevalence of shrinkflation in the Indian market

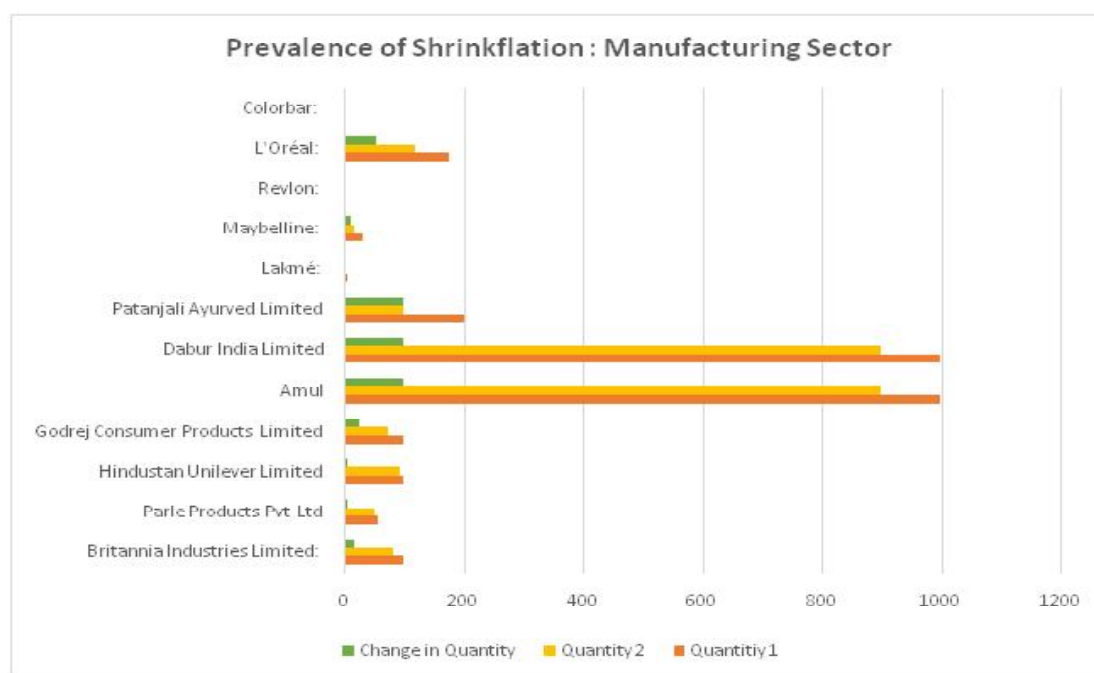
In India, “down-switching” — another term for shrinkflation — is mostly done in rural areas, where people are poorer and more price sensitive, said Byas Anand, head of corporate communications for Dabur India, a consumer care and food business. In cities, companies simply jack up prices. (Durbin, 2022)

Shrinkflation has been observed in the Indian market, although it is difficult to determine the extent to which it has occurred due to the lack of comprehensive data on the topic. However, there have been several media reports and anecdotal accounts of shrinkflation in various industries in India.

It is difficult to say which industries or sectors in India have been more affected by shrinkflation, as it can occur in any industry and can affect a wide range of products. However, it is likely that shrinkflation has been more prevalent in industries where there is intense competition and companies are looking for ways to cut costs while maintaining their profits.

3.2.1 Prevalence of shrinkflation: Manufacturing sector

Here are some examples of Indian companies that have reportedly used shrinkflation in their products:



(Sources: Various issues of Economic Times, Business Today and India Today)¹

Britannia Industries Limited: Britannia Industries Limited, one of the leading food companies in India, has been reported to reduce the quantity of its products and maintain the price. For instance, it reduced the weight of its Good Day biscuits from 100 grams to 83 grams in 2017, while keeping the price unchanged (Economic Times, 2017).

Parle Products Pvt Ltd: Parle Products, a leading manufacturer of biscuits and confectionery products, has also implemented shrinkflation in some of its products. In 2020, it reduced the weight of its popular biscuit brand, Parle G, from 56 grams to 50 grams while maintaining the price (Business Today, 2020).

Hindustan Unilever Limited: Hindustan Unilever Limited (HUL), one of the largest FMCG companies in India, has also been reported to use shrinkflation in some of its products. For example, in 2017, it reduced the weight of its popular soap brand, Lux, from 100 grams to 93 grams while maintaining the price (Business Today, 2017).

Godrej Consumer Products Limited: Godrej Consumer Products Limited (GCPL), a leading manufacturer of household and personal care products, has also implemented shrinkflation in some of its products. For instance, it reduced the weight of its soap brand, Cinthol, from 100 grams to 75 grams in 2017 while maintaining the price (Business Today, 2017).

These are just a few examples of Indian companies that have implemented shrinkflation in their products. However, it is important to note that not all companies engage in this practice, and the extent to which it is used can vary depending on the industry and the specific product.

3.2.2 Prevalence of shrinkflation: Service Sector

In recent years, a growing phenomenon known as shrinkflation has come under the spotlight within the Indian service sectors. Shrinkflation refers to a pricing tactic employed by businesses, enabling them to maintain their profit margins by reducing the quantity or quality of their offerings while keeping prices constant.

Hospitality and Travel Services: The hospitality and travel services sector in India has also witnessed shrinkflation practices. According to a report by The Indian Express (2020), several hotels and airlines have been reducing the quality or quantity of complimentary services provided to customers, such as reducing the number of toiletries, lowering food quality, or reducing baggage allowances. These subtle modifications allow service providers to retain prices while offering less, thus impacting the overall customer experience.

Healthcare Industry: The healthcare industry in India has also not remained untouched by the phenomenon of shrinkflation. A study conducted by researchers at IIM Bangalore (Sheth et al., 2020) highlighted that hospitals have been employing shrinkflation strategies to maintain profitability. These tactics range from reducing the time spent with patients to limiting the availability of certain medicines or diagnostic services, all while keeping prices constant.

Financial Services: Financial services, including banking, insurance, and investment sectors, have also witnessed instances of shrinkflation. For instance, a study by Vijayditya & Adrija (2020) highlighted that several banks in India have subtly reduced the benefits and services provided, such as decreasing the number of free cash withdrawal transactions or charging higher fees for account maintenance, while still maintaining the same pricing structure for their services.

3.3 Causes of shrinkflation in the Indian market:

Several factors contribute to this phenomenon, including cost pressures, changes in consumer demand, and competition.

One of the main causes of shrinkflation in the Indian market is cost pressures. Rising raw material prices, transportation costs, and inflation have increased the cost of production for manufacturers. In order to maintain profit margins, manufacturers have been forced to reduce the quantity or size of their products.

Changes in consumer demand have also contributed to shrinkflation in the Indian market. Consumers in India are increasingly price-sensitive and value-conscious, and they are looking for ways to save money on their purchases. Manufacturers have responded by reducing the quantity or size of their products while maintaining the same price point.

Competition is another factor contributing to shrinkflation in the Indian market. Manufacturers are facing intense competition from both domestic and international players, and they are under pressure to maintain their market share. By reducing the quantity or size of their products, manufacturers can maintain their price points and remain competitive.

3.4 Impact of shrinkflation on consumers

The most immediate effect of shrinkflation on consumers is that they receive less product for the same price. This reduction in quantity can be particularly frustrating for consumers who have grown accustomed to a certain package size or quantity.

Shrinkflation can also impact consumers' purchasing decisions. When faced with a choice between a product that has been downsized and one that has not, consumers may be more likely to choose the latter, particularly if they feel that the smaller size does not offer enough value for the price.

In some cases, shrinkflation can also lead to a decline in product quality.

However, not all consumers are equally impacted by shrinkflation. According to a report by Nielsen, consumers in lower-income households are more likely to be affected by shrinkflation than those in higher-income households (The Economic Times, 2022). This is because lower-income households may be more price-sensitive and more likely to be impacted by changes in product size or quantity.

The prevalence of shrinkflation in various service sectors ultimately impacts consumers. It erodes customers' trust as they receive less product or service value for the same price.

they used to pay. Additionally, consumers may face challenges in making informed decisions due to the lack of transparency surrounding shrinkflation practices.

3.5 Government and regulatory responses to shrinkflation

The Indian government and regulatory bodies have taken a number of actions to address shrinkflation in the country.

One of the main actions taken by the government has been the issuance of guidelines and advisories to companies to ensure that consumers are not misled by shrinkflation. In 2018, the Department of Consumer Affairs released guidelines on the practice of shrinkflation, stating that companies should not reduce the size or quantity of a product while keeping the price the same, as this can be misleading to consumers. The guidelines also stated that companies should clearly label their products with the net weight or volume to ensure that consumers are aware of the actual quantity they are purchasing.

In addition to issuing guidelines, the government and regulatory bodies have also taken a number of other actions to address shrinkflation. For example, the Competition Commission of India (CCI) has launched investigations into companies accused of shrinkflation, and has imposed fines on companies found to be engaging in the practice.

Other regulatory bodies, such as the Food Safety and Standards Authority of India (FSSAI) and the Bureau of Indian Standards (BIS), have also acted to address shrinkflation.

One of the primary regulatory bodies in India, the Department of Consumer Affairs, has been actively monitoring the issue of shrinkflation. In 2017, the department issued guidelines to manufacturers and retailers on how to avoid misleading consumers through deceptive packaging practices.

In addition to issuing guidelines, the Indian government has also launched investigations into cases of shrinkflation. In 2018, the government's anti-trust watchdog, the Competition Commission of India, initiated an investigation into allegations of price-fixing and cartelization in the ice cream industry. The investigation was prompted by complaints from consumers who noticed a reduction in the quantity of ice cream sold at the same price. The commission found evidence of collusion among several ice cream manufacturers and imposed fines on them (Business Standard, 2019).

Furthermore, the government has also taken steps to address the root cause of shrinkflation by addressing cost pressures faced by manufacturers.

However, despite these efforts, shrinkflation remains a concern for consumers and regulatory bodies in India. In 2021, the Department of Consumer Affairs issued new draft guidelines for e-commerce companies that require them to provide accurate information on product quantity, weight, and dimensions. The guidelines also prohibit e-commerce companies from misleading consumers through deceptive packaging practices or false advertising (Livemint, 2021).

3.6 Potential solutions to shrinkflation

Here are some potential solutions to shrinkflation in the Indian market:

Greater transparency from companies: One potential solution to shrinkflation is for companies to be more transparent about the size and quantity of their products. This could involve providing more accurate information on packaging or using standardized units of measurement.

Stronger consumer protections against unfair pricing practices. This could involve imposing stricter penalties on companies that engage in shrinkflation, or requiring companies to provide more detailed information on their products.

Consumer education about the issue of shrinkflation and how to identify deceptive packaging practices. This could involve launching public awareness campaigns or providing educational resources to consumers.

Encouraging competition in the Indian market. This could involve reducing barriers to entry for new companies or promoting greater transparency in pricing. **Conclusion:**

Shrinkflation poses a significant challenge in the Indian market, particularly in manufacturing and service sectors like FMCG, food, hospitality, healthcare, and finance. It diminishes consumer purchasing power and satisfaction, attributed to cost pressures, changing demands, and competition. Despite governmental efforts, shrinkflation persists, leading to consumer frustration and distrust.

Consumers feel deceived and cheated by companies engaging in shrinkflation, prompting them to seek cheaper alternatives or more transparent brands. This results in decreased satisfaction and trust in products.

To tackle shrinkflation, solutions like enhanced transparency, stronger consumer protections, education, and fostering competition have been proposed. However, more concerted efforts are needed to shield consumers from unfair pricing practices.

By addressing this issue, companies can maintain consumer trust and promote fair pricing practices in the Indian market.

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(Footnotes)

- ¹ Appendix 1 refers to show the detailed table of the given chart

Unlocking the Puzzle of Regional Disparities and Economic Growth in Sub-regions of India

Sukanya Maurya

ABSTRACT

This study aims to investigate the dynamics of sectoral domestic product growth (including agriculture & allied, industry, and service sectors) across 32 regions in India, comprising 28 states and 4 Union Territories, over the period from 2000-2001 to 2021-2022. Utilizing data sourced from the EPWRF time series dataset, the study divides the entire timeframe into two distinct sub-periods: (1) the first period spanning from 2000-01 to 2010-11, and (2) the second period spanning from 2011-12 to 2021-22. The findings reveal that in the agriculture and allied sector during the first period (2011-12 to 2021-22), Gujarat exhibits the highest growth rates followed by Tripura and Telangana, while Kerala and Bihar experience the lowest growth rates and the Andaman & Nicobar Islands show negative growth. While in the second period (2011-12 to 2021-22). Concerning the industry and service sectors, the study observes more pronounced growth during the first period compared to the second period. Targeted interventions are needed to address disparities, especially in regions with negative growth or slower development. Boosting agricultural productivity and allied sectors can stimulate overall growth and reduce disparities. Investment in industry and service sectors, along with infrastructure development, can foster economic diversification and sustainable development. Coordinated efforts among policymakers, stakeholders, and local communities are essential to implement inclusive policies prioritizing equitable growth across all regions of India.

Keywords: *Regional disparities, Economic growth, Convergence, Divergence.*

INTRODUCTION:

Researchers have long been interested in examining regional economic growth and inequality within the Indian economy since gaining independence. The disparities in economic growth

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rates across different regions pose significant challenges for policymakers and planners, potentially fracturing socio-political unity within the nation. This prompts critical questions: Will national economic growth exacerbate existing disparities, widening the divide between prosperous and disadvantaged states? Conversely, is there potential for long-term economic convergence among regions, driven by factors such as infrastructure development and human capital investment? Can targeted governmental interventions, such as regional development policies and investment incentives, or the inherent dynamics of the market system effectively address regional disparities over time? In this context, the examination of the hypothesis of regional income convergence against the backdrop of sustained divergence in state incomes is crucial for understanding the complex dynamics at play in India's economic landscape.

Regional economic disparities have profound implications for the economic and political functioning of national economies, regardless of their development status. These disparities can trigger undesirable movements of labor and capital between regions with varying economic conditions, amplifying the imbalance. Furthermore, they can facilitate the transmission of inflation from prosperous to struggling regions, complicating the national trade-off between inflation and unemployment. In addition to economic consequences, regional disparities often breed political resentment in less affluent areas and foster disillusionment with the political process, potentially leading to social unrest. Consequently, there is a compelling case, grounded in economic, social, and political reasoning, for promoting greater economic equilibrium within countries. Many nations have thus implemented regional policies aimed at addressing these imbalances, recognizing the importance of fostering national unity and ensuring equitable growth. Since India gained independence in 1947, reducing regional disparities in living standards has been a key policy objective, driven by the goal of promoting national unity and achieving inclusive growth.

Examining economic trends at the regional or state level is crucial for several reasons. Firstly, the economic liberalization measures of 1991 delegated more authority to state and local governments, particularly in investment matters. This shift underscores the need to analyze economic growth patterns before and after liberalization. While national-level data offer valuable insights, they may obscure variations among states. It's essential to investigate whether all states experienced similar growth rates or if disparities persisted, with affluent states outpacing others. Understanding these nuances is vital for achieving balanced regional development goals. Additionally, the structure of the Indian government and its intergovernmental relations add complexity. Despite the central government's significant tax-raising powers, the constitution includes provisions for transferring grants to states to ensure balanced growth. These grants, such as statutory transfers and grants in aid, aim to support various state projects. Research indicates that poorer states receive a relatively larger share of funds compared to wealthier ones. For states like Bihar, which face significant development challenges, these transfers constitute a substantial portion of state income. Evaluating whether regional inequalities have diminished over time and if less prosperous states have made progress in catching up with wealthier ones can shed light on the effectiveness of these fund transfers.

In the subsequent section, I will delve into an analysis of growth experiences at the state level to further explore these dynamics.

This study aims to investigate the dynamics of sectoral domestic product growth (including agriculture & allied, industry, and service sectors) across 32 regions in India, comprising 28 states and 4 Union Territories, over the period from 2000-2001 to 2021-2022.

LITERATURE REVIEW:

Regionally, the neoclassical growth theory posits that regions with higher initial levels of capital should experience faster economic growth, while the new growth theory suggests that technological innovation and human capital accumulation are the driving forces behind regional economic disparities and growth (Lucas, 1988; Romer, 1990).

In their study, Barro and Sala-i-Martin found that disparities in physical capital and human capital explain a significant portion of regional income differences. This suggests that policies targeting the accumulation of both physical and human capital are crucial for addressing regional disparities and promoting economic growth.

Duranton and Puga (2005) introduced the concept of 'nursery cities,' proposing that cities have the potential to stimulate innovation and facilitate growth in emerging industries, which subsequently diffuse to other regions.

Furthermore, the role of institutions in shaping regional economic disparities cannot be understated. Acemoglu et al. argue that variations in institutional quality across regions account for disparities in economic performance. This highlights the importance of institutional reform and governance in unlocking the puzzle of regional disparities and fostering economic growth.

Recent research conducted by Triplett and Bosworth (2004) has presented a counterargument to this perspective, suggesting that the service sector can attain noteworthy productivity improvements as well. The ongoing discussion regarding whether economic activities are experiencing dispersion or concentration remains a focal point in the field of regional economics.

In conclusion, the literature reviewed suggests that a combination of factors including capital accumulation, technological innovation, human capital, and institutional quality play significant roles in shaping regional economic disparities and growth. Addressing these factors through targeted policies and reforms is essential for unlocking the puzzle of regional disparities and promoting sustainable economic growth.

OBJECTIVE:

- To analyze the growth of sectoral Gross State Domestic Product (GSDP), encompassing agriculture & allied, industry, and service sectors, at the regional level.

DATA AND METHODOLOGY:

Data Sources

The present study is based on secondary sources of data. The data which is used in this paper is compiled from EPW Research Foundation, covering the period 2000-01 to 2021-22 for the analysis.

Methodology

To compare the growth rate in agriculture & allied, industry, and service sectors in India. This study mainly uses the linear log model to compute the compound annual growth rate of agriculture & allied, industry, and service sectors in India. In this study, the period is divided into 2 parts of 10 years each which is due to the purpose of getting information about the last 2 decades of 21st centuries. By comparing them like this, we can find out the differences between 2 decades of the 21st century.

The Compound Annual Growth Rates are estimated by using the following formula:

The exponential compound annual growth rates are estimated by using log linear functions on the time series data of share of Agriculture and allied sector, Industry and Services in GSDP. The semi-log exponential functional form is used to analyze the trend in growth rate, which is one of the appropriate functional forms to estimate the growth rate. That is, the growth rate is estimated by using the following semi log functional form:

$$\log Y_t = \alpha + \beta t \dots \dots \dots (1)$$

This equation (1) can be elaborated in details as:

$$Y_t = Y_0 (1+r)^t \dots \dots \dots (i)$$

$$\text{Taking log on both sides, we get } \log Y_t = \log Y_0 + t \log(1+r) \dots \dots \dots (ii)$$

$$\text{Equation (ii) can be rewrite as } Y = \alpha + \beta t \dots \dots \dots (iii)$$

Where $Y = \log Y_t$; $\alpha = \log Y_0$; $\beta = \log(1+r)$,

In equation (iii) $Y_t = \text{Agriculture \& Allied/Industry/Service sectors share in GSDP}$, = constant
 $t = \text{Time variable in year (1, 2, \dots, n)}$ = regression coefficient that shows the rate of change or growth rates in a series.

The annual compound growth rate (s) can be worked out by using:

$$\text{Antilog } () = \text{Antilog } (\log(1+r)).$$

$\text{Antilog } () = 1+r$ and $r = \text{Antilog } -1$ When multiplied by 100, it gives the percentage growth rate in the sectoral domestic product (including Agriculture & Allied, Industry, and Service sectors)

That is, Compound Annual Growth Rate (CAGR) (%) = $r = (\text{Antilog } -1) \times 100$.

Results and Findings

Table 1 unveils a dynamic landscape in the Agricultural and Allied sector, showcasing Gujarat’s triumphant lead in period 1, boasting an impressive Compound Annual Growth Rate (CAGR) of 7.49%. Following closely behind are the surprises of Tripura and Telangana, with growth rates of 7.05% and 6.86% respectively, painting a vivid picture of their agricultural prowess. However, amidst the triumphs, Andaman and Nicobar Islands suffer a setback, grappling with a negative CAGR of -1.30%, closely trailed by the struggling states of Kerala and Chandigarh. Fast forward to period 2, and a new champion emerges – Andhra Pradesh, capturing the spotlight with an astounding CAGR of 8.87%. Noteworthy mentions include the unexpected rise of Mizoram and Madhya Pradesh in the ranks. Yet, amid the successes, Kerala finds itself at the bottom of the ladder with a negative growth rate, while Union Territory Delhi faces the harsh reality of a dismal CAGR of -4.37%.

What’s truly intriguing, however, is the shifting tide of fortunes over the decades. Gujarat, once hailed as the undisputed leader, now finds itself at the 12th rank in period 2, while Andhra Pradesh, a modest contender in period 1, rises to the helm in period 2, marking a monumental shift in the state rankings – a testament to the ever-evolving landscape of agricultural dynamics.

Table 1. Compound Annual Growth Rate (CAGR) of Agriculture and Allied Sectors in Period 1 and Period 2.

Sl. No.	States& UT	Period 1	Ranking	States& UT	Period 2	Ranking
1	GUJARAT	7.49	1	ANDHRA PRADESH	8.87	1
2	TRIPURA	7.05	2	MIZORAM	8.45	2
3	TELANGANA	6.86	3	MADHYA PRADESH	6.99	3
4	JHARKHAND	5.79	4	TRIPURA	6.33	4
5	MIZORAM	5.50	5	SIKKIM	5.68	5
6	RAJASTHAN	5.36	6	KARNATAKA	5.64	6
7	NAGALAND	5.29	7	TAMIL NADU	5.56	7
8	MANIPUR	4.96	8	MANIPUR	5.33	8
9	MADHYA PRADESH	4.94	9	TELANGANA	5.25	9
10	CHHATTISGARH	4.90	10	RAJASTHAN	5.02	10
11	MAHARASHTRA	4.59	11	CHHATTISGARH	4.97	11
12	SIKKIM	4.42	12	GUJARAT	4.53	12
13	ODISHA	4.07	13	HARYANA	4.08	13
14	ANDHRA PRADESH	4.05	14	GOA	4.01	14
15	KARNATAKA	3.73	15	ASSAM	3.96	15
16	HARYANA	3.62	16	MAHARASHTRA	3.87	16

Sl. No.	States& UT	Period 1	Ranking	States& UT	Period 2	Ranking
17	HIMACHAL PRADESH	3.52	17	ODISHA	3.54	17
18	PUDUCHERRY	3.43	18	MEGHALAYA	3.50	18
19	TAMIL NADU	3.30	19	ARUNACHAL PRADESH	3.31	19
20	MEGHALAYA	3.12	20	UTTAR PRADESH	3.31	20
21	WEST BENGAL	2.44	21	ANDAMAN AND NICOBAR ISLANDS	2.91	21
22	UTTARAKHAND	2.35	22	CHANDIGARH	2.89	22
23	BIHAR	2.28	23	HIMACHAL PRADESH	2.84	23
24	PUNJAB	2.10	24	BIHAR	2.74	24
25	UTTAR PRADESH	2.05	25	WEST BENGAL	2.50	25
26	ASSAM	1.92	26	PUNJAB	2.21	26
27	ARUNACHAL PRADESH	1.85	27	JHARKHAND	1.79	27
28	GOA	1.67	28	PUDUCHERRY	1.52	28
29	DELHI	1.52	29	UTTARAKHAND	1.44	29
30	CHANDIGARH	0.48	30	NAGALAND	0.71	30
31	KERALA	0.11	31	KERALA	-1.14	31
32	ANDAMAN AND NICOBAR ISLANDS	-1.30	32	DELHI	-4.37	32

Source: Author's Calculation

Table 2 vividly illustrates the ebb and flow of industrial sector growth across regions, with Sikkim emerging as the frontrunner in this period, closely pursued by the unexpected contenders of Andaman and Nicobar Island and Uttarakhand. However, the tides of fortune shift dramatically in period 2, as Sikkim relinquishes its crown to Mizoram, showcasing an unprecedented Compound Annual Growth Rate (CAGR) of 14.06%

States too undergo a metamorphosis in their rankings. Assam, once languishing at the bottom with a CAGR of 4.85% in period 1, catapults itself to the forefront, experiencing the 3rd highest CAGR in period 2. Conversely, Meghalaya and Manipur are grappling with a decline, facing the harsh reality of negative growth rates.

The landscape of industrial growth paints a dynamic picture, with some states and Union Territories defying expectations and thriving in the second period, while others witness a downturn in their performance—a testament to the ever-evolving nature of economic dynamics and the resilience of certain regions in the face of adversity.

Table 2. Compound Annual Growth Rate (CAGR) of Industry Sector in Period 1 and Period 2.

Sl.No.	States& UT	Period 1	Ranking	States& UT	Period 2	Ranking
1	SIKKIM	21.54	1	MIZORAM	14.06	1
2	ANDAMAN AND NICOBAR ISLANDS	20.87	2	TRIPURA	9.64	2
3	UTTARAKHAND	19.27	3	ASSAM	9.60	3
4	ARUNACHAL PRADESH	14.20	4	GUJARAT	9.48	4
5	BIHAR	12.76	5	PUDUCHERRY	7.87	5
6	ODISHA	11.59	6	ODISHA	7.56	6
7	GUJARAT	11.31	7	SIKKIM	7.14	7
8	TELANGANA	10.72	8	BIHAR	6.98	8
9	CHHATTISGARH	10.68	9	HARYANA	6.84	9
10	PUNJAB	10.04	10	HIMACHAL PRADESH	6.76	10
11	MAHARASHTRA	9.87	11	ARUNACHAL PRADESH	6.52	11
12	MEGHALAYA	9.81	12	UTTAR PRADESH	6.46	12
13	NAGALAND	9.80	13	WEST BENGAL	6.26	13
14	CHANDIGARH	9.57	14	TAMIL NADU	6.15	14
15	MIZORAM	9.43	15	CHHATTISGARH	6.09	15
16	HIMACHAL PRADESH	8.84	16	KARNATAKA	5.88	16
17	TAMIL NADU	8.74	17	MADHYA PRADESH	5.87	17
18	ANDHRA PRADESH	8.67	18	DELHI	5.79	18
19	KERALA	8.62	19	ANDHRA PRADESH	5.74	19
20	TRIPURA	8.61	20	TELANGANA	5.31	20
21	UTTAR PRADESH	8.50	21	GOA	5.24	21
22	HARYANA	8.50	22	ANDAMAN AND NICOBAR ISLANDS	5.22	22
23	RAJASTHAN	8.30	23	PUNJAB	4.97	23
24	KARNATAKA	8.27	24	UTTARAKHAND	4.84	24
25	GOA	8.12	25	KERALA	4.28	25
26	MADHYA PRADESH	7.99	26	NAGALAND	4.18	26
27	MANIPUR	7.18	27	JHARKHAND	3.80	27
28	WEST BENGAL	6.62	28	RAJASTHAN	3.33	28
29	DELHI	6.30	29	MAHARASHTRA	3.10	29
30	JHARKHAND	4.93	30	CHANDIGARH	2.20	30
31	ASSAM	4.85	31	MANIPUR	-1.00	31
32	PUDUCHERRY	4.68	32	MEGHALAYA	-5.91	32

Source: Author’s Calculation

Table 3 illustrates the remarkable Compound Annual Growth Rates (CAGR) of various states during period 1, showcasing an array of impressive performances. Uttarakhand emerges as the standout, experiencing the highest CAGR in the Services sector, closely trailed by the

dynamic states of Haryana and Gujarat, painting a picture of robust growth in these regions. Even at the bottom of the spectrum, Manipur displays resilience, boasting a notable CAGR of 5.83% during this period.

However, the narrative takes a fascinating turn when examining the transition from period 1 to period 2. Karnataka, initially ranked 16th in period 1, undergoes a dramatic transformation, experiencing the highest CAGR in the country during period 2. This shift underscores a significant change in the growth dynamics of the services sector, highlighting the evolving economic landscape and the potential for unexpected advancements in state economies over time.

Table 3. Compound Annual Growth Rate (CAGR) of Services Sector in Period 1 and Period 2.

Sl. No.	States& UT	Period 1	Ranking	States& UT	Period 2	Ranking
1	UTTARAKHAND	13.32	1	KARNATAKA	8.26	1
2	HARYANA	12.21	2	MIZORAM	7.83	2
3	GUJARAT	10.68	3	TELANGANA	7.67	3
4	TELANGANA	10.63	4	GUJARAT	7.44	4
5	PUDUCHERRY	10.52	5	HARYANA	7.02	5
6	DELHI	10.51	6	ARUNACHAL PRADESH	6.98	6
7	GOA	10.25	7	UTTARAKHAND	6.96	7
8	TAMIL NADU	10.20	8	TRIPURA	6.89	8
9	JHARKHAND	10.16	9	SIKKIM	6.68	9
10	ODISHA	10.01	10	JHARKHAND	6.44	10
11	MAHARASHTRA	9.98	11	ANDAMAN AND NICOBAR ISLANDS	6.19	11
12	KERALA	9.85	12	UTTAR PRADESH	6.05	12
13	ANDAMAN AND NICOBAR ISLANDS	9.82	13	PUNJAB	5.97	13
14	CHANDIGARH	9.44	14	RAJASTHAN	5.96	14
15	HIMACHAL PRADESH	9.36	15	MAHARASHTRA	5.95	15
16	KARNATAKA	9.28	16	MANIPUR	5.95	16
17	CHHATTISGARH	8.76	17	BIHAR	5.92	17
18	ANDHRA PRADESH	8.76	18	ANDHRA PRADESH	5.84	18
19	SIKKIM	8.72	19	MEGHALAYA	5.82	19
20	MIZORAM	8.72	20	MADHYA PRADESH	5.79	20
21	ARUNACHAL PRADESH	8.43	21	DELHI	5.74	21
22	WEST BENGAL	8.30	22	TAMIL NADU	5.69	22
23	TRIPURA	8.19	23	HIMACHAL PRADESH	5.46	23
24	RAJASTHAN	8.16	24	ODISHA	5.22	24
25	NAGALAND	8.07	25	NAGALAND	5.20	25
26	BIHAR	7.75	26	GOA	4.81	26
27	MEGHALAYA	7.68	27	WEST BENGAL	4.81	27
28	UTTAR PRADESH	7.62	28	CHANDIGARH	4.74	28
29	ASSAM	7.29	29	KERALA	4.74	29
Sl. No.	States& UT	Period 1	Ranking	States& UT	Period 2	Ranking
30	PUNJAB	7.18	30	CHHATTISGARH	4.69	30
31	MADHYA PRADESH	6.62	31	ASSAM	4.22	31
32	MANIPUR	5.83	32	PUDUCHERRY	3.34	32

Source: Author's Calculation

Conclusion

The examination of regional economic growth and inequality within India is not merely an academic pursuit but a crucial endeavor with far-reaching implications for the nation's socio-economic fabric and political stability. As this study unfolds, it becomes evident that disparities in economic growth rates persist across different regions, posing formidable challenges for policymakers and planners. However, amidst these challenges lies the potential for transformative change and economic convergence among states.

The evolution of India's economic landscape over the past two decades reflects a complex interplay of factors, from infrastructure development to human capital investment and institutional reform. The findings underscore the dynamic nature of regional disparities and the resilience of certain states in navigating economic adversity. In the agriculture and allied sector, Gujarat's initial dominance gives way to Andhra Pradesh's ascension, signaling a shift in the regional hierarchy. Similarly, in the industrial sector, Sikkim's reign is usurped by Mizoram, showcasing the fluidity of economic fortunes among states. Notably, the services sector emerges as a beacon of growth and transformation. Uttarakhand, Haryana, and Gujarat lead the charge in period 1, but Karnataka's meteoric rise in period 2 reshapes the narrative, exemplifying the potential for rapid advancement and economic resurgence. The findings also underscore the importance of targeted policies and reforms in addressing regional disparities and fostering sustainable economic growth. Investments in physical and human capital, coupled with institutional reforms, are pivotal in unlocking the puzzle of regional disparities and promoting inclusive development. As India continues its journey towards economic prosperity, it is imperative to remain vigilant to the evolving dynamics of regional disparities and to leverage opportunities for collaboration and growth. By embracing the lessons gleaned from this study and charting a course guided by inclusivity and equity, India can aspire to realize its full economic potential while ensuring the well-being of all its citizens, irrespective of regional boundaries.

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Present Status of MSME's in India: Challenges and Opportunities

Anu Kumari

ABSTRACT

MSME'S considered as an 'engine of growth' for all the developing nations. It plays a significant role in employment generation and economic development for developing countries including India. These enterprises are the backbone of the Indian economy and provide major contribution to GDP, output, employment and export. The MSME sector is contributing 30% of India's GDP, 45% of total manufacturing output and 40% of total export. Its growth rate has continuously registered higher compare to overall industrial sector. In India, the distribution of MSME is not equal because of scarcity of raw material, lack of entrepreneurial skill, unavailability of finance or credit, lack of infrastructure, inefficient technology, insufficient training, complex rules and regulation, high tax rate, corruption and lack of government support. However, there are many opportunities available in the development of MSME. The primary goal of this study is to present the current scenario of Indian MSME and analyze its challenges and opportunities, and provide solution regarding it. In order to do this, data were collected from secondary sources and analyze the growth in output, employment, investment, and number of registered units. Data presented in terms of table, pie-chart. Despite this, financial, marketing, technical, infrastructure, human resources and external constraints continue to be the main factors affecting the performance of MSME in India. Given this, we recommend that government and non- governmental organization should regularly organize seminars, awareness campaigns, marketing campaigns and other initiative that are examined in studies, among other things. The study is divided into five sections. Section- 1 deals with introduction, Section-2 devoted to literature review, Section - 3 examine the present status of MSME Section-4 deals with challenges and opportunities of MSME Section-5 concludes with a summary of the findings and policy implications.

Jel Codes: L26, L53

Keywords: *MSME, employment generation, production, working enterprises, challenges.*

INTRODUCTION

MSME which stand for micro, small and medium enterprises recognized as engine of

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economic growth. They play significant role in developed and developing and nation. MSME has characterized by effective utilization of resources, flexibility, mobility, higher innovation and low investment. In USA and European union, more than 90% of enterprises are engaged in this sector. Not only this, most of the regions like OECD economies, Europe, South and central Asia, Africa show a high dependency on MSME for employment and other specific countries such as Canada leads with 85% employment from MSME, China at 75%, Japan at 65% and Ukraine 55% (Gonzales, 2014). Not only this, SMEs play a key role in job creation as well as growth of GDP, it contributes 55 % of GDP and 65% of total employment in high-income countries, while corresponding shares for middle-income countries are 70 and 95% and for low-income countries shares are 60 and 70% (OECD, 2004). So, MSME is quite relevant in most of the nations including India, it provides employment to the surplus labor force after the agriculture sector. It has key role in GDP contribution as well as export also. In India, MSMEs are significant driver of economic development, job creation, and innovation and more than 95% units are engaged in this sector and contribute to approx. 30% of India GDP, 45 % of manufacturing output, 40% of country’s total export and create 11.10 crore jobs (NSS 73rd round, 2015-16). Because of that, MSME considered as an engine of growth. In terms of volume, MSME employment is second only to that of the agriculture sector. Contribution of MSME indicate that MSMEs is very important for every area.

In accordance with the provision of MSME’s development act 2006, the MSME classified into two categories such as manufacturing enterprises based on their investment in plant and machinery and service enterprises based on investment in equipment. Now, as per the revised definition announced on May 13, 2020, MSME classified on the basis of two criteria: investment in plant and machinery and annual turnover. It also classified into two categories:

*** Investment and Annual turnover**

Categories	Types of Enterprises	Investment	Turnover
Manufacturing Ent.	Micro Enterprises	Less than Rs.1 crore	Not more than Rs.5 cr.
Service Enterprises	Small Enterprises	Less than Rs.10 crore	Not more than Rs.50cr
Medium Enterprises	Less than Rs.20 crore		Not more than Rs.100cr

*** Revising Definition of MSME**

In India, MSME account more than 90% of total industrial enterprises and provide employment to 113 million people. The state wise of distribution of MSME is not equal because 74% share of MSME are in top 10 states only, namely Uttar Pradesh, Maharashtra, Tamilnadu, West Bengal, Andhra Pradesh, Karnataka, Gujarat, Bihar, Rajasthan and Madhya Pradesh. Furthermore, in MSME sector 76% are male employees and remaining 24% are female employees (Annual Report of MSME, 2018-19).

Moreover, SMEs are essential to all recognized economies. Numerous barriers prevent SMEs from surviving over the long term for their ventures, entrepreneurs and owners (Kamunge et al., 2014). Obstacles for MSMEs cause a high failure rate or early illness. There are two types of barriers: exogenous and endogenous. Ineffective planning, inefficient management are examples of internal obstacles (Smith, 2007). Poor infrastructure, regulations from the government, the availability of raw materials are examples of external obstacles (Smith, 2007 & Nongnit, 2011). The present study deals with current scenario of MSME and measuring its issues.

LITERATURE REVIEW

MSME AND ITS CONTRIBUTION IN OUTPUT AND EMPLOYMENT GENERATION

(Tambunan, 1991) examines in their study in small-scale industries (SSI) in Indonesia's manufacturing sector. The study measures the importance of small industry in income distributions and find that SSI provided income and employment opportunities. According to Van Praag and Versloot (2007), based on an analysis of 57 publications. It found that entrepreneurship is essential to an economy because it generate large employment opportunities, fosters innovation and advances national economic progress. Therefore, MSME support local entrepreneurship, lower regional economic disparities, raise living standards and improve the financial well-being of the middle class people. Similarly, (Abor & Quartey, 2010) in their study analyses SMEs in Ghana provide 85% of total employment, contribute 70% of the GDP and account for 95% of the formal business. According to (Singh, 2009), Small-scale industries serve as driver of socio-economic growth. (Ali and Hussain, 2014), identify that MSME in India create jobs and employment opportunities as well as that lead to self-reliance, which resolves the devaluation of Indian rupee. They conclude that MSME's represent India's economy's best chance going forward. (Katua, 2014) found significant and direct relationship between employment creation and GDP growth. Their analysis also conclude that it is one the important source of employment generation in rural as well as poor regions. Additionally, (Vashishtha, 2021), found that MSME is essential sector for growth of an economy and provide employment to large number of individuals.

MSME AND ITS PROBLEM

(Levy's, 1993) in his study highlights the three key challenges in SMEs are limited access to finance, lack of non-financial resources and high operational costs. The study also reveals that financial constraints and tax rates for small firms are major obstacles for their growth. (Das, K. 2008), small and medium-sized enterprise (SMEs) encounter numerous obstacles such as limited infrastructure, outdated technology, inadequate finance facilities, and low transportation cost. (Garg and Walia, 2012) in their study identify, there are a lot of issues that Small Scale Industries (SSI) are dealing with when it comes to getting credit, finding

technology, industrial training, quality control, etc. Large and medium sized enterprises provide SSI with a number of challenges related to manufacturing and marketing. (Garg, 2014), MSME in India face variety of challenges as well as opportunities. The government financing and subsidies, globalization, credit and finance, competitive technology, skill development, national manufacturing competitive programs, export promotion and infrastructure development are just a few of the external environment barriers. (Meeravali & Ramesh, et al. 2017) found that total working enterprises of MSME, market value of fixed assets and employment contribution grown at CAGR of 4.39%, 4.75% and 6.64% respectively, MSME contribution to GDP from manufacturing and service sector is -1.53% and 1.82% respectively. (Sonia, 2018), in their study emphasized the major problem faced by MSME in India and observe that there is need to investing in advanced technology, weak infrastructure gap, improving financial resources, investing in human resource development and reduce business or tax related regulations. (Vanitha & Radha, 2019) examine the challenges faced by MSME in terms of tax regime in India. They identify problem in this study are concern about new tax regime, lack of awareness, rising operating expenses and complicated procedure. Moreover, (Shettima, 2020), conducted study on disparities in employment growth rate among Indian states, attributing them to challenges such as financial constraints, inefficient technology, lack of awareness, weak infrastructure and lack of entrepreneurial skills.

OBJECTIVE

The main objective of this study as follows:

- To study the present scenario of MSME in terms of output and employment.
- To identify the challenges faced by MSME in India and provide possible measures.

DATABASE AND METHODOLOGY

The majority of the secondary data included in the study from the Annual reports published by the Ministry of Micro, Small and Medium Enterprises, journal and through the previous studies. The study cover period from 2000-01 to 2014-15. For MSME performance analysis, four parameters- number of units, gross production, employment and investment have been used. Data analysis from table.

Data Analysis

YEAR	NO. OF WORKING ENTERPRISES	EMPLOYMENT (in Lakhs)	MARKET VALUE FA's (in crore)	GROSS OUTPUT (in crore)
2001-02	105.21	249.33	154349	282270
2003-04	113.95	271.42	170219	364547
2004-05	118.59	282.57	178699	429796
2005-06	123.42	294.91	188113	497842
2006-07	361.76	805.23	868543.79	1351383.45
2007-08	377.37	842.23	917437.46	1435179.26
2008-09	393.7	881.14	971407.49	1524234.83
2009-10	410.82	922.19	1029331.46	1619355.53
2010-11	428.77	965.69	1094893.42	1721553.42
2011-12	447.73	1012.59	1176939.36	183432.05
2012-13	467.54	1,061.4	1,268,763.36	**
2013-14	488.46	1,114.29	1,363,700.54	**
2014-15	510.57	1,171.32	1,471,912.94	**
AVERAGE	318.3842857	723.8942857	786901.9379	1034122.14
CAGR	11.94%	11.68%	17.48%	14.30%

*SOURCE; Source; Annual report of MSME 2015-16, and 2001-02 to 2005-06 data collected from SSI.

Above table represented that, there has been an increase in the number of working

- Inadequate Infrastructure- Development of MSME is rapidly, but there is lack of infrastructure facilities. Because of weak infrastructure, their manufacturing capacity is low and production costs are very expensive due to inadequate infrastructure (Siringoringo 2009; Sonia, 2018).
- Lack of Resources- MSME need skilled labor and other inputs that are not readily available on the market. As a result of the market's lack of labor, raw resources and other inputs. Therefore, it is quite challenging to generate the goods at reasonable costs.
- Absence of Modern Technology- The MSME sector lacks knowledge of advanced industrial technologies. Their producing process is antiquated. They are employing conventional techniques for manufacturing products and still employed outdated techniques.
- Insufficient Marketing Channel Distribution- Small and Medium-sized enterprises (SMEs) are not implementing creative concepts to advertise and distribute their products. Very bad sales are the result of inefficient marketing channels and advertisements. Poor marketing is serious issues in MSME (Choudhary 2011).
- Complicated Labor rules and Red Tape- Every manufacturing and service- related law is quite complicated, and adhering to these laws can be difficult. Laws are really challenging. The factory commissioner and inspector make all of decision in the factory, therefore there is a great deal of opportunity for red tape to interfere with MSME operations (Bihari, 2011).
- Bank Credit Shortage- At the moment, MSME's are having trouble getting bank credit. The banks do not offer the sufficient amount of loans to the MSME. The loan providing process of the bank is very long. . The owner of the MSME has to produce different types of documents to prove their worthiness. It is one of the key issues faced by MSMEs as per (Levy, 1993 and Das and Nagpal, 2008).

OPPORTUNITIES OF MSME

- MSME play a crucial role in the economic development of many countries across the world. Some of the key opportunities associated with MSME include and discussed by various studies are:
- Employment Generation- Due to their labor- intensive nature, MSME play a major role in creating jobs, especially in emerging nations. They provide livelihood opportunities to a large number of population, including those in rural areas and marginalized communities (Vashistha, 2021; Syal 2015)
- Entrepreneurship and Innovation: MSMEs frequently act as centers of entrepreneurship and innovation. They can quickly adjust to shifting market conditions, deals with innovative ideas and develop innovative products or services that address needs of specialized market (Kassa, 2021).

- Customer Satisfaction- Focused: MSME's manufacture products in accordance with consumer's requirements or expectations. Mainly, MSME produce things with the local consumer's tastes, preference, like and dislike basis. Therefore, MSME's may focus more on client pleasure.
- Reduction of Regional Imbalances: The MSME sector can be effective tool in reducing or eliminating regional imbalances. BY operating MSME business, rural section of the country can develop on an equal basis. Regional imbalances will be eliminated as a result of the MSME'S utilization of rural workers (Singh, 2011).
- Export Enhancement: one way to increase India's exports in through the MSME sector. Indian product would be in high demand on the global market. It helps to explore international markets, participate in global value chain and enhance their competitiveness on the international stage. Attract Foreign Investment:
- Sustainable Development: MSMEs have the potential to contribute to sustainable development by adopting environmentally friendly practices, promoting social responsibility and fostering inclusive growth.

POTENTIAL SOLUTION

MSME anticipate receiving numerous solutions from the government and other stakeholders that could aid in their survival in the cutthroat worldwide market. The government support technical education and industrial training, according to MSME surveyed, in order to raise the caliber of items that businesses supply to the market, MSMEs surveyed concur that government support of technical education and industrial training is necessary. To encourage entrepreneurship, the legislative environment must be changed. Prompt corrective action is also required to resolve outstanding problems with the enterprises files and maximize their potential. Furthermore, it is vital to financial difficulties and encourage, MSMEs to apply for soft loans utilizing a single-window clearing procedure for credit distribution. MSMEs had to compete with larger companies, thus proactive measures like lowering taxes, licensing fees, enacting sensible tax laws, and increasing subsidies are needed.

CONCLUSION

In summary, MSME sector in India as an important driver of economic growth, but it also faces a number of obstacles, including poor infrastructure, a lack of resources and trouble obtaining financing. But there are many chances for innovation, creating jobs, and growing exports. Government and stakeholder collaboration is necessary to fully realize the potential of MSMEs. This includes enhancing infrastructure, streaming financial access and encouraging entrepreneurship. Through effective management of these obstacles and strategic utilization of prospects, the MSME sector in India may flourish and maintain its substantial economic contribution to the nation.

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(Footnotes)

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The Contribution of MSMEs to the Women Employment, Opportunity and Challenges, after Covid -19 Pandemic

Sitari Ram & Professor (Dr) Sahab Singh

Abstract

MSMEs are important employers in many regions of the country and contribute significantly to regional prosperity, leading to a reduction in inequalities in income, wealth and consumption. The MSME sector plays an important role in the Indian economy, accounting for about 45% of the country's industrial output, about 70% of industrial employment and about 40% of exports. The Covid-19 pandemic, which began to spread at the beginning of 2020, has strongly affected the economy, including the financial situation of companies. In this regard, micro, small and medium enterprises (MSMEs) are likely to experience a greater negative impact of the Covid-19 pandemic than large enterprises due to their limited resources. After the closure, the supply chain was further disrupted as MSMEs are more vulnerable. Three critical barriers faced by MSMEs are market access, overall productivity and access to finance. India's MSME business volume decreased by an average of 11% due to the 2021 lockdown, compared to a 46% decline during the nationwide shutdown in 2020. This study looks at the key role of MSMEs in India's economic growth, gender equality such as women to employment post covid- 19 . This study was based on secondary data and assumed that the Indian economy situate in comfort zone because it grow faster than 7 percent third consecutive year even as the world economy trouble for growth.

Keyword; - MSMEs, workforce. . Employment, , rural development, 19 pandemic, manufacturing

Introduction— Micro, Small and Medium Enterprises (MSMEs), plays the role of growth engine of the Indian economy as it contributes around 30% of our GDP, contributes more than 40 percent of export earning presently. Employment in the MSME sector in 2 december 2023 15.5 crore according to udyam registration portal. The World Bank reports that India could boost their GDP growth by 1.5 percentage points by including 50% of the women in

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the workforce. However, India's female labour force participation rate (FLFPR) declined from 32% in 2005 to 19% in 2021. COVID-19 exacerbated the situation when women lost their income source and employment, income from the business lacked, and the burden of unpaid care increased. UN Women reported that during the first lockdown in 2020, 47% of women lost their jobs compared to 7% of men. Of the countries in the Central and East Asia region, the pandemic hurt female entrepreneurs in India the most, with two-thirds of women to replanting recent business closures due to the pandemic.

The new classification of MSMEs

The new classification has come into force in July 2020. This is based on the annual sales turnover. This new definition as a part of Aatmanirbhar Bharat brought a one-time norm of investment and annual turnover and similar limit for the manufacturing and service sector. There will be no distinction between manufacturing sector and service sector. The new criterion of turnover is added to the previous one which was based only on investment of plant and machinery. It is expected that the new criteria will bring many benefits that will help the MSMEs to expand in size. Also, it has been decided that the export turnover will not be included in the limit of turnover of any category of micro, small and medium MSMEs. This is another step towards making it easier for the SMEs to do business. It will help in attracting investment and create more jobs in the SME sector. The change of criteria for classifying the MSMEs is expected to provide significant relief to the exporter. The new classifications as per the Aatma Nirbhar Bharat Abhiyan Scheme in 2020 is given in the table below:

Micro, Small and Medium Enterprises Classification 2020

Composite Criteria: Investment in Plant & Machinery/equipment and Annual Turnover
classification micro small medium

Classification	Micro	Small	Medium
Manufacturing Enterprises and Enterprises rendering Services	Investment in Plant and Machinery or Equipment: Not more than Rs.1 crore and Annual Turnover ; not more than Rs. 5 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.10 crore and Annual Turnover ; not more than Rs. 50 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.50 crore and Annual Turnover ; not more than Rs. 250 crore

Objectives -: the main objectives of this study

- 1- To understand the impact of covid-19 on MSMEs.
- 2- To know how the change role of women in MSMEs in employment after pandemic.
- 3- To highlight the contribution of MSMEs in inclusive development.
- 4- Problem faces by MSMEs after post covid –19, and challenges.

RESEARCH METHODOLOGY:- The present study based on extensive study of secondary data collected from various books, National & International Journals and public and private publications available on various websites focusing on various aspects of Women Entrepreneurship. This research is also a desk study based on secondary information.

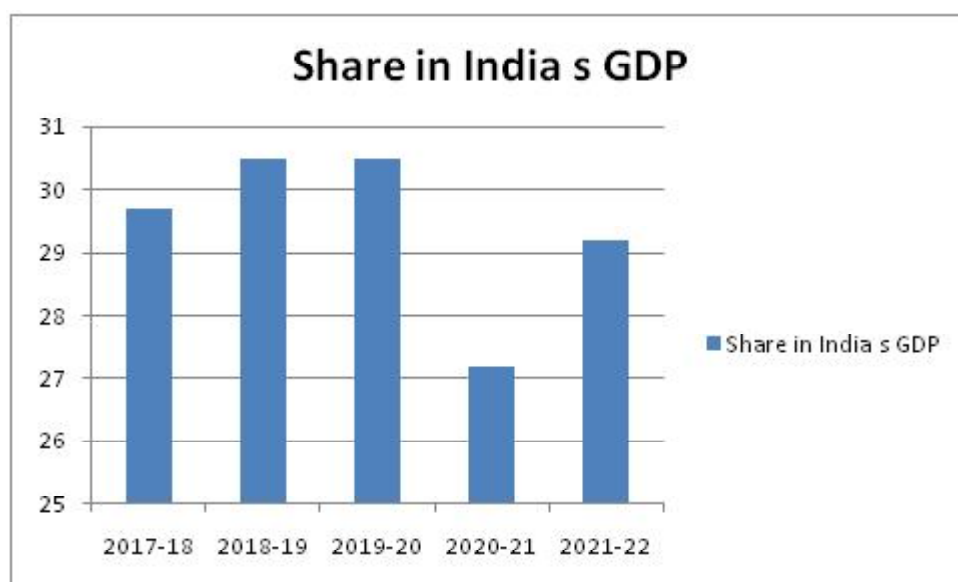
Impact of covid-19 on MSMEs.—The IMF estimated the external financing needs for arising market and developing economies in trillions of dollars. India is groaning under the yoke of the pandemic and as per news reports in Economic Times published on 23 March 2020, the economists are pegging the cost of the COVID-19 lockdown at US\$120 billion or 4 per cent of the GDP. MSMEs are vital in maintaining the delivery of goods and services during and after Pandemic. . In comparison to large industries, this sector generates more employment at less capital cost and assists the economy to promote industrialization in remote areas, thereby, reducing regional imbalances and assuring equitable distribution of national income and wealth. The covid -19 crisis is different from the global financial crisis of 2008 because of its dual impact on the economy from both supply and demand sides with a significant increase in unemployment.. MSMEs were most vulnerable to such unexpected situations because of the lower capital reserve, fewer assets, and lower levels of productivity. During the pandemic, a decrease in GDP and trade activity around the globe further deepen the challenges faced by MSMEs especially micro enterprises, and therefore most governments struggle to introduce effective policies for MSMEs to respond to the current crisis appropriately . Due to their operational size and insufficient resources, MSMEs are comparatively more vulnerable to large industries under economic uncertainty.

(A)...**GDP contribution** —Due to its size, commercial scope, and access to capital, the MSMEs sector has been among the most susceptible throughout the epidemic. Research and surveys revealed that the nationwide lockdown that was implemented in April 2020 had a negative effect on almost 95% of enterprises, and that disruption to 70% of businesses persisted until August 2020. Reports indicate that over 40% of enterprises experienced disruptions till the end of February 2021, even after gradual unlocking. The three main obstacles that MSMEs must overcome are increased market access, overall productivity, and financial availability. In contrast to the 46% loss during the countrywide lockdown in 2020, an average 11% decline in the business volume of Indian MSMEs has been observed as a result of the lockdown in 2021. The economic survey of India , MSMEs ministry and various data show that contribution of MSMEs national GDP is smaller than before covid -19

MSMEs share in GDP before and after covid—19(in percent)

Year	Share in India s GDP
2017-18	29.7
2018-19	30.5
2019-20	30.5
2020-21	27.2
2021-22	29.2

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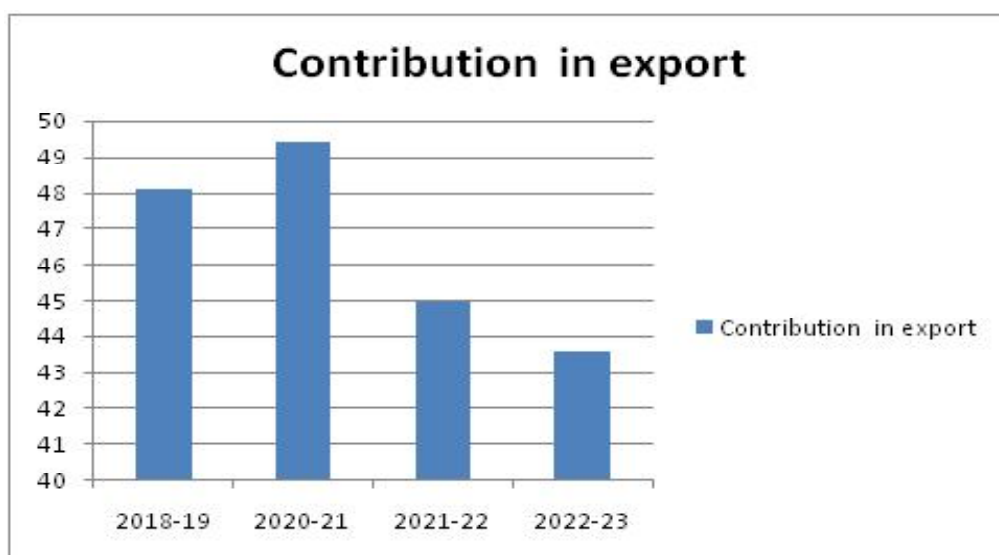


Above data show that contribution of MSMEs, decline post covid -19. . While the contribution of the MSME sector to overall GDP rose from 29.3 per cent in FY18 to 30.5 per cent in FY20, the economic impact of the pandemic caused the sector’s share to fall to 27.2 per cent in FY21.

(B).. Reduced contribution to the export — The contribution of small –scale sector in export earning has increased by leaps and bounds. The share of MSMEs in total export of the country rose from 9.6percent in 1971-72 to 41.4 in 2012-13 and 48.1percent in 2018-19 the data show below but decline after pandemic. Data show below.

MSMEs share in export before and after covid—19(in percent)

Year	Contribution in export
2018-19	48.1
2020-21	49.4
2021-22	45.0
2022-23	43.6



Role of MSMEs in women employment—The corona crisis harms the performance of many women MSMEs in terms of production, turnover & profit. To reduce their lost sales during the crisis, women are more likely to benefit from social media and promotions than other methods. This study highlights the innovation strategies applied by the women MSMEs who managed to survive such as, among others, cash management and digital marketing. It is also known that labour intensity in the micro small and medium enterprises is almost 4 times more than the large enterprises. From employment point of view MSMEs is more efficient than large scale industry. Micro sector with 630.52 lakh estimated enterprises provided employment to 1076.19 lakh persons that in turn accounts for around 97% of total employment in the sector. Small sector with 3.31 lakh and Medium sector with 0.05 lakh estimated MSMEs provided employment to 31.95 lakh (2.88%) and 1.75 lakh (0.16%) persons of total employment in MSME sector, respectively.

Distribution of employment by type of Enterprises in Rural and Urban Areas

(Numbers in lakh)

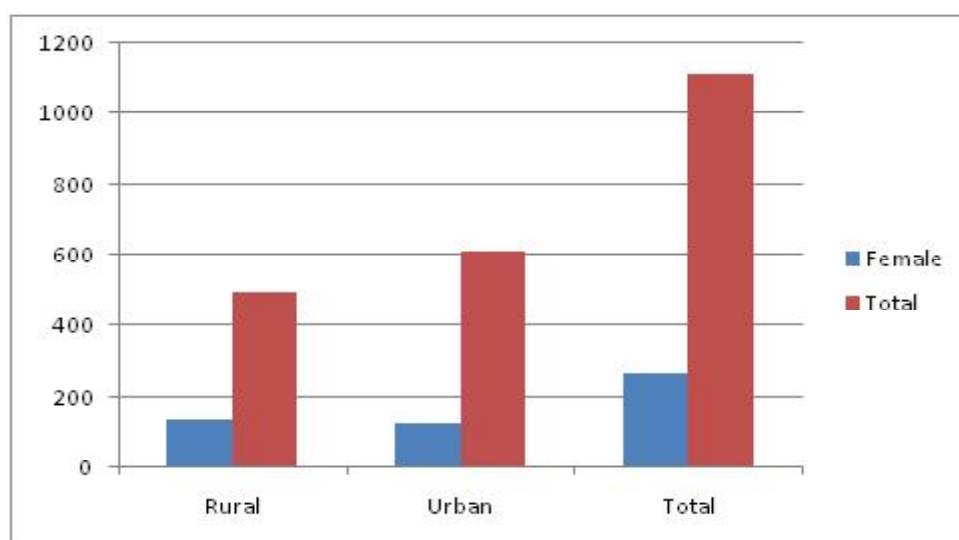
Sector	Micro	Small	Medium	total	Share of total
Rural	489.30	7.88	0.60	497.78	45
Urban	586.88	24.06	1.16	612.10	55
Total	1076.19	31.95	1.75	1109.89	100

- Reference : MSMEs annual report-2021-2022
- Out of 1109.89 lakh employees in MSME sector, 264.92 lakh (24%) are females. The Statement show following table the sectoral distribution of workers in female category.

Distribution of workers by gender in rural & urban areas (Numbers in lakh)

Sector	Female	Total
Rural	137.50	497.78
Urban	127.42	612.10
Total	264.92	1109.89

- Reference : MSMEs annual report-2021-2022

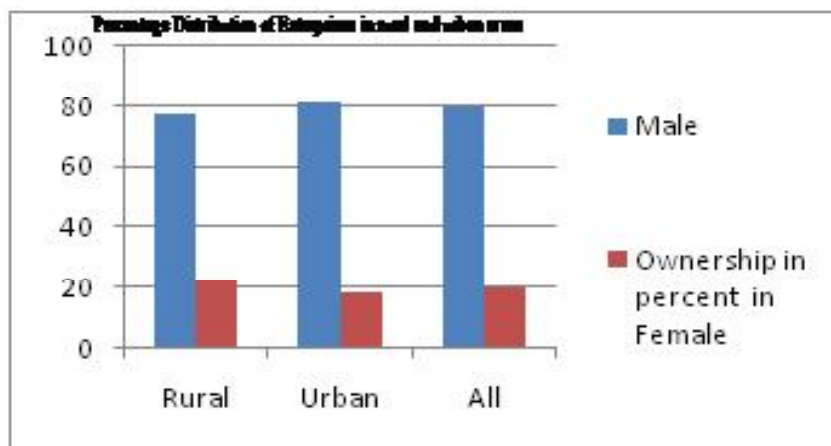


Contribution of MSMEs in economic empowerment of women as entrepreneurship—
 ; A group of women who start, organize, and manage a business venture are known as women entrepreneurs. According to the Indian government, a women-owned and managed business is one in which at least 51% of the capital is owned by women, and at least 51% of the jobs created by the business are held by women. In India, the term “women entrepreneurs” refers to a group of women who are identifying new avenues for economic engagement.. Women entrepreneurs must carry out many of the same tasks as their male counterparts. They ought to learn about the ideas behind starting new businesses, taking chances, and introducing new inventions, manage administration and control of business and provide active leadership in all aspects of business. Women entrepreneurs are influenced by both push and pull factors. Pull factors comprise of aspirations for autonomy and independence, personal satisfaction and achievement, or search for a challenge, challenging/rejecting gender stereotypes, gap in the market, etc. Push factors comprise of dissatisfaction with the labour market, need for greater income, unemployment, desire for a better life or higher earnings, financial incentive and motivation from government/schemes for assistance, attraction of high profit margins, etc. . Women Entrepreneurship deals with both the condition of women and role of entrepreneurship in the society. Therefore, it can be said women are considered as the better half of the society.

Out of 633.88 MSMEs, there were 608.41 lakh (95.98%) MSMEs were owner concerns. There was dominance of male in ownership of proprietary MSMEs. Thus, for ownership MSMEs as a whole, 20.37% owned by female. There was no significant deviation in this pattern in urban and rural areas, although the dominance of male owned enterprises was slightly more pronounced in urban areas compared to rural areas (81.58% as compared to 77.76%)

**Percentage Distribution of Enterprises in rural and urban areas
(ownership)**

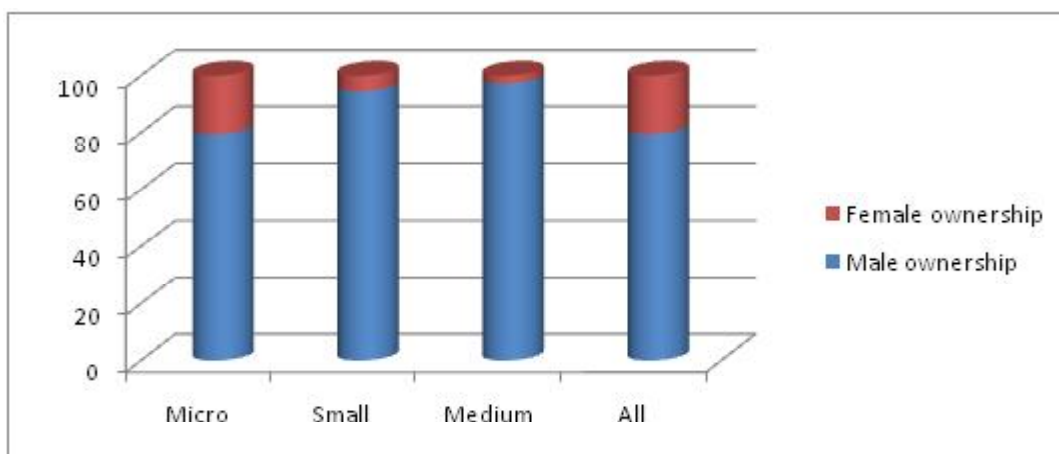
Sector	Male	Ownership in percent in Female
Rural	77.76	22.24
Urban	81.58	18.42
All	79.63	20.37



Percentage distribution of enterprises owned by Male/ Female entrepreneurs (category wise).

Category	Male ownership	Female ownership	Total
Micro	79.56	20.44	100
Small	94.74	5.26	100
Medium	97.33	2.67	100
All	79.63	20.37	100

- Msme report india gov 2021-22



Above positive scenario of MSME's vital role played by women lead entrepreneurs. But post covid 19 fall into many problem due to supply chain according to CMIE survey four women loss their job out of ten.

Role of MSMEs in inclusive development; — MSMEs' place in equitable development; — The Indian economy depends heavily on the Micro, Small, and Medium-Sized Enterprise sector. With 30 million businesses across multiple industries, 69 million people are employed. Micro, Small, and Medium-Sized Enterprises (MSMEs) are widely recognized as the catalyst for economic growth and development on a national level.

Inclusive growth be achieved with the support of the MSME sector

1. Employment MSMEs have the capacity to generate more jobs because they are often labor-intensive businesses. The MSME sector is India's most effective means of achieving inclusive growth. in India because of its innate ability to create vast numbers of jobs quickly, especially for members of the lower segments of society.

2. Rural entrepreneurship: 68.84% of Indians live in rural areas, according to the 2011 Census. Rural residents face issues like unemployment and inadequate infrastructure, which might be resolved with the growth of rural entrepreneurs. The MSMEs sector of the economy offers a lot of opportunities for rural entrepreneurship, which is essential for helping the underprivileged and jobless in rural regions by giving them jobs and income.

3 - Non-agricultural livelihood: The Indian MSME sector helps build an equitable and sustainable society by providing the most options for waged and independent work outside of the agriculture sector. The people released from agriculture but not taken up by the urban industries are absorbed by the rural SMEs, which make up the rural non-farm sector.

4-Participation of women: In India, women own 20% of every 1000 MSMEs. MSMEs, because of their informal nature, offer a forum for female participation. MSMEs play a crucial role in advancing women's development as well as the nation's economic expansion and advancement.

5-Reduce inequalities: MSMEs help in developing infrastructural facilities like roads, power, bridges etc. It decrease the interval and inequality in income anwealth between rural and urban areas. Rural MSMEs can avoid the migration of people from rural to urban areas in search of jobs.

Challenges Faced By MSMEs Amidst Covid-19

The unexpected COVID 19, which began with lockdown rules and social distancing and was launched globally to stop the transmission of the virus, has impacted MSME by disrupting the supply chain. According to surveys and studies, approximately 95 percent of enterprises were adversely affected by the nationwide lockdown implemented in April 2020, and 70 percent of small and medium enterprises were

disrupted until August 2020. MSMEs faced various critical barriers like overall productivity, market access, and access to more funds. So, during Covid-19, MSMEs faced various challenges, some of which are listed below:

1. Survival challenges: Even the most well-run and managed small businesses were put to the test during the pandemic. Many critical industries have been severely harmed, including real estate, entertainment, and hospitality. As a consequence, the majority of businesses in these sectors have been completely shaken up. Some of the critical issues that destroy business are a lack of access to cheap capital, High fixed costs, poor digital or cutting-edge technology implementation, higher cost of capital, etc.

2. Capital and cash deficiencies: MSME's majority of money transfers are conducted in cash, and due to this, Micro, small, and medium-sized enterprises face a severe cash crunch due to a rapid decline in performance and operational challenges with little or no labour.

3. The decline in ratings and creditworthiness: Default payment levels on MSMEs loans obtained from NBFCs rose significantly. that the future does not look promising. Non-payment of debt poses a risk for lenders who provide unstable loans to MSMEs. As a result of the covid, ratings and creditworthiness fell.

4. High Transaction Cost: When economic activity stalled due to lockdown and social distancing, fixed costs like employee remuneration or compensation packages, loan interest, lease of the premises, and so on became a huge burden for them. All of this raises the fixed costs of MSMEs, making it more difficult for them to cover all expenses and costs.

Opportunity in MSMEs post covid 19;—Top five major industries that fall into MSMEs food product, Textile, apparel, fabricated metal product, machinery and equipment. We know that agricultural sector almost unaffected to covid 19. Food processing provide a huge employment it has unlimited employment opportunity. The India apparel market revenue project to 105.50bn in 2024. Share India apparel & textile industry approx. 2.3 % to the country's GDP, 13% to industrial production and 12% in exports. India has a 4 percent contributed of the global trade in textiles and apparel so in this sector has major hope to generate employment if government implements their policy properly. covid 19 made show us when our small scale industry will become economically strong it is sufficient condition for self reliance, and can achieved 5 trillion dollar economy target till 2025.

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Employment in India's Unorganised Manufacturing Sector: Post-Reform Trends (1994-95 to 2015-16)

Puja Pal & Amit Kumar

Abstract

Given the prominent role of manufacturing sector in the economic growth and employment generation of Indian economy, the paper analyzes the performance of unorganised manufacturing sector, with special focus on its employment creation capacity over the period from 1994-95 to 2015-16. The structure of unorganised manufacturing sector is examined in terms of size, employment, output and capital. A detailed analysis at three-digit industry level is done to have a holistic picture of Indian unorganised manufacturing sector. The focus is on exploring labour intensive industries which have employment-generation potential throughout the analysis. The paper also investigates the 'Jobless Growth' phase and discuss the reasons behind such jobless growth in unorganised manufacturing sector. Using the Unorganised Manufacturing Surveys of National Sample Survey, the analysis shows that the employment performance of unorganised manufacturing sector remains quite dismal, despite moderate output growth rate in post-reform period. We found that Wearing Apparel, Tobacco products and furniture are the fastest growing industries in unorganised manufacturing sector. These industries are indeed important from policy perspective as these industries could be targeted for pro-poor growth in economy. But it is unlikely to be significant to absorb India's surplus labour as these sectors have low-income elasticity of demand and quality of employment generated is very low.

Key Words: *Employment, Unorganised Manufacturing Sector, Capital Intensity, Labour Productivity, Output.*

1.1 Introduction

Unorganised manufacturing sector plays a crucial role in the Indian economy in terms of its contribution in economy's output, employment and capital formation. It is the unorganised

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manufacturing sector which employs overwhelming manufacturing workforce but unfortunately the sector has recorded lackluster performance in terms of employment generation. Since mid-2000s onwards, the share of unorganised sector in total manufacturing employment and GDP has been declining. In terms of total manufacturing GDP, unorganised share has declined from 35 percent to 29 percent during 2004-05 to 2011-12 (CSO, 2011). During 2011-12 to 2017-18, the share of unorganised in manufacturing employment declined from around 77.5 to 72.3 percent (NSSO, 2017). Enterprises in unorganised sector are primarily small and micro enterprises and they are characterized by low production technology; low labour productivity and low incomes.

In this context, the paper analyzes the performance of unorganised manufacturing sector, with special focus on its employment creation capacity over the period 1994-95 to 2015-16. In doing so, the chapter examines the trend and structure in unorganised manufacturing sector in terms of size, employment, output and capital. Further, the gross employment elasticity¹, capital intensity², labour and capital productivity³ growth both at aggregate level and three-digit industry level has been examined. A detailed analysis at three-digit industry level is done to have a holistic picture of Indian unorganised manufacturing sector. The focus is on exploring labour intensive industries which have employment-generation potential throughout the analysis. Since the employment is the focus of the study, the paper then investigates the 'Jobless Growth' phase and discuss the reasons behind such jobless growth in unorganised manufacturing sector.

2.1 Data and Methodology

For the analysis of unorganised manufacturing sector, unit level data is obtained from National Sample Survey Organisation (NSSO). Even though the survey was initiated in 1978-79 but complete firm-level data set is available only from 51st round (1994-95). For the study, five rounds of survey on Unorganised manufacturing sector during 1994-95 to 2015-16 are analyzed⁴ which includes: 51st (1994-95), 56th (2000-01), 62nd (2005-06), 67th (2010-11) and 73rd round (2015-16).

The analysis is done at 3-digit industrial level based on National Industrial Classification (NIC) codes of 2004. After doing this exercise, we are finally left with 56 three-digit industries.

Deflator used in the analysis:

3. Performance of Unorganised Manufacturing Sector

3.1 Structure of the Unorganised Manufacturing Sector

The structure of the unorganised manufacturing sector is analyzed by examining the changes in the share of OAMEs and Establishments in the four important indicators: number of enterprises, workers, output and fixed capital during 1994-95 to 2015-16. Further, the share of each 56 three-digit industry (which are classified as labour- and capital-intensive industries) has been examined to get the better insight into the above trend.

Table.1 Share of Enterprise in Unorganised Manufacturing in India during 1994-95 to 2015-16 (in %)

	OAME	Estb	(NDME)	(DME)	All
	Number of Enterprises				
1994-95	84.6	15.4	10.4	5.0	100
2000-01	86.2	13.8	10.0	3.8	100
2005-06	85.6	14.4	10.4	4.0	100
2010-11	83.8	16.2	N.A	N.A	100
2015-16	85.5	14.5	N.A	N.A	100
	Workers				
1994-95	68.3	31.7	13.6	18.1	100
2000-01	67.6	32.4	15.0	17.4	100
2005-06	65.0	35.0	15.8	19.1	100
2010-11	59.7	40.3	N.A	N.A	100
2015-16	62.9	37.1	N.A	N.A	100
	Real GVA				
1994-95	40.2	59.8	23.0	36.8	100
2000-01	42.3	57.7	25.0	32.7	100
2005-06	32.0	67.4	24.0	43.4	100
2010-11	35.9	64.1	N.A	N.A	100
2015-16	39.0	61.0	N.A	N.A	100
	Real Fixed Asset				
1994-95	32.9	67.1	28.4	38.7	100
2000-01	36.2	63.8	30.3	33.5	100
2005-06	33.4	66.6	30.8	35.8	100
2010-11	37.2	62.8	N.A	N.A	100
2015-16	39.1	60.9	N.A	N.A	100

Source: Author's estimation based on unit-level NSSO data

Table 1 shows that OAMEs accounts for the higher proportion in number of enterprises and workers while the Establishments dominates in the share of real GVA and real fixed capital. The share of OAMEs is constant for number of enterprises over the years but its share in employment opportunities is showing declining trend except for 2015-16. The share of OAMEs during 2010-11 and 2015-16 has shown increase in proportion of enterprises, workers, real GVA and real fixed capital while opposite trend can be seen for establishments. So, decline in share of establishments in latest two rounds for all variable is a matter of concern.

This clearly shows that enterprises which are primarily run by family workers or owners reflect the dominance in terms of workers and number of enterprises over establishments segment. In terms of real GVA and real fixed asset performance the above enterprises are marked below compared to the establishments in unorganised manufacturing sector. Establishment share in enterprise is around 14-15 percent over the years which employs 35 -40 percent of workers and 60-65 percent of capital while generate 60-70 percent of GVA. In contrast, OAMEs share in enterprise is more than 80 percent and their contribution to GVA is less than 40 percent. This clearly shows the evidence of disguised employment in the enterprises run by family workers and raises the question of profitability of these enterprises. Establishments are operating with more capital per worker as compared to OAMEs. OAMEs mainly uses traditional technology and have limited access to market.

3.2 Growth of Unorganised Manufacturing Sector

Table 2 presents the CAGR of aggregate unorganised manufacturing in terms of number of enterprises, employment, output and capital for OAMEs and Establishments during 1994-95 to 2015-16.

Table 2: Growth Rate of Unorganised Manufacturing Sector during 1994-95 to 2015-16 (in %)

	Enterprise Growth Rate				1994-95 to 2015-16
	1994-95 to 2000-01	2000-01 to 2005-06	2005-06 to 2010-11	2010-11 to 2015-16	
OAME	6.5%	-0.1%	-0.2%	3.1%	2.3%
Estb	3.8%	0.8%	2.6%	0.5%	1.9%
(NDME)	5.4%	0.7%	N.A	N.A	N.A
(DME)	0.2%	1.2%	N.A	N.A	N.A
All	6.1%	0.1%	0.2%	2.7%	2.2%
	Workers Rate of Growth				
OAME	3.9%	-1.1%	-2.5%	1.7%	0.5%
Estb	4.6%	1.2%	2.0%	-1.0%	1.7%
(NDME)	6.2%	0.7%	N.A	N.A	N.A
(DME)	3.3%	1.5%	N.A	N.A	N.A
All	4.1%	-0.3%	-0.9%	0.7%	0.9%
	Real GVA Growth Rate				
OAME	11.8%	-1.9%	10.1%	9.1%	7.2%
Estb	10.0%	7.0%	6.5%	6.3%	7.4%
(NDME)	12.6%	2.9%	N.A	N.A	N.A
(DME)	8.2%	9.8%	N.A	N.A	N.A
All	10.7%	3.8%	7.6%	7.3%	7.3%
	Real Fixed Capital Growth Rate				
OAME	-26.5%	1.4%	21.5%	1.5%	-2.1%
Estb	-28.6%	3.9%	17.5%	-0.1%	-3.4%
(NDME)	-26.9%	3.3%	N.A	N.A	N.A
(DME)	-29.9%	4.4%	N.A	N.A	N.A
All	-27.9%	3.0%	18.9%	0.5%	-2.9%

Source: Author's estimation based on unit-level NSSO data

It is seen that growth during 2000-05 to 2010-11, has been relatively faster in the establishment segment compared to OAMEs, particularly in terms of number of enterprises and employment.

During 1994-95 to 2000-05, aggregate unorganized manufacturing recorded an impressive employment growth rate at 4.1 percent accompanied by high output growth rate of more than 10 percent and high enterprise growth rate of 6.1 percent. Since 2000's despite moderate output growth rate of unorganised manufacturing sector the employment growth rate was negative or low till 2015-16.

Table 2 clearly points out one important point that the growth rate in real GVA in aggregate unorganised manufacturing sector has been relatively faster than the employment growth rate and growth rate in number of enterprises during 1994-95 to 2015-16.

Over the more recent period (2010-11 to 2015-16), the employment growth for the aggregate unorganised manufacturing is abysmally low at 0.7 percent despite high output growth of more than 7 percent. However, the employment growth of establishments has been negative while in the own account enterprises it was little above 1 percent.

3.3 Employment Elasticity

Employment elasticity is ratio of percentage change in employment growth to percentage change in output growth. For the four sub-periods as well as for the combined period for 20 years we have estimated the employment elasticity of output for the unorganized manufacturing sector as a whole and for individual industry groups at the 3-digit level. Some of the employment elasticities are not useful and are meaningless. Following the (Kannan& Raveendran, 2009) approach, employment elasticity can be classified into three groups:

Positive EE:

- a) Both employment and output growth are positive
- b) Both employment and output growth are negative (declining industries); this elasticity has no meaning.

Negative EE

- a) Positive output growth but negative employment growth
- b) Positive employment growth but negative output growth, this is also useless because employment is increasing even though industries declining in output

Zero EE

- a) Positive growth in output but no growth in employment
- b) No growth or decline in output and employment

Table 3: Gross Employment Elasticity of Unorganised Manufacturing Sector

	Gross Employment Elasticity				1994-95 to 2015-16
	1994-95 to 2000-01	2000-01 to 2005-06	2005-06 to 2010-11	2010-11 to 2015-16	
OAME	0.33	0.61 ¹	-0.25	0.19	0.06
Estb	0.46	0.17	0.30	-0.16	0.23
(NDME)	0.50	0.26	N.A	N.A	N.A
(DME)	0.41	0.16	N.A	N.A	N.A
All	0.39	-0.09	-0.11	0.09	0.12

Source: Author's estimation based on unit-level NSSO data

For whole period of 20 years, despite the high output growth rate during the reform years, the employment growth has been low which resulted in a low employment elasticity of just 0.12 for the aggregate unorganised manufacturing sector. Employment elasticity in the unorganised sector was 0.39 during 1994-95 to 2000-01, which then became negative for a next decade and was very low at 0.09 during 2010-11 and 2015-16. As expected, employment elasticity of output for household enterprises are less than establishments expect during 2010-11 to 2015-16.

Low employment elasticity of output also indicates the limited role of manufacturing sector in occupational transformation. Manufacturing sector is not absorbing the surplus labour moving out of primary sector in economy.

3.4 Productivity Performance

Productivity growth has been one of the prime drivers of growth of any economy and major determinant of international competitiveness. According to Kuznets (1996), fast growth of industrial productivity is crucial element in the structural transformation and the development of the economy (Duraismy, 2000). Poster (1990) points out the importance of labour productivity as one of the important determinants of economy's level of competitiveness, sustained growth and standard of living.

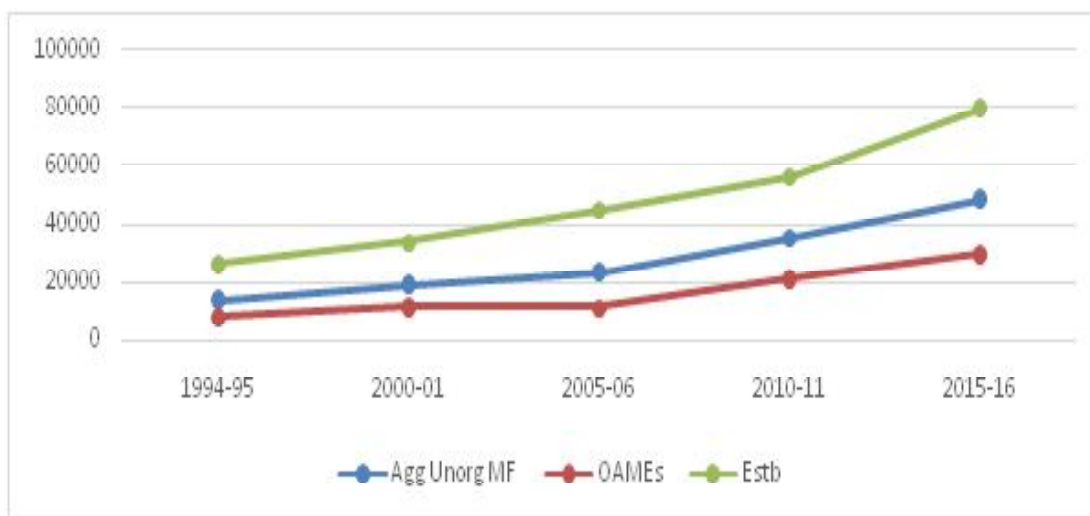
Labour productivity measures the ratio of physical output produced by the corresponding amount of labour in given period. It indicates the efficiency of the worker, production technology, work attitudes, labour management relations and management efficiency (Mariappan, 2011). Capital productivity is measured as total output produced by one unit of capital. It reflects the degree of fixed capital utilization and the efficiency of the capital utilized (Mariappan, 2011).

The available literature suggests that jobless growth should be labour augmenting (Bathla, 2009). Many studies confirm that Unorganised manufacturing sector witnessed the improvement in the labour productivity in post reform period (Rani and Unni (2004), Raj & Duraismy

(2005), Mariappan (2011) and Mitra (2013)). However, capital intensity could be the source of growth of labour productivity.

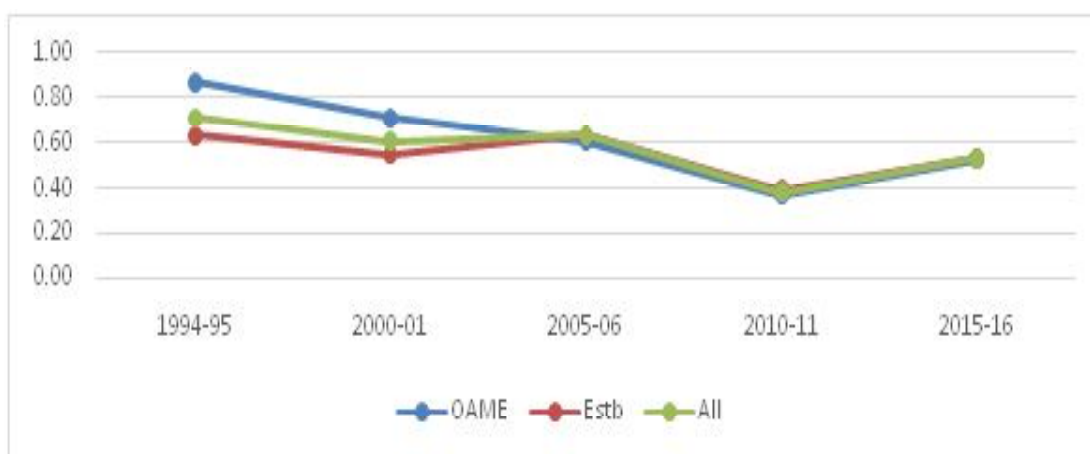
To examine the productivity performance of the Unorganised Manufacturing sector, trends in both labour productivity and capital productivity has been analyzed.

Figure1: Labour Productivity (Annual Real GVA per Workers in Rs/workers)



Source: Author’s estimation based on unit-level NSSO data

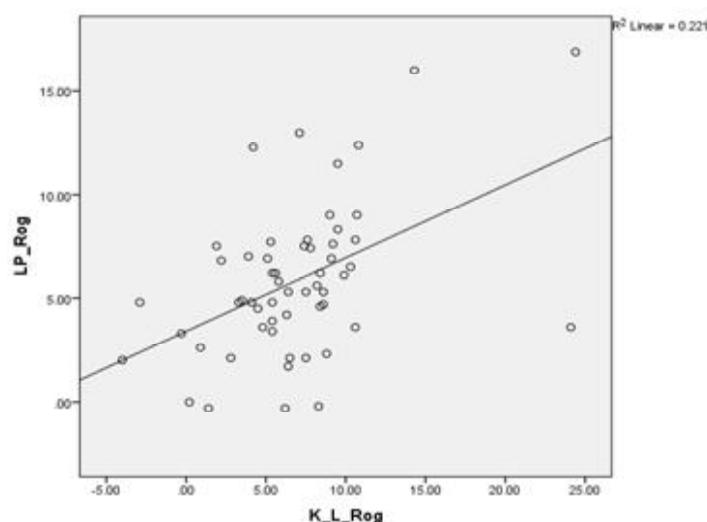
Figure2: Capital Productivity (Rs)



Source: Author’s estimation based on unit-level NSSO data

At an aggregate level, labour productivity has increased from Rs.14 thousand in 1994-95 to around Rs.48 thousand in 2015-16. While capital productivity has declined from Rs.0.71 to Rs.0.53 during the same period. Labour productivity has shown consistent increase over the years whereas the trend is fluctuating for the capital productivity. More or less the similar trend is observed for the unorganised manufacturing enterprises i.e., OAMEs and Establishments. Labour productivity of establishments is on average 3 times higher than of OAMEs enterprises during 1994-95 and 2015-16. Capital productivity for establishments follows the similar trend of aggregate unorganised manufacturing while for OAMEs capital productivity is falling consistently except in latest round.

Figure3: Correlation between capital intensity and labour productivity rate of growth



$$Y = 34.01 + 0.35 X$$

Source: Author's estimation based on unit-level NSSO data

The correlation between labour productivity growth rate and capital intensity rate of growth during 1994-95 to 2015-16 for 56 industries is positive. As seen in the graph, the correlation for number of industries is quite high (close to 1). This means for corresponding industries the rise in capital intensity is accompanied by increase in labour productivity. Industries which witnessed negative correlation includes Publishing (221), Reproduction of recorded media (223), Refined petroleum products (232), Railway and tramway locomotives (352) and Aircraft and spacecraft (353). Except Reproduction of recorded media (223), all are capital intensive in nature. For Aggregate Unorganised Manufacturing sector, one unit

change in capital intensity leads to 0.35 percent increase in labour productivity, other things remain constant. As capital base in unorganised sector seems to low, therefore marginal impact of increase in capital would be more in the sector. This implies, capital intensity is one of the major drivers of growth in labour productivity.

4. Industry Level Analysis

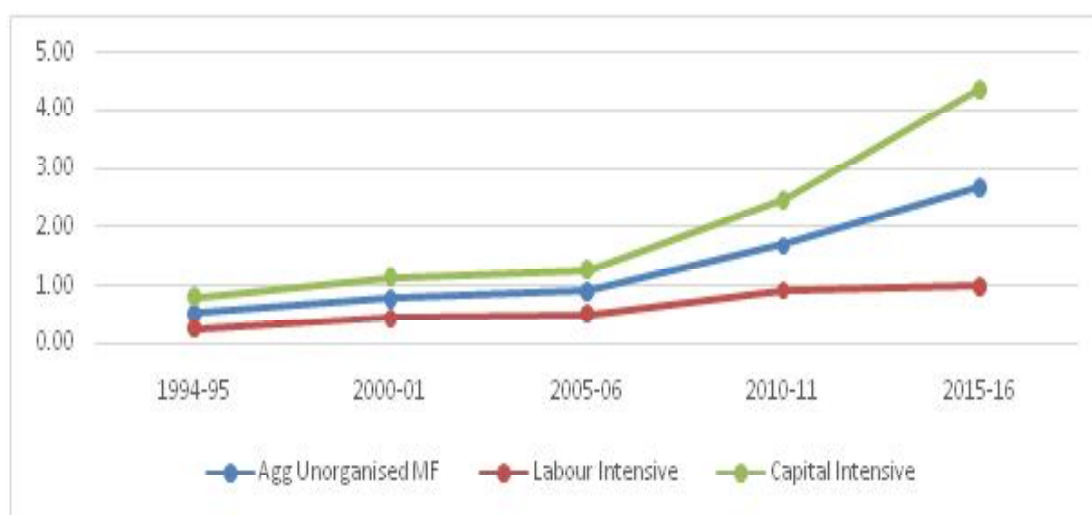
For deeper and better understanding of the employment scenario of unorganised manufacturing sector, we undertake analysis at more disaggregated level. For this purpose, 3-digit industry analysis has been done in terms of output, employment, capital intensity, employment elasticity and labour productivity.

Capital Intensity

Capital intensity is measured as the ratio of real fixed capital to total workers. It reflects the amount of fixed capital allocated to the labour at a time (Mariappan, 2011).

For the analysis, 3-digit industries are classified into labour intensive or capital-intensive industries. Capital-labour ratio is calculated for each 56 sectors for the entire 20 years, then average capital-labour ratio is calculated for each sector. Median value (1.02) is taken as a demarcating value so, industries with less average capital labour ratio than demarcating value are considered to be labour intensive and industries with above average capital labour ratio are considered capital intensive. After doing the exercise, 28 are labour intensive and 28 are capital intensive in nature.

Figure 4: Average Capital Labour Ratio



Source: Author’s estimation based on unit-level NSSO data

It may be seen from the graph 4 that average capital labour ratio is rising throughout the period for the Aggregate Unorganised Manufacturing sector and separately for 28 capital intensive and 28 labour intensive industries. The rise in average capital intensity was at slower pace during 1994-95 to 2005-06 both for capital- and labour-intensive industries while steeper rise could be overserved since 2005-06 onwards.

Table 4: Share of three-digit industries in total enterprises across different

	Share of Labour- and Capital-Intensive Industries (%)				
	1994-95	2000-01	2005-06	2010-11	2015-16
	Number of Enterprises				
Labour Intensive Share	96.01	96.52	96.50	96.48	97.07
Capital Intensive Share	3.99	3.48	3.50	3.52	2.93
	Number of Workers				
Labour Intensive Share	94.35	94.39	94.30	93.97	93.84
Capital Intensive Share	5.65	5.61	5.70	6.03	6.16
	Real GVA				
Labour Intensive Share	83.84	86.71	87.05	87.75	84.78
Capital Intensive Share	16.16	13.29	12.50	12.25	15.22
	Real Fixed Capital				
Labour Intensive Share	79.33	80.96	81.90	83.76	73.68
Capital Intensive Share	20.67	19.04	18.10	16.24	26.32

Source: Author's estimation based on unit-level NSSO data

The table 4 looks at the share of 28 labour and 28 capital intensive industries in aggregate unorganised manufacturing in terms of number of enterprises, number of workers employed, real GVA and real fixed capital during 1994-95 to 2015-16. The unorganised manufacturing sector consists mainly labour-intensive industries like Tobacco products (160), Products of wood, cork, straw and plaiting materials (202), Manufacture of Other textiles (172), Beverages (155), Wearing apparel (181), Footwear (192) etc. The share of 28 labour intensive industries in total number of enterprises is more than 96 percent and the share remains stagnant over the five rounds of NSSO surveys. In the latest two rounds, the share of labour-intensive industries has slight increased while for capital intensive has fallen slightly.

The employment shares of 28 labour and 28 capital intensive industries have also remained stagnant around 93-94 percent and 5-6 percent respectively. Similarly, the share of real GVA and capital has remained same over the years, where the share of labour-intensive industries in real GVA is around 84-87 percent and share of capital-intensive industries is around 13 to 16 percent during 1994-95 to 2015-16. However, the share of labour-intensive industries in capital have slightly fallen from 79 percent to 73 percent while the share of capital-intensive industries has increased from 20 to 26 percent during the period of study.

Therefore, the structure of aggregate unorganised manufacturing sector has not changed much during 20 years in terms of number of enterprises, number of workers, real GVA and capital. However, within labour intensive industries some structural shift has been observed.

We have identified ten core industries which are labour intensive in nature and have overwhelmingly large share in enterprises, employment, output and capital. In 2015-16, the 81 percent of enterprises and 86 percent of workers are from these 10 industries which generate 66 percent of total unorganised manufacturing output. This includes Grain mill products, starches and prepared animal feeds (153), Other food products (154), Spinning, weaving and finishing of textiles (171), Manufacture of Other textiles (172), Products of wood, cork, straw and plaiting materials (202), Non-metallic mineral products (269) and Manufacturing n.e.c. (369), Tobacco products (160), Wearing apparel (181) and furniture (361).

However, the share of three labour intensive industries-Tobacco products (160), Wearing apparel (181) and furniture (361) in enterprises has increased massively from around 10.4 percent to 50 percent, in terms of employment share increased from around 10 to 38 percent and share in output rose from 8.21 to 32 percent during the same period.

Tobacco products (160) the most labour-intensive industry in unorganised manufacturing sector has second highest share in enterprise and workers in 2015-16. The share of tobacco industry has increased in enterprises and workers while the share in output has fallen and share in capital is stagnant over time.

5. Factors Behind “Jobless or Jobloss Growth”

So far, we have outlined the trends in employment growth, output growth, capital intensity, employment elasticity, labour productivity and capital productivity in the Unorganised Manufacturing sector during 1994-95 to 2015-16. To understand the factors behind the ‘Jobless Growth’ in the Unorganised Manufacturing sector, we have divided 20 years into three phases based on the trends:

1st Phase (1994-95 to 2000-05)

During this period the performance of unorganised manufacturing sector was quite impressive in terms of size, employment and output growth rate. During this period, the real GVA of unorganised manufacturing sector grew at 10 percent while employment and enterprise grew at 4.5 percent and 6 percent respectively.

2nd Phase (2000-05 to 2010-11)

The period 2000-01 to 2010-11 witnessed the fall in the share of OAMEs in terms of number of enterprises, workers and output. The ‘Jobless Growth’ witnessed by unorganised manufacturing sector was mainly on the account of OAMEs enterprises while the establishment employment grew at positive but at low rate. That means, during this phase, household enterprises were falling and establishments which are supposed to be more productive witnessed growth. This is evident by the fact that share of hired workers increased consistently during the period.

3rd Phase (2010-11 to 2015-16)

This period witnessed the reversal in the above trend. The number of enterprises increased from 172.1 lakhs to 196.3 lakhs, while the rise was marginal for establishments but OAMEs witnessed the much higher rise (23.7 lakh). The share of household enterprises started to rise in terms of number of enterprises, workers and output while the establishment share declined. The decline in the share of enterprises in respect to all variables is a matter of concern. After the decade negative employment rate of growth in the unorganised manufacturing sector, it turned to be positive at 0.07 percent. This was mainly on the account of OAMEs which showed positive employment rate of growth of 1.7 percent while establishments registered negative employment growth rate. This suggests that increasing share of household enterprises is quite disappointing and may reflect the distress phenomena in the unorganised manufacturing sector.

The growth in urban OAMEs could be related to the factory sector growth rate. When there is slackening in the factory sector growth, people open up their tiny units as lack of employment opportunities in formal sector. On other hand, the growth in rural OAMEs could be related to agriculture distress (Mukherjee 2004 and Majumder, 2006).

Employment in organised manufacturing sector is increasing at unprecedented rate from 2004 onwards and closed to organised manufacturing sector within unorganised manufacturing sector are establishments. The share of establishments has increased in terms of both output and employment during the 2000-01 to 2010-11. So, basically wage work is increasing during this period. However, the above trend comes under arrest in next decade as performance of industrial sector both for organised manufacturing and establishments starts getting worse from 2010 onwards. This is consistent with the fact that overall performance of Indian economy slowed down after 2011-12. The investment rates slowed down as gross capital formation as percentage of GDP declined from 39.5 to 33.5 percent between 2012-13 to 2016-17. The agriculture sector also witnessed the deceleration in income and rural demand after 2011-12 as compared to the period 2003-04 and 2011-12. The construction sector which has been the important source of employment generation in reform period also recorded the noticeable slowdown in the growth after 2012-13. As per ASI data, GVA and employment growth rate decelerated from 2011-12 in the factor sector (Thomas, 2019).

This mean distress increased both in rural and urban areas which might have forced people to adopt OAMEs as survival strategy and this might have led to rise in share of OAMEs and decline in share of establishments in the period after 2010-11.

6. Conclusion

The performance of unorganised manufacturing sector in terms of employment generation remains quite dismal, despite moderate output growth rate in post-reform period (1994-95 to 2015-16). The gross employment elasticity for 20 years turns out to be low at 0.12 for aggregate unorganised manufacturing sector. Employment elasticity during 2000-01 to 2010-

11 was negative which was mainly on the account of job loss in the household enterprises. This is not worrying trend as OAMEs were falling behind establishments everywhere. Hence, wage work was increasing during the period. The decline in the household enterprises may be seen desirable as they employ unpaid family workers including child labour and employment in this sector mostly been in form of subsistence level (State of Working Report, 2018).

Analyzing the performance of unorganised manufacturing sector at disaggregate level shows that the share of labour-intensive industries in total enterprise is around 96-97 percent which employs some 93-94 percent of workforce and generate around 84-85 percent of GVA. However, the share of labour-intensive industries in terms of number of enterprises, workers and output has not changes much during the period under consideration. We identified three labour intensive industries i.e., Wearing apparel (181), Tobacco products (160) and Furniture (361) which have overwhelmingly large share in enterprise, employment and output. The share of these three industries in respect of all variables is consistently rising over the years.

Wearing apparel and furniture have experienced the rapid output growth rate (7 percent and above) and rapid employment growth rate (4 percent and above) in reform period. These industries are indeed important from policy perspective as these industries could be targeted for pro-poor growth in economy.

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(Footnotes)

- ¹Employment elasticity is ratio of percentage change in employment growth to percentage change in output growth.
- ²Capital Intensity is ratio of real fixed capital to total workers
- ³Labour productivity is output per workers and capital productivity is output per capital
- ⁴73rd round (2015-16) of NSSO was the last survey conducted for the unorganized manufacturing enterprises. Therefore, the study covered period till 2015-16.
- ⁵This employment elasticity is useless as negative employment growth rate and negative output growth rate is resulting into positive elasticity.

“An Analysis of Trends in the Growth of the Manufacturing Industry in the Defense Sector in India”

Shubhi Saini & Dr. Rashmi Dwivedi

Abstract

India's defense sector is significant and multifaceted ranked as the 4th largest in the world (Global Firepower, 2023). The defense sector is crucial in maintaining national security and safeguarding a country's sovereignty and is influenced by the allocation of resources, financial resources, geopolitical conflicts, and the inflow of foreign capital with the domestic defense manufacturing industry. Defense manufacturing industries play a pivotal role in India's economic growth and development. They contribute to a nation's gross domestic product (GDP), generate employment opportunities, and foster economic diversification. Over the years, several initiatives have been taken by countries to strengthen and revamp the manufacturing sector in the defense industry. In the context of India, it has been focusing on increasing domestic defense manufacturing industries, reducing dependence on exports from foreign nations, and increasing exports of domestically produced equipment. Still, India is the largest importer of defense equipment. Under Made in India and Production Linked Incentive (PLI) schemes, India is setting up more and more plants for manufacturing equipment under Public and Private sector undertakings and the government has established two Defense Industrial Corridors in Uttar Pradesh and Tamil Nadu. The two defense corridors in Uttar Pradesh and Tamil Nadu have together signed 108 memorandums of understanding (MoUs) with industries representing investments worth \$24.45 Bn. This has led to the generation of employment opportunities in the economy. As of October 2022, 366 companies in the Defense Sector have been granted 595 Industrial licenses. The government of India has established a defense production goal of US\$ 25 billion by 2025, which includes US\$ 5 billion from exports by 2025. The purpose of this study is to analyze the growing trend of manufacturing industries in the defense sector in the short-run period by using a qualitative measure. The

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research findings show a positive trend in the growth of manufacturing industries of the defense sector, empowering the Indian economy.

Keywords: *Defense manufacturing industry, economic growth, Made in India, DPSUs*

JEL Code: H, H5, H56

Introduction

The defense manufacturing sector is a pivotal component of national security and economic development. The countries implement an aggressive program of building a productive defense industry capable of meeting their military requirements, ensuring independence from foreign suppliers, and stimulating the economy, thus creating conditions for robust growth. Some factors that are responsible for the growth of the military manufacturing industry include:

- **Geopolitical Imperatives:** India's geographical position of being in South Asia, its territorial disputes with Pakistan and China, and regional rivalries require a strong military sector to maintain its national interests and protect its territory.
- **Modernization and Self-Reliance:** Such a strategy is being followed by India in its defense modernization and self-reliance effort to cut down on imports from abroad and to strengthen its domestic defense capacities.
- **Technological Advancements:** India has taken notable steps in research and development to garner state-of-the-art defensive technologies such as missiles, fighter aircraft, warships, and unmanned systems.
- **Defense Diplomacy:** India is playing a proactive role in demarcation diplomacy by developing strategic alliances with the United States, Russia, France, and Israel to acquire the latest defense technologies and armaments.
- **Export Potential:** As regards India's defense industry, it also has an approach to creating defense products and services that can be exported, with its cost-effective manufacturing facilities and competence in certain defense fields.

Furthermore, several factors, such as economic development, a strong manufacturing base, a labor force with required skills, cheaper manufacturing, and technological advancement, affect the increase of the aerospace and defense industry globally. Over the past few years, the Indian aerospace and defense (A&D) industry has experienced many crucial changes, thanks to increased government support and relaxation in the policies. Military equipment design and production autonomy, as well as technological self-reliance in the civilian sector, have been the focal point of activities in the Indian administration.

Historically, the defense manufacturing industry has been influenced by geopolitical factors, technological advancements, and economic policies. According to Smith, the impact of World War II on defense manufacturing emphasized the rapid expansion and technological advancements that occurred during this period. In the Indian context, historical developments in defense manufacturing can be traced back to the post-independence era when the country focused

on establishing indigenous production capabilities to reduce reliance on foreign suppliers. This is supported by the work of Gupta et al., who emphasized the early efforts of the Indian government to build a self-reliant defense manufacturing sector. This was the characteristic of defense manufacturing because it was the work of state-owned enterprises that were also more contract-bound with government demands.

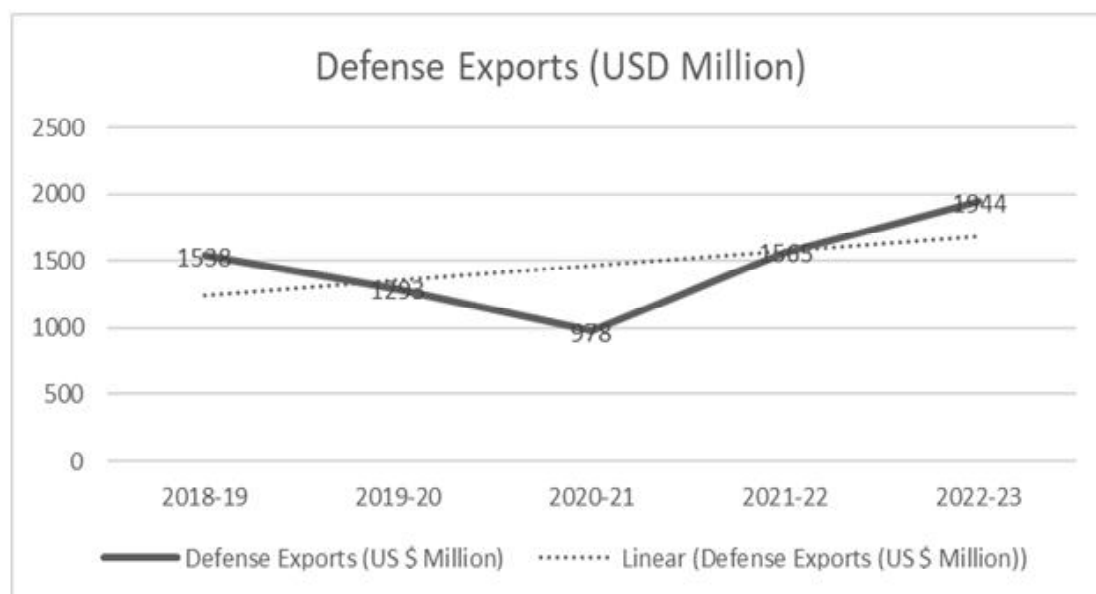
In recent years, there have been significant developments in the defense industry manufacturing sector. These include the introduction of advanced manufacturing technologies such as additive manufacturing (3D printing) and automation, the implementation of artificial intelligence and machine learning in production processes, and the emergence of new collaborative manufacturing models. According to Sharma, DMI (Defense Management Institution) has contributed to the development of advanced weapons systems and technologies that ensure the safety and sovereignty of a country. Despite this, India is still the world's largest importer of military equipment, with an 11% decline in arms purchases between 2013–17 and 2018–22 (Sipri 2023).

Furthermore, the “Make in India” campaign by Prime Minister Shri Narendra Modi has been a pivotal driver in transforming India into a manufacturing hub for defense equipment. Smith et al. emphasized the impact of government policies in promoting the growth of defense manufacturing. The researchers found that countries with clear and consistent policies supporting defense manufacturing tend to experience higher growth rates in the sector. The government has announced several policies for the Aerospace & Defence sector, including the Defence Acquisition Procedure (DAP) 2020, Defence Procurement Manual (DPM) 2020, and Defence Production & Export Promotion Policy (DPEPP) 2020 which aim to promote self-reliance in defense manufacturing under the ‘Aatmanirbhar Bharat’ scheme. As part of this effort, the government has also released four ‘Positive Indigenisation Lists’ containing a total of 411 items of Services, and three ‘Positive Indigenisation Lists’ containing a total of 3,738 items of Defence Public Sector Undertakings (DPSUs). The importation of these items will be restricted beyond the specified timelines. Additionally, the government has simplified the process for obtaining an industrial license and increased its validity period. This proactive government intervention highlights the significance of fostering a robust defense manufacturing industry. The government policy-driven towards indigenization and facilitative environment for private sector participation have driven the growth of the defense manufacturing industry. It has additionally paved the way to a large self-sustaining ecosystem of R&D, testing infrastructure, and a skilled workforce, creating a firm base for India's future growth in defense design. In addition, the defense sector is putting a great deal of emphasis on research and development, which has played a part in the growth of indigenous design and development capabilities. To promote R&D in the industry, particularly by start-up companies and academic institutions, the Ministry of Defence (MoD) has introduced three schemes: Innovations for Defence Excellence (iDEX), Technology Development Fund (TDF), and Make category. The establishment of defense innovation hubs, technology incubators, and very close relationships between academic institutions and the defense industry has opened the door for the development

of cutting-edge technologies and solutions in defense equipment that are also indigenous. According to the Department of Defense Production, there are currently 68 AI projects in the defense field planned until March 2024, with 40 AI projects already completed as of April 30, 2022. Moreover, the liberalization of defense policies and the promotion of foreign direct investment that improves the flow of capital, technology, and expertise have given rise to the growth of the defense manufacturing industry in India through the automatic route of up to 74% FDI and higher stakes with government approval has attracted defense manufacturers from across the globe to set up joint operations and manufacturing facilities in India. For instance, economic liberalization in the 1990s led to a renewed focus on technological advancements and foreign collaborations in defense manufacturing, as discussed by Kumar. In addition, the Green Channel Status Policy (GCS) has been implemented to stimulate private-sector investments in defense production and enhance the involvement of the private sector in this area.

Figure 1 shows an increasing trend in defense exports. India is exporting defense equipment to more than 75 countries around the globe. In the last 5 years, defense exports have grown by 334%, reaching a high record of US\$ 1.55 billion (Rs 12,815 crores) in the FY2021-22.

Figure 1: Defense Exports of India (in USD Million) for FY 2018-2022



Source: Compiled by the researcher using data from the India Brand Equity Foundation (IBEF) Report 2023, India

In 2018-19, the Indian government established defense corridors as a strategic initiative to boost defense manufacturing and enhance domestic production capabilities. The Defense Corridors of Uttar Pradesh and Tamil Nadu are aimed at fostering an enabling environment

for defense manufacturing by providing infrastructure support, investment incentives, and a platform for stakeholders of the industry to coordinate. The defense corridors in India have been in the spotlight of many domestic and international defense contracts, which have resulted in partnerships and joint ventures. The commencement of such corridors supports the government's objective of promoting a self-reliant country, increased military production indigenously, and the synergy effect between the military and non-military sectors, paving the way for dual-use technology and knowledge transfer.

The significance of this study is important as it contributes to the understanding of the growth trends of the manufacturing industry within the defense sector. By analyzing these trends, policymakers, industry leaders, and researchers can gain valuable insights into the factors that drive growth in the defense manufacturing sector. This understanding will enable the decision-making processes such as policy formulation aimed at enhancing self-reliance and building linkages between the military and civil sectors.

Objectives of the study: Now since we talked about some factors affecting the manufacturing industry, the objective of the paper is:

1. To analyze the trend in the growth of the defense manufacturing industry of India with the help of Indian defense production value
2. To study how the defense manufacturing industry is divided into segments (Public & Private) and its impact on the growth of the defense manufacturing industry.

Methodology: In this paper, we are studying the growth factor of the defense manufacturing industry in India for the period 2018-2022. To analyze the growth of the defense manufacturing industry, we are using a statistical method called trend analysis to identify patterns and trends seen in the growth of the manufacturing industry in the defense sector which is supported using secondary data which includes gathering data from various sources such as government reports, industry publications, and academic research.

So the secondary data sources that are used for the analysis of the trend of the growth of the defense manufacturing industry are SIPRI, Union Budget 2023-24, Union Budget 2022-23, IBEF, InvestIndia, Press releases, Press information bureau, Statista, Made in India,

Ministry of Defense, Government of India, Defense Reports, Department for Promotion of Industry and Internal Trade (DPIIT), and Department of Defense Production(DDP).

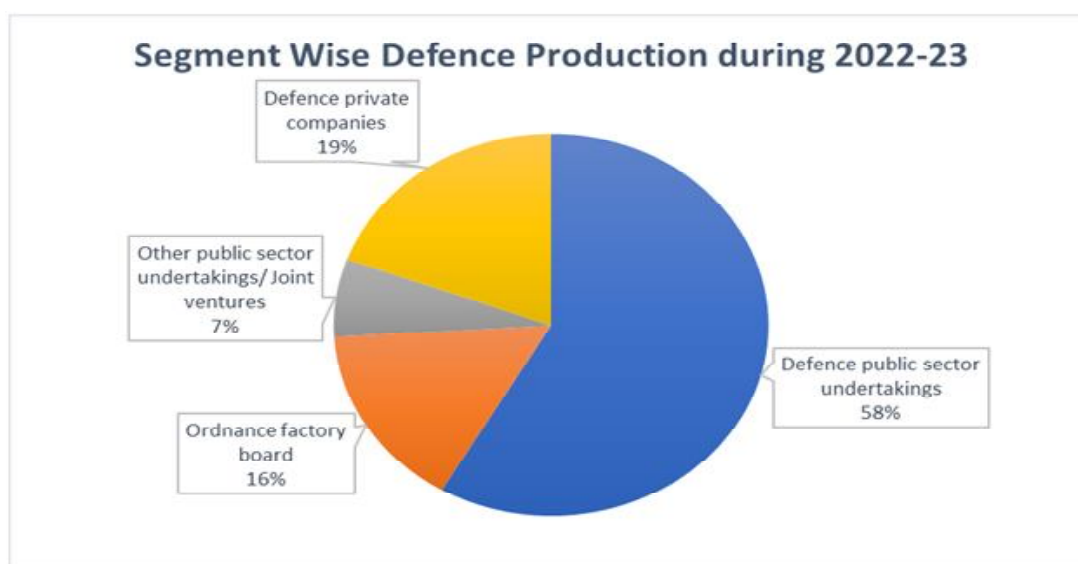
Analysis and Result

Analyzing the growth trend of the defense manufacturing industry can be shown through different factors affecting growth such as geopolitical conflicts, investment, technological advancements, export potential, etc. But here we are going to analyze the growth trend through share in the production of defense apparel and the Indian defense production value.

The aerospace and defense sector encompasses 16 central Defense Public Sector Undertakings (DPSU) under the MoD's jurisdiction with the purpose of manufacturing equipment and

platforms for defense and internal security forces. Hindustan Aeronautics Limited (HAL) stands as the largest DPSU, operating under the DDP, MoD, India. The Ordnance Factory Board (OFB), consisting of 41 Indian Ordnance Factories has been restructured into 7 DPSUs under the jurisdiction of DDP, MoD, India. Within this sector, the private sector players include both Original Equipment Manufacturers (OEMs) and Foreign OEMs (FOEMs) who have expertise and years of excellence. The foundation of the Indian supply chain comprises more than 12,000 Micro, Small, and Medium Enterprises (MSMEs) and 194 new defense tech solutions.

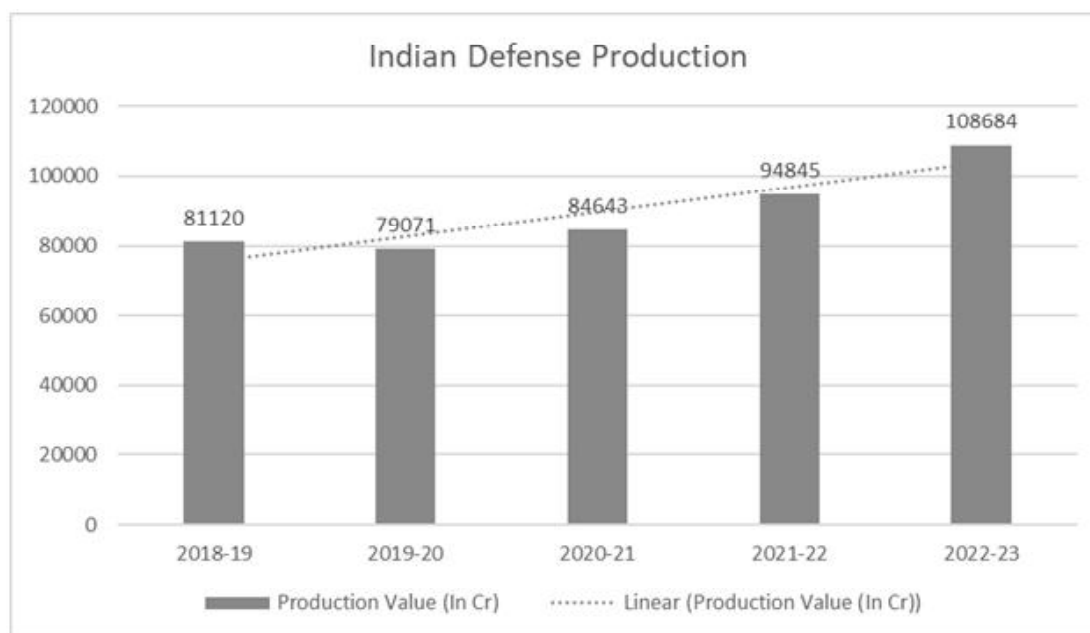
Figure 2: Division of Defence Production in segments for FY 2022-23



Source: Researcher compiled data using data from the Department of Defense Production, Ministry of Defense, India

The pie chart (fig.2) illustrates the percentage contribution of different stakeholders in the defense industry. The contribution by the public sector (DPSUs and OFBs) is the largest in FY2022-23 by more than 74% as compared to the private sector companies with a share of 19%. Moreover, other PSUs or joint ventures can either be private or public companies or combined ventures.

In addition, as per the DDP, to foster the development of Private Industry, MSMEs, and Start-ups within the defense production ecosystem, the Ministry of Defence has designated 25% of the domestic capital procurement/ acquisition budget, which amounts to Rs. 21,149.47 crore (US\$ 2.72 billion), to be allocated for the domestic private industry for FY2022-23. The domestic private sector holds the potential to enhance productivity within the manufacturing industry.

Figure 3: India's Defense Production Value (In Cr.) for the FY 2018-22

Source: The researcher compiled data using data from the Department of Defense Production, Ministry of Defense, India

The production value data from Fig. 3 suggests a positive linear trend, indicating a consistent increase in Indian defense production value over the past five years. This could be due to various factors, such as:

- Increased government spending on defense, where the Indian government is allocating more budget towards defense equipment and technologies as a total of INR 5.25 trillion (USD 70.6 billion) was provided in FY2022-23
- Focus on indigenization: A growing emphasis on developing and producing defense equipment domestically is seen through various policy implications, leading to increased production value.
- Global market opportunities: India is exporting more defense products to other countries, contributing to the overall production value with a rise of 344% seen in the last 5 years.

In FY 2022-23, India witnessed an all-time high record of defense production which crossed ¹ 1 lakh crore for the first time in the efforts to achieve 'Aatmanirbharta' in defense and the Armed Forces.

Therefore, the rising trend in the production value of the defense manufacturing industry shows positive growth in the manufacturing industry experiencing growth and development

in the economy. This was by reducing reliance on foreign suppliers and embracing indigenous production and other factors contributing to the modernization and expansion of Indian defense manufacturing industries.

Conclusion

The defense sector manufacturing industry is experiencing steady growth in the short term and has a promising future outlook. This growth is a positive and stable indication of the industry's prospects, driven by factors such as policy enhancements, technological advancements, increased defense spending, and government initiatives on defense exports and foreign collaborations.

The sector's growth has implications for national security and the economy, with job creation, infrastructure investments, and a skilled workforce leading to higher consumer spending and improved economic well-being. It also has the potential to stimulate innovation and productivity in other sectors.

Policymakers should focus on creating a conducive environment for industry growth and promoting innovation, research, and public-private partnerships. Understanding the impact of defense industry production on economic development is crucial for informed policy-making and strategic planning.

While there are limitations, further analysis of other factors affecting defense manufacturing growth is needed. By analyzing these patterns, policymakers and industry leaders can identify areas for development and focus investment accordingly, ensuring sustainable growth aligned with broader economic and security objectives. Thus, this analysis can also provide insights into innovation and partnership opportunities, ultimately strengthening national security and economic growth.

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Analyze the Role of Rural Electrification as a Key to Smart Villages

Dr. Ranjit Singh & Meenakshi Mritunjay

1. INTRODUCTION

This study seeks to explore and evaluate the significance of rural electrification in the establishment of smart villages. Rural electrification has become an essential component in converting rural regions into intelligent, networked communities as a result of the need to bridge the urban-rural divide and the rising emphasis on sustainable development. This study examines all elements of rural electrification and its influence on the development of smart villages, taking into consideration technical improvements, socioeconomic advantages, environmental sustainability, and regulatory issues. This article provides insightful analysis and recommendations to stakeholders, policymakers, and academicians working on rural development and smart village programs by carefully reviewing the body of research, case studies, and expert perspectives.

1.1 Background and Rationale:

It's commonly known that having access to power closely correlates with rising living standards and socio-economic development. However, in many parts of the world, particularly in rural areas, a substantial portion of the population still lacks access to fairly priced and reliable electricity. The cycle of underdevelopment and poverty is fuelled by a lack of electricity, which makes it more difficult to offer necessities like healthcare, education, and productive efforts.

Lately, the concept of "smart villages" has gained wider recognition as an all-encompassing approach to rural development. The goal of smart villages is to use technological advancements, renewable energy sources, and digital connectivity to enhance rural residents' quality of life and empower them. Rural electrification, which is essential to the integration of several smart technologies and services, is one of the core tenets of smart villages.

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1.2 Objectives:

- Study the connection between the creation of smart villages and rural electrification, with an emphasis on union territories and Indian states.
- Examine how electricity has affected rural living in a variety of ways, including economic benefits, environmental sustainability, technical breakthroughs, and regulatory issues.
- Identify and assess the specific ways in which electrification contributes to the creation of smart villages, considering factors such as access to technology, job creation, income generation and improved living standards.
- To Determine and evaluate the precise ways that electricity helps to develop smart villages, taking into account elements like the availability of technologythe development of jobs, income, higher living standards.
- Examine the effects of electrification on resource management, pollution reduction, and the adoption of renewable energy sources in order to assess how it might improve environmental sustainability in rural areas.

1.3 Methodology:

A strict approach will be used in order to meet the goals of the research. A thorough evaluation of scholarly works, research papers, reports, and policy documents pertaining to smart villages, rural electrification, and their interconnections will be part of the study. Two variables will be examined in this study: education and school attendance. Cooking fuel from the years 2015–16 and 2019–21 is the other one. Table 8—State/UT-wise: suppressed Headcount Ratio (Rural)—of the MPI Report (India-National-Multidimensional Poverty Index, 2023) contains the variable data. The analysis will make use of case studies and best practices from various nations and areas that provide empirical data.

1.4 Literature review:

Sharma, A., & Singh, R. 2016 This study examines government interventions and regulatory frameworks that support rural electrification and smart village programs, with a focus on policy views. It assesses how well different policy measures—such as incentives, collaborations between the public and private sectors, subsidies, and community-driven initiatives—achieve the objectives of rural development and sustainable energy access.

Khan, M. S., & Anwar, S.2017 This study looks at how rural electrification initiatives affect emerging nations' socioeconomic development metrics. It offers factual proof of the advantages of having access to electricity for generating revenue, improving educational results, providing healthcare, and enhancing general quality of life in rural areas.

Gupta, R., & Sharma, S.2018This article looks at the role that renewable energy sources play in electrifying rural areas and how decentralized energy systems driven by renewable

energy might help smart village development. It presents case studies and best practices from several regions where initiatives promoting renewable energy have successfully transformed rural communities.

Singh, A., & Kumar, P. 2019 In order to comprehend the connection between the growth of smart villages and rural electrification, this study puts forth a conceptual framework. It talks about how having access to power may help advance a number of smart village projects, such as bettering livelihood options, healthcare, education, and agriculture.

Patel, R., & Das, S. 2020 The idea of “smart villages” and the use of innovation and technology to rural development are examined in this review article. It talks about how ICT (information and communication technology) solutions combined with energy availability may support e-governance, telemedicine, precision agriculture and skill development programs—all examples of smart village projects.

2. Rural Electrification: A Conceptual Framework

The process of bringing electrical infrastructure and services to remote and rural regions that are not linked to the main power grid is known as “rural electrification.” It includes setting up sources of energy generation, transmission and distribution networks and providing rural people homes, companies, and government institutions with access to electricity. Beyond just supplying power, rural electrification takes into account factors like cost, sustainability, dependability, the social and economic effects of electrification in rural regions.

Challenges and Opportunities:

Rural electrification has several challenges that hinder its implementation and sustainability. These challenges include-

a) Infrastructure and technical challenges. Extending power grids to remote areas often requires significant investment in infrastructure, including transmission lines, substations, and distribution networks. The special geographical characteristics of rural areas, such as difficult terrain and long distances, present logistical challenges for network expansion. In addition, maintaining a reliable electricity supply in rural areas can be difficult due to voltage fluctuations, line losses, and the need for backup systems.

b) Affordability and financial viability: Rural residents, who tend to have lower income levels, may struggle to afford electricity services. High infrastructure installation and maintenance costs and low electricity consumption can make it difficult to electrify rural areas. Sustainable financing mechanisms, innovative business models and subsidies are often needed to improve the economic viability of rural electrification projects.

c) Policy and Regulatory Framework: Effective policy and regulatory frameworks are critical to support rural electrification initiatives. Clear guidelines, simplified processes for project implementation and supportive policies that encourage private sector participation can help overcome barriers and create an enabling environment for rural electrification. In addition,

it is important for long-term sustainability to address regulatory issues related to rates, connections and quality standards.

Despite the challenges, rural electrification offers significant opportunities for development and change. These opportunities include-

a) Socio-economic development: Access to electricity in rural areas can promote socio-economic development by facilitating better health services, education and skill development. This increases productivity and income generation opportunities, enabling various economic activities in rural communities such as agriculture, small-scale industries and entrepreneurship.

b) Energy access and poverty reduction: Rural electrification plays a key role in alleviating fuel poverty by providing rural communities with clean, reliable and affordable energy solutions. This reduces dependence on traditional environmentally harmful energy sources such as biomass and kerosene, improves health effects and reduces indoor air pollution. The availability of energy also enables the use of efficient equipment and technologies that increase productivity and quality of life

c) Sustainability and mitigation of climate change: integration of renewable energy sources into rural electrification projects promotes sustainability by reducing greenhouse gas emissions, promoting climate change resilience and minimizing environmental pollution. Rural areas often have untapped renewable energy resources that can be used to generate clean and sustainable electricity. In general, rural electrification plays a crucial role in bridging the energy gap between urban and rural areas.

3. Smart Villages: Concept and Framework

Smart villages are made up of a number of interrelated parts that work together to enhance the well-being and quality of life for people living in rural areas. These elements may consist of the following:

a) Infrastructure and Technology: Smart communities make greater use of technology to deliver essential services and infrastructure. This entails putting in place intelligent energy management systems for smart grids, complex communication networks, infrastructure for information and communication technologies, sensor networks for environmental monitoring, and efficient transportation networks.

b) Energy and Sustainability: Smart communities give sustainable energy solutions top priority in order to ensure consistent and clean energy supply. This may include combining renewable energy sources, such as solar, wind, and hydro power, with energy-efficient practices and technology to optimize energy use and minimize environmental impact.

c) Digital connection: In order to facilitate online services, communication, and information sharing, smart villages must have access to digital connection. It consists of mobile networks, high-speed internet access, and digital platforms that support distant learning, telemedicine, e-governance, and e-commerce.

d) Social Services: The goal of smart villages is to enhance the provision of social services including public safety, healthcare, and education. Telemedicine, digital healthcare systems, e-learning platforms, remote vital sign monitoring, and the provision of smart classrooms and community centres may all help achieve this.

e) Economic Opportunities: The development of smart villages places a strong emphasis on promoting entrepreneurship and opening up new markets in rural regions. This entails helping regional companies, advancing value addition and agroprocessing, opening up markets, and fostering creativity and skill development through training and capacity-building initiatives.

f) Government and Participation: In smart villages, efficient government and community involvement are essential. The needs and voices of rural communities are taken into account through inclusive policies, citizen engagement platforms, and participatory decision-making procedures. Communities are empowered to actively engage in the development process through information access, e-governance methods, and transparent and efficient administrative processes.

4. Role of Rural Electrification in Smart Villages

4.1 Technology Development and Infrastructure Needs:

Rural electrification plays a major role in enabling the integration of technological advancements and the building of required infrastructure in smart villages. Energy provides the foundation for the implementation and operation of many smart technologies, such as sensor networks, data analytics platforms, and communication networks. These technologies provide real-time monitoring, data collection, and analysis. They support informed decision-making and optimize resource usage in a range of contexts, such as waste management, agriculture, energy management, and water supply.

Additionally, rural electrification paves the way for the adoption of smart grid technologies, which enhance the efficiency, reliability, and resilience of the electrical supply. Demand response systems, load control, and the integration of renewable energy sources are made possible by smart grids, which enable two-way communication between the utility and its customers. These grid technologies make it possible to seamlessly combine renewable and decentralized energy sources, which helps smart communities have a more dependable and sustainable energy supply.

4.2 Socioeconomic Transformations:

In smart villages, rural electrification significantly alters the socioeconomic landscape by promoting social inclusion, economic growth, and better living standards.

a) Education and Skill Development: The installation of smart classrooms and e-learning platforms in rural schools is made possible by access to power, which raises educational options and elevates educational standards. It makes remote learning programs, educational resource access, and skill development efforts possible, equipping rural communities with the information and abilities required for self-employment and employment.

b) **Healthcare Services:** Telemedicine services may be deployed more easily in rural areas thanks to electrification, which makes remote diagnosis, consultation, and treatment possible. It lessens the demand for medical services to be transported to metropolitan regions by enhancing healthcare access and quality in underprivileged communities. Moreover, electrification improves the general healthcare infrastructure in smart villages by enabling the use of medical equipment, refrigeration for the storage of vaccines, and lighting for medical facilities.

c) **Productivity and Employment:** In rural regions, having access to electricity boosts business ventures and job openings. By supplying energy for machinery and equipment, it promotes small-scale industry, entrepreneurship, and agroprocessing. Crop variety and increased agricultural output are made possible by electric irrigation systems. Moreover, electricity promotes economic growth and lowers the movement of people from rural to urban areas by opening doors for value addition and market connections.

d) **Social-integration and Quality of Life:** By giving rural people access to contemporary facilities and services, electrification of rural areas promotes social integration. It enhances security, safety, and illumination in homes and public areas. Utilizing energy-efficient equipment, such as fans and refrigerators, enhances comfort and quality of life when electricity is availability. Additionally, it makes connecting easier, enabling those living in remote areas to participate in social and economic activities, obtain information, and maintain contacts to the outside world.

4.3 Sustainability in the Environment:

Electricity in rural regions of smart villages encourages environmental sustainability, especially when paired with renewable energy sources. Mini-hydro plants, small wind turbines, and solar photovoltaic systems are examples of renewable energy technology that reduces greenhouse gas emissions and dependence on fossil fuels.

4.4 Policy and Regulatory Considerations: Successful rural electrification projects in smart villages depend on strong policy and regulatory frameworks. Policies promoting investments in rural electrification, encouraging the use of renewable energy sources, and providing financial incentives to the private sector are all necessary for governments to implement. Well-defined regulations covering grid integration, pricing, quality standards, and consumer protection are necessary to provide equitable and sustainable electricity access.

In conclusion, electricity of rural areas is essential to the development of smart villages. It enhances the overall level of life for rural inhabitants, encourages socioeconomic transformation, strengthens environmental sustainability, and builds the infrastructure and power required for the use of smart technology. Smart villages may develop into interconnected, self-sufficient, and sustainable rural ecosystems by taking use of the advantages of rural electrification.

5. CASE STUDIES

We can gain a better understanding of the function that rural electricity plays in smart villages by looking at case studies and best practices from different places. These illustrations showcase

efficacious endeavours and offer significant perspectives on the execution of rural electrification efforts within the framework of smart village development. Here are some noteworthy case studies and recommended procedures:

5.1 Case Study: India's Smart Villages Utilizing Solar Micro Grids:

Through the use of solar micro grids, such as those in Dharani, Bihar, India's Smart Village Initiative provides dependable energy to rural regions, boosting local economies and standards of life while meeting a range of community needs.

5.2 Case Study: Barefoot College, Rajasthan

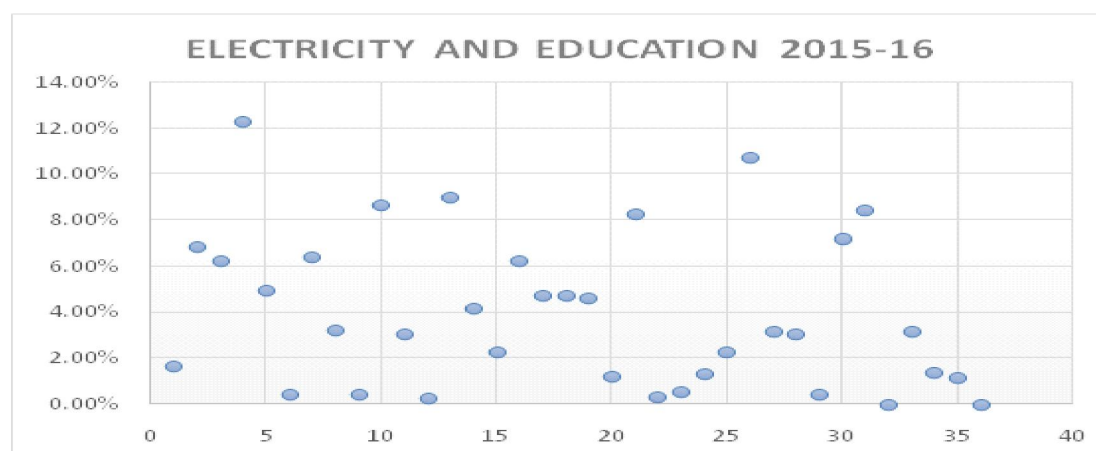
Through skill development and solar electricity, Barefoot College in Tilonia, Rajasthan, India, empowers women living in rural areas. aretrained as solar engineers, women from remote communities are able to construct and maintain solar power systems in their villages. In addition to giving people access to electricity, this program empowers women and boosts the local economy.

5.3 Case Study: Smart Village Tilonia, India:

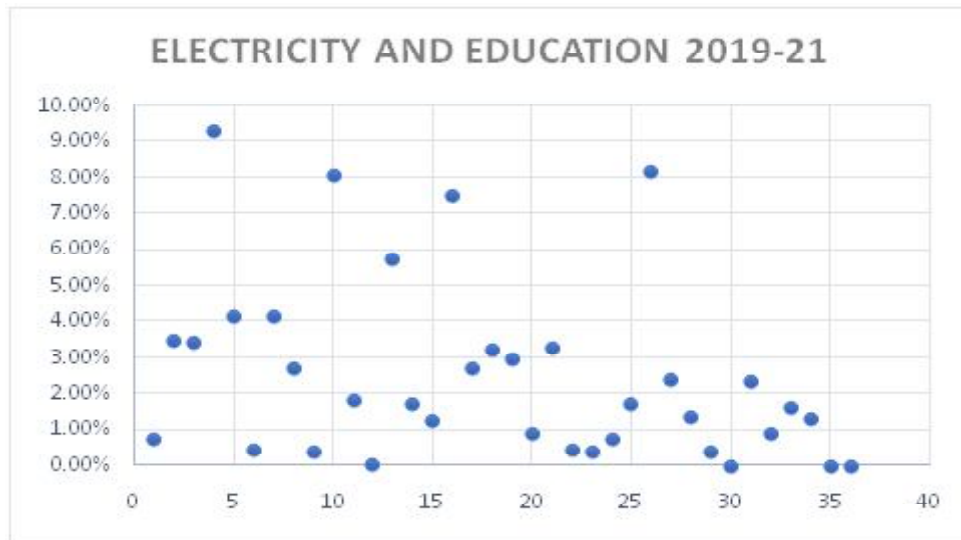
An innovative smart hamlet that exemplifies the merging of technology, renewable energy, and sustainability is Tilonia, Rajasthan. Tilonia offers effective trash management, telemedicine, digital education, and solar street lighting thanks to partnerships between the government, non-governmental organizations, and local communities. These programs have enhanced waste management, healthcare, and education, supporting the village's overall growth.

6.FINDINGS AND ANALYSIS

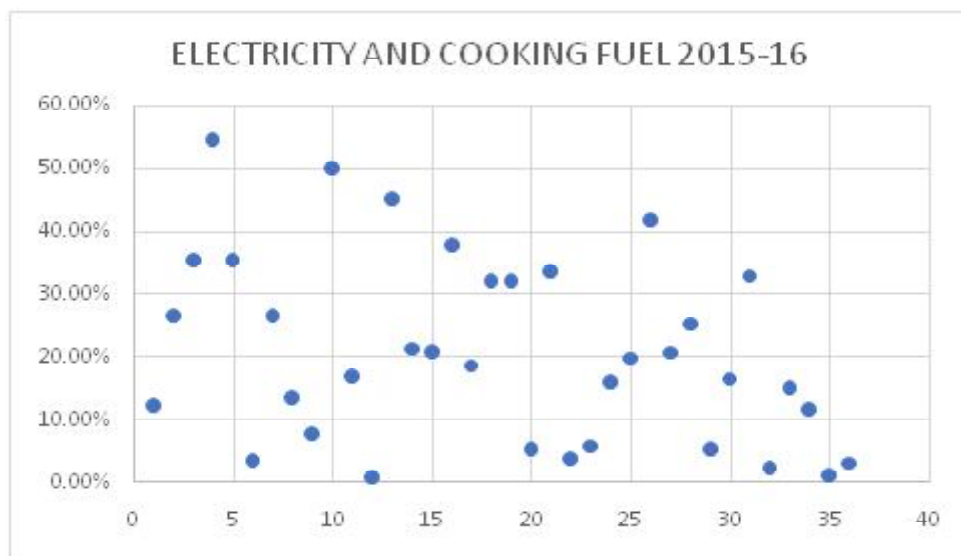
- Correlation between electricity and education (school attendance) is **0.083465** this indicates very weak positive correlation between the variables it suggests that an increase in electricity there is slightly increase in school attendance in the year 2015-16



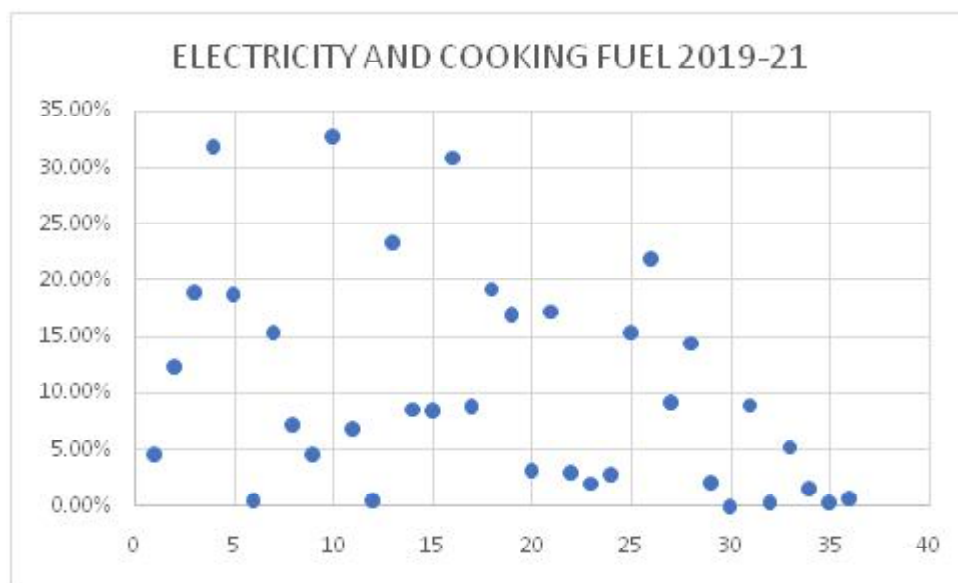
- Correlation between electricity and education (school attendance) is **0.328279** this indicates moderate correlation between the variables it also shows an positive lead in the year 2019-21 as compared to previous time period 2015-16.



- Correlation between electricity and cooking fuel is **0.227213** this also indicates weak positive correlation between the variables in the year 2015-16 it signifies that an increase in electricity in rural areas of India there is an increase in usage of cooking fuel among rural households



- Correlation between electricity and cooking fuel in the year 2019-21 is **0.330824** this denotes moderate positive correlation between the variables this data hence forth shows an increase in the level of electricity consumption and cooking fuel in rural India as compared to 2015-16



7. CONCLUSION

In order to create and modify smart villages, rural electricity is essential. It offers several advantages, such as greater access to contemporary energy services, more options for livelihood, improved facilities for healthcare and education, and general socioeconomic advancement. This research study has examined the conceptual framework, case studies, best practices, and the role of rural electricity in smart villages.

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Digital Payments for Food Businesses: A Study of UPI Adoption and Implications

Samiya Sharffudin

Abstract:

Unified Payments Interface (UPI) is an instant financial transaction system which facilitates instant money transfer from one bank accounts to another using a mobile application. UPI has emerged as a convenient, hence popular mode of digital payments in India, especially during the Covid-19 pandemic. UPI has the capability to consolidate multiple bank accounts within a single mobile application, thus simplify the process of funds transfer. Since its launch in 2016 more than 40% retail digital transaction are done through UPI. This paper aims to study the use of UPI in enabling digital payments for food businesses, its benefits and challenges in technology adoption. The paper finds that UPI has the potential to empower entrepreneurs and enhance their competitiveness in the food industry. However, it also requires combined efforts from various stakeholders to address the existing barriers and gaps. UPI has achieved a position in financial transaction, which if not adopted, will affect the productivity and competitiveness of businesses. This technology has also enabled entrepreneurs to handle cash counters safely while handling large amounts of cash.

Keywords: UPI, Digital Payments, Entrepreneurs, Food Business, Covid-19

INTRODUCTION

In India, after demonetization in November 2016, the use of digital payments has witnessed rapid growth transforming the country's financial environment. Various technologies and platforms have emerged, offering convenience, security, and efficiency in conducting transactions. One such platform is Unified Payment Interface (UPI) which allows users to transfer money from one bank account to another using a mobile application. It facilitates its users to link multiple bank accounts, send money, pay bills, and make online and offline purchases. Paytm, Phonepay, Google, and Amazon Pay are among the popular modes of mobile wallet digital payment method. These wallets provide users with digital accounts linked to their mobile

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numbers, allowing them to store money, make payments, recharge mobile phones, and pay utility bills. Internet banking services offered by banks in India also enable customers to perform various financial transactions online, including fund transfers, bill payments, and account management. Aadhaar-enabled payments have integrated India’s unique identification system, Aadhaar, into digital payment systems. This enables individuals to authenticate their identity using their Aadhaar number for transactions. Quick Response (QR) code payments have gained popularity as a convenient and contactless payment method. Users can scan QR codes with their smartphones to initiate transactions swiftly. Additionally, electronic funds transfer systems like NEFT (National Electronic Funds Transfer) and RTGS (Real-Time Gross Settlement) allow individuals and businesses to transfer money between different banks. NEFT is suitable for transfers with time delays processed in batches, while RTGS enables real-time and large-value transfers “Making India” “less cash” “dependent and promoting digital payments has been a focus area for RBI since last decade”.(Gochhwal, 2017a)

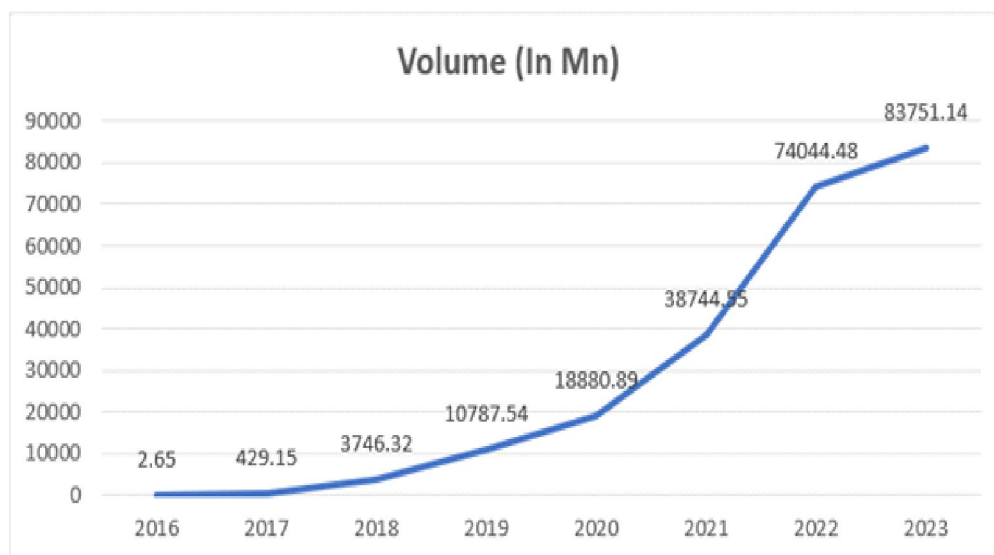


Fig.1 Growth statistic of UPI 2016 to 2023

Note.(*Digital Payments Driving the Growth of Digital Economy | National Informatics Centre, n.d.*)

These digital payment platforms and technologies have revolutionized financial transactions in India, offering individuals and businesses convenience, speed, and security. UPI has emerged as a leading digital payment platform, providing users with a secure, convenient, and interoperable mode of conducting transactions.

LITERATURE REVIEW

(Rastogi et al., 2021) concludes that “the advent of digitalization itself is a path-breaking innovation, and UPI is one such innovation which supports the digital ecosystem and contributes to the inclusion of the bottom of the pyramid into the financial system”.

(Tungare, 2018) in his study depicts that UPI has gained traction among customers in the Indore region, with notable differences in adoption based on demographic and sectoral factors. The study provides valuable insights into the factors influencing the adoption of UPI and its implications for the future of mobile payments in India.

(Kapur et al., 2019) The research highlights the adoption pattern of mobile payment services in India, focusing on the BHIM App using the Bass Model. Key determinants influencing adoption, such as trust and compatibility, were identified, emphasizing the need for addressing barriers to increase adoption rates. Collaborative efforts among stakeholders are crucial for promoting a cashless economy and driving widespread adoption of digital payment solutions. The study contributes valuable insights for policymakers, service providers, and researchers to enhance user acceptance of electronic payment methods in emerging economies.

(Thomas & Chatterjee, 2017) The paper discusses the Unified Payment Interface (UPI) as a catalyst for digitalization in India, highlighting its seamless fund routing and merchant payment capabilities. It emphasizes the potential for UPI to simplify the payment ecosystem and reduce transaction costs, while acknowledging challenges related to smartphone penetration, lack of financial literacy, and technical implementation.

(Gochhwal, 2017b) The paper provides a detailed analysis of the Unified Payment Interface (UPI), highlighting its role in transforming the Indian payment landscape. It emphasizes the technical architecture, security systems, and the impact of UPI on the payments industry and businesses.

TECHNOLOGY, PAYMENT, AND BUSINESSES

The onset of the internet has brought many transformative changes in how businesses conduct, operate, and engage with their customers. It has created worldwide communication avenues, granting businesses unparalleled access to information and global markets. With the help of websites, online marketplaces, and social media platforms, businesses can display their offerings to a vast online audience, expanding their reach to potential customers on a global scale. The progression of mobile connectivity from 2G to 5G has played a pivotal role in reshaping the business landscape. The inception of 2G networks enabled basic voice calls and text messaging, facilitating mobile communication and the growth of mobile-oriented services. The shift to 3G networks improved data transfer rates, enabling multimedia messaging, internet browsing, and basic mobile app usage. This presented fresh opportunities for businesses to offer mobile-responsive websites and apps, expanding their digital presence and engagement with customers. The introduction of 4G networks transformed mobile data speeds, enabling businesses to provide rich media content, mobile advertising, and enhanced user experiences. The advent

of 5G networks holds the promise of even more significant advancements in mobile connectivity, unlocking new possibilities like real-time data analysis, immersive customer experiences, and improved connectivity for remote workforces. The transition from traditional cash-based transactions to digital payment methods, including options like debit and credit cards, net banking, mobile wallets, and UPI (Unified Payments Interface), has had a transformative effect on business operations and customer experiences. Digital payment solutions have significantly accelerated the speed and convenience of transactions, enabling businesses to efficiently process payments. The growing popularity of contactless payments, made possible through technologies like NFC and QR codes, has further quickened transaction speeds and enhanced customer convenience. These diverse digital payment methods have expanded the reach of businesses by facilitating e-commerce and online sales, allowing them to tap into a global customer base and operate beyond geographical boundaries.

2g	GSM - Introduction of digital mobile communication and basic voice and text capabilities.	This represents the early stages of mobile communication technology, enabling basic voice calls and text messages but not yet supporting online transactions.
3g	UMTS, CDMA2000 - Faster data speeds, improved voice quality, and access to the internet on mobile devices.	With the introduction of 3G technology, the internet became more accessible on mobile devices, enabling the use of online banking and e-commerce platforms.
4g	LTE - Faster speeds, low latency, enhanced capacity, improved efficiency, and support for multimedia-rich applications.	4G technology brought faster mobile internet speeds, making online transactions more seamless and convenient on smartphones and tablets.
5g	Mm Wave, Massive MIMO, Network Slicing - Ultra-fast speeds, high device density, low latency, and the ability to create virtual networks for different services.	The advent of 5G technology revolutionizes connectivity, enabling ultra-fast speeds, low latency, and high device density. This allows for a more immersive and interconnected experience, paving the way for advanced online transactions and emerging technologies like Internet of Things (IoT) and augmented reality (AR).

FIG 2: Technological Advancements Making Way For Advanced Online Transaction

Artificial Intelligence (AI) has also brought about significant transformations in the payment industry, equipping businesses with valuable tools and capabilities. AI-driven systems have remarkable ability to quickly process large amounts of transaction data in real-time, enabling

the detection of patterns and irregularities that signal potential fraud. This not only safeguards businesses but also protects their customers from fraudulent activities, thereby minimizing financial losses and preserving their reputation. AI algorithms further excel in scrutinizing customer data to offer tailored recommendations and targeted promotions, enhancing the overall customer experience, cultivating loyalty, and ultimately boosting sales. These innovations greatly improve efficiency and customer satisfaction. Consequently, with the progression of mobile connectivity from 2G to 5G, AI has made a profound impact on businesses. This impact extends to broadening market reach, enhancing customer interactions, accelerating transaction processing, and furnishing tools for fraud detection and personalization. Embracing these advancements from a business perspective is instrumental for companies to remain competitive, streamline their operations, and meet the evolving expectations of their customers in this digital era.

NEED FOR DIGITAL PAYMENT IN FOOD BUSINESSES

Traditional payment methods have long been the norm for food businesses in India, with cash transactions being the go-to choice for customers at restaurants, street food stalls, and home-based food services. However, relying on cash has its downsides, including security concerns, operational inefficiencies, and a lack of proper record-keeping. These challenges can hinder the growth and security of food businesses. India has made significant strides in promoting digital payments in recent years, with initiatives like demonetization and government efforts to encourage a cashless economy. Digital payment options such as debit and credit cards, mobile wallets, and UPI have gained traction among both businesses and consumers. Despite this progress, there are still variations in the adoption of digital payments across different segments of society. Embracing card payments, whether through point-of-sale (POS) machines or online gateways, can offer several advantages. It enhances customer convenience, expands the customer base, and streamlines financial management. However, there are factors to consider, such as initial setup costs, transaction fees, connectivity issues, and varying levels of card familiarity among the population. Unified Payments Interface (UPI) has become a popular choice for digital payments in India, allowing direct transactions from bank accounts via smartphones. UPI presents numerous benefits, including accessibility, lower transaction costs, real-time settlements, and increased digital inclusion. It offers a practical and cost-effective solution for food businesses to manage transactions efficiently. The shift from traditional cash transactions to digital payment methods like cards and UPI is pivotal for empowering food businesses in India. Embracing digital payments not only enhances convenience and financial management but also promotes financial inclusion, ultimately leading to increased efficiency and security in the food industry. It's a positive step toward a more secure and prosperous future for these businesses.

RESEARCH METHODOLOGY

A research conducted for Studying Foodpreneur's views on UPI in Kanpur's Food Business Sector.

Research Objective: The objective of this study is to understand the perspectives and experiences of entrepreneurs who run food businesses in the Kanpur region regarding the adoption and impact of UPI (Unified Payments Interface) as a digital payment method. The research aims to gather insights into the benefits, challenges, and opportunities associated with UPI in the context of their businesses.

Sampling: The research sample consist of 30 entrepreneurs who are actively operating food businesses in the Kanpur region. The selection of participants is based on their experience, business size, and willingness to participate in the study. Efforts are made to ensure diversity in terms of the types of food businesses represented, including restaurants, cloud kitchens, catering services, and home-based enterprises.

Data Collection: In the data collection phase, a questionnaire survey of 30 entrepreneurs was conducted. The survey explored participants' views on the Unified Payments Interface (UPI), including their familiarity with UPI, reasons for adoption or non-adoption, perceived benefits, challenges faced, impact on business operations, and suggestions for improvement.

UPI ADOPTION AND ITS IMPLICATION

The adoption of UPI (Unified Payments Interface) had a significant impact on India's financial landscape, revolutionizing digital payments.

1. **Limited Digital Literacy:** Among the participants interviewed in Kanpur, a significant challenge identified was limited digital literacy. Many entrepreneurs faced difficulties in understanding and navigating the UPI interface, which hindered their adoption of the platform.
2. **Connectivity Issues:** Participants in the interviews expressed concerns about unreliable internet connectivity in certain areas of Kanpur. Inadequate access to stable internet connections posed challenges in accessing UPI services consistently, resulting in transaction failures and delays.
3. **Trust and Security Concerns:** Trust and security concerns were prominent among the participants. Some expressed reservations about the safety of their financial transactions and the potential risks associated with digital payments. Addressing these concerns is vital to building trust and encouraging broader UPI adoption.
4. **Religious Myths and Beliefs:** The interviews highlighted the existence of religious myths and beliefs surrounding the use of hard cash. Some participants mentioned the belief that the first transaction should be in hard cash, considering it as an offering to the Goddess Lakshmi, the deity associated with wealth and prosperity.

Overcoming these deeply rooted religious beliefs presents a unique challenge in adopting digital payment methods like UPI.

Insights from Interviews:

1. **Enhanced Efficiency and Convenience:** Participants who adopted UPI highlighted the convenience and efficiency it brought to their businesses. They appreciated the speed of transactions and the ability to receive payments instantly, streamlining their operations and reducing the need for cash handling.
2. **Financial Inclusion:** UPI adoption played a pivotal role in promoting financial inclusion among entrepreneurs in Kanpur. It provided them with access to digital payment services, allowing them to expand their customer base and actively participate in the formal economy.
3. **Transparent Financial Records:** Many participants emphasized the importance of digital transactions for maintaining accurate financial records and improving transparency. UPI facilitated better financial management by enabling participants to track their income and expenses efficiently.

PROS AND CONS OF UPI ADOPTION:

Pros: Convenience and Efficiency: UPI provide a smooth and organized remittance experience, reducing the need for hard cash and reducing transaction time.

Financial Inclusion: UPI empowers entrepreneurs by granting access to digital financial services, fostering economic independence and growth.

Transparent Financial Management: UPI transactions provide a digital trail, allowing participants to maintain accurate financial records and comply with tax regulations.

Cons: Technological Dependence: UPI adoption relies on access to smartphones and reliable internet connectivity, which may pose challenges in certain areas, particularly in less developed regions.

Limited Awareness and Education: Lack of awareness and understanding about UPI and digital payment methods can hinder adoption, emphasizing the need for awareness campaigns and educational initiatives.

Security Risks: Participants expressed concerns regarding the security of their financial transactions and the potential for fraudulent activities. Strengthening security measures and promoting safe digital practices are essential to address these concerns.

CONCLUSION

In conclusion, the adoption of UPI among foodpreneurs in Kanpur face challenges related to limited digital literacy, connectivity issues, trust and security concerns, and religious beliefs. However, UPI adoption brings benefits such as enhanced efficiency and convenience,

financial inclusion, and transparent financial management. Limited digital literacy is a hurdle as foodpreneurs struggle to understand UPI, emphasizing the need for digital literacy programs. Connectivity issues, especially unreliable internet access, hinder consistent UPI usage and require infrastructure improvements. Trust and security concerns must be addressed to build confidence in UPI and prevent fraudulent activities. Religious myths and beliefs, such as the notion of first transactions in hard cash as offerings, pose a unique challenge to UPI adoption. Overcoming these beliefs necessitates targeted awareness campaigns. Interviews with UPI adopters revealed that it brings enhanced efficiency and convenience, streamlining operations and reducing cash handling. Financial inclusion allows foodpreneurs to expand their customer base and participate in the formal economy. Transparent financial records facilitated by UPI aid in financial management and compliance with tax regulations. The pros of UPI adoption include convenience, efficiency, financial inclusion, and transparent financial management. However, challenges such as technological dependence, limited awareness, and security risks exist. In summary, addressing the challenges of digital literacy, connectivity, trust, and religious beliefs will enable broader UPI adoption. Leveraging UPI's benefits can empower foodpreneurs in Kanpur, contributing to their growth and the local economy.

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Informal Sector and Social Security in India

Puja Kumari

Abstract

Despite the fact that informality is increasing in nations that are developing, there are still differences in definitions of informality and a lack of data, making it difficult to pinpoint its correlations. To elucidate the factors that determine informality, the terms “informal sector” and “informal employment,” which are operational definitions of informality based on enterprise and employment characteristics, respectively, are used by the authors. Although informality is receiving more attention in academic and policy debate, it is still difficult to quantify its prevalence and root causes. This is mainly because the concept of informality is conceptualized with ambiguity and a multitude of definitions. The authors conclude that workers’ education, vocational training, and gender significantly influence their participation in the informal labour market, regardless of how informality is defined. A sizable portion of the labour force in developing nations is unaffected by laws and is not eligible for social security benefits. They make this determination using unit-level data from a nationally representative dataset. This study’s findings hold up well when selection bias is taken into account and regional differences are taken into account. The results underscore the necessity of restructuring skill development initiatives to accommodate the diversity of informal labourers.

Keywords *Informal sector, Informal employment, Selection bias, Labour*

Introduction

Only one-fifth of non-farm workers in India are employed in the organized sector, with over 92% of the country’s workforce being unorganized. This includes the entire farm sector. According to estimates, in the non-farm sectors, as we ascend the income scale, the proportion of the unorganized sector gradually decreases. In contrast, the percentage of the unorganized workforce in the agricultural sector stays constant regardless of economic status. Subsequent investigation shows that the economically and socially disadvantaged groups have not received nearly enough coverage from social security programs.

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Approximately ninety-three percent of India's workforce is employed in the unorganized sector. India's unorganised sector workers face a number of grave issues, such as unstable employment and dangerous working conditions. The discussion will centre on the phrase "informal economy," the predicament of workers in the unorganized sector, and the actions governments have taken to ensure the welfare of their workforce. This study makes use of available literature as well as secondary data from the National Sample Survey Office.

This paper has employed the inductive process to achieve its goals.

The observations show both the declining state of workers in the unorganized sector and the attempts made by the corresponding governments to alter the situation. The study also looks at the government of India's major measures, including the Unorganised Workers' Social Security Act of 2008. A few recommendations for ensuring "decent work" for workers in the unorganized sector are also covered in the report.

According to traditional theories of economic production, land, capital, and labour are the three elements required to fulfil the ideals of value addition, economic growth, and profits. These components work together, and one cannot function without the other's assistance.

In actuality, nevertheless, a small number of individuals have historically held a disproportionate amount of capital and land (India Exclusion Report 2013–14). The only remaining source of income for the vast majority of people is the sale of their labour because they have little land or money.

A comprehensive review of the theories and language used to characterize the informal economy in the academic sphere is provided by Darbi et al. (2016). Lewis (1958) and Tokman (1978) note that early theories characterized the informal sector as a transitory economic phenomenon of less developed economies that was doomed to vanish when development "caught up" with those economies. The terms "underground," "black," "hidden," "irregular," "second," and "criminal" were used to characterize the informal sector (Gërkhani 2004; Henry and Sills 2006). Businesses in the informal sector operate "off-the-books," do not pay taxes, and do not abide by labor and employment rules. Unlike the official sector, the informal sector is not properly registered, recorded, or enumerated (Chen, 2006). Unusual management techniques and resources are also thought to be distinguishing traits of companies that operate in the unorganized sector (Blunch et al. 2001; Godfrey, 2011).

Darbi et al. (2016) provide a thorough analysis of the informal sector using in-depth quantitative inputs. They observe that the informal sector has grown in size from roughly 37% of GDP in the 1990s to roughly 50% of GDP in developing nations by 2010 (Charmes 2012), despite the way the sector is typically portrayed. Approximately 48% of working people in these economies are employed in the unorganized sector (ILO 2004). In wealthy economies, the industry was developing and becoming more covert (Blunch et al., 2001; Chen, 2006, 2012). In developed nations, it made up an average of 16% of GDP in 2012 (Schneider, 2012). The anthropologist Hart (1973) first used the phrase "informal sector" in

literature when he noted economic activity in an urban slum in Ghana's capital, Accra. Hart's 1973 research focused on the idea that the impoverished in Accra were not unemployed, but rather worked in a more casual capacity and for irregular pay. Following Weber, Hart contended that the ability to stabilize economic activity inside a bureaucratic framework improved returns for both hirers and employees by making them more predictable, steady, and calculable. All market economic activities that are theoretically undermeasured in the national accounts because of vendors' informal business practices are included in the informal economy. Stated differently, it encompasses all activities that fall conceptually under the parameters of the national income accounts but are not recorded due to a lack of an adequate audit trail (Smith 1987). According to the International Labour Organization (1993), informal enterprises are "private uncorrupted enterprises" that are managed and controlled by "individuals or households" and are not recognized as "separate legal entities" apart from their owners. According to them, no "complete accounts are available" that would provide a financial separation between the enterprise's production operations and its owner(s)' other events.

There is agreement that the informal economy is significant in most developing nations, employing the majority of laborers and workers in the non-agricultural sector, despite disagreements over definitions and data. In developing nations, the informal sector employs around 900 million people (Jutting and de Laglesia 2009). Both in terms of employment and the quantity of businesses, the informal economy is enormous. The informal sector is seeing a far higher rate of new establishments than the formal sector. The unorganized sector of the economy is a significant yet divisive component. Although it reduces unemployment by creating work, the majority of these occupations are poorly paid, and there is little to no job security. It encourages entrepreneurship, but at the expense of states complying with regulations, particularly those pertaining to labor and tax laws. Although it reduces poverty, it also raises the risk of underemployment and unstable employment (Ghani and Kanbur 2013).

Objective

The study aims to clarify the concepts of "informal economy," "unorganized economy," and "decent work" for the unorganized sector. In addition, it makes an effort to depict the state of unorganized labourers in relation to pay, benefits, and working conditions. It talks about the government of India's major programs for workers in the unorganized sector, especially the 2008 implementation of "The Unorganized Workers' Social Security Act."

Methodology

The Ministry of Labor and Employment, the National Sample Survey Office, as well as existing literature on certain subjects, provided secondary data for this work. This paper's analysis, which takes the form of a discourse, focuses on the situation of unorganized labourers in India using relevant quantitative data.

Informality in India

India's total workforce can be disaggregated according to two dimensions: (a) sector of work, based on the type of enterprise or production unit where the person is employed; and (b) type of employment, defined in terms of employment status and other job-related characteristics. Sector of work can further be sub-divided into three categories: the formal (or organised) sector; informal (or unorganised) sector; and the household sector. Similarly, the type of employment can be categorised as formal and informal.

Table 1 presents the distribution of total workforce in India across types of employment and sectors of work, during the period from June 2018 to July 2019, based on PLFS. Of the total workforce in India, majority (80 per cent) was engaged in the informal sector, followed by 20 per cent in the formal sector, and a small proportion (1 per cent) in the household sector. The household sector refers to households producing goods exclusively for their own, final use, and households employing paid domestic workers. Considering all three sectors, as high as 90.3 per cent of the total workforce was engaged in the informal employment in 2018-19.

Table 1: Share of total workers in India across type of employment and sector, 2018-19.

Types of employment	Informal sector	Formal sector	Informal sector	Formal sector
Informal employment	79.6%	9.5%	1.2%	90.3%
Formal employment	0.5%	9.2%	0.0%	9.7%
Total employment	80.2%	18.6%	1.2%	100%

Source: Author's own calculation based on Periodic Labour Force Survey.

In order to understand the status of social security provision to workers by employers, let us focus on a subset of workers who are either regular-salaried earners or casual labourers in the non-agriculture sector and Agricultural Sector Excluding Growing of Crops (AGECE). This is because PLFS collects information on access to social security for this set of workers only, and excludes the self-employed, since they cannot be attached to any particular employer. To understand the change over time, we compare the scenario in 2018-19 with that in 2011-12. Table 2 presents access to three types of benefits in the workplace: availability of any social security; eligibility for paid leave; and having a written job contract. In 2018-19, a majority of these workers did not have any kind of social protection from their employers. While only 19 per cent had a written job contract, around 29 per cent workers were eligible for paid leave. In terms of social security provisions, only one-fourth (26 per cent) were eligible for one or

combination of social security benefits among Provident Fund (PP), pension, gratuity, healthcare benefits and maternity benefits. While 35 per cent workers in urban India, were eligible for such benefits, the share in rural areas was only 17 per cent. Between 2011-12 and 2018-19, there has been only slight improvement in access to social security benefits by informal workers from 23 per cent to 26 per cent. Similarly, there has been negligible change in the share of workers eligible for paid leave or having a written job contract.

Table 2: Regular salaried earners and casual labourers with access to social security, other benefits

Year	Availability of social security benefits	Eligibility of paid leave	Has written job contract
Rural India			
2011-12	15%	19%	15%
2018-19	17%	20%	15%
Urban India			
2011-12	33%	39%	27%
2018-19	35%	38%	23%
All India			
2011-12	23%	28%	21%
2018-19	26%	29%	19%

In fact, in urban areas, there was 4 % decline in percentage of workers having written job contracts from 2011-12 to 2018-19. This indicates labour market policies haven't been implemented with a focus on transforming formal employee and employers' relationship.

The Gol has initiated major labour law reforms in the country in recent years. Following the recommendation of the 2nd National Commission of Labour, the Ministry of Labour and Employment (MOL&E) had begun categorising all existing labour laws into four 'Labour Codes'. This codification is expected to rationalise and simplify current legislations across a variety of labour issues.

The four Labour Codes are: (a) The Code on Wages, 2019; (b) The Occupational Safety, Health and Working Conditions Code, 2020; (c) The Code on Social Security, 2020; and (d) The Industrial Relations Code, 2020. In this section, we briefly discuss these labour market legislations, with a focus on informal workers in the Code on Social Security.

Union Government Schemes for Social security of informal sectors

As discussed above, various labour laws consolidated under the Code on Social Security, mandate certain provisions of social security and welfare rights to all workers- formal as well as informal. The conditionalities of social security or welfare, however, are pre-determined by the welfare schemes. The Union government's welfare schemes can be broadly divided into two types: Central Sector (CS) schemes that are fully funded by Gol and Centrally Sponsored Schemes (CSSs), for which the finances are contributed by both Gol and state governments.

In this section, the schemes that offer social security towards informal workers are discussed. The list of schemes is prepared using a three-stage process. First, all schemes that come under the purview of the erstwhile UWSSA, which has now been subsumed under the Code on Social Security, are considered. This is because these schemes are specifically targeted towards the informal workers in the unorganised sector, and are presently operational. Second, schemes that can provide social protection to informal workers, and not under the UWSSA, are considered. Third, schemes that are designed for economically disadvantaged families in general, to provide them protection against socio-economic distress have been considered, as these are applicable to informal workers as well.

It is important to note that schemes that indirectly provide support to improve financial conditions of workers, or socio-economic benefits to their families in the long-term (those offering microfinance for business support, skill- development, education of children, etc.), are not discussed here. Instead, schemes that offer immediate livelihood support or protection against any life-cycle distress such as health issues, accidents, deaths, old age etc., have been included.

The Unorganised Workers' Social Security Act, 2008: An Institutional Effort

The government attempts to change the scenario with the introduction of the Unorganised Workers' Social Security Act of 2008. India Exclusion Report 2013-14 explains the act as "Enacted to benefit the working poor and targeting people with little or no means of their own, like the land- less and land-poor, this piece of legislation was aimed at reaching out to these citizens in need of public support, to secure their survival. It has, however, largely resulted in the culmination of the sum of existing pieces of social welfare schemes. These welfare schemes do not, conversely, share the act's rights-based approach".

There are some key steps, yet to be taken (some of them are already on progress), to improve the condition of unorganised workers as proposed in the Unorganised Workers' Social Security Act of 2008:

Chapter 1 of the Act is related to the definition and its area of extension. Social Security Benefits, chapter 2 of the Act, covers the issues of life and disability cover, health and maternity benefits, old age protection, any other benefit as may be notified by the central government for the workers in unorganised sector. National Social Security Board for Unorganised Workers, chapter 3 of the Act is related to the formation of a national level board for the unorganised workers. State Social Security Board for Unorganised Workers, chapter 4 of the Act mandates states governments regarding the formation of state level board for social security of unorganised sector workers. Registration of Unorganised Workers, chapter 5 of the Act that is the last chapter also, focuses on the registration of the unorganised workers to avail the benefits of the schemes for them.

An estimated 2,700 welfare schemes are operated in India for the welfare of the unorganised and socio-economically deprived citizens, keeping the concern of social security in mind. Enactment of this law was propelled by the motive to institutionalize the efforts being done by states and the central government.

Conclusion

As unorganised workers play a vital role to advance the competency and smooth functioning of the nation's economy without receiving the equitable share of benefits. It's high time to adopt new policy framework for the betterment of majority of the citizens as the policies with 'trickle-down approach' are unable to meet their objectives. The future policies and regulations for unorganized workers must consider the hardships and livelihood challenges being faced by the workers in informal/unorganized sector. The further action should be spreading of awareness about this act and rights of informal workers in rural areas and hinterland. The social security mechanism meant for informal workers needs to be expanded effectively in remote areas and places far away from administrative centres. Thus, we can achieve and secure the rights as well as preserve the dignity of nation's hardworking citizens, those are very backbone of this expanding and thriving economy.

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Make in India Program and Economic Growth of India

Dr. Dinesh Kumar Gupta

Abstract:

In the year 2014, the Central Government launched the 'Make in India' initiative to encourage manufacturing in the country and strengthen the economy through investment in manufacturing. More than five years have passed since its inception and during this period both the manufacturing sector and the economy of the country have changed significantly. The 'Make in India' initiative focuses on 25 key sectors of the economy like automobile, mining, electronics etc. One of the main objectives of the 'Make in India' initiative is to increase employment opportunities in India. Under this, the focus has been on the youth of the country. Investment in targeted sectors, i.e. telecom, pharmaceuticals, tourism etc., will encourage young entrepreneurs to come forward with their innovative ideas without worrying about uncertainties. Make in India initiative encourages setting up manufacturing hubs in India to meet global demands. Progress towards a self-reliant nation requires commitment from the government through various programs and initiatives.

Keywords: *Make in India, Developing infrastructure, Atmanirbhar Bharat, Employment Generation*

Introduction:

In the year 2014, the Central Government launched the 'Make in India' initiative to encourage manufacturing in the country and strengthen the economy through investment in manufacturing. More than five years have passed since its inception and during this period both the manufacturing sector and the economy of the country have changed significantly. The 'Make in India' initiative was launched on September 25, 2014, to develop the manufacturing sector at a nationwide level. The Industrial Revolution played an important role in this context and showed the whole world that if a country has a strong manufacturing sector, then it can become a high-income country. Let it be known that China is a vivid example of this fact.

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Through this initiative, an ambitious target was set to establish India as a global manufacturing hub. To achieve this goal, the government had mainly set 3 objectives -

1. To increase the growth rate of the manufacturing sector to 12-14% per annum.
2. Creating 100 million additional employment opportunities in the manufacturing sector by 2022 (later revised to 2025).
3. To increase the contribution of the manufacturing sector to GDP to 25% by the year 2025.

The logo: The “Make in India” logo is derived from India’s national emblem. The wheel denotes peaceful progress and dynamism – a sign of India’s enlightened past, pointing the way to a vibrant future. The prowling lion stands for strength, courage, tenacity and wisdom – values that are every bit as Indian today as they have ever been.

Objective of Paper:

- To study the concept and vision of the MAKE IN INDIA Program.
- To find out the Strategies and importance of “Make In India”
- To study about success and current status of growth by the program

Research Methodology:

The study focuses on extensive study of Secondary data collected from, offline annual reports, magazines government reports, and publications from various websites which focused on my subject matter.

Strategies:

- Streamlining business processes: Reducing bureaucratic barriers and simplifying regulations to make it easier for companies to do business in India.
- Developing infrastructure: To upgrade ports, roads, railways and power generation to provide reliable and efficient infrastructure for industries.
- Skilling the workforce: Investing in skill development programs to create a pool of skilled workers for the manufacturing sector.
- Encouraging investment: Offering tax exemptions, subsidies and other incentives to attract foreign and domestic investment in the manufacturing sector.
- Focusing on key sectors: Targeting specific sectors for growth, such as automobile, aerospace, defence, electronics and pharmaceuticals.

The ‘Make in India’ initiative focuses on 25 key sectors of the economy like automobile, mining, electronics etc. Let it be known that under this initiative, the central and state governments are trying to attract investments from all over the world to strengthen India’s manufacturing sector. The government is making a lot of efforts to reduce the burden on

investors. As part of these efforts, a dedicated web portal has also been arranged to solve all the problems of business organizations.

The positive side of 'Make in India'-

One of the main objectives of the 'Make in India' initiative is to increase employment opportunities in India. Under this, the focus has been on the youth of the country. Investment in targeted sectors, i.e. telecom, pharmaceuticals, tourism etc., will encourage young entrepreneurs to come forward with their innovative ideas without worrying about uncertainties. The 'Make in India' initiative focuses heavily on the development of the manufacturing sector, which will not only boost the trade sector but also increase the growth rate of the Indian economy with the establishment of new industries. It may be noted that shortly after the launch of the scheme, in the year 2015, India overtook America and China and achieved the top position in foreign direct investment.

10. Advantages (Opportunities) of Make in India

- Develop job opportunity
- Ameliorate the vicinity
- Expand GDP
- Fortify Rupee
- Increase in brand value
- Up-gradation of Technology
- Ease of Business
- Availability of Young minds
- Development of rural areas
- Flow of capital

Evaluation of Make in India:

The objective of this initiative was to increase the three key factors of the manufacturing sector – investment, production and employment. Therefore, it can also be evaluated based on these three.

1. Investment – The growth rate of investment in the economy has been quite slow in the last five years. This situation becomes worse when we consider capital investment in the manufacturing sector. According to the Economic Survey 2018-19, gross fixed capital formation, reflecting total investment in the economy, declined from 31.3 per cent of GDP in 2013-14 to 28.6 per cent in 2017-18. Importantly, the share of the public sector in total investment remained more or less the same during this period, while the share of the private sector declined from 24.2% to 21.5%. On the other hand, during this period, savings data shows

that the domestic savings rate has declined, while the savings rate of the private corporate sector has increased. Thus, we are in a situation where private sector savings are increasing, but investment is decreasing.

2. Production- The Industrial Production Index is the biggest indicator of change in the production of the manufacturing sector. If we look at the data of the Industrial Production Index between April 2012 and November 2019, it is known that during this period, double-digit growth was recorded only twice, whereas in most of the months, it was either less than 3% or negative. Thus it is clear that production in the manufacturing sector has still not increased.

3. Employment- Recently, the Center for Monitoring Indian Economy (CEM) has released statistics regarding the unemployment rate, according to which India's unemployment rate increased to 7.5% during September-December 2019. The unemployment rate was even worse for educated youth, indicating that 2019 was the worst year for young graduates. It may be noted that in May-August 2017 this rate was 3.8 percent.

Achievements under Make in India

- As per the Economic Survey 2021-22, despite covid-related disruptions, there is a trend of the positive overall growth of gross value addition (GVA) in the manufacturing sector. The total employment in this sector has increased from 57 million in the year 2017-18 to 62.4 million in the year 2019- 20.
- Powered by indigenously produced vaccines, India not only achieved COVID-19 vaccination coverage in record time but also became a major exporter of much-needed life-saving vaccines to many developing and underdeveloped countries across the world.
- Vande Bharat Trains, India's first indigenous Semi High Speed train featuring state-of-the-art coaches and providing an entirely new travel experience to passengers, is a stellar example of the 'Make in India' success story.
- INS Vikrant is India's first domestically made aircraft carrier. India is achieving new milestones in defence production to reduce imports and be atmanirbhar in this core sector.
- Highest ever merchandise exports of 420 billion USD was achieved in FY 2021-22.
- India is currently a mobile and electronics manufacturing hub with global recognition.
- In addition, the Government of India is developing various Industrial Corridor Projects as part of the National Industrial Corridor Programme. GoI has accorded approval for the development of 11 Industrial corridors (32 projects) in four Phases. Under Delhi Mumbai Industrial Corridor (DMIC) Project, 04 greenfield industrial nodes have been developed.

- Further, PM GatiShakti National Master Plan provides a transformative approach for ensuring multimodal connectivity to various economic zones. Minimizing disruptions, and ensuring quick completion of works with cost efficiency are the guiding principles for the development of infrastructure as per the National Master Plan. Boost in economic growth, attracting investments and enhancement of the country's global competitiveness, are some of the expected outcomes.
- The reforms taken by the Government have resulted in increased Foreign Direct Investment (FDI) inflows in the country. FDI inflows in India stood at US \$ 45.15 billion in 2014-2015 and have continuously increased since then, and India registered its highest-ever annual FDI inflow of US \$ 81.97 billion (provisional figures) in the financial year 2020-21.

Conclusion:

Make in India initiative is an ambitious positive step taken by the government to boost the Indian economy by supporting domestic industries as well as to transport Indian goods to global markets. Make in India initiative encourages setting up manufacturing hubs in India to meet global demands. Progress towards a self-reliant nation requires commitment from the government through various programs and initiatives due to the constraints posed by restrictive business regulations and lack of workforce preparedness. Make in India initiative will lead the country towards greater success.

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Progress of Micro, Small and Medium (MSME) Enterprises in Uttarakhand

Dr. Rashmi Chaudhary

Abstract

Role of micro, small and medium enterprises and similar type of other micro enterprises has been well established in promoting livelihood sustainability and employment opportunities. In the context of mountain area development like Uttarakhand the role of MSMEs in poverty eradication and extending employment opportunities with small amount of investment is self-evident. The findings of the present study indicate that MSMEs have registered significant growth in Uttarakhand. There is a positive correlation between investment, employment and income. In Uttarakhand for socio –economic equity, economic sustainability and women’s employment, micro, small and medium enterprises are instrumental in growth process. The study is based on the review of secondary data on numbers of MSMEs, employment and investment. Various policy documents and reports are reviewed for detailed analysis. Suggestive measures for policy implications for the growth of MSME enterprises and to foster an entrepreneurial outlook has been provided in this study.

Key Words: *Micro, Small and Medium Enterprises (MSMEs), Growth, Performance, Challenges, Entrepreneur.*

Introduction

Micro, Small and Medium Enterprises (MSMEs) are important economic engines globally. Representing over 50% of all enterprises around the world, they contribute to more than 70% employment and 50% of GDP growth in developing countries. MSMEs not only play crucial role in providing large employment opportunities at comparatively lower capital cost than large industries but also help in industrialization of rural and backward areas, thereby, reducing regional imbalances, assuring more equitable distribution of national income and wealth. The Government of India has enacted the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 in terms of which the definition of micro, small and medium enterprises as enterprises engaged in the manufacturing or production, processing or preservation of goods as specified within an enterprise where investment in plant and machinery does not exceed Rs. 25 lakh, small, where the investment in plant and machinery is more than Rs. 25

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lakhs but does not exceed Rs. 5 crores; and medium enterprise is an enterprise where the investment in plant and machinery is more than Rs. 5 crores but does not exceed Rs. 10 crores. In case of the above enterprises, investment in plant and machinery is the original cost excluding land and building and the items specified by the Ministry of Small-Scale Industries notification 2005. In terms of Government of India Gazette Notification S.O. 2119 (E) dated June 26, 2020 the new definition of micro, small and medium enterprises is a micro enterprise is an enterprise where the investment in plant and machinery or equipment does not exceed Rs. 1 crore and turnover does not exceed Rs. 5 crores and small enterprise is an enterprise where the investment in plant and machinery or equipment does not exceed Rs. 10 crore and turnover does not exceed Rs. 50 crores; and medium enterprise is an enterprise where the investment in plant and machinery or equipment does not exceed Rs. 50 crore and turnover does not exceed Rs. 250 crores.

The contribution of MSMEs in the country's total GVO (Gross Value of Output) at current prices has also remained at around 33% i.e., one third during the period from 2014-15 to 2018-19. As per the National Sample Survey (NSS) 73rd round conducted during the period 2015-16 MSME sector has been creating 11.10 crore jobs in the rural and urban areas across the country. State of Uttar Pradesh had the largest number of estimated MSMEs with a share of 14.20% of MSMEs in the country. Top 10 states accounted for a share of 74.05% of the total estimated number of MSMEs in the country. Following table 1 and figure show the distribution of estimated enterprises in top ten states:

Table:1 State-wise Distribution of enterprises

Sl. No.	State / UT	Estimate Number of MSMEs	
		Number (In Lakh)	Share (In %)
1	Uttar Pradesh	89.99	14
2	West Bengal	88.67	14
3	Tamil Nadu	49.48	8
4	Maharashtra	47.78	8
5	Karnataka	38.34	6
6	Bihar	34.46	5
7	Andhra Pradesh	33.87	5
8	Gujrat	33.16	5
9	Rajasthan	26.87	4
10	Madhya Pradesh	26.74	4
11	Total Ten States	469.36	74
12	Other state / UTs	164.52	26
13	All	633.88	100

Source: MSME Annual Report, 2020-21

Progress of MSMEs in Uttarakhand

Uttarakhand state was carved out of the state of Uttar Pradesh on November 9, 2000. It is divided into two broad regions-Garhwal and Kumaon. The State is comprised of 13 districts, namely Dehradun, Pauri, Tehri, Chamoli, Uttarkashi, Haridwar and Rudraprayag in the Garhwal region and Almora, Nainital, Pithoragarh, Udham Singh Nagar, Bageshwar and Champawat in the Kumaon region. Of these 13 districts, four districts (Dehradun, Nainital, Haridwar and Udham Singh Nagar) have large areas in the plains, whereas the other nine districts comprise hill region of the state. Uttarakhand is one of the most popular and attractive destinations in the country for industrial setup due to its natural resources, forest coverage, potential of power generation etc. The state had 14, 163 MSMEs, with an investment of Rs. 700 crore and provided employment to only 38,509 people when it was formed. In two decades, MSME sector emerged as the second largest employment generator of Uttarakhand, with the first being agriculture sector. At present there are 53,000 MSME units, with a capital investment of Rs. 10,960 crores, and generating employment to 2,58,000 people. The state envisages to establish 1,70,000 MSME units, with a capital investment of Rs. 36,000 crores, that could generate employment to 8,50,000 people by 2030 (Uttarakhand Economic Survey, 2019-20). MSMEs and their potential to foster and strengthen innovation, the Government of Uttarakhand notified its MSME Policy, 2015 to attract investments in MSME sector. This policy aims at promoting investment in the MSME sector by providing incentives towards this end. It aims at utilizing local resources, to generate employment opportunities and promote self-employment, and to boost skill development among the youth. The state has been divided into four categories viz., A, B, C and D for the provisions of incentives and subsidy.

Table: 2 Categorization of Various Regions of the State

Category	Regions Included
Category A	<ul style="list-style-type: none"> Whole Districts of Pithoragarh, Uttarkashi, Chamoli, Champawat, Rudraprayag and Bageshwar.
Category B	<ul style="list-style-type: none"> Whole Districts of Pauri Garhwal, Tehri Garhwal, Almora. All hilly development blocks of District Dehradun other than Vikasnagar, Doiwala, Sahaspur and Rajpur. All hilly development blocks of District Nainital other than Haldwani and Ramnagar.
Category C	<ul style="list-style-type: none"> Regions located above 650 meters from sea level of Raipur, Sahaspur, Vikasnagar and Doiwala development blocks of District Dehradun. Ramnagar and Haldwani development blocks of District Nainital.
Category D	<ul style="list-style-type: none"> Whole Districts of Haldwani and Udham Singh Nagar. Remaining area of District Dehradun and Nainital (which are not included in category B and C).

Source: Uttarakhand MSME Policy, 2015.

Besides MSME Policy, 2015 Government of Uttarakhand has implemented different strategies and approaches like Start-up Policy, 2018, mega industrial and investment policy, heavy industrial investment and employment promotion policy and industrial development scheme, IT policy, mega textile policy, tourism policy, aroma park policy, Ayush policy, biotechnology policy, film policy, mega food park, electric vehicle manufacturing policy, solar power policy, pine litter energy production policy and other biomass, micro and mini hydro schemes, small scale hydro projects etc. to the development of state.

Methodology of the Study

The present study is exploratory in nature and based on secondary data collected from various sources like Economic Survey of India, Economic Survey of Uttarakhand, MSME Annual Reports, All India Census Report, Journals, Newspapers etc. Secondary data consists of all 13 districts of 15 years as mentioned above of three variables taken for analyzing the growth and performance of MSMEs in Uttarakhand state. The growth rate of all three variables have been taken of all 13 districts collectively in order to determine the growth and performance of MSMEs in Uttarakhand state. To study the growth and performance of MSMEs in Uttarakhand, the available data have been processed and presented in suitable tables and graphs.

Discussion and Result

Growth of MSMEs

Table 3 show the total number of MSME units per annum and growth of MSME units over 15 years i.e., from 2000-01 till 2014-15. The year wise details are given in table -3.

Table-3: Number of MSME Units in Uttarakhand (2000-01 to 2014-15)

Year / Districts	Dehradun	Pauri	Almora	Nainital	Tehri	Chamoli	Uttarkashi	Pithoragarh	Haridwar	U.S. Nagar	Rudrapur	Bageshwar	Champawat	Uttarakhand	Growth (In %)
2000-01	176	243	40	31	229	133	113	34	175	17	60	22	32	1305	----
2001-02	299	241	45	82	217	133	98	30	103	55	60	21	24	1408	7.89
2002-03	294	249	41	77	212	129	115	35	287	216	66	49	18	1788	26.99
2003-04	288	241	40	157	215	145	118	89	266	255	65	50	53	1982	10.85
2004-05	299	277	40	206	237	156	141	147	188	314	84	75	76	2240	13.02
2005-06	291	281	42	150	251	170	157	124	316	378	83	78	76	2397	7.01
2006-07	356	200	155	230	253	185	176	112	453	465	91	55	25	2756	14.98
2007-08	212	127	36	312	115	50	57	68	249	281	45	43	51	1646	-40.28
2008-09	236	126	60	210	88	51	53	62	293	253	46	36	34	1548	-5.95
2009-10	333	167	47	98	96	60	62	71	453	410	50	50	47	1944	25.58
2010-11	300	171	85	143	112	70	70	84	420	394	60	61	57	2027	4.27
2011-12	311	191	96	164	120	80	81	96	129	394	66	66	66	1860	-8.24
2012-13	317	211	92	272	136	90	90	105	464	337	77	75	73	2339	25.75
2013-14	325	230	95	184	146	100	100	116	457	430	90	86	26	2385	1.97
2014-15	334	255	133	201	165	110	110	130	505	464	95	95	90	2687	12.66

Source: Directorate of Industries, Uttarakhand.

As table 3 shows, in 2002-03 total number of MSMEs increased by 26.99 % which is the highest growth over 15 years and the main reason was New Industrial Policy of Uttarakhand which was announced on January 7, 2003. The main provision in the policy was to create a friendly environment for the investors. Grants up to Rs. 75000 were given to units obtaining ISO certificate. To provide maximum help to the educated unemployed, they were engaged in various fields by giving technical advice. In industrial units, 70% of the employment was given to the local people

Investment in MSMEs

The investment pattern under MSMEs is given in table- 4. The investment in MSMEs per annum and growth of investment in MSMEs over 15 years i.e., from 2000-01 to 2014-15. Found approximately 3.0% .In 2013-14 the investment increased by 370.14 % which is the highest growth over 15 years where as in the year 2014-15 the investment decrease by -53.37 % in comparison of the 2013-14.

Table-4: Investment in MSME Units in Uttarakhand (2000-01 to 2014-15)

Year / Districts	Dehradun	Pauri	Almora	Nainital	Tehri	Chamoli	Uttarkashi	Pithoragarh	Haridwar	U.S. Nagar	Rudrapur	Bageshwar	Champawat	Uttarakhand	Growth (in %)
2000-01	79.69	63.21	6474600	0	62.41	31.08	6507200	138.32	133.13	75.92	49.9	7.06	24.15	12982464.87	0
2001-02	624.09	105	11932600	0	85.84	29.79	6400000	33.95	129.83	243.19	49.51	28.25	23.21	18333952.66	41.22
2002-03	228.69	0	12768000	10	127.49	52.79	8004000	59.88	287.89	3474.84	45.99	50.37	15.89	20776353.83	13.32
2003-04	427.13	197000	7410000	0	138.78	90.19	8454000	78.89	552.77	489.79	47.59	42.87	25.07	16062893.08	-22.69
2004-05	1473.06	519.21	9010000	0	80.61	74.44	13684499	88.75	625.22	12963.57	52.54	62.99	56.6	22710495.99	41.38
2005-06	2199.14	183294.09	10439000	4	190.47	93.21	9731000	145.9	2611.34	7589.32	63.67	81.56	59.12	20366331.82	-10.32
2006-07	5943.96	57000	0	143.34	165.8	146.04	10900000	118.98	5272.75	157310.79	212.09	60.12	22.01	11126395.88	-45.37
2007-08	13510.73	258.44	0	283.14	167.39	66.15	11274000	221.8	47159.79	13537.09	63.4	125.95	51.02	11349444.9	2.00
2008-09	12034.95	616.77	0	2378.49	1470.97	623.9	37100000	162.51	66148.38	60554.44	201.35	62.73	55.39	37244309.88	228.16
2009-10	24791.6	8744.74	31500	460.95	1396.91	382.04	24901000	291.86	66183.39	64551.76	301.59	283.5	117.13	25100005.47	-32.61
2010-11	16625.51	551.66	0	0	1567.61	737.15	53591000	660.27	64828.6	63026.33	387.02	197.68	161.01	53739742.84	114.10
2011-12	10257.3	1398.03	2372150	23	1396.38	742.65	86833000	647.86	15101.81	27636.04	1107.3	15600465.48	116.76	104864042.6	95.13
2012-13	11137.37	21441.15	2721872.97	1067.35	4145.16	864.36	64113000	565.71	47043.97	22786.37	1226	382.72	79.4	66945612.53	-36.16
2013-14	4359.67	484.93	2065000	0	1289.22	555.2	70841002	799.9	241814590	11051.82	1563.56	482.09	180.12	314741358.5	370.14
2014-15	2746.68	606.83	2054200	0	698.73	490.33	119863000	520.87	19704819.53	15504.04	853.5	415.37	5105380.55	146749236.4	-53.37

Source: Directorate of Industries, Uttarakhand.

Employment

Table 5 revealed that the employment in MSMEs per annum and growth of employment in MSMEs over 14 years are 15. 16.0% on an average. Growth of employment of MSME in 2006-07 by 262.19 % which is the highest growth over 14 years

Table 5: Employment in MSMEs in Uttarakhand (2001-02 to 2014-15)

Year Districts	Dehradun	Pauri	Almora	Nainital	Tehri	Chamoli	Uttarkashi	Pithoragarh	Haridwar	U.S. Nagar	Rudrapur	Bageshwar	Champawat		Yearly Growth (In %)
2001-02	786	88	117	265	571	259	164	50	376	227	170	36	64	3173	0.00
2002-03	648	0	101	255	568	264	210	72	574	1106	126	80	36	4040	27.32
2003-04	689	37	85	477	504	296	190	199	781	696	111	77	134	4276	5.84
2004-05	1176	651	81	550	469	336	224	291	540	3399	183	126	183	8209	91.98
2005-06	1407	120	87	325	556	339	243	255	360	2134	176	165	186	6353	-22.61
2006-07	2322	16	62	378	530	331	290	278	2045	16401	197	106	54	23010	262.19
2007-08	3953	338	0	576	276	105	87	207	6751	5419	103	118	138	18071	-21.46
2008-09	3300	400	0	621	311	198	165	171	9065	5919	108	77	88	20423	13.02
2009-10	7000	1211	0	312	322	199	188	242	8882	9454	153	120	167	28250	38.32
2010-11	3381	281	81	734	343	242	247	343	7586	6533	185	163	200	20319	-28.07
2011-12	2340	620	187	974	419	228	296	303	1627	3716	243	632	213	11798	-41.94
2012-13	2373	422	247	1039	515	261	300	335	6718	4561	292	193	177	17433	47.76
2013-14	1305	122	9	1359	437	209	346	366	3524	2734	293	320	91	11115	-36.24
2014-15	1370	366	116	907	570	298	393	333	3282	343	295	247	244	8764	-21.15

Source: Directorate of Industries, Uttarakhand.

Problems of MSMEs in Uttarakhand

Inadequate Access to Latest Technology

This is one of the leading issues encountered by MSMEs to date. MSMEs don't have proper access to the latest information which makes them unfamiliar with the latest technological developments. Oftentimes, they lack knowledge, skills, tech-oriented education to execute a competent MSME. The obstacle is quite prevalent in the rural part of the state.

Unavailability of Credit

Another hindrance that limits the potential of this sector is their inability to obtain timely credit at a nominal rate of interest. This mitigates their urge for expansion and long-term growth. Also, the COVID-19 pandemic have had impacted MSMEs to a great deal. The outbreak has left them disturbed by eroding their existing resources. As a result, the majority of MSMEs are now out of manpower adequate resources. Liquidity crunch is one the pressing challenges faced by the MSME at present.

Procurement of Raw Materials

It's impossible to stimulate the growth of the MSMEs in the absence of ample economic resources. It has been one of the primary issues of this sector. Due to financial constraints, most of the small industries are bound to procure the low-quality raw material from the local region.

Scarcity of Adequate Infrastructure Resources

The scarcity of infrastructure facilities can erode the productivity and profitability of the SMEs. The availability of skilled manpower, electricity and other basic resources plays a vital role in ensuring the competitiveness of MSMEs. The MSMEs are either operating in urban areas or rural region or industrial estates suffers from this specific problem.

Absence of Skilled Manpower

Even though our country is blessed with a vast pool of human resources, the MSMEs still encounter the scarcity of quality manpower capable of performing the skilled-oriented task. At present, MSMEs are in desperate need of hiring skilled manpower to boost the quality and volume of manufacturing goods.

Poor Access to the Potential Market

In the state, MSMEs are finding it difficult to get access to potential markets due to inadequate capital and unavailability of the marketing tools. Therefore, it creates obstacles for MSMEs to sell out their offering to government based agencies. Also, this could narrow their reach in the market and let their counterpart to take advantage.

Conclusion and Recommendations

The findings of the present study revealed that the number of micro, small and medium enterprises have been continuously increasing in the state since its establishment and the MSME sector contributes significantly to the investment and employment opportunities in the state. The number of MSME units have increased with growth rate of 23.8% per annum between 2000-2001 to 2014-2015 in the state. Similarly the growth rate of investment in the same time period was 3.0% per annum in the state which is very low due to hilly state and lack of entrepreneur culture. The growth rate of employment in the MSME sector between 2001-02 to 2014-15 was 16.0% per annum in the state. Although the MSME sector performing

well in different parameters in the state like number of MSME units, investment and employment but it is still facing lots of challenges like inadequate access to latest technology, unavailability of credit, procurement of raw materials, scarcity of adequate infrastructure resources, absence of skilled manpower and poor access to potential market. In light of the findings, the study makes the following recommendations. Firstly, the government should provide access of latest technology to the MSME sector so that it can work efficiently. Secondly, the government should provide credit to MSME sector at minimum interest rate so that investment can be increased. Thirdly, the government should provide enough financial resources to the MSME sector to procure enough quantity of raw material. Fourthly, the government should build adequate infrastructure in the state to increase entrepreneur culture. Fifthly, the government should provide training to employees of MSME so that their skill can be increased. Lastly, the government should provide access to potential market to MSME sector.

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Analytical Study of Micro, Small and Medium Enterprises in India, Especially Khadi and Village Industries

Prof. Mridula Mishra & Ram Lakhan Singh

Abstract-

Indian economy is the fastest growing economy in the world, which has immense potential to utilize the demographic dividend. In this, micro, small and medium enterprises can play an important role. The unemployment growth rate is increasing at a rapid pace. The solution to this problem. To do this, the Khadi and Village Industries Commission under Micro, Small and Medium Enterprises Act 1956 was established. At present, Khadi Gram Udyog has provided more than 4.7 lakh jobs. In which 70% are women. There is immense potential for employment in this enterprise, but due to lack of modernization this enterprise is affected by high costs. And is failing to supply as per the current market demand. Rural economy influences the Indian economy. Which out of the population of 121 crores, 69 percent (83.49 crores) population lives in villages in which more than 49% population works directly in agriculture and related sectors. Khadi village industry provides opportunities to many enterprises. Under Khadi and Village Industries Commission The estimated number of micro and small industries in India is 633.88 lakh, in which 1109.89 lakh people are getting employment and it has contributed 29 percent in the gross domestic product, under which more than 6000 products are produced. In the present research paper, Micro, Small and Medium Industries and Khadi and Village Industries To study the problems arising in the implementation and to study the government and policy efforts.

Key words *Micro- Small and Medium Industries, Khadi and Village Industries Commission, GDP, Employment, and Economic Growth, Demographic dividend (15 to 64 Years working population)*

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Introduction-

Micro, small and medium enterprises hold an important place in India. It has been known as the cornerstone of the Indian economy. Since the British rule, efforts have been made to target it and harm it, because the quality of their products was much better than the goods manufactured during the British rule. Due to which it was not possible to demand the products made by them without causing harm to them. Even after independence, special attention has not been paid to the development of micro, small and medium industries. In a situation like the global pandemic Covid-19, where import and export has been disrupted across the world, the Government of India has tried to find a solution to the current supply problems by linking small and medium industries with the concept of “Local with Vocal”. Micro and medium small scale enterprises in India are the second largest sector providing employment after agriculture, the estimated number of micro and small scale industries in India is 633.88 lakh, in which 1109.89 lakh people are getting employment and it accounts for 29% of the gross domestic product. percent contribution, more than 6000 products are produced under it.

The specialty of this industry is that it provides more employment with less capital investment and is run with the help of family members. According to the data of the Ministry of Micro, Small and Medium Enterprises, Government of India, the value of products related to Micro, Small and Medium Enterprises in India is 147390.08 million and has contributed 48.56 percent in the total exports during 2017-18 and to strengthen its development, Micro, Small and Medium Enterprises (MSME) And some important institutional arrangements at the medium level are as follows Micro Small and Medium Enterprises Development Act 2006, Khadi and Village Industries Commission, National Small Industries Corporation Limited, Mahatma Gandhi Institute of Rural Industrialization, National Board for Micro Small and Medium Enterprises and National Institute of Are. In the present research paper, the aim is to study the problems arising during the implementation of micro, small and medium industries and to study the government and policy efforts.

Research objective-

1. Study of the contribution of micro, small and medium enterprises to the gross domestic product.
2. Study of the impact of micro, small and medium enterprises on employment.
3. Study of inclusive development through micro, small and medium enterprises.

Research Method and Technique-

The presented research paper is based on secondary data. Analytical research method has been used in this research paper. For compilation of data, information has been collected from various published reports like books, journals, small and medium industries annual reports.

The data has been presented in the form of tables and also interpreted in the context of the above mentioned research objective.

literature overview

Ghatak, Shambhu (2010): In his research paper titled Micro Small and Medium Enterprises in India. The assessment highlighted that the situation of Indian micro, small and medium enterprises is worse than that of Pakistan. Told better. About 36 percent of Pakistan's micro and small medium enterprises have bank accounts. Are. About 46 Bangladeshi micro, small and medium enterprises have bank accounts compared to About 95 percent of India's micro, small and medium enterprises have bank accounts. They Further said that the Government of India should accelerate its initiatives to providesupport to the industries of these people. have bank accounts. Are. About 46 Bangladeshi micro, small and medium enterprises have bank accounts compared to About 95 percent of India's micro, small and medium enterprises have bank accounts. They Further said that the Government of India should accelerate its initiatives to provide support to the industries of these people.

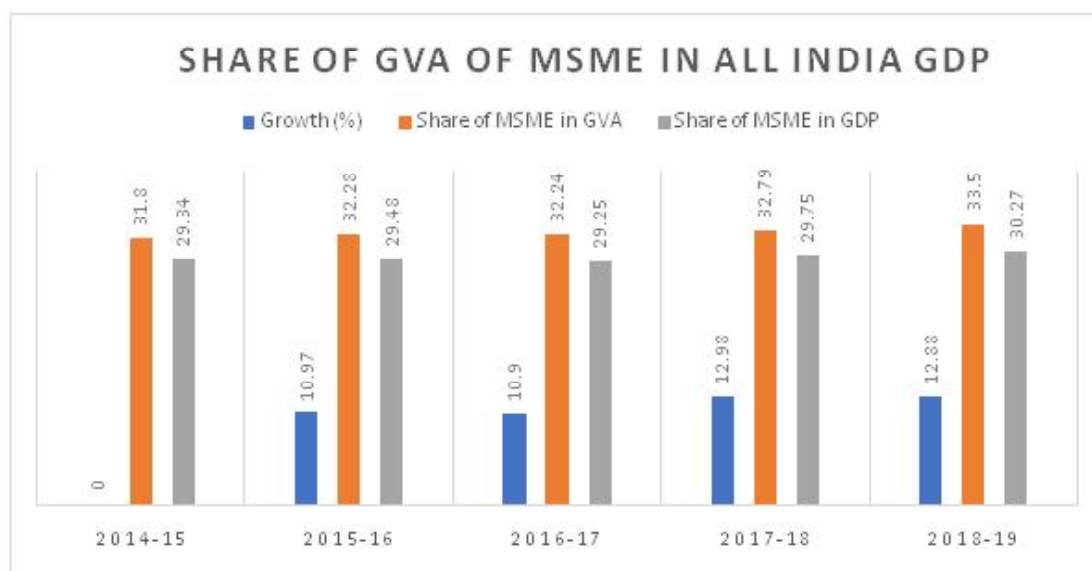
Shri Niwas KT (2013)In his research titled Role of Micro, Small and Medium Enterprises in Inclusive Development concluded that Micro, Small and Medium Enterprises have been said to be the engine for the development of the country. Over the past few years, much change has been done at the national and state level to strengthen this sector. Their condition in India has been quite pathetic due to poor infrastructure and lack of marketing linkage. The assistance provided by the state as well as the central government is not enough for the upliftment of the development of micro small and medium in India. therefore not only the government of India but also the entrepreneurs should come forward for their development.

UK Sinha Committee (2019) Reserve Bank of India Expert Committee: In their report, they found that a Distressed Asset Fund of the size of Rs 5000 crore in respect of micro, small and enterprise sector is being implemented due to demonetization, implementation of GST and ongoing This should be created to provide relief to these units which are hurt by the unavailability of liquidity. This will also provide relief to a large number of enterprises which have today turned into units with non-performing assets due to the plastic ban and dumping.

Data analysis-

Micro, Small and Medium Enterprises are paying significant attention to the field of entrepreneurship through business promotion. Today micro and small medium industries are expanding their domain in all sectors of the economy. Producing a variety of products and services to meet the demands of domestic and world markets. According to the data available with the Central Statistics Office, Ministry of Statistics and Program Implementation, the contribution of micro, small and medium sector in the gross value added (GVA) and gross domestic product (GDP) of the country at current prices from 2014- 15 to 2018 is as follows-

YEAR	Total MSME GVA	Growth (%)	Total GVA	Share of MSME in GVA (%)	All India GDP	Share of MSME in All India GDP (in %)
2014-15	3658196	-	11504279	31.80	12467959	29.34
2015-16	4059660	10.97	12574499	32.28	13771874	29.48
2016-17	4502129	10.90	13965200	32.24	15391669	29.25
2017-18	5086493	12.98	15513122	32.79	17098304	29.75
2018-19	5741765	12.88	17139962	33.50	18971237	30.27



Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

In Table 1, the growth of micro, small and medium enterprises increased from 10.97 percent in 2015- 16 to 12.88 percent in 2018-19, while the share of micro, small and medium enterprises in gross value added increased from 21.80 percent in 2014-15 to 2018-19. In the same sequence, their share in India’s GDP has increased from 29.34 percent in 2014-15 to 30.27 percent in 2018-19. Therefore, we can say that the share of micro, small and medium industries in both Gross Domestic Product and Gross Value Method and GDP is increasing, which indicates that the significant contribution of these enterprises in the Indian economy is increasing day by day. The day is increasing day by day. 5 lakh jobs were provided in 2020-21, hence we can say that micro small enterprises have been helpful in achieving the goal of inclusive development in any economy.

Micro, Small and Medium Enterprises and Inclusive Development: -

Micro, Small and Medium Enterprises have been successful in achieving the goal of inclusive development in any economy. Their contribution to the GDP in the year 2016-17 was 29.75%. It increased to 30.27 in the year 2018-19 and employment in Khadi enterprises increased from 4.56 lakh to 5 lakh in 2020-21. Therefore, we can say that the goal of inclusive development in any economy can be achieved through micro small enterprises. Have been helpful in doing.

Challenges before Micro, Small and Medium Enterprises - The subsistence level of Micro, Small and Medium Enterprises is very low. Every three years, old Micro, Small and Medium Enterprises are coming to an end, but at the same speed with which they come to an end, they also enter the industrial sector. Is happening in the area. In most of the areas in the country, there are micro and small medium industries whose scope is limited to a certain extent. Most of them are not registered and are also out of the scope of GST bill, due to which big industrialists avoid buying any item from them and in the absence of registration, they do not get any special benefit from the schemes. Financial assistance is also less available from commercial banks. According to the report released by the International Finance Corporation in the year 2018, one third of the total requirement in this sector of about Rs 11,00,000 crore has been received through the formal banking system in the micro, small and medium enterprise sector. Thus, most of the loans in this sector are received from the informal sectors, which is why whatever efforts were made by the Reserve Bank of India to increase liquidity for these enterprises. could not be effective.

Conclusion and suggestions-

The Indian economy, whose economic problems have been capital-related during the country's first five-year The plan was based on rural development and agriculture, while the second five-year plan was based on industrial development. It was drawn keeping development in mind, the planners of that time understood that We do not have enough capital to develop all the sectors simultaneously. Was not possible. Therefore, an attempt was made to bring economic development from surface to surface by implementing the trickle down concept, but such an effort had to be made due to lack of capital and if we focus on the development of micro and small scale industries, then the less capital and untrained labor classes will be affected. They will be successful in providing a huge amount of employment, which can help in getting rid of the problem of increasing population and unemployment and can also solve the demand related problems in the present economy. The concept of self-reliant India can be fulfilled through micro, small and medium enterprises. This may prove to be a successful effort.

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Empowering Women Through Entrepreneurship: Empirical Study of Entrepreneurs from National Capital of India

Dr. Shivani Mehta

Abstract

Women empowerment through entrepreneurship is imperative in today's modern society. In a country like India where majority of women are confined to the walls of their homes, pushing women to become job creators rather than job seekers can tremendously boost the growth of the nation as well as levels of women empowerment. Keeping in mind this spectacular role played by women entrepreneurs in economic development of a country, this study tries to access if entrepreneurship among urban women in Delhi, national capital of India, can contribute towards their empowerment- which in turn would have spin offs for economic growth of Indian economy. The study dwells deeper into the occupational structure of women entrepreneurs in India and finds that majority of women entrepreneurs accrue to unorganized sector (NSS 62nd round, 2005-06). Through primary survey of 363 women entrepreneurs from the capital region, the study firstly establishes that women entrepreneurship results in women empowerment around three key indicators- economic advancement, power and agency and reach and process (ICRW, 2011). Furthermore, the inter-sectoral analysis for women entrepreneurs from trading, services and manufacturing sectors, establish key economic and socio-cultural differences that curtail the level of empowerment among women. Finally, the study concludes by outlining key policy recommendations that can enhance the level of empowerment and there by overall sustainable economic growth for the Indian Economy.

Keywords: *Women entrepreneurs, Empowerment, Unorganized, India.*

1: Introduction

Global economies have been investing in the economic empowerment of women as it sets a direct path for a nation towards poverty eradication (SDG 1), attaining gender equality

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(SDG 5) and inclusive growth (UN Women, 2022). The contribution extended by women is multidimensional - be it women engaged on farms, women entrepreneurs providing jobs, or even unpaid care-work at home. The role that women play in the economic growth of a nation is enormous and is pivotal in achieving sustainable development in the world today (ibid).

In line with this growing importance of women entrepreneurship in rebuilding the Indian economy and helping it achieve its 'no poverty' goal of Agenda 2030, this study tries to access the role that women entrepreneurship play in empowering women who are engaged in the unorganized sector of Indian economy.

2: Theoretical Framework

After reviewing the different frameworks for measuring women empowerment, it is safe to assert that most of them do not measure empowerment as a comprehensive concept. In fact, they ideally deal with some particular slice of empowerment. Therefore, the natural next step in this study is to build on the strengths of the existing literature and develop a comprehensive framework or indicators that help measure the economic empowerment of women. It should also be kept in mind that given the broad definition of women empowerment, considering their economic empowerment without considering socio-cultural constructs would leave the framework incomplete.

Table 2.1. Framework identified and used for measuring economic women empowerment

Indicators for women empowerment	Literature that supports the constructs
<i>Reach and Process Indicators</i>	
Participation	Kishor 2000a, Schuler et al. 1997, Basu and Basu 1991, Malhotra and Mather 1997
Issues faced by women	Kabeer 1997, Malhotra and Mather 1997, Schuler et al. 1996, Malhotra et al. 1995, Acharya and Bennett 1983
Success	ICWR 2011

Control over assets	Thomas, Contreras, and Frankenberg 2001, Pitt and Khandker 2006, Khandker 1998, Quisumbing and de la Briere 2000, Quisumbing and Maluccio 1999
Agency/ Decision-making	Frankenberg and Thomas 2001, Grasmuck and Espinal 2000, Schuler et al. 1997, Jejeebhoy 2002, Kabeer 1998, Malhotra and Mather 1997
Autonomy and Mobility Self-confidence/ Self-efficacy	Jejeebhoy 2002, Kishor 2000a, Schuler and Hashemi 1993, Abadian 1996, Dyson and Moore 1983, Gage 1995
Gender Roles/ Responsibilities	Kritz et al. 2000, ICWR 2006
<i>Economic Advancement Indicators</i>	
Productivity and Skills	Goetz and Gupta 1996, Ackerly 1995
Business Practice	Kishor 2000a, Goetz and Gupta 1996, Tzannatos 1999, Acharya and Bennett 1983
Income	Haddad and Hoddinott 1995, Mayoux 2000, Thomas C 1997, Thomas S 1991
Consumption smoothing/risk	Hoddinott and Haddad 1995, Pitt and Khandker 1998, Quisumbing and de la Briere 2000
Work environment	Schuler et al. 1997 , ICWR 2011
Prosperity	Goetz and Gupta 1996, ICWR 2011

Source: Compiled and constructed from existing literature by the author.

This study uses three major indicators for measuring economic empowerment of women which have been deduced from extensive literature review. These indicators are: a) Reach & Process Indicators measured through- Issues faced by women, Participation, and Success of women; b) Power & agency Indicators measured through parameters like- Agency/ Decision-making, Control over assets, Autonomy and Mobility Self-confidence/ Self-efficacy, Gender

Norms, Gender Roles/ Responsibilities, and c) Economic Advancement Indicators assessed through- Income, Productivity, and Skills, Business Practice, Consumption smoothing/risk, Work environment, Prosperity. These broad indicators are aggregated as a comprehensive framework for measuring the economic empowerment of women (Anne Marie Golla 2011).

Using the above theoretical framework this study tries to measure the role entrepreneurship plays towards economic empowerment of women entrepreneurs in Delhi. Therefore, the population for this study i.e. women entrepreneurs engaged in non- agricultural activities are found to be approximately 45,812 women entrepreneurs. Using the Krejcie-Morgan formula (1970), the sample size for the study is calculated and is found to be 363 women entrepreneurs across Delhi region.

Women entrepreneurs who are engaged in service-based activities largely provide services like tutoring, tailoring, catering or tiffin service, mehendi, creche, and beauty parlors. The largest number, that is, 27 women (28.42%) (from a total of 95 women entrepreneurs from services) were found to be engaged in running their own beauty parlors. The second-largest engagement of women was found in providing tutoring services, that is, 21 women (22.11%) followed by creche (18.95%), tailoring (14.74%), catering (8.42%), and mehendi services (7.37%).

Among a total of 103 women, entrepreneurs engaged in trading the largest number of women were found to be vegetable sellers (24.27%) closely followed by women trading suits/sarees and other garments (22.33%), women trading accessories like makeup products/ footwear/jewellery (20.39%), women trading groceries (17.48%), women traders of bed sheets and cushions (11.65%) and women selling flowers/ garlands (3.88%).

Finally, among a total of 165 women respondents from manufacturing the largest are found to be engaged in handicrafts like making bags, baskets, home décor items & jewellery (33.94%). The second-largest set of women manufacturers was seen to be engaged in baking & chocolate making (24.24%) followed by papad/pickle making (13.33%), candle making (10.91), and fashion designers (9.70%) and pottery (7.88%).

The sixth economic census further categorizes the non- agricultural entrepreneurial activities into three broad categories. 45 percent of entrepreneurial activities of non- agricultural nature accrue to manufacturing related activities. Also, 29 percent accrues to trading and 26 percent are for service led entrepreneurial ventures. Table 2.2 outlays the total sample of 363 women entrepreneurs across Delhi using the above categorization and through random sampling and structured interviews, data was collected for 103 women entrepreneurs in trading, 165 in manufacturing and 95 in services. Women engaged in manufacturing related entrepreneurial activities include bakers, handicrafts, women engaged in papad/pickle making, tailors etc. Similarly, women entrepreneurs into trading incorporated those women who were engaged in activities around selling of textiles (bed sheets, suits, jewellery), selling vegetables and some women running their retail shops. Lastly, women entrepreneurs in services were largely independent tutors, women who ran their own beauty parlours, tiffin services etc.

3: Data Analysis

To fulfill the primary objective of the study- “to study the linkages between women entrepreneurship and economic empowerment of women”, three broad indicators as per International Centre for Research on Women, DFID, and Bill and Melinda Gates Foundation have been used: a) Reach and process indicators (RP), b) Power and agency indicators (PA) and c) Economic advancement indicators (EA). The reach and process indicators include factors like support from family and friends received by women to start their entrepreneurial ventures (X_1) as well as personal job satisfaction post-commencement (X_2).

$$WE_n = f(RP, PA, EA)$$

$$RP = f(X_1, X_2)$$

The power and agency indicators investigate factors like control over assets (Y_1), contribution towards household expenditure (Y_2), autonomy and mobility (Y_3) as well as time and resources for personal well-being (Y_4). Lastly, economic advancement indicators among women entrepreneurs measure knowledge and skills (Z_1), adoption of technology and its effective use (Z_2), the advantage of market opportunities (Z_3), and savings for personal well-being (Z_4).

$$PA = f(Y_1, Y_2, Y_3, Y_4)$$

$$EA = f(Z_1, Z_2, Z_3, Z_4)$$

Co-relation analysis is performed for each indicator viz-a-viz women empowerment. In the study, the construct for women empowerment is denoted as WE where, WE is determined by various variables like Control on business income and savings (W_1), Asset ownership (W_2), Self-confidence, and self-esteem (W_3), and Decision-making roles (W_4).

$$WE = f(W_1, W_2, W_3, W_4)$$

All indicators are found to be positively correlated with women empowerment and are statistically significant. The co-relation analysis results for the three indicators and women empowerment are as under:

Table 3.1: Result of CORRELATION ANALYSIS BETWEEN: Reach & Process indicators and Women Empowerment

CORRELATIONS			
		RP	WE
RP	Pearson Correlation	1	0.344
	Sig. (2-Tailed)		0.008
	N	363	363
WE	Pearson Correlation	0.344	1
	Sig. (2-Tailed)	0.008	
	N	363	363

Source: Compiled and calculated by the author

Table 3.2: Result of CORRELATION ANALYSIS BETWEEN: Power and agency Indicators and Women Empowerment

CORRELATIONS			
		PA	WE
PA	Pearson Correlation	1	0.251
	Sig. (2-Tailed)		0.007
	N	363	363
WE	Pearson Correlation	0.251	1
	Sig. (2-Tailed)	0.007	
	N	363	363

Source: Compiled and calculated by the author

Table 3.3: Result of CORRELATION ANALYSIS BETWEEN: Economic advancement indicators and Women Empowerment

CORRELATIONS			
		EA	WE
EA	Pearson Correlation	1	0.534
	Sig. (2-Tailed)		0.002
	N	363	363
WE	Pearson Correlation	0.534	1
	Sig. (2-Tailed)	0.002	
	N	363	363

Source: Compiled and calculated by the author

The results of correlation analysis (Table 3.1, 3.2 and 3.3) for all three indicators are positively correlated to women empowerment. Pearson correlation of women empowerment with reach and process indicators is found to be 0.344, process and agency indicators are 0.251 and economic advancement indicators are 0.534. Also, since the p-value for all correlations is less than 0.05 these correlations are found to be significant. Furthermore, a more comprehensive regression analysis was performed to ascertain the relationship between the dependent variable – women empowerment and the three independent variables- RP,PA and EA. The regression equation used for analysis in the study is given as:

$$WE_i = \delta_0 + \delta_1 RP_i + \delta_2 PA_i + \delta_3 EA_i + u_i$$

Where, WE: Women Empowerment indicators, RP: Reach and Process Indicators, PA: Power and agency Indicators, and EA: Economic advancement indicators. The findings of the regression analysis are given in Table 3.4:

Table3.4: R² and Anova Results for The Model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	0.796 ^a	0.633	0.613	0.8703

a. Predictors (constant), EA, Process, Agency

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.396	3	5.132	69.539	.001b
1 Residual	26.514	360	0.0738		
Total	41.91	363			

a. Dependant variable: WE

b. Predictors (Constant), EA, Process, Agency

Source: Compiled and calculated by the author

The model is found to be a good fit as P-value is estimated at 0.01, which is less than 0.05. Also, r-square is estimated at 0.633 which implies that 63 percent changes in the overall women empowerment of all women entrepreneurs are successfully explained by the indicators identified in the model- reach & process, power & agency and economic advancement.

Table 3.5: Finding of the Regression Model

Model	Unstandardized Coefficients		t	Sig.
	B	Std Error		
(Constant)	1.27	1.177	1.079	0.288
PA	0.04	0.161	0.248	0.806
RP	0.275	0.156	2.407	0.021
EA	0.37	0.148	2.494	0.018

Source: Compiled and calculated by the author

The study on women entrepreneurs of Delhi finds that all three indicators positively impact the empowerment of women. For reach and process indicators (RP), the p-value is estimated as 0.021 (<0.05) which shows that it significantly impacts the empowerment of women entrepreneurs in the unorganized sector of Delhi. Similarly, for economic advancement indicators (EA), the p-value of $0.018 < 0.05$, suggests that it has a significant impact on the economic empowerment of women.

Between the two indicators, economic advancement indicators like skills, adoption of technology, and savings for personal wellbeing are found to have a higher impact than reach and process indicators like support extended by family and friends, and job satisfaction. An interesting outcome extracted from regression analysis is that power & agency indicators (PA) even though bear a positive impact on empowerment levels, are found to be insignificant.

The study finds that all three identified indicators are necessary for attaining better lives for women. Economic gain and success, also coined as economic advancement indicators are crucial to promote power and agency indicators among women. This is because when women can control and share in resources (power) and are permitted to make meaningful choices (agency) they are in a position where they can advance economically (ICRW Report, 2011). The study, therefore, finds that even though urban women entrepreneurs of Delhi are advancing economically by having higher skill sets, increased participation and access to market opportunities, and increased profit, they continue to lack on the socio-cultural front, that is, their true power to make choices for themselves and their family members continue to be insignificant. As a result, the attainable level of women empowerment gets curtailed due to a lack of power and agency among women entrepreneurs.

3.2. Detailed findings for inter-sectoral analysis of women entrepreneurs.

This section details the findings through extensive profiling of women entrepreneurs in the Delhi region across three broad parameters (figure 3.1)- a) Demographic profiling b) Economic profiling and c) Socio-cultural profiling that enables us to understand the differences in the basic characteristics that women entrepreneurs possess across different entrepreneurial activities related to service, trading, and manufacturing sectors.

3.2.1 Findings across demographic profiling of women entrepreneurs

The age composition of women entrepreneurs included in the study is explored extensively. The age dynamics of these women entrepreneurs are studied at an interval of 10 years period. Overall, it was observed that women from all age groups are engaged in entrepreneurial ventures. Young women entrepreneurs are found to be engaged in service-related activities. The demographic profiling of women entrepreneurs shows that lower middle age group (30-40 years) and upper middle age group (40-50 years) largely accrue to entrepreneurs from manufacturing and trading respectively.

In service-related businesses like beauty parlours, creches, tutoring, etc the women engaged are largely young entrepreneurs falling in the age bracket 21-30 years (47.37%) and have the highest share of unmarried women, that is, 77.89%. This sector has a share of 42.11% of middle-aged women with a small proportion of very young or very old female entrepreneurs in service-led activities (10.52%). Hence, young women who have acquired some basic skills and are literate are more inclined to take up service-based activities as their career choice..

For the women entrepreneurs engaged in trading, that is, (2.91%), it was observed that the majority of women belonged to the upper-middle age group structure, that is, between 51-60 years (27.18%), and portray the highest percentage of widowers, that is, 13.59%. Moreover, 68.93% and 16.50% of the women entrepreneurs have been found to have 3-4 and more than 5 children respectively (might be the result of high illiteracy). These women entrepreneurs have opted for trading-related activities like vegetable selling, trading of bed sheets, or suits as a way of supporting family income as it requires comparatively less capital investment and time and provides women enough room to manage both household and work. However, the dependence of women entrepreneurs is found to be exceptionally high at 79.61% as the study finds that they are dependent largely on their husbands for travelling to acquire inputs for their business.

In manufacturing-related businesses like handicrafts, bakery, pottery, candle/pickle, papad making, etc. highest share of very young talent, that is, 7.88% was found. This was largely because women who were driven to follow their passion were found to be engaged in small home-run businesses like that of bakers and candle makers starting from a very young age itself. The largest percentage share, that is, 26.67% of women entrepreneurs in this sector accrued to the lower-middle-income age group of '30-the '40s with 9.09% of women entrepreneurs (Majority of them illiterate) are found to have more than 5 children. Moreover, 61.82% and 31.52% of women entrepreneurs in manufacturing-related activities are found to be married and unmarried respectively with 59.39% of women entrepreneurs running their businesses independently and 40.61% women who rely on family members for day-to-day activities.

Furthermore, the study reveals that women manufacturers with limited skills were unable to gather family support initially. However, post-commencement these women observe a change in the attitude of family members, who tend to support the women in running their enterprise. The role in decision-making for such entrepreneurs is also found to be marginal.

Lastly, women entrepreneurs engaged in trading were found to initially have the support of family and friends to start their businesses. This was largely due to the additional income that their enterprise was expected to bring to the household earnings. However, the study finds that there is a drastic fall in family support once women start trading. This is large because their movement beyond the four walls of the house tends to create an imbalance for the household-related responsibilities.

4. Conclusion and Recommendations

Based on the above-mentioned analysis it may be asserted that urban women entrepreneurs in Delhi possess varied characteristics depending on various socio-cultural and economic factors. The profiling performed clearly portrays that the level of education among women entrepreneurs is an important factor that contributes not only in their economic advancement but also, how they are placed in the family and society.

The demographic profiling highlights that very young, driven and passionate women are increasingly setting up small home run entrepreneurial ventures like those engaged in baking, chocolate making, jewellery designing and other manufacturing-related activities. Furthermore, young women entrepreneurs largely in their 30's are engaged in service-related activities like tutoring, creche and beauty parlours. The study finds that upper middle-aged women tend to enter trading-related activities as an additional source of income for the family.

The profiling of women based on key economic characteristics outlines interesting findings. Women entrepreneurs who are engaged in services and manufacturing are the ones who are found to be most literate and have acquired some sort of vocational skill around their business ventures respectively. Given the relatively high level of education among these women, their average net incomes are also found to be higher than the women engaged in trading ventures. The women engaged in trading activities, having a low level of education are further found to be dependent on non-institutional sources of finance. This adds more vulnerability to their entrepreneurial ventures and retards overall growth and empowerment.

The profiling of women based on socio-cultural characteristics portrays a gloomy picture for women entrepreneurs from trading-related activities. These women even though were seen to have high family support to start their business, post commencement this support dwindled drastically. This is due to a lack of consistency in income earned and poor work-home balance. Since, women who are engaged in trading need to move out a lot, the support of family starts to reduce with time. Women entrepreneurs from service and manufacturing-related businesses are found to be independently running their enterprises and have high support from family members. The role of decision-making and financial autonomy among women service providers and manufacturers is found to be high.

Therefore, the above profiling of women entrepreneurs from different sectors in Delhi highlights very different demographic, social and economic characteristics. These characteristics directly or indirectly play a vital role in the overall empowerment of these women entrepreneurs. The study successfully establishes that entrepreneurship does act as a catalyst in empowering urban women in the Delhi Capital Region. The level of empowerment is found most significant among economic advancement indicators. However, the power and agency indicators like women's role in decision making, women's autonomy, and their independence is impeded which curtails the overall level of empowerment.

Women entrepreneurship besides being the prime reason for the economic independence of women has also helped in equalizing the social status of women in India as well as narrowing the problem of inequality among men and women.

The study finds that the level of education plays a crucial role in ascertaining the economic empowerment of women entrepreneurs.

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Impact of High-Performance Work System (HPWS) Parameters Inorganizational Growth

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ABSTRACT

High-Performance Work Systems (HPWS) is a comprehensive approach to managing human resources within an organization, aiming to enhance organizational performance, employee engagement, and overall effectiveness.

The purpose of this study is to better understand how the strategic adoption of High-Performance Work Systems (HPWS) affects the organization's overall success and how HPWS practices contribute to organizational outcomes necessary for growth. This paper reviews academic literature to identify key parameters of the High-Performance Work Systems (HPWS) and examine their impacts on organizational growth.

The study focuses on identifying parameters/factors and their correlation with organizational performance.

To achieve this, a thorough study and review of literature, past studies research papers, etc are analyzed and the conclusion is arrived. It can be interpreted that High-Performance Work System (HPWS) directly affects organizational growth.

Keywords *High-Performance Work Systems (HPWS), Organization, Performance, growth, Human Resource Management (HRM)*

1. INTRODUCTION

Organizational growth refers to an increase in a company's size, capabilities, and operations over time. It is an important indicator of a firm's health and success (Dobbs and Hamilton 2007). One important measure of a company's overall performance is organizational growth. It represents increases in productivity, market share, profitability, inventiveness, and other

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elements that enable a business to grow (Dobbs and Hamilton 2007). Implementing various HPWS practices can support organizational development. Expanding businesses can raise sales and earnings, gain market share, broaden their clientele, and become more competitive overall (Gupta, Guha, and Krishnaswami 2013). Thus, for the majority of businesses, attaining and sustaining organizational growth is a primary goal.

Organizational growth also brings challenges related to complexity, costs, cultural issues, and declining flexibility (Higgins 2005). Strategic planning is necessary to manage the rate and pattern of growth and guarantee sustainable expansion in line with organizational capabilities and market realities (Barringer, Jones, and Neubaum 2005).

A performance system refers to a framework or structure that is designed to measure and improve the performance of individuals, teams, or organizations. This system provides a consistent and accurate assessment, aligning employees with the strategic objectives of the business (Yadav 2006).

The old performance system is a traditional method used by companies to evaluate and measure the performance of employees. This system typically involves annual or semi-annual performance reviews, where managers assess employees' work performance, goal achievement, and areas of improvement and a modified performance system refers to an adapted or customized performance management system that is tailored to meet the specific needs and objectives of an organization (Yadav 2017). Whereas the modified performance system includes components like setting clear goals, regular feedback, performance evaluation, development and training, recognition and reward, and continuous improvement.

The old performance system has several drawbacks. It focuses on past performance rather than continuous feedback and improvement. The old performance system can be biased and unfair. Subjective ratings by managers may be influenced by personal biases, leading to inconsistencies in evaluations. This can also discourage teamwork and collaboration as employees may compete for higher ratings and rewards.

2. HPWS: STRATEGIC CONCEPT

High-Performance Work Systems (HPWS) are a collection of methodical HRM techniques intended to improve workers' abilities, dedication, and output while they work towards company objectives (Huselid 1995). HPWS seeks to improve employee and organisational performance by utilising people as a source of competitive advantage (Jiang et al. 2012).

Any organization's ability to perform well is one of its key strategies for winning over members to the cause of accomplishing its set objectives (Yadav 2005).

HPWS is based on the assumption that investment in human capital and the design of work systems to empower employees will allow the development of a highly skilled, flexible and motivated workforce. This drives employee productivity gains, which ultimately translates into improved operational and financial performance for the organization as a whole (Huselid and Becker 2011).

The high-performance work environment (HPWS) is characterised by stringent hiring and recruitment procedures, comprehensive training and development, performance-based pay, internal promotions, decentralisation, autonomy, teamwork, sharing of information, job security, and commitment-eliciting programmes (Messersmith and Guthrie 2010).

Utilising employee motivation and competences as a source of value creation and competitive differentiation, HPWS is a systemic strategy that consists of a consistent set of mutually reinforcing behaviours (Jiang et al. 2012). The objective is synergistic—rather than being auctioned off, employee and organisational outcomes are collaboratively achieved.

3. PARAMETERS OF HIGH-PERFORMANCE WORK SYSTEM (HPWS):

- **Selective Staffing:** The term “selective staffing” describes the intense recruiting and hiring procedures used to make sure that only highly qualified, driven, and promising applicants are hired to fill available positions. This usually entails several organised interviews, tests of employment, auditions, assessment centres, and thorough reference checks (Collins and Clark 2003).
- **Training and development:** Enabling staff members to improve their technical and social abilities through onboarding, training sessions, online courses, coaching, cross-training, job rotations, etc (Messersmith and Guthrie 2010). Employee skill sets are expanded, they get ready for complexity, and they show an investment in human capital through both formal and informal on-the-job development opportunities.
- **Performance based Incentives:** Employees are prompted to match their efforts with revenue-boosting activities by incentives linked to corporate profitability, expansion goals, and the accomplishment of growth-related milestones. Developing strategic alliances, giving creative projects first priority, or improving customer service standards are all examples of actions that are essential for business expansion.
- **Internal Promotions and Career Development:** Leadership development from middle management to executive levels is fostered by HPWS practices that emphasise talent development and offer internal promotions as a means of growth (Guthrie 2001). Filling vacancies by promoting from within and providing development opportunities to equip personnel for higher roles (Guthrie 2001).
- **Decentralised decision-making and independent teams:** Empowerment speeds up decision-making and makes it possible to respond to changes in the market more quickly. The organization’s dispersed structure and agility allow it to capitalise on development opportunities (Jiang et al. 2012). HPWS approaches to enhance organisational sensitivity to growth opportunities and facilitate agile mobilization efforts towards achieving them by integrating discretionary latitude within collaborative circles closest to external stakeholders. This facilitates overall expanding drives.

- **Knowledge Sharing:** The dissemination of innovations and idea generation that are necessary to spur growth are improved when cross-departmental interaction and collaboration are encouraged (Messersmith and Guthrie 2010).

4. PARAMETERS OF ORGANIZATIONAL GROWTH:

- **Financial growth:** An essential indicator of organisational growth is revenue growth, which is determined by total revenues rising. As a direct result of increased consumer demand and sales, production capacity, market reach, and operations can all be expanded (Shepherd and Wiklund 2009).
- **Innovation Proficiency:** Innovation proficiency is a critical organisational growth component that may be quantified using measures such as the number of new products launched, patents filed, or R&D initiatives that successfully proceed to commercialization (Gupta et al. 2013). It shows the company's ability to innovate or adopt new ideas in order to creatively answer changing client needs and change directions in dynamic marketplaces.
- **Operational outcomes:** Internal capability improvements across critical operational domains are necessary for organisational growth in order to facilitate external expansion. This includes supply chain markers from supplier lead times to distribution flexibility; productivity metrics like output per employee, inventory turnover ratios, and service delivery speeds (Shepherd and Wiklund 2009), quality indicators like customer satisfaction, product performance indices, and service error rates (Gupta et al. 2013) and innovation throughput measures like speed to market for new offerings and patent output (Nason and Wiklund 2018).
- **Human Capital:** Employees are an essential source of strategic human capital, providing the knowledge, abilities, and work required to generate breakthroughs in productivity, innovation, and competitiveness (Crook et al. 2011). The foundations of human capabilities allow the goal of externally driven expansion to be achieved.

5. IMPACT OF HPWS ON ORGANIZATIONAL GROWTH

- **Increased innovation:** High Performance Work Systems (HPWS) can boost an organization's innovation capacity and enable growth through new solutions. HPWS techniques develop a culture of creativity, capability building, and recognition that results in faster development cycles, better products, and increased productivity.
- **Expanding customer base:** Strong client connections are cultivated by a committed and adaptable workforce through HPWS methods that emphasise comprehensive customer service training, empowered frontline decision-making, and performance incentives linked to customer retention measures (Guthrie 2001). This encourages growth into new customer base, such as international business clients. Also, using discretion in handling complaints reduces account churn.

- **Improved productivity:** The enterprise's productivity ratios are systemically increased by the combined action of core HPWS elements that prioritise cross-functional talent development, autonomy grants that allow for localised process improvisations, training modules that emphasise employee input seeking, and a performance goals cascade that harmonises productivity focus across hierarchies (Messersmith et al. 2011) (Den Hartog et al. 2013).
- **Rising profitability:** HPWS increases quality, efficiency, and human capital. This makes it possible to achieve economies of scale, which boost margins and provide more funds for investments to support future expansion (Guthrie 2001).
- **Increased revenue:** Developments in operational indicators enable expansion investments & organic growth by lowering cost structures, increasing profitability and income growth, boosting revenues from new solutions, and elevating profitability. HPWS techniques like incentive alignment, autonomy, training and development, encourages a quicker rise in revenue from both new and current sources of income (Messersmith and Guthrie 2010).
- **Increased employee retention and engagement:** HPWS retaining top talent as the company expands and develops its skills can be achieved through career ladders and internal promotions (Collins and Clark 2003). Employee Engagement is regarded as a mediating value which highlights the relationship between an organization and its employees (Srivastav and Yadav 2018).

6. CONCLUSION

The techniques that come under the HPWS umbrella, such as internal promotion channels, incentive alignments, large training investments, autonomy grants, and selective and rigorous recruitment have a big impact on accelerating and maintaining organisational growth trajectories.

This study demonstrating a strong and significant effect linking High-Performance Work Systems parameters to the organizational growth.

HPWS directly improves employee competencies, mindsets, and behaviours, enabling the workforce to manage growing workloads, complexity, and change at a faster rate. HPWS increase innovation, profitability, customers, improved productivity etc.

It can be interpreted that High-Performance Work System (HPWS) directly affects organizational growth.

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Challenges in Fostering Organizational Citizenship Behavior in Indian Private Banks: A Review

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ABSTRACT

Organizational citizenship behavior (OCB) refers to voluntary, extra-role behaviors that contribute to the overall effectiveness and productivity of the organization. These behaviors are not usually part of formal reward systems. OCB includes activities like helping co-workers, volunteering for additional tasks, being organization representative 24×7 and showing dedication to organization's success. It is known for its advantageous nature but some obstructions may influence successful maintenance and cultivation of organizational citizenship behavior. Some of the hurdles are low self-motivation, harassment at workplace, discrimination, burnout etc.

Purpose

This study aims to underpin key actors of OCB and find out ways to curb negative consequences of organizational citizenship behavior in order to improve the productivity of employee to achieve organizational effectiveness. This paper also aims to highlight the factors which become barriers to discourage employee to be a part of OCB.

Method

A structured interaction method is primarily used to develop information and source base for the research. The study was conducted amongst employees of private sector banks in Kanpur region.

Outcome

The study found that personal interest, self-ego, interpersonal rivalry, performance task personnel policy etc. are some of the obstructions to strengthen OCB to bring organizational effectiveness.

Keywords: *Organizational citizenship behavior (OCB), obstructions, productivity, effectiveness.*

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1. Introduction

Organizational citizenship behavior (OCB) refers to employees' actions that go beyond their formal job duties and contribute to organizational effectiveness. These extra-role behaviors are discretionary and not directly rewarded, but they are essential for enhancing organizational performance (Podsakoff P. M., 2000). Private Banks aim to foster OCB among employees, which can lead to improved customer service, better relationships with stakeholders, enhanced coordination between teams, and overall workplace positivity (Nighbor, 2019).

However, there are number of challenges faced by private banks when trying to promote higher levels of OCB. Some key challenges include high levels of job stress, lack of perceived support from management, poor organizational communication, inadequate reward systems that fail to recognize extra effort (Evans, 2021), and lack of fairness and trust in leadership (Effelsberg, 2015). In addition, the target-driven revenue model of private banks, with a sharp focus on profits and performance metrics (Joseph, 2022), could be incompatible to voluntary behaviors that are not directly linked to rewards or measurable goals.

This paper attempts to closely examine these challenges related to boosting organizational citizenship behaviors among private bank staff. The discussion delved into the specific nature of challenges faced, their impact on OCB culture, and provide recommendations on how banks can foster voluntary prosocial behavior by employees facing such constraints. By understanding these challenges, private banks may be in better position to unlock the multiple benefits of higher OCB for both employees and the organization itself (Podsakoff N. P., 2009).

2. OCB: HRD in a new way

In 1988 Dennis Organ conducted a major study about OCB. His study found five common behaviors that when displayed in a group setting, increase the effectiveness of organization. These behaviors are connected to organizational support, job satisfaction, and transformational leadership. These behaviors are Altruism, courtesy, sportsmanship, conscientiousness and civic virtue. (organizational psychology degrees, 2023) etc.

2.1 Dimension of OCB

Altruism: Discretionary behaviors that help other person with an organizationally relevant task or problem (Organ, 2006).

Conscientiousness: Going well beyond the minimum required levels of attendance, punctuality, housekeeping, conserving resources, and related matters of internal maintenance (Podsakoff P. M., 2000).

Sportsmanship: It is the willingness of employees to tolerate some circumstances without complaining (Klotz, 2018).

Courtesy: Discretionary behavior aimed at preventing work-related problems with others (Mackenzie, 2011). courtesy consist of polite nature and gesture, showing respect to others

Civic Virtue: It is behavior on the part of an individual that indicates that an employee responsibly participates in, is involved in, or is concerned about the life of the company (Podsakoff P. M., 2000).

Organizational Loyalty: It is the identification and allegiance to organizational leaders and the organization, representing a citizenship behavior directed at the organization (Podsakoff P. M., 2000).

Organizational Compliance: Basic employment behaviors such as compliance with rules, regulations, and procedures (Smith, 1983).

Therefore, OCB entails helping behavior, conscientious initiative, tolerating inconveniences, being considerate to others, speaking constructively, showing commitment and loyalty, and complying with organizational policies. These additional efforts can enhance overall performance.

2.2 Benefits of OCB

Improved Productivity & Efficiency: OCBs can improve workflow, coordination, and overall productivity (Podsakoff N. P., 2009) by helping coworkers and going beyond job duties. Employees will spend less time stuck on problems.

Enhanced Customer Relationship Service: Discretionary behaviors such as courtesy and conscientiousness towards customers can improve customer satisfaction (Yen, 2004).

Improved Team Performance: OCBs facilitate better team coordination and workflow, enhancing team outputs (Ehrhart, 2004). Helping behavior enhances cohesion.

Innovation: Employees can contribute to organizational innovation and adaptation by making suggestions and voicing concerns beyond prescribed roles (Choi, 2007).

Lower Turnover: OCB contributes to greater employee satisfaction and organizational commitment by reducing turnover intentions (Liu, 2009). Employees feel more invested.

Reputation & Goodwill: Employee and executive altruistic behaviors build moral capital and reputational assets over time (Godfrey, 2005).

3. OCB in banking services

OCB has been at the crucial verge of implementation in various sectors having differential challenges in implementation but in the financial & banking sector seems to be different one. Banking sector is one of the tertiary sectors where the performance of services is understood by loyal customers & revenue per customer. The Indian banking industry is witnessing a paradigm shift not only in its profitability & performance, but also in its systems and strategies. To sustain such transformations, there is a need to focus on creating a sense of belonging and loyalty among the employees. OCB is the way by which these behaviors can be developed. (Das, 2020)

OCB has some challenges which impact employee's behavior. These Challenges may be resistance to change, lack of recognition, conflicts with job demands, individual differences, difficulty in measurement, stress and workload (dativa & associates, 2023)

The banking sector in India is on growth and providing more opportunities of employment however, many types of work related problems like stress, strain and anxiety have also been observed in banking services. It occurs due to work burden, strict restriction on target achievement, working hours exceeding normal hours. Now –a-days Banks are technology oriented and every employee have to match data in the evening. No one can go home before matching of whole day entries.

3.1 Challenges in fostering OCB in private banks

Fostering organizational citizenship behavior (OCB) in Indian private banks can be challenging due to various factors.

High workload and stress: Many private Banks in India operate in a highly competitive environment, leading to increased workloads and stress levels for employees. This can make it difficult for employees to go beyond their formal job duties and engage in OCB.

Short-term performance focus: Private Banks often emphasizes short-term performance metrics and targets, which can lead to a culture where employees prioritize individual achievements over organizational citizenship behaviors that may not directly contribute to their individual performance.

Limited recognition and reward systems: Many private Banks may lack effective recognition and reward systems for employees who perform OCB. Without proper acknowledgment and incentives, employees may be less motivated to engage in such behaviors.

Hierarchical and bureaucratic structures: Some private Banks have rigid hierarchical structures and bureaucratic processes, which can hinder the development of a collaborative and supportive organizational culture that fosters OCB.

Lack of role models: If senior leaders and managers in private banks do not exhibit OCB themselves, it can be challenging to promote and encourage such behaviors among employees at lower levels.

Cultural and generational differences: India is a diverse country with varying cultural and generational norms. Some employees may have different perspectives on the importance of OCB, which can create challenges in fostering a consistent organizational culture that values and promotes OCB.

Job insecurity: In a highly competitive banking sector, job insecurity can be a concern for employees. This can lead to a focus on individual job preservation rather than engaging in OCB, which may be perceived as going beyond formal job requirements.

3.2 Ways to overcome challenges

1. **Adopt a long-term perspective when setting performance targets:** Balance volume and growth goals with citizenship metrics such as helping behaviors, satisfaction, and retention. Avoid short-termism. Reward OCBs.

2. **Provide targeted OCB and culture training:** Invest in training employees and managers on the value and appropriate expression of OCB, building a collaborative environment and empowering team members. Clarify expectations.

3. **Understand employees' motivations and integrate them into roles:** Identify and align personal motivation, strengths, and interests with job duties and development opportunities to promote engagement in both in-role and extra-role activities Personalize jobs where possible.

4. **Encourage open and transparent communication:** Foster a climate of psychological safety and approachability between management, team members, and across the organization, facilitating constructive issue raising and information sharing, paving the way for greater citizenship.

5. **Promoting employee's well-being programmes:** Invest in health and work-life balance programmes tailored to the banking environment to support employee's health and prevent burnout, facilitating greater energy for OCBs. Offer flexible working arrangements where possible.

4. Findings

These are possible findings based on interactions with private bank employees in the Kanpur region

A highly competitive, target-oriented culture focusing on profits over additional efforts creates pressure incompatible with discretionary OCBs. Frequent employee turnover in banks prevents the development of long-term bonds needed for citizenship behaviors to emerge. Authoritative leadership styles commonly found in banks demotivate employees rather than empower them. Perceptions of unfair performance, pay, and promotion policies negatively impact justice perceptions, goodwill, and willingness to engage in helping behaviors. Long, stressful working hours lead to staff burnout, leaving no energy or motivation for additional OCBs to help the organization.

Additionally, some ways to overcome challenges are- Adopt long-term balanced targets that reward both volume/growth and citizenship behaviors. Invest in targeted OCB and culture training for employees and managers. Understanding and integrating employee's motivations strengthen into roles. Encourage open and transparent communication between management and staff. Promote the health and well-being of employees through tailored programmes and flexible policies.

5. Conclusion

Organizational citizenship behaviors that go beyond prescribed roles are beneficial for enhancing productivity, innovation, customer service, and overall effectiveness in private banks. However, a target-driven and highly competitive culture in Indian private banks is a challenge in promoting discretionary additional efforts from employees.

The main obstacles identified include pressures related to profit and growth objectives, high turnover, authoritative leadership styles, interpersonal rivalry among employees, perceptions of bias and work-life imbalances leading to burnout. Together, these factors prevent social exchange relationships, the perception of justice and the high level of employee engagement needed to create OCB.

Banks must balance their performance targets with a long-term perspective that values and rewards extra-role behaviors. Investing in culture initiatives, such as OCB training, understanding employee motivations, promoting transparency, staff well-being, and leadership role modeling, can all help address obstacles. In order to overcome these obstacles, banks will be able to unlock a number of advantages associated with higher organizational citizenship for both employees and the bottom line.

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Socio Economic Risk Assessment of Climate Induced Natural Disasters: An Indian Perspective

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ABSTRACT:

Natural disasters, defined by the UNISDR as significant disruptions to communities or societies resulting in widespread losses exceeding local coping capacities, encompass various categories including Climatological, Meteorological, Hydrological, Geophysical, Biological, and Extra-terrestrial events. Climate-induced disasters (CINDs) such as floods, storms, droughts, and wildfires are increasingly prevalent, particularly affecting developing nations like India. This study focuses on assessing the impacts, vulnerability, and risk associated with CINDs in India, addressing the need for tailored disaster management policies. Utilizing a comprehensive approach, the study develops hazard intensity, exposure, susceptibility, and composite vulnerability indexes for Indian states and union territories. Findings highlight significant disparities in disaster risks among regions and underscore the importance of targeted mitigation strategies. The study offers valuable insights for policymakers to allocate resources effectively, enhance disaster preparedness, and promote long-term resilience. By integrating risk assessment into policymaking, India can mitigate the adverse effects of CINDs, fostering sustainable development and societal well-being.

Keywords: *Natural disasters, Climate-induced disasters, Risk assessment, Vulnerability, Disaster management.*

I. INTRODUCTION:

Natural disasters represent significant disruptions to communities and societies, posing threats to both lives and livelihoods. Defined by the United Nations International Strategy for Disaster Reduction (UNISDR), disasters involve widespread losses exceeding the affected

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community's ability to cope using its own resources. These events, categorized by the EM-DAT Database into six main types, including Climatological, Meteorological, Hydrological, Geophysical, Biological, and Extra-terrestrial phenomena, present varied risks and impacts.

Understanding the complexity of natural disasters requires examining interactions between physical events and societal vulnerabilities. Risk, as defined by UNDP and IPCC, arises from the combination of hazard, exposure, and vulnerability. In India, the frequency and intensity of climate-induced disasters, including floods, storms, landslides, and droughts, have been increasing, exacerbating existing developmental challenges such as poverty and inequality.

Despite the critical importance of assessing disaster risk, particularly in vulnerable regions like India, there remains a gap in specific studies focusing on climate-induced natural disasters. This study aims to fill this void by developing indicators for assessing CINDs, exploring the direct and indirect impacts on the Indian economy, and evaluating the vulnerability and preparedness of Indian states and union territories. By integrating recent developments in disaster risk literature, this study seeks to provide valuable insights for policymakers to allocate resources effectively and enhance disaster management strategies, ultimately fostering resilience and sustainable development in the face of climate-induced hazards.

II. LITERATURE REVIEW:

Disaster risk is influenced by a myriad of factors, including socioeconomic conditions, development trajectories, and exposure patterns. The Hyogo Framework for Action and subsequent initiatives emphasize the need to understand the multidimensional nature of vulnerability and the interconnectedness between disaster risk, development, and climate change. Vulnerability, encompassing physical, social, and economic factors, contributes to the severity of disaster impacts, yet its quantification remains challenging due to its dynamic and context-specific nature.

Overall, understanding the complex interplay between hazard, exposure, and vulnerability is paramount for effective disaster risk reduction and resilience building, particularly in vulnerable regions like India. By advancing knowledge and methodologies for assessing disaster risk, policymakers can better allocate resources and implement targeted interventions to mitigate the impacts of climate-induced natural disasters.

Table 1. literature considered for risk indicator development process.

	World Risk Index (2010)	Social Vulnerability Index (SOVI) 2003	Vulnerability to Natural Hazards and Climate Change in Mountain Environments (2015)	Community-based Disaster Risk Index (2013)	CATSIM Model (2013)	Disaster Score card for States and Union Territories of India (2019)
Spatial level	Global scale study where nations are compared.	Sub-national level study (USA)	Region-specific (Mountain regions in the Alps)	Sub-national level (Indonesia)	National level (Developing countries)	Sub-national level (state level)
Focus area	Aspects of Risk are identified with emphasis on vulnerability.	Aspects of social vulnerability are identified.	Aspects of vulnerability and adaptive capacity are recognized for the concerned subject area.	Aspects of vulnerability and resilience capacities are studied.	The vulnerability of the fiscal sector to disasters is the subject matter of this study	identification of dimensions related to risk resilience along with computation of vulnerability.
Disasters included	earthquakes, storms, floods, droughts, sea-level rise.	Coastal disasters	Climate induced natural hazards which are Gravity triggered (landslide, avalanche etc.)	Flood Landslides Forest fire	All natural disasters	All natural disasters including coastal erosion

Source: Researcher (based on literature).

III.METHODOLOGY:

The methodology employed in this study combines qualitative and quantitative approaches to achieve the research objectives within the constraints of limited data availability. Drawing from existing literature, a framework is developed to assess the risk posed by climate-induced natural disasters (CINDs) in the context of the Indian economy.

Risk Assessment Framework: The risk posed by CINDs is conceptualized as a function of hazard, exposure, and vulnerability, denoted as $R = H * E * V$. Here, V represents vulnerability, which is further decomposed into susceptibility and resilience capacity.

Components of Risk:

The hazards considered in this study include Climatological (drought, wildfire), Hydrological (flood, landslide), and Meteorological (extreme temperature, storms) events. Each hazard is characterized by its average annual frequency and intensity, with weights assigned based on historical impact data and expert judgment.

Exposure Index:

Exposure is assessed using two parameters: total population and gross domestic product (GDP) of the states and union territories (UTs) in India.

Vulnerability Index:

Vulnerability is evaluated along two dimensions: susceptibility and resilience capacity. Susceptibility is measured using social, physical, economic, and environmental indicators, while resilience capacity is assessed through adaptive capacity, coping capacity, and resilience indices.

Composite Risk Index:

The composite risk index is calculated by multiplying hazard, exposure, and susceptibility (1 - composite resilience) components. The resulting risk scores are scaled to a value of 10 for ease of interpretation.

Data Normalization:

To account for variations in data ranges, normalization techniques such as the z-score method are employed, followed by scaling to a common scale of 0 to 10.

ArcGIS Analysis:

ArcGIS software is utilized to visualize risk scores for Indian states and UTs, providing spatial insights into regional disparities in CIND risk.

Parameter Selection and Weighting:

Parameters for hazard intensity, exposure, and vulnerability are selected based on data availability and relevance to CIND risk. Weights are assigned to parameters considering their relative importance and contribution to overall risk. Data: This study is concerned with big incidences of climate induced disasters which include climatological, hydrological, and meteorological disasters. Climatological disasters contain events of drought and wildfire, hydrological disasters depict the incidences of floods and landslides (landslides can also perpetuate due to earthquakes but these types of landslide incidents are not included here) and meteorological events contain storms and extreme temperatures.

The subtype of disasters included are:

- Storms include disasters such as Wind, Hail, Tornado, Sand/dust storms, Rain, Winter storm/blizzard, Lightning/thunderstorm, Storm/surges, Severe storm
- Extreme Temperatures include incidences of Cold and Heatwave
- Landslides include Avalanches of snow, debris, mudflow, rock fall, etc.
- Wildfires are the incidence of large damaging Forest fires.
- Flood incorporates all types of flooding situations such as Flash floods, Coastal floods, and Riverine floods.

All disaster-related data have been accommodated from the EM-DAT(CRED) disaster database. The EM-DAT database selects the extreme event to be entered as a disaster in the database if either or some of the following conditions are fulfilled by the extreme event entry criteria of disasters for this database if the disaster has registered either/some or all of the following conditions: If the extreme event has caused the death of more than 10 people or have affected more than 100 people, if the country has put up the Declaration emergency and/or an appealed for international assistance. Additionally, the disasters which have caused significant physical damages are also included in the database.

The risk analysis is conducted based on secondary data. The information is obtained from the International Disaster Database (EM-DAT), the Indian Meteorological Department (IMD), the vulnerability atlas of India (BMTPC), the Census 2011, the Government of India, Financial statements of GOI, the Indian water portal, various other reports by different departments of government, reports by international agencies like WHO, IPCC, etc.

A combination of qualitative and quantitative approaches is used in this study to capture the objectives given the constraints of limited data availability. The methods are borrowed through a literature survey and will be used with little or more variation as they go along with the Indian economy.

Risk = f (hazard, exposure, vulnerability)

$R = H * E * V$ Where $V = f(P, S, Eco, Env, r)$ And $r = (A, C)$

Table 2. Components of Risk

Natural disaster type	Subtype of disasters	Hazard (dimension) H	Exposure (dimension)E	Vulnerabilities (dimension)V
Climatological	drought	occurrence intensity	Population Gross domestic product	Social (S) Physical(P) Economic (Eco) Environmental (Env)
	wildfire			
Hydrological	flood			
	landslide			
Meteorological	Extreme temperature			Resilience capacity(r) Adaptive capacity(A) Coping capacity(C)
	storm			

Parameters and Weights: Each of these 6 hazards, 4 vulnerability dimensions, and exposure have several parameters. Based on the availability of data sets throughout the country in uniform formats several parameters were selected for the development of indexes on the hazards, vulnerabilities, and exposures. Scale equivalence: since the range of various data use

in our study differ, normalisation become an important tool before developing indicator. We have used the z score method, popular method among literature for normalisation, for normalising data. The value is later on scaled from 0 to 10.

$$Z_{ij} = \frac{X_{ij} - \min(X_i)}{\max(X_i) - \min(X_i)}$$

Hazard index: The hazard index is based on two parameters, the average annual frequency of disaster and the intensity of the disaster.

Average Annual Frequency of Disaster: frequency of disaster in the last 20 years i.e., from 2000-2020.

Intensity of disaster: intensity of disaster is calculated by weighted average formula Not all the parameters of hazards are equally important. Based on extensive literature review and historical impact data (death and damage) the importance and therefore weights have been assigned to included hazards in the study. Flood and storm are highly destructive and the Indian economy bears the high cost due to these disasters, both of these disasters are given the weight of 25 percent, drought and landslides are assigned the weight of 15 percent each and extreme temperature and wildfire are given the weight of 10 percent each.

Table 3:weights of parameters (Hazard Intensity)

Disasters	Intensity Extent parameter	Weights in parameters	Data collected from
Flood	1)flood prone areas in states (weight:0.08) 2) areas of urban agglomerations with more than 100,000 population weighted by flood proneness based on rainfall intensity. (Weight:0.02)	1.a) flood prone area by BMTPC and 1.b) GOI 2.a) urban agglomeration 2.b) average rainfall data	BMTPC, Rajya Sabha answer, Census 2011 IMD
Storms	1)wind velocity area %, 2) rainfall intensity Equal weights to 1,2	1)Wind Velocity m/s (area in %), 55&50 m/s (10), 47 m/s (8), 44&39 m/s (4), 33m/s (0) 2) average rainfall data	BMTPC, IMD
Landslides	landslide hazard zones	highly affected areas-10, moderately affected areas-8, marginally affected area-4, not affected-0	Rajya Sabha answer
Drought	drought hazard index		Dr. P.G.Dhar Chakrabarti, GOI
Extreme Temperature	1)heat wave index, 2) cold wave index equal weights		Dr. P.G.Dhar Chakrabarti, GOI
Wildfire	forest fire index		Dr. P.G.Dhar Chakrabarti, GOI

Exposure Index: To compose an exposure Index two parameters are considered the total population and gross domestic product of the states.

Vulnerability index: Vulnerability consists of two dimensions; susceptibility and resilience capacity. Susceptibilities of the society to disaster impacts are measured by four components which are social, physical, economic, and environmental susceptibility and an equally weighted joint index is created to denote the composite susceptibility of the states. To capture the second dimension of vulnerability (negative vulnerability) we have computed the adaptive capacity index, coping capacity index and also included the resilience index. These three components are then being averaged with equal weights to denote the composite resilience index.

Composite risk index: the composite risk is calculated by following formula and scaled to the value of 10 to develop risk index.

$$\text{Risk} = \text{hazard} * \text{exposure} * \{ \text{susceptibility} * (1 - \text{composite resilience}) \}$$

ArcGIS software is utilised to depict risk scores for Indian states and UTs.

Table 4: Parameters for vulnerability assessment:

Dimension	Component	Parameter Name	Parameter		
susceptibility	Social	poverty	% of people below poverty line		
		Literacy	% of people illiterate		
		Clean water access	% of people with no access to clean water		
		Dependency ratio	Dependent population/total working population		
	Physical	Population density	People per km ²		
		Demographic pressure	Decadal Population growth rate		
		Wealth inequality	GINI coefficient of asset/wealth inequality		
		Unsafe settlements		% Vulnerable house based on wall structure Category – A(VH): Buildings in field-stone, rural structures, unburnt brick houses, clay houses (10) Category – B(H): Ordinary brick building; buildings of the large block and prefabricated type, half- timbered structures, building in natural hewn stone (8) Category – C(L): Reinforced building, well-built wooden structures (4) Category – X(H): Other materials not covered in A, B and C. These are generally light structures. (8)	
	Slum	% of slum area			

economic	unemployment	% of people unemployed
	Agriculture dependent population(occupational)	a) % HH dependent on agriculture (self-employed) b) % HH dependent on agriculture casual labour
	No of factories	Factories per km 2
	Small businesses	a) MSME and small industries b) Factories with less than 20 people
	Dependence on agricultural sector	GSVA by agricultural sector/ GSDP
environment	Degraded land	% of degraded land
	Forest cover	% of land with forest cover
	Arable land	% net sown area
Adaptive capacity	Human development level	HDI
	Government attitude	GGI % Of Social sector expenditure to total expenditure % Of Health expenditure to total expenditure
	Gender equality	GDI
Coping capacity	Access to state emergency funds	Average SDRF fund allocation
	Access to national emergency funds	Average NDRF fund allocation
	potential fund base	Own tax revenue
	Health coverage	Doctors and specialist per thousand people Beds availability per 1000 thousand people
Resilience capacity	State disaster management capacity	Resilience index developed by GOI

IV. FINDINGS:

The hazard intensity index for six climate-induced disasters—drought, wildfire, flood, landslides, storms, and extreme temperature—is assessed in this study, along with a weighted composite hazard index. Additionally, exposure and vulnerability indexes are computed to understand the susceptibility and resilience of states and union territories (UTs) in India.

Hazard Intensity Index:

The hazard intensity index accounts for the frequency and intensity of disasters over the past twenty years. States like Maharashtra, Karnataka, Andhra Pradesh, Rajasthan, and Jharkhand

are identified as having high chances of severe droughts, while UTs such as Daman & Diu show higher susceptibility to droughts. Arunachal Pradesh, Nagaland, Meghalaya, and Chhattisgarh are among the most vulnerable states to wildfires, with Chandigarh leading among UTs. Punjab, West Bengal, Kerala, and Uttar Pradesh exhibit high flood hazard indices, whereas Puducherry ranks highest among UTs for flood severity. Landslide-affected areas are concentrated in Himalayan regions and northeastern states, with Punjab, West Bengal, Kerala, and Assam having the highest storm intensity indices. Extreme temperature hazards, including cold and hot waves, are prominent in states like Uttar Pradesh, Odisha, Punjab, Bihar, and Jammu and Kashmir.

Composite Hazard Intensity Index:

To capture the overall difference between disaster categories, different weights are assigned based on historical frequency and severity. Floods and storms, being highly destructive, are assigned higher weights (25% each), while droughts and landslides have weights of 15% each, and wildfires and extreme temperatures have weights of 10% each. States like Assam, Kerala, West Bengal, Punjab, Meghalaya, Tripura, Uttar Pradesh, Uttarakhand, and UTs like Andaman and Nicobar Islands register high ranks in the composite hazard intensity index.

Overall, states like Maharashtra, Uttar Pradesh, Tamil Nadu, Gujarat, and Karnataka emerge as the top-scoring states with the highest values in the composite hazard intensity index. These findings highlight the varying degrees of risk posed by different climate-induced disasters across regions in India, emphasizing the need for targeted disaster preparedness and mitigation strategies at both state and national levels. Exposure index. Delhi is the highest scoring UT among the union territories of India.

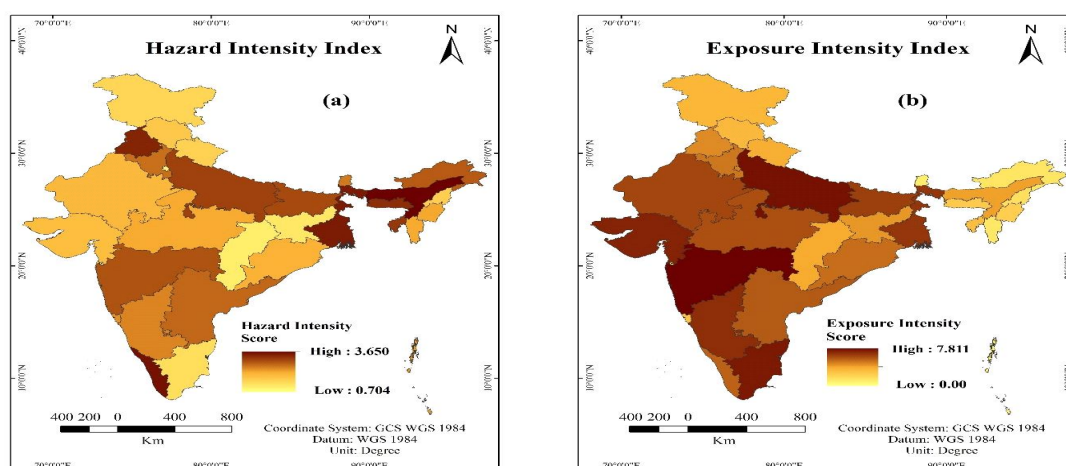


Fig 2: Geographical distribution of states in (a) Hazard Intensity Index and (b) Exposure Intensity Index

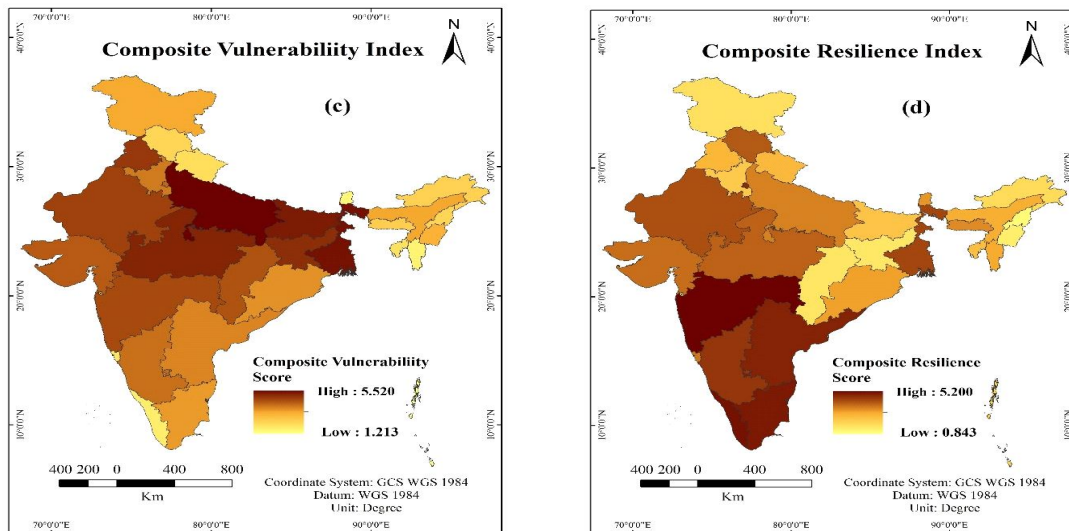


Fig. 3 Geographical distribution of states in (c) Composite Vulnerability Index and (d) Composite Resilience Index

Exposure Components:

The exposure index assesses the potential harm posed by extreme events to the population and assets in affected regions. Using normalized values of total population and Gross State Domestic Product (GSDP), the exposure index scores of states and UTs are computed. States like Maharashtra, Uttar Pradesh, Tamil Nadu, Gujarat, and Karnataka rank highest in exposure due to the concentration of population and assets in these regions. Among UTs, Delhi emerges as highly exposed, followed by Chandigarh and Puducherry.

Social Susceptibility Score:

States such as Bihar, Jharkhand, and Uttar Pradesh exhibit high social susceptibilities due to a large vulnerable population residing in these areas. Similarly, Dadra and Nagar Haveli among UTs report high social susceptibility, followed by Delhi and Chandigarh.

Composite Vulnerability Index:

Vulnerability, comprising susceptibility and resilience capacity, significantly influences overall risk. Various vulnerability dimensions are considered based on literature, and vulnerability indexes are computed separately before being combined into a composite vulnerability index. States like Maharashtra, Andhra Pradesh, and Madhya Pradesh are identified as most physically susceptible, while Daman and Diu among UTs also demonstrate high susceptibility.

Overall, these findings underscore the importance of understanding exposure and vulnerability to effectively mitigate the impacts of climate-induced natural disasters. They highlight regions with heightened risk, emphasizing the need for targeted strategies to enhance resilience and preparedness. performing union territories.

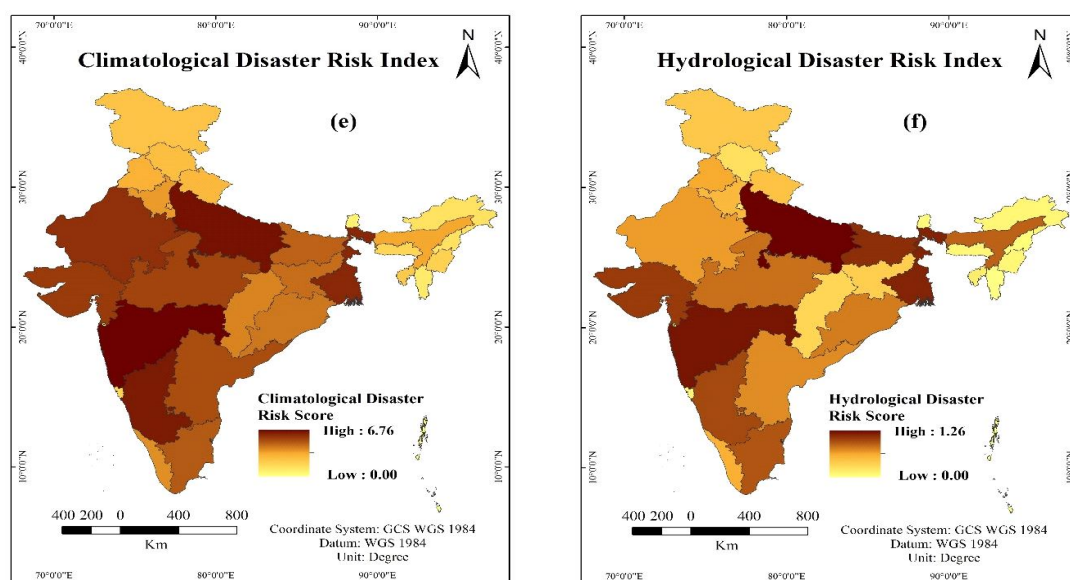


Fig. 4 Geographical distribution of states in (e) Climatological Disaster Risk Index and (f) Hydrological Disaster Risk Index

Climatological Disaster Risk Index: Climatological disaster includes incidents of drought and wildfire. Among the states, Maharashtra, Uttar Pradesh and Karnataka West Bengal and Rajasthan register the high values of risk index for climatological disasters. When compared to states the UTs of India are not as much susceptible to the risk imposed by climatological disasters due to their significantly low values in the risk index.

Hydrological Disaster Risk Index: Hydrological disasters contain the extreme events of floods and landslides and Uttar Pradesh, Maharashtra, West Bengal and Bihar register the highest values and therefore bear the large burden of risk imposed by hydrological disasters in India. **Meteorological Disaster Risk Index:** Meteorological disasters contain the incidences of storms and extreme temperature, Uttar Pradesh, West Bengal Maharashtra and Bihar score the highest values and are more susceptible to the risk imposed by meteorological disasters. UTs does not share the high risk imposed by meteorological disasters however among UTs national capital Delhi scores the highest. UTs are comparatively not that susceptible to risk, however between UTs Delhi show the highest risk index value.

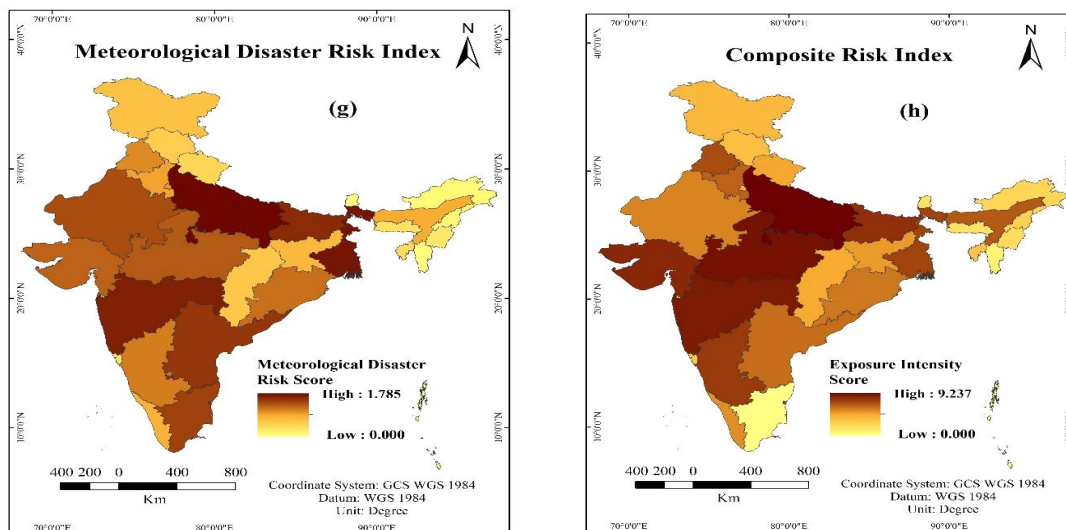


Fig. 5 Geographical distribution of states in (g) Meteorological Disaster Risk Index and (h) Composite Risk Index

Composite Risk Index: Composite risk index includes the composite hazard intensity index, exposure index and composite vulnerability index. Among the states Uttar Pradesh is a top scorer and therefore is the most vulnerable state to the risk imposed by climate induced disasters, followed by Madhya Pradesh, Maharashtra, Gujarat Bihar, Karnataka, West Bengal. Among the UTs Delhi registered the highest value for composite risk index.

Conclusion: The study underscores the significant vulnerability of the Indian economy to climate-induced natural disasters, highlighting the need for tailored disaster management policies. The findings reveal disparities in disaster risks across different types of disasters and states, emphasizing the importance of region-specific approaches rather than a uniform strategy. Policymakers can leverage these insights to allocate resources effectively, enhancing disaster reduction and prevention efforts.

Risk assessments are pivotal in guiding resource allocation towards high-risk areas, facilitating long-term risk prevention. It is imperative to customize resource allocation based on the nature of different disaster types, prioritizing preventive measures for floods and immediate aid for wildfires. Integrating developmental planning with disaster management is crucial, as proactive measures prove more effective in mitigating long-term impacts than post-disaster responses.

Despite its contributions, the study has limitations stemming from data availability and quality. Fragmented and outdated data hindered the inclusion of certain indicators, and the Covid-19 pandemic further complicated recent data collection. Future research should focus

on incorporating updated data to refine risk assessments and conduct more granular regional analyses. Empirical research validating vulnerability, exposure, and risk assessments at the state level is also necessary to inform effective disaster management strategies.

Limitations of study: The study faces challenges due to the lack of a comprehensive database in India regarding disasters and their impacts, with existing fragmented and discontinuous data making it difficult to accurately represent concepts like risk and vulnerability. Consequently, certain indicators were excluded, and data relied upon only go up to 2018-19 due to the significant impact of the Covid-19 pandemic on recent years, resulting in changes to variables like disaster funding and medical resources. Some indicators had to be based on outdated values due to unavailable recent data, and Telangana was not included in the analysis due to insufficient data, while Jammu and Kashmir were treated as a unified state despite being divided into two union territories in 2021.

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Management and Adequacy of Foreign Exchange Reserves in India in the Post Covid Scenario

Dr. Shahina Perween

Abstract:

With the increasing globalization, accelerating capital flows, and integration of financial markets, the management of Foreign Exchange Reserves (FERs) has become a focal point. FERs, held by central banks, consist of various assets denominated in foreign currencies, including gold reserves and holdings in US dollars. In India, these reserves play a crucial role in economic expansion and financial stability. They are carefully managed to ensure adaptability to different economic conditions and to mitigate the impact of debt-banking crises. This essay evaluates India's reserve sufficiency in the context of the COVID-19 pandemic. Despite notable swings, India maintains sizable foreign exchange reserves, positioning it well among nations. However, given its robust external position, interventions in chaotic market conditions should be judiciously managed.

Keywords: Foreign exchange reserves, central bank, financial stability, economic expansion, globalization, capital flows, COVID-19 pandemic.

I. INTRODUCTION:

The recent surge in globalization, accelerated capital flows, and deeper financial market integration has brought the topic of Foreign Exchange Reserves (FERs) into focus. In light of financial crises stemming from debt-banking practices across multiple nations, the management of FERs, also known as foreign currency reserves, has become crucial for maintaining economic stability. These reserves, comprising various assets including gold, payments to international organizations, and foreign currency holdings, are primarily controlled by central banks such as the Reserve Bank of India (RBI). With over 90% of India's reserves denominated in US dollars but diversified across other currencies, their composition is meticulously managed to ensure economic expansion and financial stability. FERs serve multiple purposes, from

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maintaining exchange rate stability to providing liquidity during crises and facilitating shock absorption. Given their significance, this essay aims to evaluate India's reserve sufficiency, particularly in the aftermath of the COVID-19 pandemic, amidst evolving global economic dynamics.

Assessment:

Assessing the adequacy of foreign exchange reserves involves weighing their advantages and disadvantages in mitigating external shocks and ensuring liquidity. Conventional metrics, such as the IMF's recommendation of covering at least three months' worth of imports and short-term foreign debt, provide a baseline but may lack relevance in today's context. Emerging methodologies, like the IMF's risk-weighted approach, offer a more nuanced perspective by considering unique vulnerabilities of each nation. However, determining the optimal reserve level remains a challenge, influenced by factors like macroeconomic policy soundness and opportunity costs. While reserves are essential for crisis prevention, their value diminishes over time, posing economic costs such as increased external debt and potential inflationary pressures. Hence, a careful balance between advantages, disadvantages, and effects of reserve holdings is necessary, with considerations for ideal size and currency composition tailored to each economy's needs.

II. METHODOLOGY:

This study employs a mixed-methods approach, utilizing secondary data sourced from reputable sources such as IMF reports, economic surveys, scholarly articles, and official databases including the Reserve Bank of India's website. Through quantitative analysis, including percentage calculations, ratios, and trend analysis, alongside qualitative insights from scholarly literature, the research aims to evaluate India's foreign exchange reserves (FERs) and their adequacy in light of international standards and economic indicators. By examining factors such as import coverage, external debt, and theoretical frameworks on FER size and impacts, this study seeks to provide a comprehensive understanding of India's FER adequacy and its implications for economic stability and policy-making.

Objectives:

1. Evaluate the adequacy of India's Foreign Exchange Reserves (FERs) considering global economic trends, financial market integration, and recent crises.
2. Identify the factors influencing FER adequacy and their implications for India's economic expansion, financial stability, and policy formulation.

III. DATA AND ANALYSIS:

Trends and Adequacy of India's Foreign Exchange Reserves:

India's foreign exchange reserves (FERs) have exhibited a notable upward trend over the years, particularly following the 2008 global financial crisis. As the second-largest FER holder

among major economies with current account deficits (CAD), India's rising reserves signify foreign investors' confidence in the country's economic fundamentals and growth prospects. From a modest US\$5.8 billion at the end of March 1991, India's FERs surged to US\$38.0 billion by March 2000 and reached US\$314.6 billion by May 2008. Subsequently, in 2014–15, FERs stood at \$341.6 billion. Remarkably, by September 2022, India's FERs had soared to US\$532.7 billion, equivalent to 8.8 months' worth of imports. This impressive growth continued, with reserves climbing to US\$562.7 billion by December 2022, representing 9.3 months' worth of imports.(Table:1).

Table:1 Forex Reserves of India

Day/ Month/Year	Level of Reserves (\$ billion)	Import Cover (in months)
As on 2021		
September 3	642.5	15.0
October 8	639.5	14.0
November 5	640.9	14.0
December 3	635.9	14.0
As on 2022		
January 7	632.7	13.0
February 4	632.0	12.6
March 4	631.9	12.4
April 1	606.5	12.0
May 6	596.0	10.0
June 3	601.1	10.0
July 8	580.3	9.5

Source: RBI

IMF statistics shows that as of the end of November 2022, India held the sixth-largest foreign currency reserves globally. In June 2020, during the Covid-19 outbreak, India's foreign exchange reserves surpassed \$500 billion for the first time. Indian foreign exchange reserves surpassed the \$600 billion threshold for the first time a year later. On September 8, 2021, Indian currency reserves reached an all-time high of \$642.453 billion.

As of end-Nov.2022, India was the sixth largest foreign exchange reserves holder in the world according to data compiled by the IMF (Uma Kapila,2023).

Table 2: Total Foreign exchange reserves excluding gold (in US\$ bn)

Country	2005	2008	2019	2020	2021	Nov-2022	2021 over 2008(% change)
Russian Federation	175.9	411.8	443.9	457.0	497.6	567.3	20.8
India	131.9	247.4	432.4	549.1	594.4	555.3	140.3
Brazil	53.3	192.8	353.6	351.5	354.6	331.5	83.9
United States	54.1	66.6	118.4	133.9	240.2	237.8	260.7
United Kingdom	54.0	56.1	158.4	161.2	176.0	204.1	213.7
Indonesia	33.1	49.6	125.3	131.1	140.3	134.0	182.9
South Africa	18.6	30.6	48.9	47.4	50.3	60.0	64.4
Australia	41.9	30.7	55.6	39.2	53.8	57.9	75.2
World	4395.0	7418.2	12195.3	13122.5	13944.7	11598.6*	88.0

Source: Economic survey, Government of India, 2022-23 (*Figure as of Sept.2022),

From the cross country perspective, it has been observed that most emerging market nations’ import coverage of foreign currency reserves has decreased since pre-pandemic levels; however, India’s has increased, rising from 95% in Q4 2019 to 96.5% in Q3 2022 (Economic Survey, 2022-23).

Figure:1 India’s Forex Reserves adequacy (%age of Annual Imports)

Figure XI.15 Adequacy of India’s Forex Reserves (as a percentage of Annual Imports): A Cross-country perspective



Source: IMF (forex reserves) and WTO (for imports data)

Source: IMF Survey: Assessing the Need for Foreign Currency Reserves Survey online, April 7, 2011

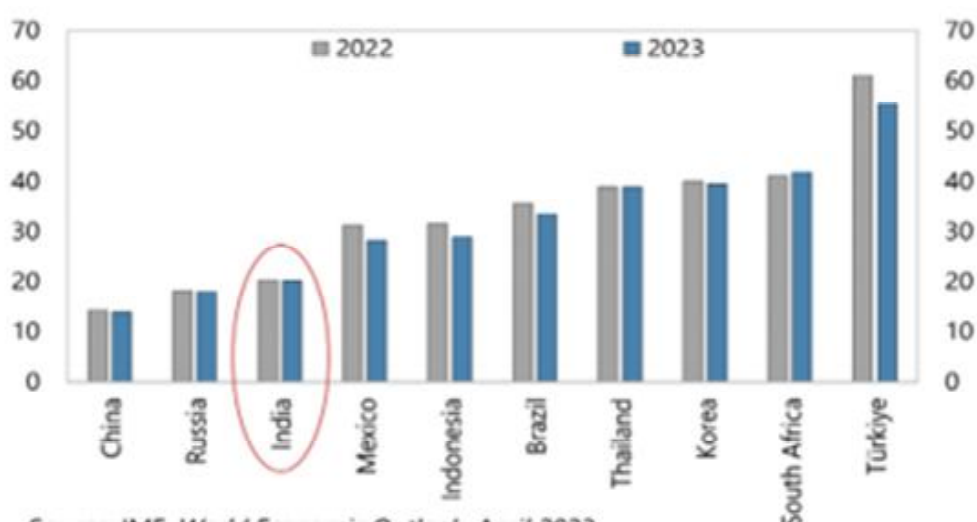
As of November 03, 2023, India's foreign exchange reserves were valued at US\$ 590.8 billion. India is still optimistic that it will be able to easily meet its needs for external borrowing. The Reserve Bank of India reports that as of February 9, 2024, the country had \$617,230 million in foreign exchange reserves. (IMF Country Report No. 23/42)

How Adequate India's Foreign Exchange Reserve is?

India's economy grew strongly in the previous year. India's 2023 G20 presidency has shown the world how crucial a role the nation plays in achieving international policy agendas. Because of strong services exports and, to a lesser extent, cheaper oil imports, the current account deficit is predicted to shrink to 1.8% of GDP in FY2023/24. India's external position is still solid and resilient to short-term shocks. At 1.1 percent of GDP from April to June 2023, both the current account deficit and the need for external funding are low (IMF Country Report, 2023).

According to various "rules of thumb" for reserve adequacy, India's foreign exchange reserves are larger than those of many other nations with comparable external sector characteristics, such as current account deficits and significant inflows of foreign portfolio investments. Traditionally, there are three metrics: measures of external debt, monetary aggregates, and ratios of reserves to imports (IMF, 2000). According to empirical analysis, India's reserve holdings are sufficient and may be primarily attributed to a number of precautionary reasons for reserve accumulation in light of the country's increasing external sector openness and the dangers involved. The existing amount of FX reserves was considered comfortable by the government. In comparison to its peers, India has a low level of external debt. (Figure:2).

Figure:2 Total External Debt (in percent of GDP)



Source: IMF, World Economic Outlook, 2023.

The Indian foreign exchange reserves in 1960 were insufficient to support imports for just 8.6 weeks. India's foreign exchange reserves surpassed \$7 billion in 1980, more than twice as much as China's (about \$2.55 billion at the time). The reserves were \$5.8 billion in 1991. India's foreign exchange reserves surpassed \$100 billion for the first time in 2004. Following a 22% decline in the value of the rupee relative to the US dollar in FY 2009, India was forced to sell currencies valued around \$35 billion on the open market. India also purchased 200 tons of gold from the International Monetary Fund that year, paying roughly \$6.7 billion. (Refer to Source). Official foreign exchange reserves fell from historically high levels in 2021 to lower levels in the first half of 2022. This decline was caused by changes in valuation, portfolio investment outflows, and a growing current account deficit. In the months that followed, the reserves grew as the current account deficit shrunk and investor confidence rose. The government foreign exchange reserves are sufficient for precautionary reasons, as validated by a number of criteria. They accounted for over 198 percent of short-term debt (on residual maturity), 160 percent of the IMF composite indicator for a stable arrangement, and roughly seven months' worth of import coverage as of the end of 2022.

Table:3 India's Foreign Exchange Reserves and Import Coverage

Years	2019-20	2020-21	2021-22	2022-23 Est.	2023-24 (Projections)	2024-25 (Projections)
Foreign Exchange Reserves	477.8	577.0	607.3	578.4	619.2	673.9
Imports coverage of goods and services (in months of next year's imports)	11.1	9.0	8.1	7.8	7.7	7.9

Source: IMF Staff estimates and Projections ,2023

IV. CONCLUSION:

India is still among the nations with sizable foreign exchange reserves, especially in light of the fact that several of the other top reserve holders are also countries with sizable current account surpluses. Given the rather robust external position and enough reserves, foreign exchange interventions aimed at addressing chaotic market conditions ought to be restricted.

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Tariff Reduction, Economic Expansion, and Investment Attraction: Understanding FDI Inflows in India

Dr. Shalini Singh, Mr. Anshuman Singh & Dr. Ahuti Singh

Abstract

Foreign Direct Investment has emerged as the primary source of external finance for developing economies. This includes the development of physical infrastructure, machinery, technology, and human capital. It serves as a crucial conduit for technology transfer from advanced to developing nations, fosters local capital investment, and facilitates enhancements in the human capital and institutional frameworks of host countries. FDI plays a pivotal role as a foreign exchange earner. Tariffs are indeed a type of trade barrier that governments use to regulate international trade. By raising the relative price of foreign products compared to domestic ones, tariffs aim to protect domestic industries, encourage consumers to buy locally produced goods, and address trade imbalances. Another variable that is important for a purpose of investment is gross fixed capital formation which refers to the process of increasing the stock of real capital in a country. The relationship between capital formation and FDI is generally considered positive. Additionally, a high level of gross fixed capital formation may signal to foreign investors that the country has a dynamic and growing economy, which could encourage them to consider FDI opportunities within that country. However, it's important to note that while gross fixed capital formation can create favorable conditions for FDI, other factors such as political stability, regulatory environment, market size, and potential returns also play significant roles in attracting foreign investment. The third important variable is GDP growth which shows that if there is a growth in the economy then there will be less growth in FDI. Some factors may contribute to a decrease in FDI inflows during a period of GDP growth, the relationship between GDP growth and FDI is complex and can be influenced by many other factors as well. Additionally, short-term fluctuations in FDI inflows

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may not necessarily reflect long-term trends in investment attractiveness. Further, the study emphasizes that the relationship among foreign direct investment, tariff, gross fixed capital formation and GDP growth.

Key Words; *FDI, Tariff, Gross Fixed Capital Formation, GDP growth*

Introduction

FDI is often used as a strategic mechanism for companies to enter new markets. By establishing a physical presence in a foreign country through direct investment, companies can better navigate local regulations, understand consumer preferences, and build relationships with local partners. This approach can be especially beneficial when dealing with markets that may have complex business environments or cultural differences. FDI can offer tax advantages to companies. Some countries provide tax incentives or preferential tax treatment to attract foreign investors. This can include reduced corporate tax rates, tax holidays, or other incentives aimed at encouraging investment. Companies may strategically choose locations for FDI based on the tax benefits offered by the host country. Seeking cheaper labor and production costs is a common motivation for FDI. Companies may invest in countries where labor costs are lower, helping to reduce overall production expenses. This cost-efficiency aspect can enhance the competitiveness of the investing company in the global market. FDI allows companies to access and utilize resources that may be more abundant or cost-effective in the host country. This could include natural resources, skilled labor, technology, or other inputs that contribute to the production process. The influence of tariffs is not the only factor influencing foreign direct investments, but it remains a significant determinant. Consequently, policymakers and business leaders must regularly assess the tax implications of different locations. Tariffs can exert a notable influence on various stakeholders, encompassing local governments, multinational enterprises (MNEs), and consumers. While tariffs theoretically offer a modest revenue source for local administrations, the reality in a rapidly evolving global and competitive landscape is less straightforward. Heightened tariffs do not always translate to increased revenue streams. Instead, they might dissuade foreign companies from investing, thereby impeding the introduction of new jobs and opportunities vital for local economic growth. Tariffs can exert a notable influence on various stakeholders, encompassing local governments, multinational enterprises (MNEs), and consumers. While tariffs theoretically offer a modest revenue source for local administrations, the reality in a rapidly evolving global and competitive landscape is less straightforward. Heightened tariffs do not always translate to increased revenue streams. Instead, they might dissuade foreign companies from investing. Another aspects of Tariffs aim to mitigate production and consumption distortions caused by inflated prices. Domestic producers may be incentivized to manufacture goods due to the higher prices induced by tariffs, while consumers may opt to purchase fewer goods due to the resultant price increases. In developing country such as India, tariffs are negatively associated with FDI.

Review of Literature

Several studies have examined the relationship between tariffs and FDI inflows into India. Banga (2003) found that high tariffs discouraged FDI in India's manufacturing sector during the 1990s. Using a gravity model, the study showed that a 10% reduction in tariffs would increase FDI inflows by over 10%. Similarly, Kumar (2002) concluded that trade liberalization policies, including tariff reductions, contributed significantly to the surge in FDI into India in the 1990s. Francesca Di Mauro (2000) employs the gravity-model framework to investigate two crucial aspects of economic integration: the influence of various factors on Foreign Direct Investment (FDI) stocks and their relative impact on exports. Specifically, the study examines the effects of tariffs, non-tariff barriers, and exchange rate variability on FDI and exports. Contrary to prevailing theoretical assertions, the findings challenge the notion of "tariff-jumping" FDI, suggesting that tariffs do not significantly influence FDI inflows. Additionally, the analysis reveals a negative association between non-tariff barriers and FDI, underscoring the prominence of sunk costs in shaping investment decisions. In contrast, while exchange rate variability negatively affects exports, its impact on FDI is mitigated by the strategy of direct investment in the host country. Cross-country studies also highlight the tariff-FDI linkage. Blonigen (2005) examined FDI determinants across 38 countries and found tariffs to be a significant deterrent to FDI. A 10 percentage point decrease in tariffs raised the probability of investment by about 3%. Likewise, Mutti and Yeung (1996) showed tariff jumping FDI tended to rise when tariffs exceeded 20%. More recent studies reinforce these results for India. Sahoo et al. (2014) found tariff liberalization enhanced India's FDI inflows over the 2005-2012 period. Their estimates suggest a 10% tariff reduction increased FDI by 8-10%. Shah and Barah (2021) concur, noting the Make in India initiative further boosted manufacturing FDI by reducing applied tariffs. In summary, the literature consistently points to a negative relationship between tariffs and FDI inflows into India. Lower tariffs make India a more attractive FDI destination by reducing import costs and facilitating global value chains. However, some studies caution excessive tariff cuts could hurt domestic industry (Chaturvedi et al., 2007). The above review of the literature underscores the intricate interplay between tariffs and FDI. Research findings suggest that tariffs can act as both facilitators and impediments to FDI inflows, depending on their magnitude, structure, and enforcement mechanisms. On one hand, moderate tariffs may protect domestic industries, stimulate local production, and generate government revenues. Conversely, high or unpredictable tariff regimes can deter foreign investors, hinder market access, and exacerbate trade tensions. Empirical studies reveal a nuanced relationship between tariffs and FDI, with evidence indicating that excessive tariff barriers tend to deter investment, particularly in industries reliant on global value chains and technology-intensive sectors. The review elucidates the complex nexus between tariffs and FDI, shedding light on the multifaceted implications of tariff policies for investment dynamics. While tariffs represent a legitimate tool for trade regulation and revenue generation, their adverse effects on investment attractiveness and economic competitiveness cannot be overlooked. Moving forward, concerted efforts are warranted to recalibrate tariff policies in a manner that

fosters an enabling environment for FDI, promotes sustainable development, and contributes to inclusive growth agendas in emerging economies like India.

Objective of the study

1. To examine the impact of tariff, gross fixed capital formation on FDI in India.
2. To assess the relative importance and magnitude of the effects of tariffs, gross fixed capital formation and GDP growth on FDI inflows in India.

Data and methodology

The present study is of empirical in nature and based on secondary data which has been taken from World Bank Data base . The study considers the time period from 1990 to 2021. Regression analysis is to be considered to examine the impact of tariff, gross fixed capital formation and GDP growth on FDI. Further, ARIMA model is used.

The Following regression functions is considered:

$$FDI = f(\text{Tariff}, \text{GFCF}, \text{GDP growth}) \quad \text{—————(i)}$$

Significance of the study

The government consistently emphasizes the promotion of Foreign Direct Investment (FDI) as a crucial aspect of economic development. Attention is being directed towards enhancing infrastructure facilities across the nation. The blueprint outlined for Vision India 2047 aims to steer the country towards becoming a \$30 trillion economy. Hence, FDI serves as a pivotal tool for fostering infrastructure development. However, tariffs have been identified as a deterrent to FDI. Overall, the synergy among FDI, infrastructure development, GDP growth, and gross fixed capital formation is vital for driving economic development and improving living standards. Governments and policymakers often aim to create an enabling environment that encourages FDI, prioritizes infrastructure investment, and fosters sustainable economic growth to leverage these interconnected variables for long-term prosperity. Therefore, exploring the impact of tariffs, GDP growth, gross fixed capital formation on FDI that is a vital issue to be discussed in this paper.

Result

The ARIMA(1,1,1) model analysis reveals that gross domestic product (GDP) growth, gross fixed capital formation, and tariff levels have statistically significant impacts on foreign direct investment (FDI) inflows into India over the period studied. Specifically, the model estimates indicate that a one-unit increase in GDP growth rate is associated with a 0.286 unit decrease in FDI inflows, holding other factors constant. This finding suggests that higher economic growth may reduce market-seeking FDI as domestic markets become more self-sufficient and rely less on foreign investment. On the other hand, a one-unit rise in gross fixed capital formation leads to a 0.486 unit increase in FDI inflows. This positive relationship implies that investments

aimed at expanding productive capacity within the country tend to attract greater foreign investment, potentially of an export-oriented nature. Furthermore, the results show that a one-unit increase in average tariff rates results in a 0.521 unit decrease in FDI inflows. This negative relationship aligns with trade theory, which posits that protectionist policies, such as higher tariffs, increase costs and uncertainty for foreign investors, thereby deterring FDI.

Overall, the model exhibits strong explanatory power, with an R-squared value of 0.78. These findings provide evidence that fundamental macroeconomic policies related to growth promotion, capital formation, and trade openness significantly shape a country's success in attracting foreign direct investment. However, further investigation is warranted to gain a deeper understanding of the specific mechanisms and channels through which these factors influence FDI inflows over time, as well as to explore potential interactions and feedback loops among these variables.

ARIMA regression						
Sample: 1991 - 2020		Number of obs =		30		
Log Likelihood = -24.46786		Wald chi2(1) =		12.80		
		Prob > chi2 =		0.0003		
D. fdi_std	Coef.	OPG Std. Err.	z	P> z	[95% Conf. Interval]	
fdi_std _cons	.0854102	.03019	2.83	0.005	.0262389	.1445814
ARMA						
ar L1.	.6117393	.1710089	3.58	0.000	.2765681	.9469105
ma L1.	-.9999993					
/sigma	.5280998	.0503845	10.48	0.000	.429348	.6268516

Source	SS	df	MS	Number of obs = 31		
Model	23.5033806	3	7.8344602	F(3, 27) = 32.56		
Residual	6.49661995	27	.240615554	Prob > F = 0.0000		
Total	30.0000005	30	1.00000002	R-squared = 0.7834		
				Adj R-squared = 0.7594		
				Root MSE = .49053		
fdi_std	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
tari ffavg_-d	-.5210866	.1104108	-4.72	0.000	-.7476308	-.2945423
gfcf_std	.4857793	.1125515	4.32	0.000	.2548426	.7167159
gdpgrowth_-d	-.2861652	.0920442	-3.11	0.004	-.4750244	-.097306
_cons	1.01e-08	.088101	0.00	1.000	-.1807684	.1807684

Conclusion

This study investigated the impacts of tariffs, gross fixed capital formation, and GDP growth on foreign direct investment (FDI) inflows in India. The ARIMA model analysis revealed significant relationships between these factors and FDI inflows. This findings indicate that higher GDP growth rates tend to discourage market-seeking FDI, as domestic markets become more self-sufficient and rely less on foreign investment. Conversely, increased gross fixed capital formation, which reflects investments in expanding productive capacity, is associated with higher levels of FDI inflows, potentially driven by export-oriented foreign investments. This is to notify that the results also highlight the detrimental effect of higher tariff rates on FDI inflows. Elevated tariffs tend to increase costs and uncertainties for foreign investors, acting as a deterrent to FDI in line with trade theory. These results have important implications for policymakers aiming to attract greater FDI into the country. While economic growth and capital formation are desirable goals that can indirectly promote FDI, maintaining a liberal trade regime with low tariff barriers is crucial for creating an attractive environment for foreign investors. The Policymakers should carefully assess the trade-offs and potential synergies among these factors, as excessive protectionism through high tariffs may offset the positive effects of economic growth and capital formation on FDI inflows. Furthermore, future research could delve deeper into the specific mechanisms and channels through which these factors influence FDI decisions, as well as explore potential interactions and feedback loops among GDP growth, capital formation, tariffs, and FDI inflows over time.

To conclude that the study contributes to the understanding of the complex interplay between macroeconomic policies and foreign direct investment, highlighting the importance of striking the right balance between growth promotion, capital formation, and trade openness to effectively attract FDI and foster economic development.

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Analyzing the Regional Patterns of Growth in India's Services and Manufacturing Sectors

Jitendra Kumar & Dr. Parul Jain

Abstract

India's economic landscape is shaped by its diverse sectors, with the services and manufacturing sectors playing pivotal roles in driving GDP, employment, and investment. This study examines the regional growth patterns of these sectors during two distinct periods: 2004-05 to 2013-14 and 2013-14 to 2021-22, corresponding to the United Progressive Alliance (UPA) and National Democratic Alliance (NDA) government tenures, respectively. Using data from the EPWRF Time Series Database, compound annual growth rate (CAGR) analysis is employed to assess sectoral growth across Indian states. Spatial analysis techniques are used to visualize regional growth patterns, while sigma and beta convergence methods evaluate economic disparities among states over time. Results indicate significant sectoral growth variations across regions and periods. In the first period, states like Sikkim, Uttarakhand, and Himachal Pradesh witnessed substantial growth in manufacturing, while Odisha, Assam, and West Bengal experienced notable growth in the second period. Regional concentration of manufacturing growth was observed in the northwest, persisting across both periods, with scattered growth in other regions. Conversely, the service sector exhibited dispersed growth in the first period, with many states surpassing the national average. However, a convergence trend emerged in the second period, with fewer states exceeding the national average growth rate. States such as Goa and Uttarakhand, initially performing well, saw declining rankings in the second period, reflecting shifting growth dynamics. India continues its journey towards sustainable and inclusive growth, and addressing regional disparities in both the services and manufacturing sectors remains paramount. Our study serves as a crucial step toward achieving this goal.

Keywords: Regional Growth Patterns, Compound Annual Growth Rate, Convergence, Divergence

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1. Introduction

India's economy is a dynamic blend of diverse sectors, each contributing uniquely to its growth. Among these, the services and manufacturing sectors stand out due to their substantial impact on GDP, employment, and investment. Understanding their regional patterns of growth is crucial for informed policymaking and sustainable development. The services sector encompasses a wide range of activities, including trade, hospitality, finance, real estate, and business services. It not only dominates India's GDP but also attracts foreign investment and provides significant employment opportunities. Meanwhile, the manufacturing sector contributes to industrialization, technological advancement, and export competitiveness. Together, these sectors shape India's economic landscape. India's economic landscape has witnessed significant transformations over the past few decades, with the services and manufacturing sectors playing significant roles. However, amidst this overall growth story, there exists a notable regional dimension that demands closer examination. Specifically, understanding whether these sectors demonstrate patterns of dispersal or concentration across different regions is critical for policymakers to address the problem of regional inequality of growth. Several studies have examined the regional growth patterns of services and manufacturing sectors. For instance, Barro and Sala-i-Martin (1992) explored the convergence of regional economies, while Krugman (1991) discussed the role of agglomeration and dispersion forces in shaping regional growth. The shift from manufacturing to services has been a major trend in advanced economies. Baumol (1967) theorized about the 'cost disease' of the service sector, which explains why productivity growth in services lags behind manufacturing. However, recent studies (Triplett and Bosworth, 2004) have challenged this view, arguing that the service sector can also achieve significant productivity gains. The debate on whether economic activity is becoming more dispersed or concentrated has been a central theme in regional economics. Fujita and Thisse (2002) provided a comprehensive review of theories on economic geography, highlighting the trade-off between agglomeration economies and dispersion forces. More recently, Duranton and Puga (2005) discussed the 'nursery cities' hypothesis, suggesting that cities can foster innovation and growth in new industries, which later disperse to other regions. Empirical studies on regional growth patterns have produced mixed results. Some studies (Combes and Overman, 2004) found evidence of increasing regional concentration, particularly in high-tech industries. However, other studies (Brühlhart and Sbergami, 2009) reported a trend towards more dispersion, especially in the service sector.

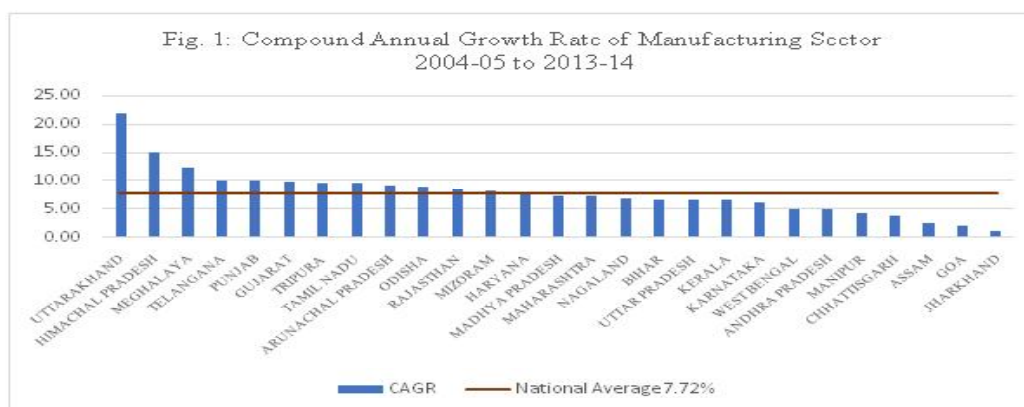
No study has addressed the regional growth of the services and manufacturing sectors in India during two periods: 2004-05 to 2013-14 during the United Progressive Alliance (UPA) government's tenure, and 2013-14 to 2021-22, under the National Democratic Alliance (NDA) government in India's union government. The objectives of this paper are twofold: first, to calculate the Compound Annual Growth Rate (CAGR) for India's services and manufacturing sectors over two distinct periods, period 1 (2004-05 to 2013-14) and period 2 (2013-14 to 2021-22) and second, to investigate whether growth in these sectors demonstrates dispersion or concentration across different regions of India.

2.Methodology

This study utilized data from the EPWRF Time Series Database to analyze the manufacturing and services sectors' growth across various states in India. The dataset includes the share of the manufacturing sector in the GSDP of different states and the share of the services sector in the GSDP, both measured at constant prices using the 2011-12 series. The period of study is divided into two parts. Period 1 is from the financial year 2004-05 to 2013-14 and period 2 is from the financial year 2014-15 to 2021-22. Data after 2021-22 are not available on the EPWRF Time Series database for a few states hence we had considered data only till 2021-22. Data for the second period from 2004-05 to 2011-12 were made comparable using splicing techniques. Compound annual growth rate techniques were then employed to compute the growth rates manufacturing sector and service sector of different states during both periods using Stata and MS Excel. Spatial analysis is employed to see the regional growth in different states of India to visualize whether growth in states that are above the national average in both sectors is regionally concentrated or dispersed. Maps are created by using the mapchart.net website using the calculated CAGR of different states. Subsequently, sigma convergence was applied to assess whether convergence or divergence occurred, followed using beta convergence (unconditional or absolute convergence) to analyze the convergence or divergence at the initial level of the service and manufacturing sectors across different states.

3.Results and Findings

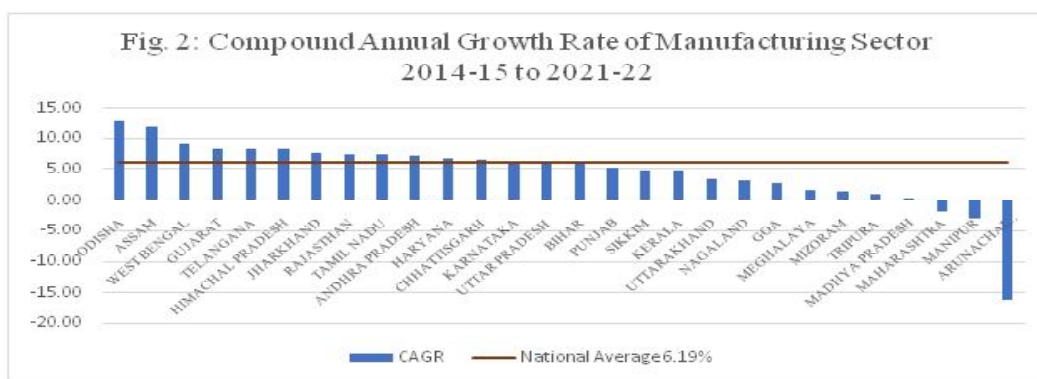
After visually examining Figure 1, it is evident that during the first period, Sikkim (not shown in Fig. 1) experienced the highest growth in the manufacturing sector with a Compound Annual Growth Rate (CAGR) of 65.58%, followed by Uttarakhand (21.78%) and Himachal Pradesh (15.01%). The national average was 7.72%. In contrast, Jharkhand experienced the lowest CAGR at 1.02% during the same period, followed by Goa (1.96%) and Assam (2.42%).



Note: Sikkim had a CAGR of 65.58%

Source: Author's Calculation

After visually examining Fig. 2, it is evident that in the second period, Odisha experienced the highest growth in the manufacturing sector with a CAGR of 12.81%, followed by Assam (11.84%) and West Bengal (9.27%). The national average was 6.19%. Conversely, Arunachal Pradesh experienced the lowest CAGR with a negative CAGR of -16.18% during the same period, followed by Manipur and Maharashtra, both with negative CAGRs of -2.95% and -1.79% respectively.



Source: Author’s Calculation

Based on Figure 3, it is evident that in the first period, the CAGR of the manufacturing sector exceeding the national average is primarily concentrated in the north-west region of India, with dispersed instances in southern states such as Odisha, Telangana, and Tamil Nadu, as well as in the North-eastern states of India, while in the second period (Fig. 4) CAGR of manufacturing sector exceeding national average is mainly concentrated in the northwestern region and east and south-east coastal states of India. In the northeastern part of India, Assam is the only state whose growth rate is above the national average in the second period.

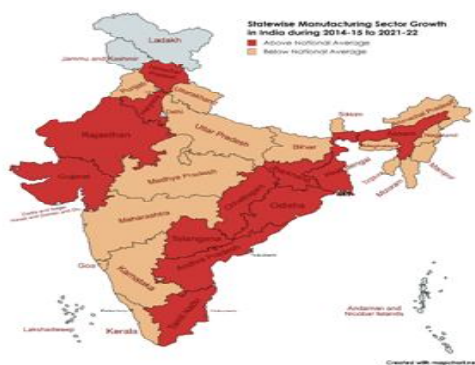


Fig.3.

Source: Author’s Calculation

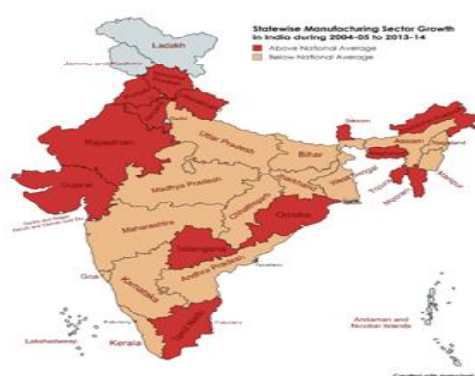


Fig.4.

Source: Author’s Calculation

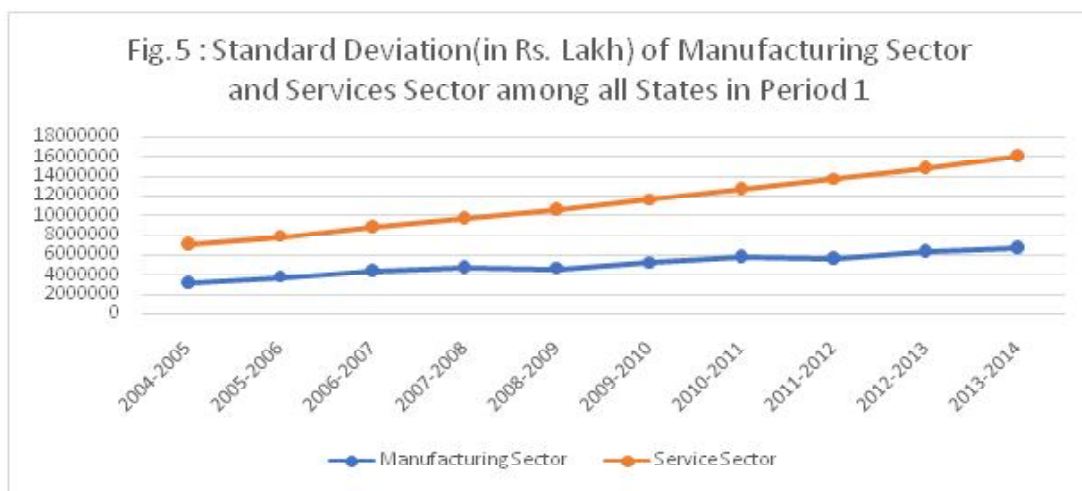
Fig.3 and Fig.4 only visualize the CAGR of states that are above the national average and below the national average but in Table 1 the performance of each state is shown with their ranking in both periods in the manufacturing sector. In the first period, the CAGR of the manufacturing sector of Sikkim was tremendously high and ranked 1st among all states but in the second period, it fell to 17th. Again, Jharkhand was at the lowest place with a CAGR of 1.02% in period 1 and jumped to 7th place with a CAGR of 7.68% in the 2nd period. Smaller States like Sikkim, Uttarakhand, Meghalaya, Arunachal Pradesh, Tripura, and Punjab performed well in the first period, but their performance fell in the second period.

Table 1. Ranking of States based on CAGR of Manufacturing Sector in Period 1 and Period 2

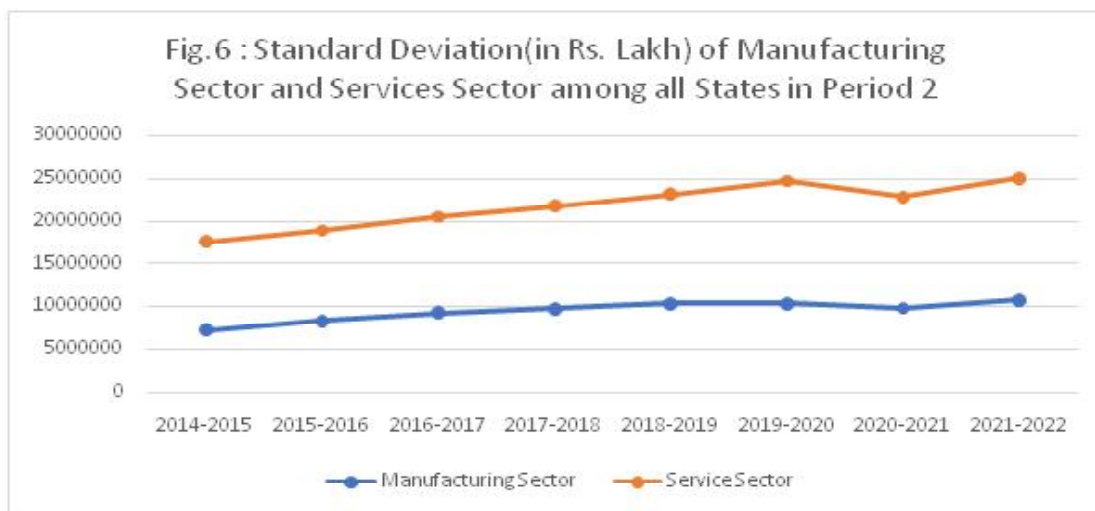
Sl. No.	STATE	Period 1	Ranking	Period 2	Ranking2
1.	Sikkim	65.58	1	4.85	17
2.	Uttarakhand	21.78	2	3.40	19
3.	Himachal Pradesh	15.01	3	8.36	6
4.	Meghalaya	12.35	4	1.76	22
5.	Telangana	10.03	5	8.45	5
6.	Punjab	9.90	6	5.15	16
7.	Gujarat	9.86	7	8.45	4
8.	Tripura	9.55	8	1.02	24
9.	Tamil Nadu	9.45	9	7.53	9
10.	Arunachal Pradesh	9.00	10	-16.18	28
11.	Odisha	8.79	11	12.81	1
12.	Rajasthan	8.36	12	7.54	8
13.	Mizoram	8.26	13	1.44	23
14.	Haryana	7.96	14	6.79	11
15.	Madhya Pradesh	7.37	15	0.46	25
16.	Maharashtra	7.19	16	-1.79	26
17.	Nagaland	6.85	17	3.34	20
18.	Bihar	6.69	18	5.86	15
19.	Uttar Pradesh	6.50	19	6.04	14
20.	Kerala	6.49	20	4.84	18
21.	Karnataka	6.22	21	6.18	13
22.	West Bengal	4.98	22	9.27	3
23.	Andhra Pradesh	4.98	23	7.15	10
24.	Manipur	4.29	24	-2.95	27
25.	Chhattisgarh	3.79	25	6.62	12
26.	Assam	2.42	26	11.84	2
27.	Goa	1.96	27	2.85	21
28.	Jharkhand	1.02	28	7.68	7

Source: Author's Calculation Note: CAGR of Period 1 and Period 2 are in percentage

Results of the sigma convergence of the manufacturing and service sector in Fig. 5 for period 1 and Fig. 6 for period 2 show that there is divergence among the states in both the periods and in both the sectors but in the service sector standard deviation among states in both the periods are increasing faster than the manufacturing sector over time. Sigma convergence or divergence shows that economic disparities between states are narrowing or widening over time. It helps the policymakers to understand the effectiveness of policies aimed at promoting balanced economic development across regions.



Source: Author's Calculation



Source: Author's Calculation

Table 2. Results of the unconditional $\hat{\alpha}$ -convergence in the Manufacturing Sector

Manufacturing Sector		
	Coefficient	P- Value
Period 1	-1.6682	(0.075)*
Period 2	1.3085	(0.005)***

Source: Author's Calculation Note: *significant at 10% ***significant at 1 %

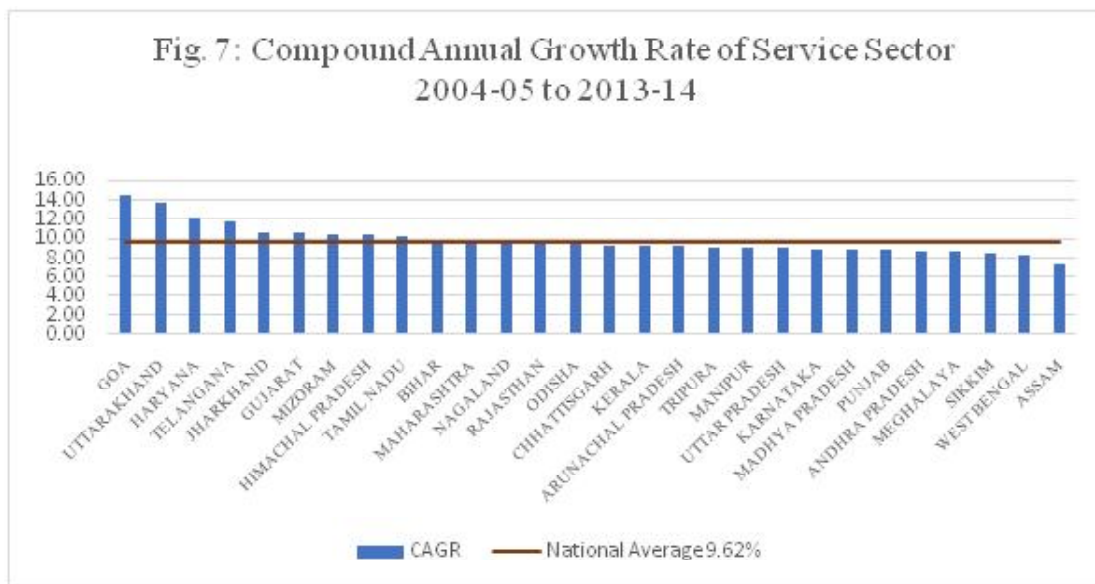
The above results of Table 2 indicate that in the first period value of the coefficient is negative and it is statistically significant which shows there is convergence among Indian states in the manufacturing sector which implies that states with initially lower levels of manufacturing output had experienced faster growth rates compared to states with higher initial level of manufacturing output. Whereas in the second period positive coefficient value shows divergence which implies that states with higher initial levels of manufacturing output grow faster and widen the gap between states over time.

Table 3. Results of the Unconditional $\hat{\alpha}$ -convergence in Service Sector

Service Sector		
	Coefficient	P- Value
Period 1	-0.1241	(0.526)
Period 2	-0.2608	(0.080)*

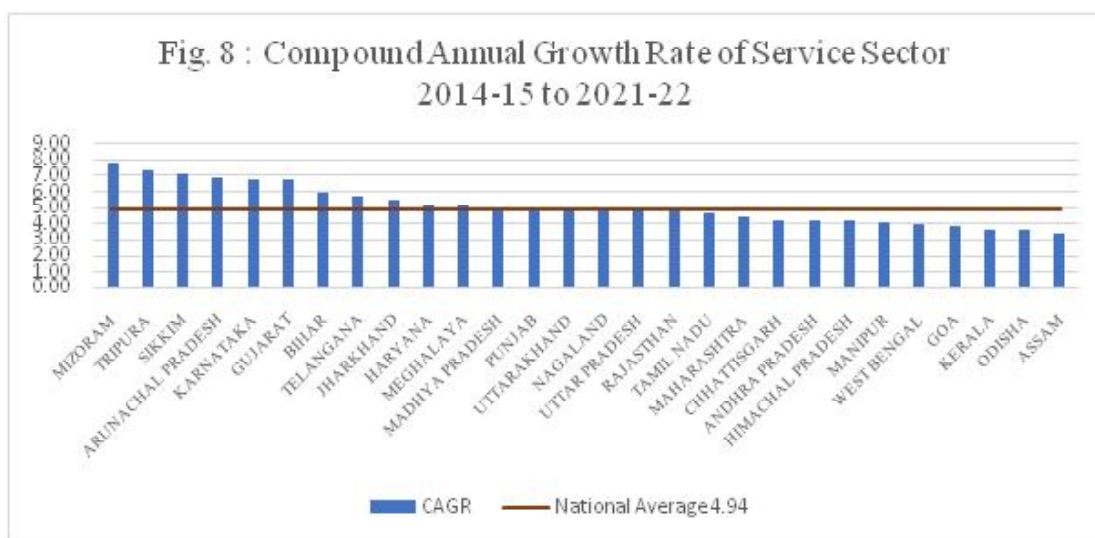
Source: Author's Calculation Note: *significant at 10% ***significant at 1 %

The above results of Table 3 show that in period 1, the coefficient value is not statistically significant which indicates that there is no clear pattern of convergence or divergence in service sector growth rate across states in this period. This is because in this period most of the states grew at a CAGR above 8% which is a good rate of growth in developing countries like India. Whereas in the second period coefficient value is negative and statistically significant hence there is convergence in this period.



Source: Author’s Calculation

Results of Fig. 7 show that states like Goa, Uttarakhand, and Haryana’s CAGR in the service sector is among the highest CAGRs in period 1 and in this period national average was 9.62% which is quite good for a developing country like India. It is visible that almost all the states are near the national average during this period.



Source: Author’s Calculation

The results of Fig. 6 show that the CAGR of the Service sector is highest in Mizoram followed by Tripura and Sikkim while Assam had the lowest CAGR in the Second period. At the same time, Assam secures the last place followed by Odisha and Kerala.

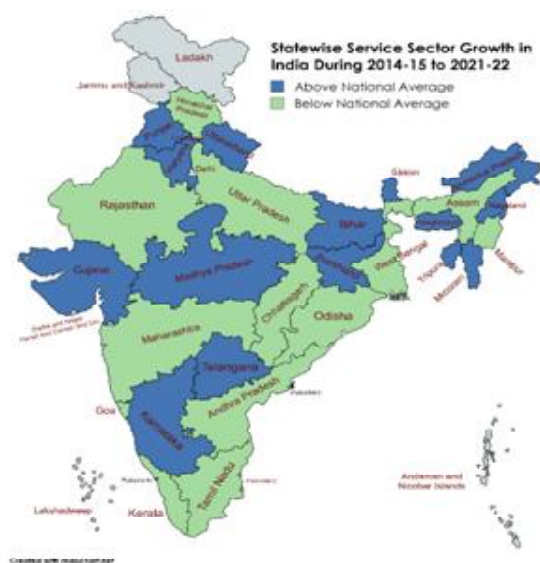


Fig. 9

Source: Author's Calculation



Fig. 10

Source: Author's Calculation

It is evident from Fig. 9 and Fig. 10 that growth in the service sector in states which is above the national average benchmark is more dispersed in period one than in period two. In period one although the national average was quite high was 9.62%, only 9 states out of 28 states had a CAGR above the national average. The states that had a CAGR above the national average didn't form major clusters. There were only two clusters in this period, one was Haryana, Himachal Pradesh, and Uttarakhand and the second was Bihar and Jharkhand. In period 2, 14 states out of 28 states had a CAGR above the national average. Major clusters in this period can be visible from Fig. 10 which had achieved a CAGR above the national average in north India (Punjab, Haryana, and Uttarakhand), in Western India (Gujarat and Madhya Pradesh), in South India (Karnataka and Telangana), in East India (Bihar and Jharkhand) and Northeast India except Assam and Manipur.

Table 4. Ranking of States based on CAGR of Service Sector in Period 1 and Period 2

Sl. No.	STATE	Period 1	Ranking	Period 2	Ranking
1.	Goa	14.40	1	3.90	25
2.	Uttarakhand	13.67	2	4.98	14
3.	Haryana	12.06	3	5.11	10
4.	Telangana	11.76	4	5.77	8
5.	Jharkhand	10.55	5	5.54	9
6.	Gujarat	10.53	6	6.74	6
7.	Mizoram	10.40	7	7.78	1
8.	Himachal Pradesh	10.37	8	4.15	22
9.	Tamil Nadu	10.23	9	4.73	18
10.	Bihar	9.83	10	5.91	7
11.	Maharashtra	9.59	11	4.45	19
12.	Nagaland	9.55	12	4.96	15
13.	Rajasthan	9.53	13	4.90	17
14.	Odisha	9.42	14	3.64	27
15.	Chhattisgarh	9.28	15	4.25	20
16.	Kerala	9.28	16	3.64	26
17.	Arunachal Pradesh	9.24	17	6.95	4
18.	Tripura	9.09	18	7.34	2
19.	Manipur	9.02	19	4.07	23
20.	Uttar Pradesh	9.01	20	4.93	16
21.	Karnataka	8.96	21	6.78	5
22.	Madhya Pradesh	8.95	22	5.05	12
23.	Punjab	8.93	23	5.03	13
24.	Andhra Pradesh	8.74	24	4.22	21
25.	Meghalaya	8.66	25	5.10	11
26.	Sikkim	8.57	26	7.14	3
27.	West Bengal	8.25	27	4.02	24
28.	Assam	7.34	28	3.40	28

Source: Author's Calculation Note: CAGR of Period 1 and Period 2 are in percentage

Table 4 shows the comparative analysis of CAGR in the service sector of all states of India with their rank in both periods. States like Goa and Uttarakhand performed well in the first period but in the second period, their ranks were 25 and 14 respectively. Sikkim was at 26th rank in the first period but it performed well in the second period with 3rd rank. The overall national average also falls from 9.62% in the first period to 4.94% in the second period.

4. Conclusion

In this research paper, the growth patterns of India's services and manufacturing sectors were examined over two distinct periods: 2004-05 to 2013-14 and 2013-14 to 2021-22. By analyzing Compound Annual Growth Rates (CAGR), visualizing spatial trends, and studying sigma convergence, several significant things emerged. During the initial period, the manufacturing sector thrived, particularly in states like Sikkim, Uttarakhand, and Himachal Pradesh, while others, such as Jharkhand, lagged. However, the second period witnessed a shift, with states like Odisha and Assam emerging as manufacturing leaders. Challenges persisted, as indicated by negative CAGRs in states like Arunachal Pradesh and Manipur in the second period. Spatially, growth remained concentrated in the north-western region, with some dispersion toward coastal areas in the latter period. The sigma convergence analysis highlighted economic disparities, especially in the manufacturing sector, while the service sector demonstrated convergence. Policymakers can incorporate these findings to foster inclusive and sustainable economic development across states, emphasizing the need for ongoing monitoring and adaptive policy responses.

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New Education Policy in India: Challenges and Opportunities

Krati Trivedi & Dr. Brijesh Chandra Tripathi

Abstract

The start of the 21st century prompted a revision of India's education policy to align with global socio-economic development. The NEP 2020 aims at universalizing quality education, promoting holistic development, restructuring school education, ensuring quality improvement, fostering research and innovation, and encouraging global engagement. Challenges include resistance from traditional institutions, lack of infrastructure, socio-economic disparities, and ensuring quality education for all. Overcoming these hurdles demands comprehensive efforts, including infrastructure development, teacher training, addressing socio-economic disparities, and promoting inclusive education practices, to realize the NEP's vision of a transformed and equitable education system in India.

The New Education Policy (NEP) in India presents various opportunities for transforming the education landscape. Emphasizing holistic education, it shifts focus from rote learning to inquiry-based, experiential learning, nurturing critical thinking and social-emotional skills. Multidisciplinary learning fosters innovation and problem-solving by integrating diverse subjects. Integration of technology enhances accessibility and engagement, while enhancing teacher training ensures quality instruction. Strengthening vocational education bridges the gap between education and employment, fostering economic growth and social mobility. These initiatives aim to create a well-rounded education system that empowers students to thrive in a rapidly changing world.

Keywords: *NEP-2020, Challenges, Opportunity, Goals.*

1. Introduction

The start of the 21st century has brought about a lot of new technological advances and social changes. One such change is the revision of the education policy. It is based on the fact that the existing education and the system of teacher education were designed in the age of social and political development, after the independence of the nation. The present day education and teacher education is steering us towards the social, economic and cultural

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development of the society, which is also often termed as globalization. So, it has become necessary to revise the teacher education and the education policies, so as to continue the endless process of education. Moreover, the new education policy of 1986 calls for a national curriculum framework, a national council for teacher education and the state councils of research and training. The review preparation of the national curriculum framework is initiated with the consultation of the state governments, union territories, NGOs, educationists, stakeholders and individuals. The teachers are constantly in the process of becoming and there is no ultimate destination of the teacher education. The latest teacher education curriculum designed by the National Council for Teacher Education (NCTE) in 2009 emphasizes on the outcome-based understanding and learning the experiences with the process of critical reflection on day-to-day experiences. It has also called for eliminating the redundancy in the field of teacher education, promoting the multidisciplinary nature of the field, and enhancing the field experiences. The 14 days of school internship and 10 days of other types of interactivities have been made an integral part of the teacher education program. However, its evaluation has been made a regular feature. Its feedback has to be initiated in the colleges of teacher education, so as to generate a sense of ownership among the teacher educators. But passion and intellect alone are not significant; only that knowledge comes to operate, which is real and relates to everyday life.

1.1 Background of the New Education Policy

At present, the country's education system is adopting the 10+2 pattern that was established by the Education Commission of 1964-66. This system is with higher and lower secondary education; higher secondary education that includes two years of schooling; and lower secondary education that contains classes 6 to 8. The twelve years that's mentioned in the 10+2 pattern has now been divided into 3 years in junior classes, 2 years in secondary classes and 2 years in higher secondary classes, 5 years in primary classes. The main idea behind the 10+2 pattern is not just to make a student study till higher secondary but to also mandate two years of pre-university studies in schools, a lot of which is effectively delivered in colleges. In these 2 years what is usually taught is not really important for higher education in most cases. This makes the 10+2 pattern outdated and many people have been asking for a change in the current pattern. Moreover, the first Prime Minister of India, Jawaharlal Nehru also made it clear after the independence of the country that a comprehensive new educational system is needed. He also showed in the parliament bills show in 22 September, 1961 that the Central Government has decided to appoint a commission which should inquire into and report on the education system and the aims of education of country and the means including finance through which these aims should be carried out.

1.2 Objectives of the New Education Policy

The National Education Policy (NEP) 2020 in India outlines several main objectives aimed at transforming the country's education system to meet the needs of the 21st century. Some of the key objectives of the NEP 2020 are:

1.2.1. Universalization of Education:

One of the primary goals of the NEP 2020 is to ensure universal access to quality education from early childhood to higher education, with a focus on inclusivity and equity. This includes efforts to increase enrollment rates, reduce dropout rates, and provide education to marginalized and disadvantaged groups.

1.2.2. Promotion of Holistic Development:

The NEP 2020 emphasizes the holistic development of learners, focusing on cognitive, social, emotional, and physical growth. The policy aims to move away from rote learning and examination-centric approaches, towards a more comprehensive and learner-centered education system that nurtures critical thinking, creativity, and ethical values.

1.2.3. Restructuring of School Education:

The NEP 2020 proposes significant reforms in school education, including the introduction of a new curricular framework, flexible learning pathways, and multidisciplinary approaches. The policy advocates for the integration of early childhood care and education, foundational literacy and numeracy, and vocational education into the mainstream schooling system.

1.2.4. Quality Improvement:

Enhancing the quality of education at all levels is a key objective of the NEP 2020. This involves measures to improve teacher training and professional development, upgrade educational infrastructure, and leverage technology for interactive and engaging learning experiences. The policy also emphasizes the importance of continuous assessment and feedback mechanisms to monitor and improve learning outcomes.

1.2.5. Promotion of Research and Innovation:

The NEP 2020 aims to foster a culture of research, innovation, and entrepreneurship in education, with a focus on interdisciplinary studies and collaborative problem-solving. The policy encourages institutions to prioritize research and innovation in their academic programs and provides support for initiatives that promote creativity and innovation among students and faculty.

1.2.6. Global Engagement:

Recognizing the importance of international collaboration and exchange in education, the NEP 2020 seeks to promote global engagement and partnerships with foreign institutions. This includes initiatives to attract foreign students and faculty, facilitate student and faculty mobility, and establish international campuses and collaborations.

Overall, the NEP 2020 envisions a comprehensive transformation of India's education system, with the aim of equipping learners with the knowledge, skills, and values needed to thrive in a rapidly changing world. Through its diverse objectives, the policy seeks to promote inclusivity, quality, relevance, and innovation in education, ultimately contributing to the nation's social, economic, and cultural development.

2. Challenges in Implementing the New Education Policy

2.1 Resistance from Traditional Educational Institutions

Traditional educational institutions may resist changes proposed by the New Education Policy due to entrenched practices and institutional inertia. Overcoming resistance requires effective communication, stakeholder engagement, and incentivizing innovation to ensure alignment with policy objectives. Resistance from traditional educational institutions in India presents a formidable obstacle to progress in the educational landscape. This challenge is multifaceted, stemming from various entrenched factors that impede innovation and improvement. One of the primary issues lies in the rigidity of the curriculum, which often adheres staunchly to traditional structures and leaves little room for adaptation or innovation. Moreover, the prevalent reliance on outdated teaching methods, such as rote learning, further exacerbates the problem by hindering the development of critical thinking skills and stifling creativity among students. By embracing these initiatives and staying abreast of emerging trends and technologies in education, traditional educational institutions in India can begin to break free from the shackles of resistance and chart a path toward meaningful reform and improvement.

2.2 Lack of Infrastructure and Resources

The lack of infrastructure and resources poses a significant obstacle to the effective implementation of the National Education Policy (NEP) 2020 in India. Firstly, inadequate infrastructure, including classrooms, laboratories, libraries, and digital infrastructure, undermines the quality of education delivery. Without proper facilities, it becomes challenging to create conducive learning environments and provide hands-on learning experiences, hindering the development of students' skills and competencies as outlined in the NEP. Insufficient funding allocated to education exacerbates these challenges, limiting investments in infrastructure development, teacher training, and educational technology adoption. Addressing these obstacles requires concerted efforts to invest in improving infrastructure, bridging the digital divide, enhancing teacher training and recruitment, and allocating adequate financial resources to support the ambitious goals outlined in the NEP 2020. Without addressing these fundamental challenges, the full potential of the NEP to transform India's education system and foster equitable access to quality education for all will remain unrealized.

2.3 Addressing Socio-economic Disparities

Socio-economic disparities present significant obstacles to the successful implementation of the National Education Policy (NEP) 2020 in India. Firstly, these disparities result in unequal access to quality education across different socio-economic strata. Students from disadvantaged backgrounds often face barriers such as lack of access to educational resources, inadequate infrastructure, and financial constraints, which limit their ability to fully engage with the educational system. As a result, they are at a disadvantage in terms of academic achievement and opportunities for higher education and career advancement. Moreover, efforts to enhance the quality of education and ensure inclusive learning environments are essential

to address the learning needs of diverse student populations. By addressing socio-economic disparities, the NEP 2020 can promote equity and social justice in education, ensuring that all students have equal opportunities to realize their full potential and contribute to the nation's development.

2.4 Ensuring Quality Education for All

Ensuring quality education for all is a formidable challenge that the National Education Policy (NEP) 2020 in India seeks to address. However, several significant obstacles stand in the way of achieving this ambitious goal. These obstacles range from systemic issues within the education system to broader socio-economic challenges that impact access to education and learning outcomes. Despite significant progress in expanding access to education in recent decades, India's education system still grapples with chronic underfunding and mismanagement, particularly in public schools serving disadvantaged populations. Furthermore, the shortage of qualified and competent teachers, especially in rural and remote areas, exacerbates this challenge, as does the prevalence of rote learning and outdated pedagogical approaches that fail to engage students and foster critical thinking skills.

The root causes of these issues are complex and interconnected, encompassing factors such as limited professional development opportunities for teachers, outdated teacher training curricula, and the absence of incentives to attract and retain talent in the teaching profession. Moreover, socio-economic disparities often play a role, with teachers in disadvantaged areas facing additional challenges such as low salaries, inadequate housing, and limited access to resources and support services. This may involve redesigning teacher training programs to incorporate modern pedagogical approaches, providing mentorship and support for novice teachers, and implementing performance-based incentives to reward excellence in teaching.

Furthermore, addressing the shortage of qualified teachers in rural and remote areas requires targeted interventions such as offering incentives for teachers to serve in underserved communities, providing housing and other amenities to attract talent, and leveraging technology to facilitate remote teaching and professional collaboration. These disparities manifest in various forms, including gaps in enrollment and retention rates, differential access to educational resources and opportunities, and disparities in learning outcomes and academic achievement.

The root causes of socio-economic disparities in education are deeply entrenched and intertwined with broader social and economic inequities in Indian society. Factors such as poverty, caste-based discrimination, gender inequality, and geographic isolation contribute to unequal access to education and exacerbate disparities in learning outcomes. By adopting a holistic approach that addresses the root causes of inequality and promotes inclusive development, India can create a more equitable and just education system that ensures quality education for all, irrespective of socio-economic background.

In conclusion, ensuring quality education for all in India is a complex and multifaceted challenge that requires concerted efforts across multiple fronts. From addressing infrastructure

deficits and improving teacher quality to tackling socio-economic disparities and promoting inclusive development, there are numerous obstacles that must be overcome to realize the vision of the NEP 2020. However, by prioritizing investment in education, fostering innovation and collaboration, and promoting equity and inclusion, India can create a vibrant and inclusive education system that empowers all students to reach their full potential and contribute to the nation's development and prosperity.

3. Opportunities Presented by the New Education Policy

3.1 Emphasis on Holistic Education

In the context of India, the emphasis on holistic education in the New Education Policy (NEP) represents a significant shift in educational philosophy and practice. Historically, the Indian education system has been criticized for its overemphasis on rote learning and exam-centric approaches, which prioritize memorization of facts and figures over the development of critical thinking, creativity, and other essential skills. By promoting a more holistic approach to education, the policy aims to create well-rounded individuals capable of navigating the complexities of the 21st century and contributing meaningfully to society.

One of the key aspects of holistic education outlined in the NEP is the shift away from rote learning towards a more inquiry-based and experiential learning model. This approach encourages students to actively engage with the learning process, asking questions, exploring concepts, and applying their knowledge in real-world contexts. This involves creating supportive and inclusive learning environments where students feel valued, respected, and empowered to express themselves. By nurturing social and emotional skills such as empathy, resilience, and self-awareness, holistic education equips students with the tools they need to build positive relationships, manage stress and adversity, and navigate the complexities of interpersonal dynamics.

Physical development is another crucial component of holistic education, encompassing aspects such as sports, physical fitness, and health education. Recognizing the link between physical well-being and academic performance, the NEP emphasizes the importance of incorporating physical activities into the school curriculum and promoting a culture of active living. Incorporating holistic education into the Indian education system requires a multifaceted approach that involves rethinking curriculum design, teaching methodologies, and assessment practices. This may involve revising existing curriculum frameworks to include a more diverse range of subjects and learning experiences, integrating experiential learning opportunities into the classroom, and adopting innovative teaching techniques that cater to different learning styles and abilities.

Parents play a vital role in supporting their children's holistic development, while community organizations and NGOs can provide valuable resources and support to schools in implementing holistic education initiatives.

Overall, the emphasis on holistic education in the NEP represents a positive step towards creating a more inclusive, equitable, and relevant education system in India. By nurturing all

aspects of students' development – cognitive, social, emotional, and physical – holistic education has the potential to empower young people to thrive in an increasingly complex and interconnected world, ultimately contributing to the nation's social, economic, and cultural development.

3.2 Promotion of Multidisciplinary Learning

The promotion of multidisciplinary learning represents a pivotal shift in educational paradigms, particularly in the context of India's evolving educational landscape. By encouraging students to explore diverse subjects and integrate knowledge from various disciplines, multidisciplinary learning nurtures a holistic understanding of complex issues and fosters interdisciplinary perspectives. Moreover, by engaging students in collaborative projects that require expertise from multiple fields, multidisciplinary learning promotes teamwork, communication skills, and empathy – essential qualities for success in the modern job market. By breaking down traditional barriers between academic disciplines and encouraging a synthesis of ideas and perspectives, multidisciplinary learning equips students with the skills and mindset needed to address the multifaceted challenges of the 21st century effectively. As India continues to position itself as a global leader in innovation and technology, the promotion of multidisciplinary learning is essential for nurturing a workforce that is not only technically proficient but also adaptable, creative, and capable of driving meaningful change in society.

3.3 Integration of Technology in Education

The integration of technology in education represents a transformative shift in the way knowledge is imparted and acquired, particularly in the context of India's diverse and rapidly evolving educational landscape. By harnessing the power of digital tools, online platforms, and educational technologies, educators can create dynamic and interactive learning environments that cater to the diverse needs and preferences of students. By leveraging digital technologies, educators can facilitate personalized learning pathways that empower students to take ownership of their learning journey and pursue their interests and passions. Moreover, it is essential to address issues of digital literacy, accessibility, and equity to ensure that all students can benefit from technology-enabled learning experiences. Despite these challenges, the integration of technology holds tremendous potential to revolutionize education in India, fostering a culture of lifelong learning and empowering students to thrive in an increasingly interconnected and technologically-driven world.

3.4 Enhancing Teacher Training and Professional Development

In the context of India, enhancing teacher training and professional development is crucial for improving the quality of education and ensuring that students receive high-quality instruction that meets their diverse learning needs. Historically, the Indian education system has faced challenges related to teacher quality, including a shortage of qualified educators, uneven distribution of teaching talent, and gaps in pedagogical skills and instructional practices. The New Education Policy (NEP) recognizes the pivotal role of teachers in shaping the future of education and prioritizes investments in teacher training and professional development as a key strategy for educational reform. Investing in comprehensive teacher training programs is

essential to equip educators with the knowledge, skills, and competencies needed to excel in their roles. This includes training in pedagogical techniques, subject-specific content knowledge, classroom management strategies, and the use of educational technology. Moreover, mentoring initiatives play a crucial role in supporting novice teachers as they navigate the complexities of the profession, providing guidance, feedback, and professional support to help them develop their teaching practice.

3.5 Strengthening Vocational Education

Strengthening vocational education is a critical aspect of India's education reform efforts, aligning with the country's goals of promoting economic growth, reducing unemployment, and fostering social mobility. Vocational education equips students with practical skills and competencies that are directly relevant to industry needs, preparing them for the demands of the modern workforce. By integrating vocational education into mainstream curriculum offerings, the policy aims to provide students with a well-rounded education that combines academic learning with hands-on training in vocational fields such as manufacturing, construction, healthcare, hospitality, and information technology. This approach not only enhances students' employability and career prospects but also addresses the skills gap between education and employment, ensuring that graduates are better prepared to meet the needs of the labor market. Ultimately, by bridging the gap between education and employment, strengthening vocational education holds the key to unlocking opportunities for inclusive growth and prosperity for all segments of society.

4. Achievements of NEP-2020

The NEP 2020 strongly advocates for a significant rise in both Central government and State Governments' investment in education, aiming to achieve a 6% GDP allocation. Additionally, it emphasizes the need for revitalizing and actively promoting private philanthropic involvement in the education sector. Regarding the Ministry of Education, there has been a notable increase in budget allocation from Rs. 99,311.52 crore in 2020-21 to Rs. 1,12,899.47 crore in 2023-24, marking a 13.68% surge. Analysis of budgeted education expenditure from 2018-19 to 2020-21 reveals a growing trend, with expenditure reaching 4.64% of GDP in 2020-21.

5. Conclusion

The objectives of the National Education Policy (NEP) 2020 in India is to overhaul the education system to align with the demands of the 21st century, with a focus on ensuring widespread accessibility, fostering all-round development of students, enhancing quality, and fostering global participation. Challenges encompass resistance from conventional institutions, inadequate infrastructure, and socio-economic inequalities. Nonetheless, the NEP-2020 offers avenues such as advocating holistic education, encouraging multidisciplinary learning are incorporating technology, refining teacher training and bolstering vocational education. These endeavors aspire to establish a comprehensive, fair, and forward-thinking educational framework

that equips students to succeed in a swiftly evolving environment and finally evaluate significant achievements made after the announcement of NEP 2020 for the past three years.

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Recent Trends of Employment Pattern in Informal Sector in India

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Abstract

India is a developing nation where employment in the formal sector is much sought after. Nevertheless, the formal sector cannot employ everyone in the current situation. There has been a gradual decline the share of formal sector workers with social and economic security benefits. Nonetheless, India stands out among low- and middle-income nations in this aspect, with over 90% of the workforce overall—defined as those without social insurance—and 85% of the non-agricultural population being informal. Despite being one of the world's largest economies with the quickest rate of growth, India's rate of informality has stagnated for many years (Mehrotra, 2019). The paper attempts to examine recent trends of employment in Informal sector along with their social security coverage in India. This paper also focuses on examining the trends of casualisation of workforce and how it gets affected by various socio-economic factors. This paper will use the data extracted from NSSO and PLFS unit level data for the time period of 2011-12 to 2022-23. This study will also attempt to examine dependence of casualisation of workforce on different variables like Education, Skills and Workplace. It has been largely seen that share of casual workforce has been increased with a rapid pace in India. This paper, therefore, provides suggestions and measures regarding the employment pattern and livelihood securities for the labours working in the informal sector.

Keywords: *Casualisation, Social security, Informalisation*

Introduction

The 15th International Conference of Labour Statisticians (ICLS) defined employment in the informal sector as all jobs in informal sector enterprises or all individuals who, regardless of their employment status and whether it was their primary or secondary job, were employed in at least one informal sector enterprise during a given reference period (Hussmanns, 2004).

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The 15th ICLS defined informal sector enterprises as privately held, unincorporated businesses (apart from quasi-corporations), that is, businesses owned by people or households that aren't set up as distinct legal entities apart from their owners, and for which there aren't any complete accounting records that would allow the production activities of the business to be financially separated from the other business ventures of its owners (International Labour Office, 2000).

India has a large workforce and economic impact from informal employment, which has a substantial social impact. Recent trend in employment pattern shows there has been a continuing informal economy in India, but there have also been increasing positive advances in the informal sector. Even with recent improvements in rural incomes and poverty rates, there are still obstacles to inclusive growth and equal distribution of economic gains due to the continuation of informality. Informal employment has a variety of long-term repercussions on Indian society.

The high prevalence of informal workers, especially self-employed and casual workers, limits access to social security benefits, stable employment contracts, and fair wages for a significant portion of the workforce. Informal employment in India has implications for the education of workers and health status with various other effects on the workforce. While traditional notions associate informal workers with low education levels, recent trends challenge this perception.

Review of Literature

Kazi and Havinga (1987) have made an attempt to give the insight on the skill development and its effect on employment in the informal sector of the urban area. Urban migration has been the root cause for this increment in informalisation. It has been found that people with lower socio-economic background prefer to enhance their skills rather than attaining higher education.

Galloway and Bernasek (2002) have investigated the labour force participation decision of married males and females of Indonesia. This paper attempts to define certain variables that have different effect on the decision to work in informal sector. By using Multi-Nominal Logit model, they have found that in case of women, education and family responsibilities are the prime factors determining the decision to work and to decide the sector of employment.

Dan Gallin (2004) has highlighted the issues regarding the informalisation of the economy. It has been found that the share of women is higher in the informal sector as compared to the males. The paper focuses on the need of protecting those who are not protected rather than formalising the informal because with the time the share of informal sector is continuously increasing.

Sakthivel and Joddar (2006) have analysed the employment status in the both formal and informal sector of economy with the organisation and industry wise contribution and its growth by using four quinquennial employment-unemployment schedule of NSS. From direct

and residual approach, it has been found that the share of unorganised sector is rapidly increasing throughout the study period having the share of almost 90 percent. The study has found that moving up the income ladder share of informal sector declines.

Gerxhani and Werfhorst(2013) explained the factors responsible for making decision for participation in the labour market for the urban females and males. This paper has used logistic regression in their analysis. It has been found that education has significantly negative impact on likelihood to participate in informal sector whereas Tax immorality plays significant role in participation in informal sector.

Objectives of this paper

The objective of this chapter is to examine recent trends of employment in Informal sector along with their social security coverage in India. This study also attempts to examine how casualisation of workforce gets affected by various socio-economic factors like Sector, Religion, Caste, Education, Skills, Age and Household size.

Data and Methodology

This study is based on data extracted from unit level data of Periodic Labour Force Survey and National Sample Survey Office (NSSO). The data has been extracted from 68th round NSSO unit level data for the time period of 2011-12 and PLFS round surveys for the time period of 2017-18 to 2022-23 to capture the casualisation of workforce. The data between 2012-13 to 2016-17 has not been taken due to unavailability of data. To estimate employment pattern of informal workers, they have been divided into three types, namely, Self-employed, Regular and Casual workers.

Variable Selections

To estimate the Comparison of workforce among different section of workforce on basis of various socio-economic factors, they have been categorised as Self-employed, Regular and Casual workers. A regression model is constructed to establish the cause-effect relationship between different variables. The variable 'Casualisation of workforce' is considered a dependent variable and is already given in NSS data which has been converted into binary—hence they are coded as 1 (Yes) and 0 (No) respectively. Further, various socio-economic factors have been considered as independent variables and treated as binary for analysis. The variable 'gender of work force' has two outcomes—men and women that are coded as 1 and 0 respectively. Apart from them, few controlling variables like 'sector (rural/urban)', 'household size', 'religion', 'age', 'education level', 'Skills', 'Social Group' are taken and they are categorized and coded as found appropriate.

Since the dependent variable i.e. 'Casualisation of Workforce' has a binary outcome (1 and 0), we use logistic regression and the model is as follows:

$$Y (\text{Casual Workers}) = \alpha + \beta_{\text{Sector}} + \beta_{\text{Education}} + \beta_{\text{Skills}} + \beta_{\text{Religion}} + \beta_{\text{Gender}} + \beta_{\text{Household Size}} + \epsilon$$

Table-1: Trends of Employment pattern among Formal and Informal Sector (in %)

Year	Formal	Informal
2011-12	19.26	80.74
2017-18	21.88	78.12
2018-19	22.72	77.28
2019-20	21.43	78.57
2020-21	19.48	80.52
2021-22	15.94	84.06
2022-23	18.98	81.02

Source: Author's estimation based on NSSO and PLFS unit level data, various rounds

Table-1 depicts about the size of workforce in the two segments of labour market, namely, Formal and Informal Sector. The trend shows fluctuations which has been observed due to effect of Covid-19 pandemic. Before the economy got hit by pandemic in 2020, share of formal workers were increasing and that of the informal sector were decreasing simultaneously. But during Covid-19 period, the share of formal workers reduced and informal workers started to increase due to lockdown, jobs layoffs and inter-state migration (Pandey and Bandyopadhyay, 2021). People were forced to work as informal workers during that time. As the economy started to recover, the share of formal sector has again started to increase and informal has reduced in 2022-23.

Table-2: Categorisation of workforce among Formal and Informal sector (in %)

Year	Type	Self-employed	Regular	Casual
2011-12	Formal	12.44	83.44	4.12
	Informal	60.57	3.80	35.63
2017-18	Formal	13.51	80.09	6.40
	Informal	64.57	5.63	29.80
2018-19	Formal	13.01	81.35	5.63
	Informal	64.12	6.34	29.53
2019-20	Formal	14.07	78.90	7.03
	Informal	65.02	6.88	28.10
2020-21	Formal	15.48	78.91	5.91
	Informal	65.33	6.74	27.92
2021-22	Formal	16.81	77.96	5.22
	Informal	67.97	7.27	24.76
2022-23	Formal	12.49	79.73	8.33
	Informal	64.93	7.72	27.36

Source: Author's estimation based on NSSO and PLFS unit level data, various rounds

Table 2 mentions about the bifurcation of formal and informal sectors into three parts, namely, Self-Employed, Regular and Casual workers. From table 2, it can be seen that within the formal sector, size of self-employed work force has remained stagnant with almost 13 percent and the size of regular or salaried workers has decreased from 83.44 percent in 2011-12 to 79.73 percent in 2022-23, while the percentage of casual workers has increased from 4.12 percent to 8.33 percent in the formal segment of the labour market. In case of informal segment there are certain fluctuations in the size of self-employed workers and the size of casual workers has seen a decline from 35.63 percent in 2011-12 to 27.36 percent in 2022-23. The share of regular and casual worker in informal sector has observed two-fold increment in it throughout the study period (Das, 2023).

Table-3: Coverage of Social Security among different categories of workforce

Year	Self-Employed	Regular/Salaried	Casual
2011-12	8.49	82.41	9.09
2017-18	11.26	74.26	14.48
2018-19	10.63	77.40	11.97
2019-20	10.38	79.77	9.85
2020-21	11.62	79.53	8.85
2021-22	14.29	80.02	5.68
2022-23	11.09	84.73	4.18

Source: Author's estimation based on NSSO and PLFS unit level data, various rounds

Table-3 shows share of social security coverage among different categories of workers. Regular workers hold the maximum share in terms of social security coverage. It shows that share of casual workers has been decreasing and share of regular workers have been increasing continuously throughout the period. The share of self-employed workers remains stagnant.

Table-4: Comparison of workforce on basis of various socio-economic factors

Socio-economic		2011-12			2022-23		
		Self-Employed	Regular	Casual	Self-Employed	Regular	Casual
Sector	Rural	54.83	9.32	35.85	58.92	15.51	25.57
	Urban	42.10	43.25	14.65	37.89	44.89	17.23
Household Size	0-5	46.55	21.27	32.18	50.53	26.02	23.46
	6-10	58.65	14.35	26.99	60.70	15.30	24.01
	11 and above	76.38	10.06	13.55	66.17	7.85	25.97
Gender	Male	52.19	19.35	28.46	52.38	18.62	29.00
	Female	48.11	16.71	35.18	53.88	23.60	22.52
Social Group	ST	52.32	9.69	37.99	53.39	17.10	29.51
	SC	35.11	16.84	48.04	40.95	23.20	35.84
	OBC	54.67	16.57	28.76	57.67	23.35	18.98
	General	56.75	26.96	16.30	55.84	29.77	14.39
Religion	Hindu	50.80	18.79	30.41	51.63	20.29	28.08
	Muslim	55.27	15.97	28.76	53.54	16.96	29.50
	Others	49.90	25.14	24.96	48.91	29.02	22.07
Education	Illiterate	49.31	6.90	43.79	53.67	1.68	44.65
	Upto Primary	50.82	11.79	37.39	49.82	16.22	33.96
	Higher Secondary	55.74	23.43	20.82	56.59	25.66	17.75
	Higher Education	41.00	55.80	3.19	41.40	56.02	2.58
Age	18-45	49.35	19.96	30.69	50.62	15.63	33.74
	46-60	53.57	18.99	27.44	57.58	23.66	18.76
	60 & above	67.57	7.63	24.79	68.80	15.08	16.12

Source: Author's estimation based on NSSO and PLFS unit level data

The comparative analysis of workforce between 2011-12 and 2022-23 on the basis of various socio-economics factors can be seen through Table-4. It can be seen that in rural areas, the share of casual workers has decreased to 25.57% whereas other two type of workers have experienced growth. In case of Urban, the share of self employed have reduced and regulars have experienced stagnant share while there is significant increase in share of casual workers. In case of Household size, it can be seen that higher will be the size, higher will be the share among casualworkers. The share of self-employed and regular among females have increased whereas it has decreased in casual category. In case of males, the share of casual workers has increased to 29% and reduced in regular category. It can be seen from the table that the share of regular worker and self-employed has increased among all

social groups. Among all religion, the share of regular workers has increased whereas in Muslims, the share of casual workers has increased and self-employment have reduced. While considering education, among illiterates, the share of casual and self-employment has increased and regular employment has decreased from 6.9 to 1.68% simultaneously. In case of higher education, the share of regular employment has increased while casual workers have decreased from 3.19 to 2.58%. The share of self-employed have increased in all age groups. Among the different age criteria, the share of casual workers in 18-45 age have increased and decreased in others age group. This is due to various recent phenomena like contratualisation of jobs in formal sector, prevalence of freelancing, Gig economy and others which further pushed worker to opt to work as informal worker (Singh, 2023)(Aayog, 2022).

Logistic Regression

Table-5: Association of various socio-economic factors with Casualisation of workforce

Casualisation	Coefficient	Odd Ratio	P> z
Sector (Ref: Rural)	0.7364492	2.0885	0.000
Education (Ref: Higher)	-2.269837	0.10339	0.000
Skills (Ref: Higher)	-1.454834	0.233439	0.000
Religion (Ref: Hinduism)	0.1264249	1.134764	0.000
Gender (Ref: Female)	-0.411295	0.9597049	0.000
Household size	-0.0978891	1.9067495	0.000
Constant	-0.9838656	0.3738631	0.000

Source: Author's estimation based on PLFS unit level data (2022-23)

The Logistic Regression analysis done for the year 2022-23, where the "casualisation of workforce" is taken as the dependent variable and other socio-economic factors such as sector, education, skills, religion, gender and household size are treated as independent variables. The result shows that person living in rural area is 2.08 times more likely to be casual workers than person living in urban area. The person having higher education is 0.10 times less likely to be the part of casual workforce than others. The results depicts that the variable "skills" is also significant as people having higher skills have 0.23 times less chance of being a casual worker than the people with no skills or lesser skills. It can also be seen that religion plays a crucial role in the participation of workforce segments as the result shows that Hindu population is 1.13 times more likely to be a part of casual workforce. In case of gender wise analysis, it can be seen that females are 0.95 times less likely of being a casual worker than males.

Conclusion

In this study, the attempt has been made to identify recent trends of employment pattern among formal and informal sector and it has been found that share of formal sector has declined due to impact of Covid-19 pandemic. While discussing about categorisation of workforce, it has been found that share of regular workers in formal sector is decreasing and share of casual workers in formal sector is increasing rapidly. The result related to social security coverage shows there is decline in share of coverage among casual workers and increment among regular workers has been observed over the period of time.

This study also tries to make Comparison of different categories of workers between 2011-12 and 2022-23 based on various socio-economic indicators and found that even though share is maximum in rural areas but casualisation has increased in urban areas. The family having more than 10 members are opting to work as casual workers and their share has increased over the period of time. In case of social groups, the SC community's share is highest among casual workers followed by ST, OBC and General. Among Religions, the share of casual workers has increased in Muslims. The share of regular workers has decreased and casual and self-employment has increased in case of illiterates. It has also been found that casual workers share has increased among 18-45 years persons. In the logistic regression analysis, it has been found that person living in rural area having less education and less skills living in Hindu joint family is likely to be casual worker. It is thus important to impart adequate education and skills among workforce in rural areas to reduce the size of informal workers. This should also be accompanied by adequate credit and market support for self-employed workers, along with infrastructural support programme.

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A Study to Explore Factors Influencing Effective Learning with Information and Communication Technology (ICT) Tools

Kabita Kumari Chaturvedi, Dr. Charu Bisaria and Dr. Prabhat Kumar Dwivedi

Abstract:

In today's digitally driven educational landscape, understanding the factors that influence effective learning with Information and Communication Technology (ICT) is paramount. This study delves into this multifaceted realm to uncover pivotal factors shaping the efficacy of ICT-mediated learning experiences. Through a comprehensive literature review and empirical investigation, the research examines the interplay of diverse factors, including technological usability, learner characteristics, instructional design, and environmental contexts. By employing a mixed-methods approach involving surveys, interviews, and observational analyses, the study seeks to provide insights into the nuanced dynamics within ICT-enhanced learning environments. The findings shed light on the critical role of technological usability in facilitating learner engagement and satisfaction, as well as the significance of learner characteristics, such as digital literacy skills and prior knowledge, in shaping learning outcomes. Moreover, the study underscores the importance of effective instructional design principles, such as interactivity, scaffolding, and alignment with learning objectives, in fostering deeper understanding and knowledge retention. Environmental factors, including access to technology, teacher support, and institutional policies, emerge as key determinants influencing learners' experiences and outcomes in ICT-mediated environments. The implications of the findings extend to educational practitioners, policymakers, and technologists, offering valuable insights for optimizing ICT integration strategies and fostering enriched learning environments in the digital age.

Keywords: *Information and Communication Technology (ICT), effective learning, technological usability, instructional design, learner characteristics, environmental contexts.*

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Introduction

In recent years, Information and Communication Technology (ICT) has revolutionized education, offering personalized learning, interactive experiences, and vast resources. Understanding how to leverage ICT effectively is crucial for educators, policymakers, and researchers to address modern educational needs and challenges. Investigating factors influencing effective ICT-mediated learning provides insights for optimizing instructional strategies and technology integration, addressing equity concerns, and preparing students for the digital workforce. Despite widespread adoption, there's a gap in understanding ICT's impact on learning outcomes, highlighting the need to identify factors facilitating or hindering effective ICT-based learning. Closing this gap is essential for unlocking ICT's full potential in education.

Key issues in investigating effective learning with ICT include technological usability, learner characteristics, instructional design, and environmental contexts. Challenges such as user-friendliness, diverse learner needs, activity design, and learning environments influence ICT's impact on education. Addressing these issues necessitates understanding the interplay of technological, pedagogical, and contextual factors. By doing so, educators and policymakers can develop evidence-based strategies to optimize ICT's potential and promote equitable learning outcomes for all students.

Objectives of the Study:

1. Investigate factors influencing effective learning outcomes with ICT in education.
2. Examine the impact of technological usability on student interactions with ICT tools.
3. Explore how learner characteristics affect the effectiveness of ICT-mediated learning.
4. Assess the influence of instructional design principles on learning outcomes in ICT environments.

Literature Review

Effective learning with ICT involves integrating digital tools, platforms, and resources into education to enhance engagement, personalize learning, facilitate collaboration, expand access to education, enrich resources, develop digital literacy, foster 21st-century skills, and improve educational outcomes. ICT offers multimedia resources, adaptive technologies, collaborative tools, and distance learning opportunities, preparing students for success in the digital age. By leveraging ICT strategically, educators can transform teaching and learning practices, benefiting learners of diverse backgrounds and needs, and ultimately shaping a more inclusive and effective educational landscape.

Technological usability, explored by García-Peñalvo et al. (2018) and Al-Senaidi et al. (2009), underscores the importance of user-friendly interfaces and intuitive design in enhancing learners' engagement and satisfaction with ICT tools. Learner characteristics, including digital literacy skills, prior knowledge, and learning styles, significantly impact proficiency in navigating

ICT environments (Fraillon et al., 2019; Teo, 2011), emphasizing the need for tailored instructional approaches (Hwang & Wu, 2012).

Effective instructional design, as highlighted by Mayer (2014) and Kirschner et al. (2018), is crucial for promoting engagement and knowledge retention through strategies like multimedia learning and scaffolding. Alignment with pedagogical goals is essential (Boyle et al., 2014). Environmental contexts, including access to technology and institutional support, affect equitable participation and successful ICT integration (Warschauer, 2003; Ertmer et al., 2012; Selwyn, 2011).

Understanding these factors is vital for designing evidence-based interventions to enrich ICT-mediated learning experiences. Despite existing research, gaps persist. Future studies could focus on the nuanced interplay of these factors and explore emerging issues like the impact of emerging technologies and the evolving role of educators in ICT integration. Additionally, investigating effective strategies for addressing the digital divide and enhancing institutional support could further advance our understanding and practice in leveraging ICT for enriched learning outcomes.

Vygotsky's Zone of Proximal Development (ZPD) highlights the gap between independent and guided learning, informing ICT instructional design with scaffolding. Socio-constructivism underscores social interaction's role in knowledge construction, suggesting ICT facilitates peer collaboration, enhancing engagement and comprehension

By adopting a socio-constructivist perspective, the study aims to explore how learners collaboratively construct knowledge and meaning within ICT-mediated learning environments. It seeks to investigate the role of social interaction, collaborative problem-solving, and authentic learning experiences in shaping effective learning outcomes with ICT. Additionally, the study aims to identify instructional strategies and design principles informed by socio-constructivist principles to optimize ICT integration and promote enriched learning experiences for all learners.

The conceptual framework for effective learning with ICT outlines four interconnected components: Technological Usability, Learner Characteristics, Instructional Design, and Environmental Contexts. Technological Usability, encompassing ease of use and accessibility, influences learners' engagement. Learner Characteristics, such as digital literacy and learning styles, shape how learners interact with ICT. Instructional Design, including interactivity and alignment with objectives, impacts engagement and comprehension.

Research Methodology

- The research design employs a mixed-methods approach to comprehensively understand factors affecting effective learning with ICT. Combining qualitative and quantitative methods allows for in-depth exploration and statistical analysis, enhancing validity through triangulation. This approach addresses multifaceted research questions, providing practical insights for educators and policymakers. The study targets learners across

various educational levels and employs stratified and cluster sampling techniques to ensure representation. Sample size determination considers statistical power and practical constraints. Inclusion criteria encompass learners enrolled in ICT-integrated programs, with proficiency in technology use.

Presentation of Findings Related to Factors Influencing Effective Learning with ICT:

Technological Usability:

- Findings indicate that the usability of ICT tools and platforms significantly influences learners' engagement and satisfaction with technology-mediated learning.
- User-friendly interfaces, intuitive navigation, and responsive design are associated with higher levels of learner acceptance and usage of ICT resources.
- Challenges related to technological usability, such as technical glitches, complex interfaces, and limited accessibility, hinder learners' ability to effectively interact with ICT tools and impede learning outcomes.

Learner Characteristics:

- Learners' digital literacy skills, prior knowledge, and learning styles play a crucial role in shaping their experiences and outcomes in ICT-mediated learning environments.
- High levels of digital literacy are associated with greater confidence in using ICT tools, independent exploration of digital resources, and deeper engagement in learning activities.
- Variations in learners' prior knowledge and cognitive abilities influence their readiness to navigate complex digital content, adapt to new technologies, and achieve learning objectives within ICT-enhanced curricula.

Instructional Design:

- Effective instructional design principles, including interactivity, scaffolding, feedback, and alignment with learning objectives, are key determinants of learning outcomes in ICT-mediated environments.
- Learning materials and activities that incorporate interactive features, provide scaffolded support, offer timely feedback, and promote active engagement facilitate deeper understanding and knowledge retention.
- Poorly designed learning materials, lack of interactivity, and misalignment with instructional goals detract from the effectiveness of ICT-enhanced instruction and hinder learners' progress.

Environmental Contexts:

- Environmental factors, such as access to technology, teacher support, institutional policies, and socio-cultural influences, exert significant influence on learners' experiences and outcomes in ICT-mediated learning environments.
- Disparities in access to technology, including differences in device availability, internet connectivity, and digital resources, contribute to inequalities in learning opportunities and outcomes.
- Supportive institutional policies, teacher training initiatives, and collaborative learning cultures foster a conducive environment for effective ICT integration and promote equitable access to high-quality education.

Interplay of Factors:

- The findings highlight the interplay and interconnectedness of factors influencing effective learning with ICT. For example, technological usability affects learners' interactions with digital resources, which, in turn, are mediated by individual characteristics and instructional design features.
- Learners' digital literacy skills and prior knowledge moderate the effects of instructional design strategies, while environmental contexts shape the implementation and effectiveness of ICT initiatives.

Findings**1. Technological Usability:**

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1. Technological Usability:

Table 1: Participants' Ratings of Technological Usability

ICT Tool/Platform	Usability Rating (1-5)	Comments
Learning Management System (LMS)	4.2	"Easy to navigate, but slow loading times."
Educational Software	4.6	"Intuitive interface, helpful tutorials."
Online Collaboration Tools	3.8	"Difficult to find features, limited functionality."

Figure 1: Distribution of Participants' Ratings of Technological Usability

Figure 1: Distribution of participants' ratings of technological usability on a scale of 1 to 5.

2. Learner Characteristics:

Quote: "I find that my ability to use technology affects how well I can learn online. When the interface is confusing or the instructions are unclear, it takes me longer to understand the material." - Participant #123

3. Instructional Design:

Table 2: Effectiveness of Instructional Design Strategies

Instructional Strategy	Effectiveness Rating (1-10)	Key Findings
Interactive Multimedia	8.5	"Engaging visuals and interactive elements enhance learning experience."
Scaffolding	7.2	"Guided support helps learners progress through complex topics."
Timely Feedback	9.0	"Immediate feedback promotes reflection and self-correction."

Figure 2: Participants' Perceptions of Instructional Design Strategies

Figure 2: Participants’ perceptions of the effectiveness of instructional design strategies.

4. Environmental Contexts:

Table 3: Access to Technology by Demographic Characteristics

Demographic Characteristic	Access to Personal Devices (%)	Internet Connectivity (%)
Age Group (12-18)	78.5	85.2
Socioeconomic Status	62.3	73.8
Urban vs. Rural Location	81.7 vs. 67.4	88.9 vs. 72.3

Quote: “In my school, we have limited access to computers, and the internet connection is often slow. It’s frustrating when I can’t complete my assignments online because the network keeps crashing.” - Participant #456

Integrating tables, figures, and quotes provides visual and textual support for presenting the findings related to technological usability, learner characteristics, instructional design, and environmental contexts, enhancing the clarity and depth of the presentation.

Interpretation of Findings in Light of Research Objectives and Theoretical Framework:

1. Technological Usability:

- The findings highlight the importance of technological usability in facilitating effective learning with ICT, aligning with the research objective of investigating factors influencing learners’ interactions with technology. The theoretical framework of socio-constructivism emphasizes the role of technology as a tool for collaboration and knowledge construction. Thus, findings indicating that user-friendly interfaces and intuitive design enhance learner engagement and satisfaction support socio-constructivist principles by promoting active participation and meaningful interactions in ICT-mediated environments.

2. Learner Characteristics:

- The findings regarding learners’ digital literacy skills, prior knowledge, and learning styles underscore the influence of individual characteristics on learning outcomes in ICT-enhanced environments. This aligns with the research objective of exploring how learner characteristics interact with instructional design and environmental contexts to shape learning experiences. From a socio-constructivist perspective, learners’ diverse backgrounds and experiences contribute to the co-construction of knowledge within collaborative learning settings. Therefore, understanding learners’ characteristics is essential for designing inclusive and learner-centered ICT interventions that accommodate diverse needs and preferences.

3. Instructional Design:

- The effectiveness of instructional design strategies, such as interactivity, scaffolding, and timely feedback, reflects the importance of pedagogical considerations in ICT-mediated learning environments. These findings support the research objective of examining the role of instructional design in optimizing learning outcomes with ICT. Thus, effective instructional design fosters collaborative learning experiences that facilitate knowledge construction and skill development.

4. Environmental Contexts:

- The findings regarding environmental factors, including access to technology, teacher support, and institutional policies, highlight the contextual influences on learners' experiences and outcomes in ICT-mediated environments. Therefore, creating supportive learning environments with equitable access to resources and inclusive policies is essential for promoting effective learning with ICT.

In summary, interpreting the findings in light of the research objectives and theoretical framework underscores the complex interplay of technological, pedagogical, and contextual factors influencing effective learning with ICT. By considering how these factors interact within socio-constructivist learning environments, educators and policymakers can develop evidence-based strategies to optimize ICT integration and foster enriched learning experiences for all learners.

1. Recommendations:

- Based on the findings, recommendations may include:
- Improving the usability of ICT tools through user-centered design and accessibility enhancements.
- Providing targeted support and training programs to enhance learners' digital literacy skills and teachers' pedagogical competencies in ICT integration.
- Designing learning materials and activities that incorporate interactive features, promote collaborative learning, and accommodate diverse learning styles and preferences.
- Advocating for equitable access to technology, adequate infrastructure, and supportive policies to ensure inclusive and accessible ICT-mediated learning environments.

Overall, the findings underscore the multifaceted nature of factors influencing effective learning with ICT and highlight the importance of addressing technological, pedagogical, and contextual considerations to optimize learning outcomes in digital learning environments.

In conclusion, by considering the implications of the findings for theory, practice, and policy, exploring unexpected findings or limitations, and identifying opportunities for future research and intervention, this study contributes to the ongoing discourse on effective learning with ICT and provides a foundation for further inquiry and action in the field of educational technology and digital learning.

By considering the implications of the findings for educational practitioners, policymakers, and technologists, stakeholders can work collaboratively to promote effective learning with ICT, foster digital inclusion, and create enriching educational experiences for all learners.

This study has made significant contributions to the field of ICT-mediated learning by providing valuable insights into the factors influencing effective learning outcomes in digital learning environments. Through a comprehensive investigation of technological usability, learner characteristics, instructional design, and environmental contexts, the study has advanced our understanding of the complex interplay between these factors and their implications for educational practice, policy, and technology development.

Furthermore, the study's findings have practical implications for educational practitioners, policymakers, and technologists, providing actionable recommendations for optimizing ICT integration and fostering enriched learning experiences for all learners. From designing user-friendly interfaces to advocating for equitable access to technology and developing evidence-based instructional practices, stakeholders can leverage the insights gained from this study to inform their decision-making and initiatives in the field of ICT-mediated learning.

Conclusion and Suggestions for Further Research:

In conclusion, this study represents a significant step forward in our understanding of effective learning with ICT and lays the groundwork for future research and intervention in the field. As we look ahead, several avenues for further exploration and inquiry emerge:

- 1. Longitudinal Studies:** Longitudinal approaches would provide insights into the sustainability and scalability of ICT-mediated interventions and their impact on learners' academic and socio-emotional development.
- 2. Cross-Cultural Comparisons:** By examining how factors influencing effective learning vary across cultural settings, researchers can identify strategies for promoting inclusive and culturally relevant ICT integration initiatives.
- 3. Emerging Technologies:** By harnessing the affordances of these technologies, educators and technologists can innovate new approaches to ICT-mediated learning and address emerging challenges in education.
- 4. Inclusive Design and Accessibility:** By prioritizing accessibility features and accommodating diverse learner needs, researchers can ensure that ICT tools and platforms are accessible to all learners, including those with disabilities or special educational needs.

In conclusion, this study has contributed valuable insights to the field of ICT-mediated learning, but there remains much to explore and discover. By continuing to investigate the complex dynamics of effective learning with ICT and collaborating across disciplines and sectors, we can advance our understanding and practices in leveraging technology to enhance educational opportunities and outcomes for learners worldwide.

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Comparative Study of Crop Insurance Scheme in Uttar Pradesh

Dr. Amitendra Singh & Sachin Kumar Verma

Abstract

Agriculture activities is the backbone of our livelihood in India and agricultural sector even today depend on monsoon. In current scenario agriculture sector have three basic problems first is fair price, second is increasing cost and third is impact of natural calamities. First problem solved by minimum support price(MSP) and second problem solved by subsidy provided by central and state government and third problem counter by Crop insurance but Crop Insurance not work properly. In current scenario farmers are not happy with crop insurance policies in India. In this research paper, we analyse Crop Insurance scheme performance in Uttar Pradesh especially comparative study of National Agriculture Insurance scheme(NAIS) modified agriculture Insurance scheme (mNAIS) and Pradhan Mantri Fasal Bima Yojana(PMFBY). we use secondary data and case study for analysis of crop insurance schemes. The study is conclude many suggestion for increasing awareness of Crop Insurance and how make it user friendly in Uttar Pradesh.

Keywords: *Agriculture, Crop Insurance, National agriculture insurance schemes, Pradhan mantri fasal Bima Yojana*

Introduction

In current scenario, due to increase of global warming and climate change, natural calamities increase day by day so agriculture activities damaged very badly and solution of this problem almost Crop Insurance for farmers and related economically agriculture related activities. In India yet more people earn their livelihood from this sector than all other economic sectors put together. The economics of Uttar Pradesh is best mainly on agriculture and around 65% of the total population is dependent on agriculture sector. Contribution of agriculture sector is significant in economic development of the state. According to the survey of 2014 - 15 approximately 165.98 lac hectare (68.7%) land is used for cultivation. It is the result of hard work and efforts of the farmers that the state has become self sufficient in

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the field of food safety and progressing towards more than the requirement. According to Eleventh five year plan, working group report that is management in agriculture(2017-12), 75% of all rural poor are in households that are dependent on agriculture in some way or other. House holds that were self employed in agriculture, account for 28% of all rural poor, while households that were primarily depend on agriculture as labour, account for 47% of all rural poor.

Uttar Pradesh have 75 district and almost in all district agriculture play the measure role in livelihood activities of farmers. If you seen rainy water in these district may be you found

major gap in these district. In your 2021, Lalitpur district have 1526 ml rainy water but Shamli district have only 148 ml rainy water. In UP 41.8% farmers is a marginal formers so Crop Insurance might be play a major role in stability of farmers income.

Crop insurance in india

In India crop insurance scheme start from 1972- 73 to 1978-79, crop insurance schemes for crops such as cotton, groundnut, potato etc, was implemented in selected places on individual approach basis. During the period from 1979 to 1984-85, a pilot Crop Insurance scheme was implemented for food crops and oil seeds on area approach basis, Based on the experience of the pilot scheme , a comprehensive Crop Insurance scheme(CCIS) was implemented from kharif 1985 till kharif 1999.

1. NATIONAL AGRICULTURE INSURANCE SCHEME (NAIS) - This Insurance scheme launch by the prime minister in 22 June 1999 replace the CCIS from Ravi 1999 – 2000 season. This is the first nation wide Crop Insurance scheme.

The objective of this scheme provide insurance coverage and financial support to the farmers in the event of failure of any of the notified Crop as a result of natural calamities, pest and disease so as to restore their credit worthiness for ensuring season and encourage the farmers to adopt progressive farming practices, high value inputs and higher technology in agriculture and stabilize farm incomes particularly in disaster years.

Premium of this scheme in kharif crops is 3.5% of sum insured for all oil seed crops and bajara and 2.5% for all others food crops including pulses. Premium for Ravi crops are 1.5% for wheat and 2% for all other food crops including pulses and oil seeds.

All loanee formers automatically and get compulsory covered this insurance schemes through the bank branches and the claims are settled through area approach basis. Any insured crop in a notified area recording lower actual yield than the guaranteed yields as per the crop estimation servey conducted by the state government shall automatically become eligible for compensation.

2. PRADHAN MANTRI FASAL BIMA YOJANA -India is a country of farmers, with the majority of the rural people relying on agriculture. On January 13, 2016, Hon. Prime Minister Shri Narendra Modi announced the launch of the new Pradhan Mantri Fasal Bima Yojana (PMFBY). In addition to protecting farmers against bad weather, this program will lessen the premium load on those who borrow money for farming. In order to prevent farmers from experiencing any issues with the crop insurance plan, it has also been agreed to streamline and expedite the insurance claim settlement process. Every Indian state will

participate in the implementation of this program, working with their own state governments. The Government of India's Ministry of Agriculture and Farmers Welfare will oversee the program's administration.

The PMFBY replaced the National agriculture Insurance scheme (NAIS) and modified agriculture Insurance scheme (mNAIS).

Objective - To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.

- To stabilize the income of farmers to ensure their continuous process in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure flow of credit to the agriculture sector.

Premium of PMFBY is a very down to earth. For kharif crops premium rate is 2% and for Rabi crops premium rate is 1.5%. For commercial and horticulture annual crops premium rate is 5%. Scheme shall be implemented on an '**Area Approach Basis**' for each notified crop for widespread calamities. The assumption that all the insured farmers, in a Unit of Insurance, should be defined as "Notified Area" for a crop, face similar risk exposures, incur to a large extent, identical cost of production per hectare, earn comparable farm income per hectare, and experience similar extent of crop loss due to the operation of an insured peril, in the notified area. The Unit of Insurance can be demographically mapped with region having homogenous Risk Profile for the notified crop. For Risks of Localized calamities and Post-Harvest losses on account of defined peril, the Unit of Insurance for loss assessment shall be the affected insured field of the individual farmer. For every crop that has been notified of a widespread disaster, a "region approach basis" scheme will be put into place. The premise that every insured farmer in a unit of insurance should be classified as a "Notified Area" for a particular crop because they all face similar risk exposures, have roughly equal production costs per hectare, have comparable farm income per hectare, and suffer crop losses from insured perils in the same amount in the notified area. A region with a homogeneous risk profile for the notified crop can be used to map the Unit of Insurance demographically. In the event of localized disasters and post-harvest losses due to specified perils, the farmer's affected field will serve as the unit of insurance for loss assessment.

Differences between these schemes

- **Scope and Coverage:** PMFBY provides comprehensive coverage against yield losses due to natural calamities like drought, flood, cyclone, pests, and diseases. It covers all food crops, oilseeds, and annual commercial and horticultural crops. It is compulsory for loanee farmers and voluntary for non-loanee farmers.

NAIS primarily covers major crops and provides coverage against yield losses caused by natural calamities like drought, flood, hailstorm, pest attacks, etc. It covers a limited number of crops identified by the state governments and is mandatory for

loanee farmers availing crop loans from financial institutions.

- **Premium Subsidy:** PMFBY: Under PMFBY, the premium rates are fixed by the government and shared equally between the central and state governments. There is a substantial premium subsidy provided to farmers, with higher subsidy rates for small and marginal farmers.

NAIS: In NAIS, the premium rates are actuarially calculated based on the crop risk profiles and are subsidized by the central and state governments. The premium subsidy rates vary depending on the crop and the level of coverage chosen by the farmer.

- **Technology Integration:** PMFBY: PMFBY emphasizes the use of technology for various aspects of the insurance process, including enrollment, assessment of crop losses, and claim settlement. It leverages technologies like smartphones, remote sensing, and satellite imagery for faster and more accurate assessment of crop losses.

NAIS: While NAIS also incorporates technology for certain aspects of the insurance process, such as yield estimation and claim settlement, it may not be as extensively integrated with modern technologies compared to PMFBY.

- **Participation and Implementation:** PMFBY: PMFBY is implemented by the Ministry of Agriculture & Farmers Welfare, Government of India, in collaboration with the state governments and insurance companies. It aims to cover a larger number of farmers and provide more extensive coverage against crop losses.

NAIS: NAIS is implemented by the Agriculture Insurance Company of India Limited (AIC), along with other insurance companies, in coordination with the state governments. It has been in operation for a longer period and has a more established presence in the agricultural insurance sector

LITERATURE REVIEW

1. **Pal and mondal 2010 - suggest** a peril indexed insurance and risk management techniques for stabilizing the crop insurance scheme in agriculture activities.
2. **D. SURESH KUMAR, et.al.(2011)** - The study is the best on the survey of 600 farmers conducted in Tamil Nadu states and across the target group and get available information. According to this study the coverage of crop Insurance scheme limited is limited due to lack of full information. The study revealed that most farmers(65%) risk mitigation measures of the government but only half of the farmers have been found aware about the Crop Insurance schemes.
3. **C. Deepak (2017)** - conducted studies as PMFBY Laying background for Indian agriculture against Monsoon fluctuations induced risks. The identify the use of technology and features of schemes that makes easy norms so PMFBY attacks farmers to enrolled in Crop Insurance schemes but some suggestion given by them. First is

adding catastrophic events also to this cover to protect farmers against crop loss/damage due to incidents like cyclone would be beneficial to all stake holders second is efficient mechanism is required for making crop insurance successful.

RESEARCH OBJECTIVE -

The purpose of this research basically comparative study of two constructive Crop Insurance National agriculture Insurance scheme (NAIS) and pradhan mantri fasal Bima Yojana (PMFBY) in Uttar Pradesh to understand which scheme is better perform yet in Uttar Pradesh.

RESEARCH METHODOLOGY -

In the comparative study of two Crop Insurance scheme. we use these methodology -

1. Statistical Analysis - we compare quantitative data up to scheme that collected by official website of government authorities.
2. Financial Analysis - we compare financial data of the schemes including premium, income claims paid and operational costs to assess their financial sustainability and efficiency.
3. Content Analysis - Analyze documents reports and policy documents related to the schemes to identify differences in objectives, design features, implementation strategies and outcomes.
4. Case studies - for better analysis of schemes we analyze case study of related schemes which is related to beneficiaries of each schemes to understand performance of crop insurance.

FINDINGS AND DISCUSSION

The economics of Uttar Pradesh is based mainly on agriculture and around 65% of the total population is dependent on agriculture. According to the survey of 2014-15 approximately 165.98 lac hectare (68.7%) land is used for cultivation. According to agriculture survey 2011-12, there are 233.25 lac farmer in the state.

According to agriculture department of Uttar Pradesh, In the year 2015-16, Rs 66478.89 cores crop loan was distributed against the target of Rs 84021.09 cores. In the year 2016-17, Rs 73271.74 cores crop loans was distributed against the target of Rs 93212.60 cores out of which Rs 30051.07 cores in kharif and Rs 43220.67 cores crop loan distributed.

1. RATIO OF ENROLLMENT FORMERS AND TOTAL FORMERS OF UP.

*2012	*2013	*2014	2015	2016	2017	2018	2019
3.30%	3.98%	2.73%	-	31.24%	24.28%	27.44%	21.02%

*In these. Year insured farmers are both schemes NAIS and mNAIS of kharif crop farmers.

- We know that number of farmers in UP is 223.25 lakh in which 106.60 Lakh farmers are KCC card holders then you seen performance of NAIS and mNAIS and PMFBY.

- Performance of PRADHANMANTRI FASAL BIMA YOJANA is better than National agriculture Insurance scheme but you also should knowing that KCC holders formers automatic registered in crop Insurance scheme if you take this data in your mind then you analyse performance of Crop Insurance scheme not good perform.

Percentage of benefited farmers in Uttar Pradesh

Year	Total Farmer	Benefited Farmer's	Ratio
2012*	771259	29962	3.88%
2013*	892761	188029	21.06%
2014*	618203	178677	28.90%
2015	-	-	-
2016	72.893 Lac	11.879 Lac	16.29%
2017	54.21 Lac	5.848 Lac	10.78%
2018	61.270 Lac	6.255 Lac	10.21%
2019	41.947 Lac	9.343 Lac	19.90%

* This year farmers data is a sum of NAIS and mNAIS of kharif crop.

2019	612.9 Lac	223.6 Lac	36.48%
2018	577.2 Lac	222.6 Lac	38.56%
2017	532.7 Lac	176.8 Lac	33.18%
2019	583.7 Lac	156.5 Lac	26.81%

If you seen above data table then might say benefit number of farmers not much more than total registered farmers in crop insurance scheme. In 2012 year percentage of benefit farmers is a very little ratio.

According to above table even not a single year were benefit formers ratio more than 50%.

Ratio of sum insured and Paid claims.

Year	Sum Insured (Cr.)	Paid Claim (Cr.)	Ratio
2016-17	203110	25822	12.71%
2017-18	202282	28129	13.90%
2018-19	229598	22118	9.63%
2019-20	219040	16809	7.67%

Table data taken by only pradhan mantri fasal Bima Yojana. You also seen ratio of Paid claims not much more. this is one biggest reason why Crop Insurance scheme not attractive among farmers.

Table of Farmers Yeild Holding areas

Size class (In Hectare)	Count		Total area	
	Total holding (In Thousand)	Percentage	Area (Thousand Hectare)	Percentage
Less Than 1.0	19100	80.2%	7298	41.8%
1.0 – 2.0	3008	12.6%	4175	23.9%
2.0 – 4.0	1314	5.5%	3560	20.4%
4.0 – 10.0	377	1.6%	2075	11.9%
10.0 & Above	23	0.1%	343	2.0%

In Uttar Pradesh 191 Lakh farmers is a marginal farmer that hold less than one hectare according to table 0.1 maximum number of farmers enroll in Crop Insurance scheme in 2016-17 that is 72.893 lakh. Now gap between 191.00 - 72.893 = 118.107. This data is very important for us because marginal farmers vulnerability greater than other farmers.

Case study -1

We organize small study in Barabanki district in Uttar Pradesh which is related to Crop Insurance. We take interview of 100 farmers. They are all marginal and small farmers. We ask only three basic questions. In this study mainly we found some common answer that point out by almost farmers.

Question. 1 Are you know Crop Insurance schemes?

Answer.

1. 80 % yes, I hear the Name.
2. 20 % No.,

Question. 2 Are you registered in crop insurance scheme ?

Answer.

1. 60%, we don't know.
2. 20 % I am not interested because we don't get claim.
3. 20% yes, We registered in crop insurance scheme because We are a KCC card holders. Then we ask, if you have choice then what to do ? They replied No, I don't insured in crop Insurance scheme. I said' why' . They replied we don't get claim. If we found claim then it is very low than actual value of crop production.

Question. 3 You have any suggestion for better crop insurance scheme ?

Answer.

1. Behavior of service provider of crop insurance are not co operative.
They not give actual information. When natural calamities occurs like flood, Rain, drought etc then Lekhpal (evaluation of crop don by this person) want bribe for valuation of crop. We want by government that make strong complaint system and take action as soon as possible on service provider that involve in bribery or misbehave with farmers.
2. Value of evaluated crop should equal to actual value of crop production.

Case study -2

We take three interviews of big farmers that have almost 10 hectare or more agriculture land. The farmers name are Shiv Kumar, Ganesh verma and Ram Saran. Here Ram Saran is a famous farmer of barabanki. They have been awarded many times by Government authority. I asked few questions by step to step .

Question 1- Are you know crop insurance scheme ?

Answer. Yes 100%

Question. 2 Are you Registered in crop insurance scheme?

Answer. Yes 100%

Question. 3 Are you want quite crop insurance scheme?

Answer. No. 100% , I almost satisfied.

Question. 4 can you suggest any point for better performance of Crop Insurance schemes.

Answer. He said that the government should make the provision for crop evaluation at the MSP (minimum support price) and it should also be decided what the production will be

per hectare or bigha if government take above two steps then evaluation of crop in also good. Then crop insurance scheme will be better than Now.

Conclusion

If you analyse on micro level performance of Crop Insurance schemes then you say that it is not satisfactory till now. Because in Uttar Pradesh 80.2 % farmers have less than 01 hectare land and 12.6% farmers have between 01 to 02 hectare. Percentage of both farmers is 92.8%. On the other side 0.1 % farmers have more than 10 hectare and 1.6% farmers have between 4.0 to 10.0 hectare land. Percentage of both farmers is 1.7% . This is a actual figure of small and big farmers. So government authority might take these action for better performance of Crop Insurance schemes.

1. Make awareness of crop insurance schemes.
2. Developed advance complaint system.
3. Design single window for crop insurance service provider. If service provider not work properly or Miss behave with farmers then take action as soon as possible if farmers give complaint against him.
4. Sum insured claim should be equal to actual value of crop.
5. Use technology for better performance.

If above suggestion done in crop insurance scheme then present Crop Insurance schemes make relevant and popular among farmers.

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Current Status and Performance of The Manufacturing Sector in India

Dr Vikas Pradhan & Anshika

Abstract

India's manufacturing sector stands as the cornerstone of its economic landscape, contributing significantly to the country's growth, employment, and global standing. The manufacturing sector is becoming an important component in the expansion of the country's economy. This sector helps a lot in reducing unemployment and poverty and also helps in reducing inequality among the people. Secondary data have been used for the study, such as the Annual Survey of Industry, Periodic Labor Force Survey, Economic Survey, Handbook of Statistics on the Indian Economy, information available on dashboards, Government of India portals, etc. This study provides comprehensive information on the Importance of the manufacturing industry in India. This paper sheds light on the current status and performance of the manufacturing sector in India by focusing on various factors affecting it. These factors are important to achieving transformative growth, technological progress, and global leadership.

Keywords: *Manufacturing Sector, Indian Economy, Employment, GDP*

Introduction

Manufacturing is the process of transforming raw materials into a final product that meets customer expectations. It involves large-scale production using labor and machines, with tasks divided among laborers. The industry influences the industrial sectors of both developed and developing countries. Final products can be used as finished goods or intermediate goods. Manufacturing sectors include food, chemicals, textiles, machines, and equipment production. The industrial sector is greatly influenced by the manufacturing industry (**Bai et al., 2013**), and this sector plays a vital role in the economic growth of the country by generating employment opportunities, income generation, transferring technology, creating infrastructure, exporting goods, having a multiplier effect, diversifying the economy, improving rural areas, and increasing tax revenues. As a result, laborers discretionary income and quality

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of life have increased. Investment in manufacturing promotes both innovation and technological advancement. According to **Unel (2003)**, India's manufacturing sectors have experienced higher labor and total factor productivity growth since 1980, with further improvements after the 1991 reforms. As India is a developing country with a huge labor force, this sector is capable of generating employment for our labor force. In this sector, labor gets employment without any specific skill, as mentioned by **Goldar & Sadhukhan (2015)**. There has been an enormous rise in employment opportunities in the formal sector in recent years, while the informal manufacturing sector, which constitutes the majority of manufacturing employment, has experienced slow growth.

Objectives

1. To study the current status and performance of manufacturing sector in India.
2. To find out the prospects and problem of manufacturing sector in India

Literature review

There can be no question about the importance of the manufacturing sector, which, despite the huge contribution of the tertiary sector to employment generation and national development, has the potential to provide stable and sustained growth to the Indian economy. (**Kakar, D. 2017**) One way to evaluate the economic strength of a nation is to examine the extent to which the manufacturing sector is contributing to the overall development of the country. (**Gupta et al., 2008**) As a complementary benefit, it helps in boosting production, providing employment prospects and providing support to other sectors of the economy. (**Karthik, A. 2017**)

This sector is successful as a result of improvements in infrastructure, tax compliance, and environmental regulations; nonetheless, it is confronted with obstacles as a result of the sluggish pace of reforms and the scarcity of trained labor. (**Mehta, Y., & Rajan, A. 2017**) India's expansion in manufacturing after reforms has been driven mostly by inputs that have large technological inefficiencies. This suggests that there is a need for policies that aim at increasing production efficiency through research and development as well as technology-assisted managerial processes. (**Kalirajan, K., and Bhide, S. 2004**)

Methodology

This paper uses a descriptive methodology to analyze the manufacturing sector in India. This method is being used to analyze the current status and performance of the manufacturing sector by measuring growth trends, GDP contribution, and employment. This study is based on secondary data. This data is already publicly available from a variety of sources, including reports and dashboards hosted by the Government of India as well as scholarly publications and research papers. Reports such as the Annual Survey of Industry, Periodic Labor Force Survey, and Economic Survey of India are included.

Discussion

Current Status of Manufacturing Sector in India

The manufacturing industry in India is a vital pillar of the country's economic development. Prior to the epidemic, the manufacturing sector was responsible for around 15% of India's gross domestic product. Machine tool production, which was long considered the backbone of the industry, is now transitioning toward manufacturing that is more process-driven and automated, which is boosting both efficiency and productivity. By the year 2030, India will have the capacity to export items worth one trillion dollars, putting it on track to become a significant manufacturing powerhouse within the global economy. By implementing a variety of initiatives and policies, the government of India intends to achieve its goal of achieving 25 percent of the economy's output from manufacturing by the year 2025. In India, the PLI system has been introduced for the industrial sector. Not uncommon. It is proposed to provide an incentive of up to Rs. 18,000 crore, which is equivalent to \$2.2 billion, in order to encourage local manufacture in six new industries, such as chemicals, shipping containers, and vaccine ingredients. Manufacturing has emerged as one of the fastest-growing industries in India. Make in India, launched in 2014, aims to promote manufacturing in India by encouraging both domestic and foreign companies to invest in the country. It focuses on 25 sectors including automobile, textiles, chemicals and electronics. Under this initiative "Local for Vocal" was launched by the Government of India as part of its efforts to promote local products and encourage the use of indigenous goods.

Emerging Market Segments in India's Manufacturing Sector

The manufacturing industry in India is now experiencing a number of changes and expanding substantially. Within the larger industrial scene, the formation of a great number of new industries has been a noteworthy trend throughout the last several years. The potential for new sectors to arise based on historical patterns and the requirements of the market:

➤ **Equipment for Renewable Energy Sources**

The country of India has established lofty goals for the expansion of its ability to generate renewable energy, which includes solar and wind power. Manufacturing enterprises now have the opportunity to produce solar panels, wind turbines, batteries for energy storage, and other equipment relevant to the industry as a result of this.

➤ **Manufacturing Processes for Electric Vehicles (EV)**

Electric cars are becoming more popular all over the world as a result of the increasing focus on reducing carbon emissions and promoting sustainability. India is making progress in this sector as a result of the government's focus on electric mobility and the many incentives being offered for the production of electric vehicles and their associated components.

➤ **Pharmaceutical Industry and Biotechnology:**

India has a significant presence globally in the field of pharmaceutical product production. In view of the increasing focus on healthcare and biotechnology globally, it is anticipated that new industries will emerge in the biopharmaceuticals, biotechnology research and specialty medical manufacturing sectors.

➤ **Businesses Leveraging Waste Materials**

The manufacturing sector is very helpful in making new items using leftover materials. Be related to agriculture or be related to this sector itself. Common methods include recycling, upcycling, waste-to-energy conversion, biorefining, industrial symbiosis, closed-loop systems, additive manufacturing, and a growing number of industries using recycled materials in construction materials. These initiatives can lead to cost savings, environmental footprint reduction, regulatory compliance, innovation and revenue generation, contribution to a circular economy and promotion of sustainable practices.

Performance of Manufacturing Sector in India

The manufacturing sector is frequently influenced by shifts in the global economy. The manufacturing sector is influenced by economic recession, disputes over trade, and various world events. This phenomenon is observable not only in a single economy but in all economies globally. (Mehrotra et al., 2014) Sector performance is measured by the sector's annual growth; share of GDP, employment generated, and market size.

➤ **Annual Growth of Manufacturing Sector**

The annual growth rate of the manufacturing sector remained at 4.8 percent, which was 0.9 percent higher than in 2011–12. We can see that there was a slight fluctuation from 2014–15 to 2017–18. Before the pandemic, the annual growth rate of this sector was 3.9 percent. But after the pandemic, there was tremendous growth in this sector, due to which this sector broke all the previous records of this decade. The sector witnessed an annual growth rate of 11.8 percent in the years 2021–22. This data is shown in table no 1.

➤ **Contribution of GDP**

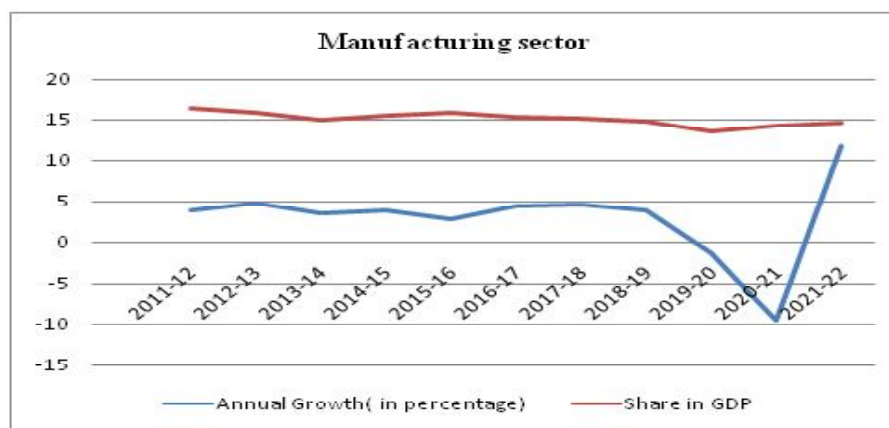
The Indian manufacturing sector contributes significantly to the gross domestic product (GDP), but the sector has declined over time. As shown in Table 1, the share of this sector in total GDP in 2011–12 was 16.3 percent, the highest in the last ten years. This share remained around 15 percent for four financial years (2013–14 to 2017–18). After which, it declined, but in the years 2020–21, it increased slightly to 14.2.

Table no: 1
Growth of manufacturing sector

Year	Annual Growth(in percentage)	Share in GDP(in percentage)
2011-12	3.9	16.3
2012-13	4.8	15.8
2013-14	3.6	14.9
2014-15	3.8	15.4
2015-16	2.8	15.7
2016-17	4.4	15.2
2017-18	4.6	15
2018-19	3.9	14.8
2019-20	-1.4	13.5
2020-21	-9.6	14.2
2021-22	11.8	14.5

Source: World Bank Data 2023

Figure: 1



Source: Based on World Bank Data 2023

➤ Employment Status in Manufacturing Sector

The manufacturing sector in India has been a significant contributor to the employment scenario, providing opportunities for both skilled and unskilled workers in various industries. It covers a wide range of sectors including textiles, automobiles, electronics, pharmaceuticals, chemicals and engineering goods. There is immense potential for employment generation in this sector, especially with initiatives to promote domestic manufacturing, exports and trade

facilitation. In the last decade, there has been a huge decline in the number of employment opportunities in this sector. 55 crore people got employment in the year 2015-16. But this ratio kept falling to 31.53 crore.

Table no: 2
Employment in Manufacturing Sector

Year	Employment in crore
2015-16	55
2016-17	51.31
2017-18	39.9
2018-19	40.68
2019-20	40.86
2020-21	29.83
2021-22	31.57

Source: Economic Survey 2021

➤ **Export of Manufacturing Sector**

Rank	Commodity	Share in percentage	
		2019-20	2020-21
1.	Petroleum product	13.2	8.8
2.	Pearl , precious stone, semiprecious stones	6.6	6.2
3.	Iron and steel	3.0	4.2
4.	Drug formulation, biologicals	5.1	6.5
5.	Gold and other precious metal jewellery	4.4	2.2

One of the most important indicators of a country's economic health and global competitiveness is the success of its manufacturing sector in terms of exports. In the case of India, the manufacturing sector is an essential component of the country's overall contribution

to the money generated from various exports. This sector has always been a major contributor to India's total merchandise exports. (Nayak. et al, 2013)

Table no: 3

Top Five Export Commodity

Rank	Commodity		Share in percentage	
	2019-20	2020-21		
1.	Petroleum product	13.2	8.8	
2.	Pearl , precious stone, semiprecious stones		6.6	6.2
3.	Iron and steel	3.0	4.2	
4.	Drug formulation, biologicals	5.1	6.5	
5.	Gold and other precious metal jewellery		4.4	2.2

Source: Economic Survey 2022

According to the Economic Survey 2020–21, these are the top five manufacturing items that were exported the most in the years 2019–20 and 2020–21. Out of which, petroleum products have always had the highest share, but in 2020–21, they also witnessed a decline. There was an increase in the export of commodities such as iron and steel, drug formulations, and biologicals.

➤ **Market Size of Manufacturing Sector**

Given the size of India's manufacturing sector, there is a need to examine its role in the broader economic context. As shown in the table, the total revenue of the manufacturing sector in 2011–12 was \$294.23 billion. In the last decade, it was highest at 402.24 in 2018–19, but after that, for some reason, it fell to 381.55.

Table no: 4

Total Revenue Generate From Manufacturing Sector

Year	US \$ (In billions)
2011-12	294.23
2012-13	289.08
2013-14	283.21
2014-15	307.21
2015-16	327.82
2016-17	347.94
2017-18	398.20
2018-19	402.24
2019-20	381.55

Source: Handbook of Statistics on Indian economy 2023

Prospect of Manufacturing Sector

There are several factors that contribute to the potential expansion and growth of the manufacturing industry in India, which brings optimistic prospects to the sector. Some of them are being discussed:

➤ Growing Demand

The demand for manufactured products is increasing due to India's large and growing population as well as the country's increasing urbanization and disposable income. This demand is spreading across various industries including the automobile industry, consumer electronics, pharmaceuticals and textile industries. This local demand, coupled with the potential in export markets, creates a huge growth potential for companies manufacturing goods in India.

➤ Focus on Sustainability

The manufacturing industry is witnessing a growing awareness and preference towards sustainability and environmental accountability. To reduce their impact on the environment and be in line with global sustainability objectives, Indian manufacturers are examining resource-efficient processes, renewable energy sources and eco-friendly practices.

➤ Sectoral Opportunities

India is strong in many industrial industries including chemicals, renewable energy, automotive, pharmaceutical and textiles. There is a lot of scope for growth in these industries due to things like changing consumer preferences, government initiatives to promote exports and local manufacturing, and technological advancements.

➤ Government Initiative

To encourage local manufacturing, attract foreign investment, and improve the ease of doing business, the Government of India has launched "Make in India" programs. These programs focus on enhancing infrastructure, streamlining regulations, and providing financial incentives to encourage industrial growth.

Problems in Manufacturing Sector

The manufacturing sector in each nation has several issues that might impact its development, productivity, and sustainability. India has various issues that are affecting regional dynamics. Understanding these problems helps create successful tactics and policies. Some of the major challenges faced by the manufacturing sector in India are as follows:

➤ Inadequate Infrastructure

There is a substantial obstacle in the form of inadequate infrastructure, which includes not only transportation and logistics but also energy. It is possible for insufficient and obsolete infrastructure to impede the effective transportation of commodities, which may lead to an increase in prices and a reduction in total production.

➤ **Lack of Skilled labor**

Even though India has a large labor force, the manufacturing sector often lacks personnel with the required skills. For continued expansion, it is important to find a way to bridge the gap between the skill sets of labor and the needs of the sector.

➤ **Global Competition**

Increasing globalization puts indigenous producers in a situation where they have to face tough competition across the world. One of the challenges faced by Indian manufacturers is to ensure that they are able to compete successfully at the international level. For Indian manufacturers interested in expanding their operations internationally, it can be difficult to deal with the complexities of international trade agreements and overcome restrictions on market access in other countries.

➤ **Policy Consistency**

When it comes to providing a stable climate for business, it is essential that government policies remain consistent. The confidence of investors and their ability to plan for the long term may be impacted by frequent policy changes or uncertainty.

➤ **Technology Adoption**

To keep up with the rapid pace of technological progress, it is necessary to continue investing in the improvement of production processes. It is challenging for some of our companies to keep up with the latest technological developments, which may impact their ability to compete.

➤ **Waste Management**

Waste management in India's manufacturing sector faces challenges such as inadequate infrastructure, lack of awareness and compliance with regulations. Hazardous waste management is particularly challenging, and limited recycling infrastructure and informal recycling sectors contribute to environmental pollution. Collaborative efforts involving government, industry and civil society are needed to address these issues and promote sustainable waste management practices.

Findings

- India is poised to become a global manufacturing center, capable of exporting \$1 trillion in products by 2030. The government aims to increase manufacturing to 25% of GDP by 2025 through initiatives like the National Manufacturing Policy and the PLI scheme. With over 35.6 million workers, India has the physical and digital infrastructure to drive economic growth and job creation in this sector.
- India's manufacturing sector is experiencing significant growth, with new sectors emerging such as renewable energy equipment, electric vehicle manufacturing, pharmaceuticals, biotechnology, and businesses leveraging waste materials.

- The contribution of the manufacturing sector to GDP reached 16.3% in 2011–12, the highest in the last decade. Although GDP declined by 0.5% in 2012–13, its annual growth rate remained at 4.8%. After the pandemic, the sector experienced significant growth, reaching 11.8% in 2021–22 and contributing 14% to GDP. And 55.3 crore people got employment in this sector in 2011–12. But this ratio came down to 31.53 crore. Therefore, we can see that there is a need for improvement in this area.
- India's manufacturing sector revenue reached \$294.23 billion in 2011–12 and declined to \$381.55 billion over the last decade, reaching \$402.24 billion in 2018–19. Exports of petroleum products witnessed a decline, while exports of iron, steel, pharmaceutical formulations, and biological products witnessed an increase.
- India's manufacturing sector is poised for growth due to rising demand, growing sustainability awareness, and regional opportunities. The country's strong presence in industries such as chemicals, renewable energy, automotive, pharmaceuticals, and textiles, as well as government initiatives such as the "Make in India" program, provide significant growth potential, but the manufacturing sector in India faces many problems such as inadequate infrastructure, a lack of skilled labor, global competition, policy consistency, technology adoption, and waste management.

Conclusion

The significance of the manufacturing sector goes beyond economic measurements; it is closely connected to job creation, technical advancement, and international trade ties. . (Sen and Dasgupta, 2009) This research study shows the level of detail and capacity of India's manufacturing sector. As India grows economically, the manufacturing sector is increasingly becoming an important driver of growth. By utilizing assets, overcoming constraints, and adopting technology, India's manufacturing industry may flourish, boosting the economy and its worldwide industrial stature. With a sustained focus on tackling challenges, seizing opportunities, and embracing technological advancements, India is set to strengthen its position as a global manufacturing hub and boost economic growth and development in the years to come.

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A Comparative Study Of Public And Private Sector Banks For Priority Sector Lending In India

Khagendra Singh, Prof. (Dr.) MK Singh & Dr. Vikas Pradhan

ABSTRACT:

Priority sectors of an economy encompass agriculture and allied activities, Micro Enterprises, other priority sectors including housing, education, export credit, renewable energy and SHGs etc. Any failure to achieve the priority sector lending targets will result in the deficit being allocated to the Rural Infrastructure Development Fund (RIDF). This paper aims to analyse the RBI's flagship scheme of Priority Sector Lending for lending patterns of public and private sector banks in from 2011-2012 to 2022-2023. It is evident that from 2018-2019 onwards, there is drastic growth in PSL advances of Public and Private sector banks with 10,739.29 % and 12,554.35 % growth from 2017-2018 respectively. This great leap is due to the central government push for easy loan procedure and RBI's reduction of monetary rates to release more credit for loaning purpose. The comparative assessments have been made between public and private banks in India for sector-wise priority sector lending advances. There is no significant difference between average performance score of Public and Private Sector Banks for all sectors, even though the quantum of PSL advances of Public Sector Banks is much higher than Private Sector Banks. Thus, private banks' absence of social purpose needs to be rectified.

KEYWORDS: *Priority Sectors Lending, Agriculture and Allied Activities, Micro Enterprises, Other Priority Sectors, Public Sector Banks, Private Sector Banks.*

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INTRODUCTION:

The concept of Priority Sector Lending was initially proposed by Shri Morarji Desai, the former Finance Minister and Deputy Prime Minister of India, in 1968. Priority sectors are fundamental components of society that form the bedrock of an economy and, with adequate financial support, have the capacity to substantially contribute to the economic expansion of a country. Certain sectors have been designated as priority sectors by the government on account of their inadequate funding and disregard. This categorization guarantees that they are granted preferential treatment in the distribution of credit, thereby placing national progress and the attainment of objectives higher on the agenda (Bhatt N.S., 1986).

According to Kaur (1999), these sectors serve as the underpinnings for the primary, secondary, and tertiary sectors of an economy. Alternatively known as Directed Lending or Social Banking, this type of lending consists of banking operations that are motivated by social objectives. Priority Sector Lending assumes a critical function in financing economically disadvantaged members of the public and reallocating a nation's resources to sectors with greater productivity. As and when required, the Reserve Bank of India (RBI), the central bank modifies the targets and sub-targets for critical sectors. Table 1 presents the master circular that has been most recently revised on Jul 27, 2023.

TABLE 1. TARGETS AND SUB-TARGETS FOR PRIORITY SECTOR

Categories	SCBs (excl. RRBs & SFBs) & foreign banks with 20 branches and above	Foreign banks with less than 20 branches	Regional Rural Banks	Small Finance Banks
Total Priority Sector	40 per cent of Adjusted Net Bank Credit	40 per cent of Adjusted Net Bank Credit	75 per cent of Adjusted Net Bank Credit	75 per cent of Adjusted Net Bank Credit
Agriculture	18 per cent of ANBC	Not applicable	18 per cent of ANBC	18 per cent of ANBC
Micro Enterprises	7.5 per cent of ANBC	Not applicable	7.5 per cent of ANBC	7.5 per cent of ANBC
Weaker Sections	12 percent of ANBC	Not applicable	15 per cent of ANBC	12 percent of ANBC

Source: Master Directions – Priority Sector Lending (PSL) – Targets and Classification (Updated as on July 27, 2023), Reserve Bank of India.

REVIEW OF LITERATURE:

The concept of Priority Sector Lending has been the subject of research in India for several decades, encompassing various contexts, regions, and time periods. Ghorpade (1968) identified in his study a multitude of concerns, both direct and indirect, that exert social influence over the formal credit allocation for priority sectors. The availability of credit to the priority sector was found to have a direct correlation with its productivity. Bhat (1986) duly considered approach-based financing directed towards the priority sector. Sarda (1998) provided various practical guidance for priority sector lending for forty per cent of the total advances. In his article, Ganesan (1998) has analyzed the priority sector credit flow from the public sector banks. The formal credit from the public sector banks for the priority sector was a necessity for the growth and development of the small and medium industries based on the primary sector. In the study, Shahjahan (1999) has analyzed the formal credit availability for the priority sector through the public sector banks. Sundharam (2003) in his book had specified the lack of “Personal Touch” of the Lead Banks towards the locals for their problems and their deposit potential. Due to a lack of sensitivity towards the deprived and weaker sections of the society, the desired benefits from the enhanced formal credit flow could not bear the desired fruits everywhere. Rao (2006) in his article has pointed out that the optimum credit flow for the priority sector is essential for the growth of the Indian economy. The study concluded with a better position of agricultural lending than other sectors. Uppal (2009) unveiled significant disparities between public and private banks with regard to priority sector lending.

OBJECTIVES OF THE RESEARCH PAPER:

1. To study the trends and performance of Sector-wise Priority Sector Lending Advances of Public and Private Sector Banks in India.
2. To compare the average performance score of Public and Private Sector Banks in India regarding Priority Sector Lending Advances.

HYPOTHESIS OF THE RESEARCH PAPER:

The average performance score of public and private sector banks is done for agriculture, micro enterprises, weaker sections and total priority sector lending. The hypotheses for the second objective are as follows:

H₀₁: There is no significant difference in the average performance score of Agriculture Advances of public and private sector banks in India.

H₀₂: There is no significant difference in the average performance score of Micro Enterprises Advances of public and private sector banks in India.

H₀₃: There is no significant difference in the average performance score of Weaker Sections

Advances of public and private sector banks in India.

H_{04} : There is no significant difference in the average performance score of Total Priority Sector Advances of public and private sector banks in India.

RESEARCH METHODOLOGY:

The research study is analytical in nature using the secondary data. For interpretation, descriptive analytics has been applied. The research encompasses the time span from 2011-2012 to 2022-2023, which corresponds to three distinct economic phases: pre-COVID-19, during the crisis, and post-crisis. The current investigation is founded upon secondary data obtained from multiple issues of the Reserve Bank of India's Report on Trends and Progress and Statistical Tables Relating to Banks in India. To examine the lending pattern of Priority Sectors advances in India, statistical methods including percentage analysis and CAGR were implemented. To compare the average performance scores of public and private banks, One-Way Anova used for sector-wise analysis.

PERFORMANCE OF PUBLIC AND PRIVATE SECTOR BANKS FOR PRIORITY SECTOR LENDING IN INDIA

After conceptualization by Shri Morarji Desai, Priority Sector was initially introduced and defined by the National Credit Council in 1968. The proposals put forth by the Narsimha Committee, Nair Committee, and banking sector reforms resulted in substantial modifications

to the priority sector inclusions and the corresponding targets established for each sector. This study conducts an analysis of the performance of Priority Sector Lending in order to identify areas of concern and investigate the impact of the crisis period on Priority Sector Lending across various sectors and bank group categories.

Table2. PRIORITY SECTOR ADVANCES OF PUBLIC SECTOR BANKS IN INDIA

(Amount in Rupee billion)

Year	Total PSL Advances	% of ANBC	Agriculture	% of ANBC	Micro Enterprises	% of ANBC	Weaker Sections	% of ANBC	Growth Percent in PSL
2011-2012	11,640	38.4	4,786	15.8	3,966	13.1	2,888	9.5	--
2012-2013	13,563	38.3	5,306	15	4,784	13.5	3,473	9.8	16.52
2013-2014	14,107	50.5	4,701	16.8	4,647	16.7	4,759	17	4.01
2014-2015	11,200	45.1	3,579	14.4	3,675	14.8	3,946	15.9	-20.61
2015-2016	18,198	52.9	6,244	18.2	5,922	17.2	6,032	17.5	62.48
2016-2017	18,133	36	9,229	18.3	3,151	6.3	5,753	11.4	-0.36
2017-2018	18,584	35.9	9,321	18	3,317	6.4	5,946	11.5	2.49
2018-2019	20,14,373	42.55	9,82,117	18.12	3,96,832	7.32	6,35,424	11.73	10,739.29
2019-2020	20,51,369	41.05	9,71,334	17.23	3,96,159	7.03	6,83,876	12.13	1.84
2020-2021	22,14,669	41.06	10,68,112	18.15	4,18,763	7.11	7,27,794	12.37	7.96
2021-2022	24,52,871	42.9	11,82,378	19.15	4,42,597	7.17	8,27,896	13.41	10.76
2022-2023	27,15,091	43.7	12,77,359	19.7	5,03,933	7.8	9,33,799	14.4	10.69
CAGR*	22	-	27	-	11	-	28	-	-
CAGR**	26	-	25	-	24	-	28	-	-

Source: Report on Trends and Progress of Banking in India, RBI (Various issues)

* CAGR from 2011-12 to 2017-18.

** CAGR from 2018-19 to 2022-23.

The table shows significant variations i.e., ranging from positive 10739.29% in 2018-2019 to negative 20.6% 2014-2015. Except in the years 2014-15, rest all the years had shown the positive fluctuations. Even though during the crisis period of covid-19, 2020-2021 has registered positive growth rate of 7.96 %.As a result, the economic downturn was effectively mitigated and failed to propagate to the most fundamental levels of the economy.From 2018-2019 onwards, there is drastic growth in PSL advances with 10,739.29 % growth from 2017-2018. Thus, data before 2017-2018 and after 2018-2019 become unparalleled for continue study for pattern analysis in Objective 1. Hence, the study is divided in two parts, first part from 2011-2012 to 2017-2018 and the second part from 2018-2019 to 2022-2023.CAGR from 2011-2012 to 2017-2018 is 22 % for total PSL, 27 % for agricultural, 11 % for micro enterprises and 28 % for weaker sections. CAGR from 2018-2019 to 2022-2023 is 26 % for total PSL, 25 % for agricultural, 24 % for micro enterprises and 28 % for weaker sectionswhich unequivocally demonstrates and represents the RBI and public sector banks' ongoing endeavour to sufficiently finance the critical sectors of the economy.

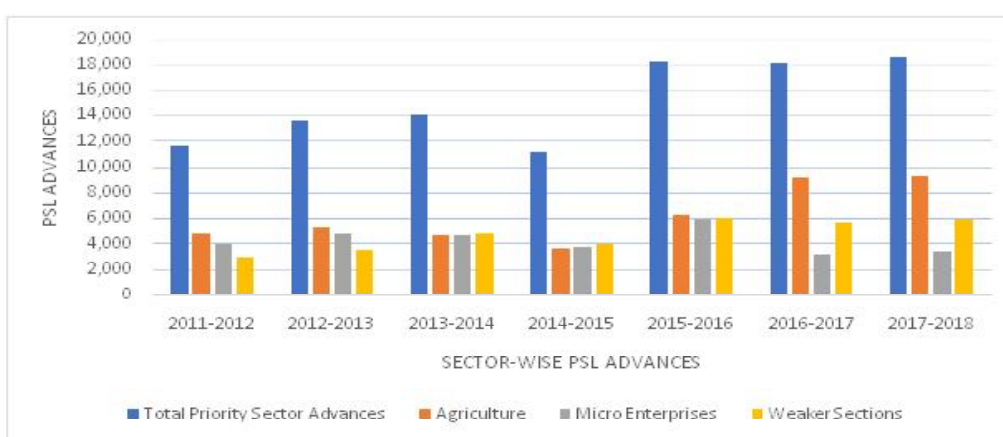


Figure 1: Sector-Wise PSL of Public Sector Banks from 2011-2012 to 2017-2018

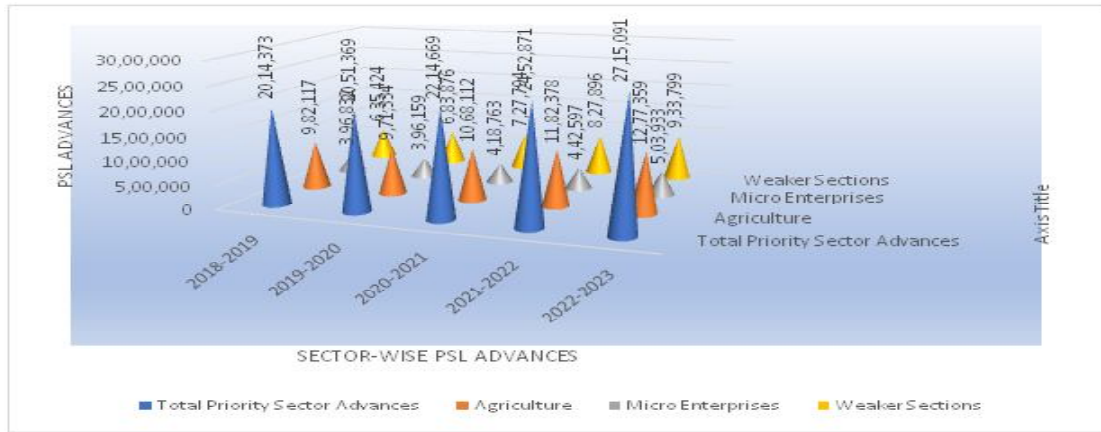


Figure 2: Sector-Wise PSL of Public Sector Banks from 2018-2019 to 2022-2023

Table 3. PRIORITY SECTOR ADVANCES OF PRIVATE SECTOR BANKS IN INDIA

(Amount in Rupee billion)

Year	Total PSL Advances	% of ANBC	Agriculture	% of ANBC	Micro Enterprises	% of ANBC	Weaker Sections	% of ANBC	Growth Percent in PSL
2011-2012	2,536	39.4	1,042	14.3	1,105	15.2	389	5.4	--
2012-2013	3,041	37.5	1,119	12.8	1,417	16.2	505	9.8	19.91
2013-2014	4,734	43.9	1,478	13.9	1,868	17.8	1,388	13.1	55.67
2014-2015	3,713	60.4	1,120	12.8	1,417	16.2	1,176	13.5	-21.57
2015-2016	7,899	46.1	2,669	18.6	2,923	20.3	2,307	16	112.74
2016-2017	5,655	42.5	2,762	16.5	1,386	8.3	1,507	9	-28.41
2017-2018	6,605	40.8	3,183	16.2	1,548	7.9	1,874	9.5	16.80
2018-2019	8,35,820	42	3,91,015	16	1,89,958	8	2,54,847	11	12,554.35
2019-2020	10,97,713	40	5,03,939	16	2,53,592	8	3,40,182	11	31.33
2020-2021	11,80,711	41	5,29,637	15	2,93,072	8	3,58,002	10	7.56
2021-2022	13,27,770	44	6,22,339	16	3,18,689	8	3,86,742	10	12.46
2022-2023	16,31,671	45	7,53,591	18	3,81,720	9	4,96,360	12	22.89
CAGR*	36	-	43	-	19	-	68	-	-
CAGR**	38	-	38	-	39	-	38	-	-

Source: Report on Trends and Progress of Banking in India, RBI (Various issues)

* CAGR from 2011-12 to 2017-18.

** CAGR from 2018-19 to 2022-23.

The table shows significant variations i.e., ranging from positive 12,554.35 % in 2018-2019 to negative 28.41 % 2016-2017. Except in the years 2014-15 and 2016-2017, rest all the years had shown the positive fluctuations. Even though during the crisis period of covid-19, 2020-2021 had shown positive growth rate of 12.64 %.As a result, the economic downturn was effectively mitigated and failed to propagate to the most fundamental levels of the

economy. From 2018-2019 onwards, there is drastic growth in PSL advances with 12554.35 % growth from 2017-2018. Thus, data before 2017-2018 and after 2018-2019 become unparalleled for continue study for pattern analysis in Objective 1. Hence, the study is divided in two parts, first part from 2011-2012 to 2017-2018 and the second part from 2018-2019 to 2022-2023. CAGR from 2011-2012 to 2017-2018 is 36 % for total PSL, 43 % for agricultural, 19 % for micro enterprises and 68 % for weaker sections. CAGR from 2018-2019 to 2022-2023 is 38 % for total PSL, 38 % for agricultural, 39 % for micro enterprises and 38 % for weaker sections which unequivocally demonstrates and represents the RBI and public sector banks' ongoing endeavour to sufficiently finance the critical sectors of the economy.

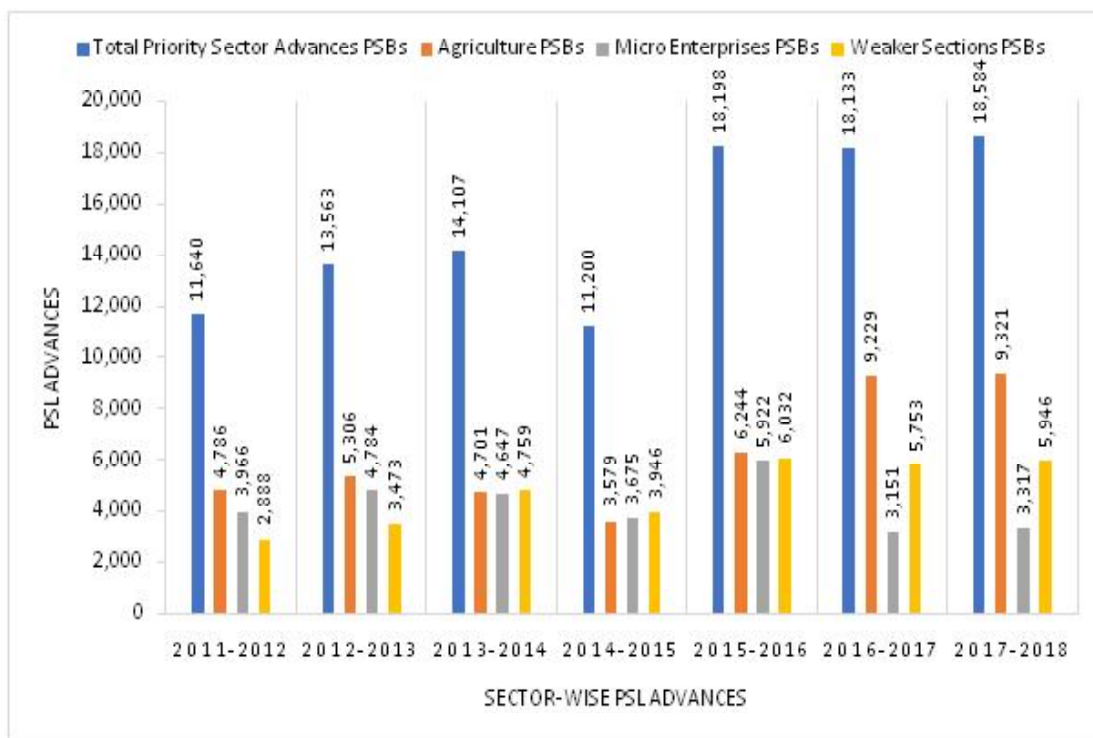


Figure 3: Sector-Wise PSL of Private Sector Banks from 2011-2012 to 2017-2018

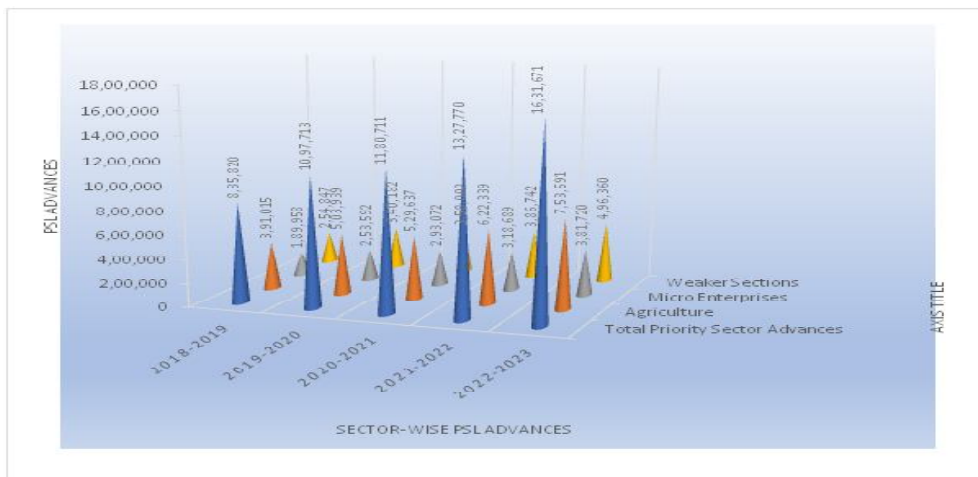


Figure 4: Sector-Wise PSL of Public Sector Banks from 2018-2019 to 2022-2023

COMPARISON PUBLIC AND PRIVATE SECTOR BANKS FOR PRIORITY SECTOR LENDING IN INDIA:

The comparative statistics of priority sector lending of public and private sector banks is given in table 2 and 3. Private banks lend a significantly smaller quantum of money than their public counterparts. Public banks, due to their greater social orientation, view priority sector lending as a moral obligation and mobilise resources to address issues at the grassroots level to the greatest extent possible, whereas private banks view it as a profit-generating opportunity.

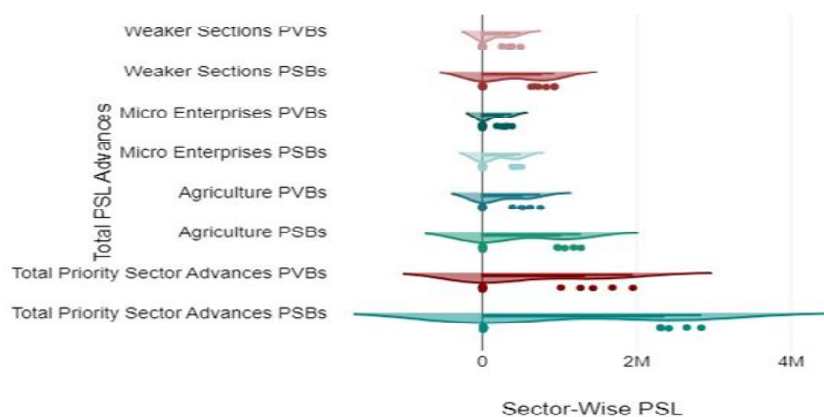


Figure 5: Raincloud Plot of Sector-Wise PSL of Public and Private Sector Banks

The comparison of Sector-wise PSL of Public and Private sector banks is done for Agriculture, Micro Enterprises, Weaker sections and Total Priority Sector Lending Advances. One-Way ANOVA is used to analyse sector-wise performance analysis of public and private sector banks. Testing of Hypothesis are as follows:

For Agriculture Advances(H_{01}):

Table 4: Agriculture Advances of Public and Private Sector Banks:One-Way ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.99E+11	1	1.99E+11	2.038671	0.168773	4.351244
Within Groups	1.95E+12	20	9.77E+10			
Total	2.15E+12	21				

From above table, the p-value (0.168773) is more than 0.05 and the value of F test (2.038671) is less than the critical value of F (4.351244). Thus, the null hypothesis H_{01} is accepted.

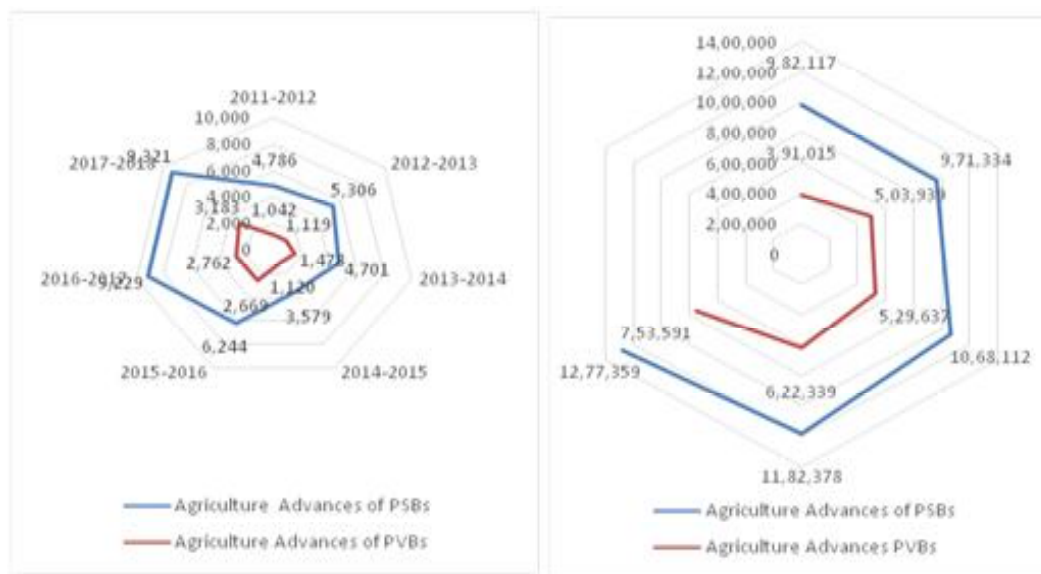


Figure 6 & 7: Comparison between Public & Private Sector Banks for Agriculture Advances from 2011-2012 to 2017-2018 and 2018-2019 to 2022-2023

For Micro Enterprises Advances(H_{02}):

Table 5: MicroEnterprises Advances of Public and Private Sector Banks:One-Way ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.46E+10	1	2.46E+10	0.6575	0.4269	4.3512
Within Groups	7.49E+11	20	3.75E+10			
Total	7.74E+11	21				

From above table, the p-value (0.426962) is more than 0.05 and the value of F test (0.657576) is less than the critical value of F (4.351244). Thus, the null hypothesis H_{02} is accepted.

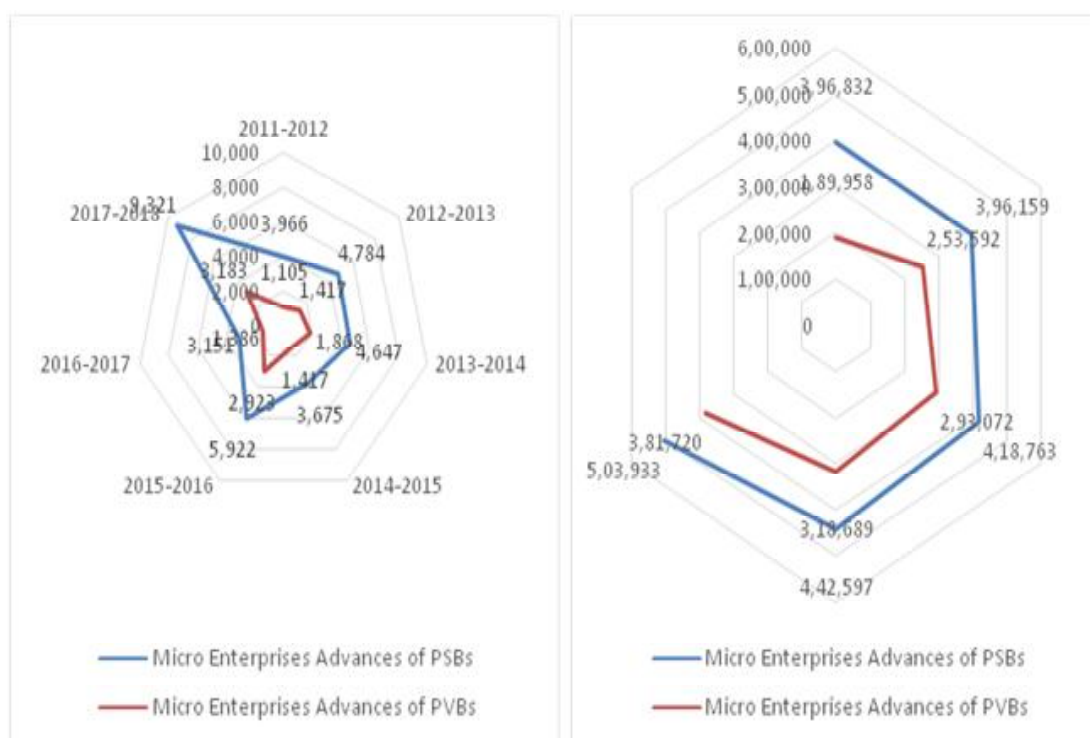


Figure 8 & 9: Comparison between Public & Private Sector Banks for Micro Enterprises Advances from 2011-2012 to 2017-2018 and 2018-2019 to 2022-2023

For Weaker Sections Advances(H_{03}):

Table 6: Weaker Sections Advances of Public and Private Sector Banks: One-Way ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	3.33E+11	1	3.33E+11	1.5737	0.2241	4.3512
Within Groups	4.23E+12	20	2.12E+11			
Total	4.57E+12	21				

From above table, the p-value (0.224126) is more than 0.05 and the value of F test (1.573756) is less than the critical value of F (4.351244). Thus, the null hypothesis H_{03} is accepted.

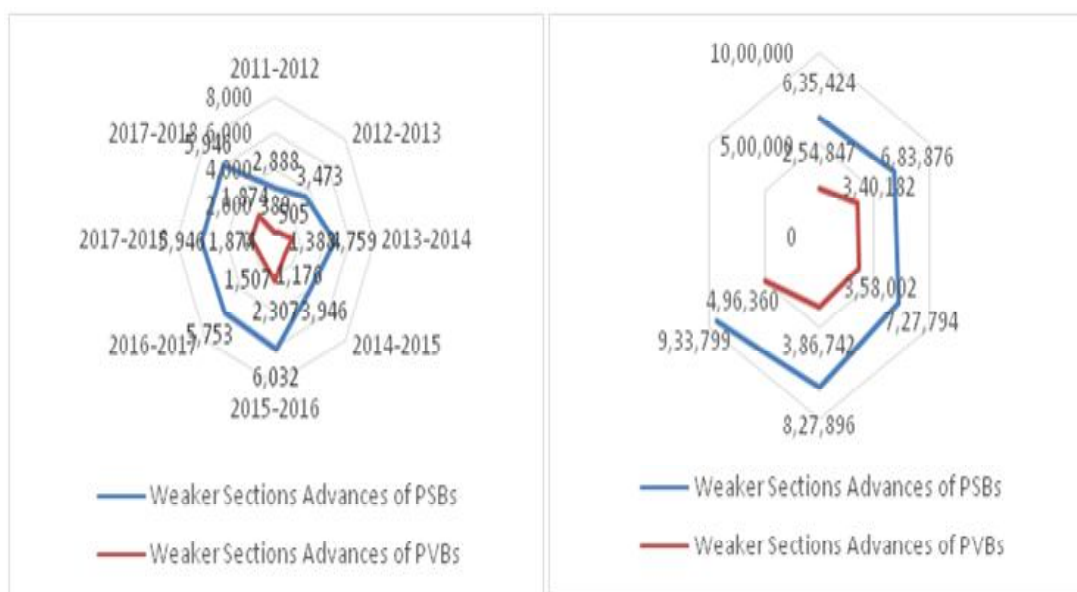


Figure 10 & 11: Comparison between Public & Private Sector Banks for Weaker Sections Advances from 2011-2012 to 2017-2018 and 2018-2019 to 2022-2023

For Total PSL Advances(H_{04}):

Table 7: Total PSL Advances of Public and Private Sector Banks in India: One-Way ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.24E+12	1	1.24E+12	1.05548	0.31651	4.35124
Within Groups	2.35E+13	20	1.17E+12			
Total	2.47E+13	21				

From above table, the p-value (0.316513) is more than 0.05 and the value of F test (1.055483) is less than the critical value of F (4.351244). Thus, the null hypothesis H_{04} is accepted.

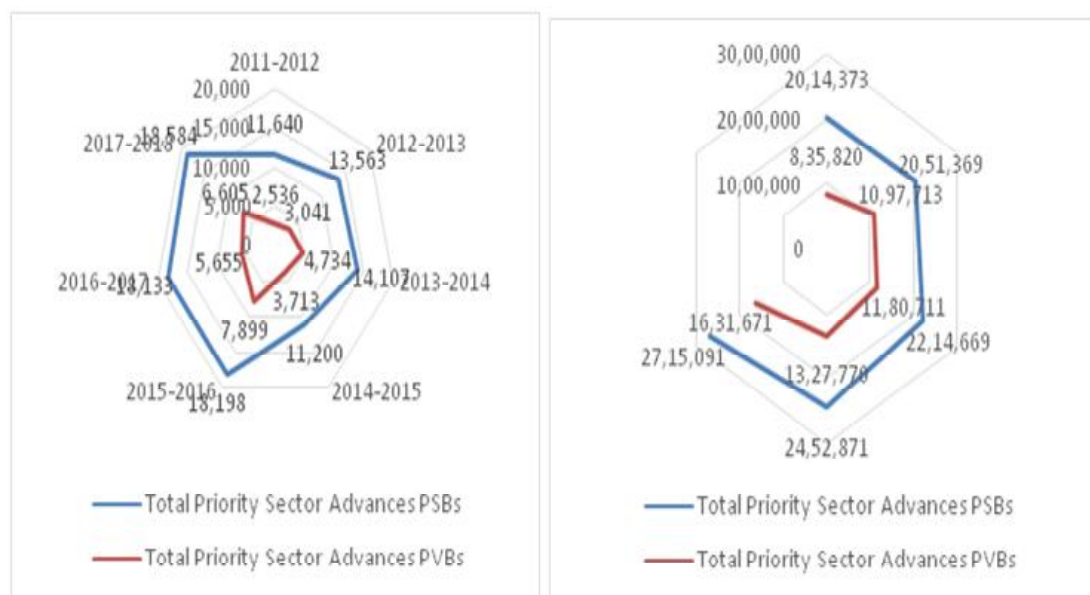


Figure 10 & 11: Comparison between Public & Private Sector Banks for Total PSL Advances from 2011-2012 to 2017-2018 and 2018-2019 to 2022-2023

CONCLUSION:

Priority sectors of the economy are those sectors that are undervalued despite constituting the fundamental pillars of the economy. A comparative analysis of public and private sector banks for priority sector lending in India from 2011-2012 to 2022-2023 was conducted to

examine its lending pattern. it is evident that from 2018-2019 onwards, there is drastic growth in PSL advances of Public and Private sector banks with 10,739.29 % and 12,554.35 % growth from 2017-2018 respectively. This great leap is due to the central government push for easy loan procedure and RBI's reduction of SLR and other monetary rates to release more credit for loaning purpose. Thus, data before 2017-2018 and after 2018-2019 become unparalleled for continue study for pattern analysis in Objective 1. Hence, the study is divided in two parts, first part from 2011-2012 to 2017-2018 and the second part from 2018-2019 to 2022-2023.

The One-Way Anova results that there are no significant differences in the average performance score of Public and Private Sector Banks for total PSL, agriculture, micro enterprises and weaker sections advances, even though, the quantum of advances of Public Sector Banks are higher than that of Private Sector Banks. Therefore, the Reserve Bank of India should implement quantitative measures to incentivize private banks to extend loans to economically disadvantaged and neglected sectors. The absence of a social purpose among private banks must be remedied by imposing a portion of their moral obligation on them, as opposed to limiting it to the achievement of their objectives alone. This can be accomplished through awareness campaigns among bank employees and the establishment of additional benefits by the RBI in recognition of exceptional achievements in this area; thus, a carrot approach rather than a stick approach is more appropriate. Furthermore, in order to prevent disruptions to their lending patterns and, consequently, priority sectors, each bank must establish a robust buffer. Because a multiplication of the economy's decline is possible if priority sectors, which constitute its foundation, are adversely affected by an already-crisis economy. Consistent growth rates and compound annual growth rates (CAGRs) are identified, indicating that the economy is diligently striving to allocate sufficient funds to critical sectors that hold the capacity to yield numerous advantages such as job creation, capital development, industrial progress, poverty alleviation, and ultimately contribute to the prosperity of the country.

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12. Report on Trends and Progress, RBI, Various Issues.

Role of MSMEs in Indian Economy: With Special Reference to Employment

Prof. Jagadish Singh & Dr. Udham Singh

Abstract

The MSMEs in India are playing a crucial role by providing large employment opportunities at comparatively lower capital cost than large industries as well as through industrialization of rural & backward areas, inter alia, reducing regional imbalances, assuring more equitable distribution of national income and wealth. The MSME sector has achieved a significant milestone by generating over 15 crore employment opportunities. This remarkable achievement was announced by Union Minister for Micro, Small and Medium Enterprises (MSMEs) Shri Narayan Rane. Shri Rane highlighted the important role of the Udyam portal in facilitating this achievement with the registration of over 3 crore MSME units on the Udyam portal, including 99 lakh informal MSME units registered on the Udyam Assist portal. Out of these 3 crore registered MSMEs, more than 41 lakh are women owned MSMEs. The Minister also emphasized the significant contribution of women workers in the MSME sector. He noted that among the 15 crore employment opportunities generated, over 3.4 crore are held by women. As per the latest information received from Ministry of Statistics & Programme Implementation, the share of MSME Gross Value Added (GVA) in all India Gross Domestic Product (GDP) during the year 2019-20, 2020-21 and 2021-22 was 30.5%, 27.2% and 29.2% respectively. The share of MSME manufacturing output in all India Manufacturing output during the year 2019-20, 2020-21 and 2021-22 was 36.6%, 36.9% and 36.2% respectively. It is clear from this data that MSME sector has an important contribution in India's growth rate and in providing employment.

Keywords: MSMEs, Growth Performance, Sustainable Development, GVA, GDP and Employment.

Introduction:

The MSMEs are widening their domain across sectors of the economy, producing diverse range of products and services to meet demands of domestic as well as global markets. The

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MSMEs in India are playing a crucial role by providing large employment opportunities at comparatively lower capital cost than large industries as well as through industrialization of rural & backward areas, inter alia, reducing regional imbalances, assuring more equitable distribution of national income and wealth. The MSME sector has achieved a significant milestone by generating over 15 crore employment opportunities. This remarkable achievement was announced by Union Minister for Micro, Small and Medium Enterprises (MSMEs) Shri Narayan Rane. Shri Rane highlighted the important role of the Udyam portal in facilitating this achievement with the registration of over 3 crore MSME units on the Udyam portal, including 99 lakh informal MSME units registered on the Udyam Assist portal. Out of these 3 crore registered MSMEs, more than 41 lakh are women owned MSMEs. The Minister also emphasized the significant contribution of women workers in the MSME sector. He noted that among the 15 crore employment opportunities generated, over 3.4 crore are held by women. This reflects the government's commitment to promote women entrepreneurship and empower women through the MSME sector. The Minister attributed this success to the visionary leadership of Hon'ble Prime Minister Shri Narendra Modi Ji, whose unwavering support for the MSME sector has been instrumental in its growth and development. Shri Rane added that under the Prime Minister's guidance, the MSME Ministry is actively promoting micro, small, and medium entrepreneurs, creating new livelihoods and empowering individuals across the country. The Union Minister further stated that this significant milestone is a testament to the resilience and dedication of MSMEs. The government's continued support and initiatives will further strengthen the MSME sector, contributing to India's economic growth and prosperity.

Objectives:

These are main objectives of the study:

- 1- To examine the contribution of MSME sector to GDP.
- 2- To examine the role of MSME sector in employment.

Methodology:

The study is based on secondary data and it has been collected from various resources as Books, Journals, Govt. Publications, MSME Act-2006, Ministry of MSME Annual Report-202-21, 2021-22 and 2022-23, Economic survey, Website etc. Simple analysis tool applied by me, that is tabulation, Figure, average and percentage etc.

Review of Literature:

Dey (2014) added that MSMEs in addition to contributing significantly to GDP, output and employment, also facilitates availability of goods and services to the economy at affordable costs and offers innovative solutions. Venkatesh et al. (2012) also found that in recent years the role of small industries are growing rapidly with the growth of Indian market especially in various industries like "manufacturing, food processing, textile and garment, retail, precision

engineering, information technology, pharmaceuticals, agro and service sectors". The MSME sector has been rightfully termed "engine of growth" by economists. The latest MSME Census of 2006-07 in India has reported that the total employment in the registered sector was 93.09 lakhs. The data for unregistered sector is only an estimate, but it is exponentially higher than employment in registered sector. Srinivas (2013) compared the data over the years and concluded that "the contribution of the MSME sector to Indian GDP is progressively increasing". Paramasivan et al. (2013) focused on progress and performance of MSMEs and found that the sector meets the local and global demands with its unique offerings of goods and services. The sector has performed very well in India even after globalisation and has the potential to achieve sustainable development of the country with its self-reliance aspects.

Definition of Micro, Small and Medium enterprises:

Micro, Small & Medium Enterprises (MSME) is the pillar of economic growth of India. MSME has played a prominent role in the development of the country in terms of creating employment opportunities- MSMEs contribute 29 per cent to India's gross domestic product and comprise almost half of its exports. These units employ over 11 crore workers. MSME's are the backbone of Indian industry. Though India is still facing infrastructural problems, lack of proper market linkages, and challenges in terms of flow of institutional credit, it has seen a tremendous growth in this sector.

Old Definition of MSME: (Table 1)

OLD DEFINITION OF MSME TILL 30 TH JUNE 2020		
Sector	Enterprises for Manufacturing Processing Units	Enterprises Engaged in Providing Services
Micro Enterprise	Investment in plant & machinery not exceeding Rs. 25Lakh.	Investment in equipment not to exceed rs. 10 lakh.
Small Enterprise	More than Rs. 25 lakh but not to exceed rs. 5 crore	More than Rs. 10 lakh but not to exceed rs. 2 crore
Medium Enterprise	More than rs. 5 crore but not to exceed rs. 10 crore	More than Rs. 2 crore but not to exceed rs. 5 crore

Revised Classification of MSME Effected From 1st July 2020 (Table 2)

Composite Criteria for Manufacturing Enterprises and Enterprises Rendering Services: Investment and Annual Turnover			
Classification	Micro	Small	Medium
Investment in Plant and Machinery or Equipment	Not more than Rs. 1Crore	Not more than Rs. 10 Crore	Not more than Rs. 50 Crore
Annual Turnover	Not more than Rs. 5 Crore	Not more than Rs. 50 Crore	Not more than Rs. 250 Crore

The new classification has come into effect from 1st July, 2020. The earlier criteria of classification of MSMEs under MSMED Act, 2006 were based on investment in plant and machinery / equipment. It was different for manufacturing and service units. It was also very low in terms of financial limits. Since then, the economy has undergone significant changes. A revision in MSME criteria of classification was announced under Aatma Nirbhar Bharat package on 13th May, 2020. This has been done in order to be realistic with time and to establish an objective system of classification and to provide ease of doing business. As a result, a new composite classification for manufacturing and service units has been notified on 26.06.2020, to facilitate the present and prospective entrepreneurs. Now, there will be no difference between manufacturing and service sectors. Also, a new criterion of turnover has been added in the previous criterion of classification based only on investment in plant and machinery. The new criteria are expected to bring about many benefits that will aid MSMEs to grow in size. It has also been decided that the turnover with respect to exports will not be counted in the limits of turnover for any category of MSME units whether micro, small or medium. This is yet another step towards ease of doing business. This will help in attracting investments and creating more jobs in the MSME sector. The change in criteria of classifying the MSMEs is set to offer major relief to the exporters. The primary responsibility of promotion and development of MSMEs is of the State Governments. However, the Government of India, supplements efforts of the State Governments through various initiatives. The role of the Ministry of MSME and its organisations is to assist the States in their efforts to encourage entrepreneurship, employment and livelihood opportunities and enhance the competitiveness of MSMEs in the changed economic scenario.

Recent Developments:

Udyam Registration: This Ministry, vide notification no. S.O.2119 (E) dated 26.06.2020, has notified a composite criteria of classification of MSMEs based on investment in plant & Machinery/equipment and turnover of MSMEs. Based on composite criteria of classification of MSMEs, this Ministry has replaced the erstwhile process of filing of Udyog Aadhaar Memorandum, by 'Udyam' registration on a portal developed by this Ministry. Now the existing and prospective entrepreneurs may file their 'Udyam' Registration online on portal: <https://udyamregistration.gov.in>. As on 04.01.2023 a total number of 65,23,067 were classified, consisting of 36,75,597 enterprises registered under Manufacturing category and 94,18,101 enterprises registered under Service sector. The amendment provides that "In case of an upward change in terms of investment in plant and machinery or equipment or turnover or both, and consequent re-classification, an enterprise shall continue to avail of all non-tax benefits of the category (micro or small or medium) it was in before the re-classification, for a period of three years from the date of such upward change."

Role of MSMEs in Indian Economy:

MSMEs contribution should be seen not only in terms of output, employment, income, investment or exports but also in terms of qualitative indicators such as their synergies with large industries, contribution towards balanced regional growth, participation in nurturing the entrepreneurial spirit, innovation and in producing skilled and trained manpower”. (Farajollahzadeh et al.,2016) As echoed by India Brand Equity Foundation (2013), it is reported that, “While a key achievement of MSMEs over time has been their talent in utilising available domestic resources to deliver quality products and services, these firms have made their presence felt across India’s key sectors as well as in prominent export markets. The Micro, Small & Medium Enterprises (MSMEs) have been contributing significantly to the expansion of entrepreneurial endeavours through business innovations. The MSMEs are widening their domain across sectors of the economy, producing diverse range of products and services to meet demands of domestic as well as global markets. As per the data available with Central Statistics Office (CSO), M/o Statistics & Programme Implementation, the contribution of MSME sector in Country’s Gross Value Added (GVA) and Gross Domestic Product (GDP) at current prices from 2014-15 to 2018-19 is as below:

Share of Gross Value Added (GVA) of MSME in all India GDP (Table 3)

Figures in Rs. Crores adjusted fir FISIM at current prices						
Year	Total MSME GVA	Growth (%)	Total GVA	Share of MSME IN GVA (%)	All India GDP	Share of MSME IN All India GDP (in %)
2014-15	3658196	-	11504279	31.80	12467959	29.34
2015-16	4059660	10.97	12574499	32.28	13771874	29.48
2016-17	4502129	10.90	13965200	32.24	15391669	29.25
2017-18	5086493	12.98	15513122	32.79	17098304	29.75
2018-19	5741765	12.88	17139962	33.50	18971237	30.27

Source:Central Statistics Office (CSO) Ministry of Statistics and Programme Implementation.

As per the latest information received from Ministry of Statistics & Programme Implementation, the share of MSME Gross Value Added (GVA) in all India Gross Domestic Product (GDP) during the year 2019-20, 2020-21 and 2021-22 was 30.5%, 27.2% and 29.2% respectively. The share of MSME manufacturing output in all India Manufacturing output during the year 2019-20, 2020-21 and 2021-22 was 36.6%, 36.9% and 36.2% respectively.As per the information received from Directorate General of Commercial Intelligence and Statistics (DGCIS), the share of export of MSME specified products in all India exports during the year 2020-21,

2021-22 and 2022-23 was 49.4%, 45.0% and 43.6% respectively. As on 02.08.2023, as per Udyam Registration Portal, the total number of persons employed in MSMEs which were registered from 01.07.2020 to 01.08.2023 in India was 12,36,15,681. (State/UT)

The Ministry of Micro, Small and Medium Enterprises implements various schemes for the growth and development of MSME sector in the country in areas of credit support, new enterprise development, formalization, technological assistance, infrastructure development, skill development and training and market assistance to MSMEs. The schemes/programmes inter alia include Prime Minister's Employment Generation Programme (PMEGP), Credit Guarantee Scheme for Micro and Small Enterprises (CGTMSE), Micro and Small Enterprises-Cluster Development Programme (MSE-CDP), Entrepreneurship Skill Development Programme (ESDP), Procurement and Marketing Support Scheme (PMS) and National SC/ST Hub (NSSH).

Employment Status in MSME Sector:

As per the National Sample Survey (NSS) 73rd round conducted during the period 2015-16, MSME sector has been creating 11.10 crore jobs (360.41 lakh in Manufacturing, 0.07 lakh in Non-captive Electricity Generation and Transmission, 387.18 lakh in Trade and 362.82 lakh in Other Services) in the rural and the urban areas across the country. Table 4 shows the distribution of MSMEs activity wise.

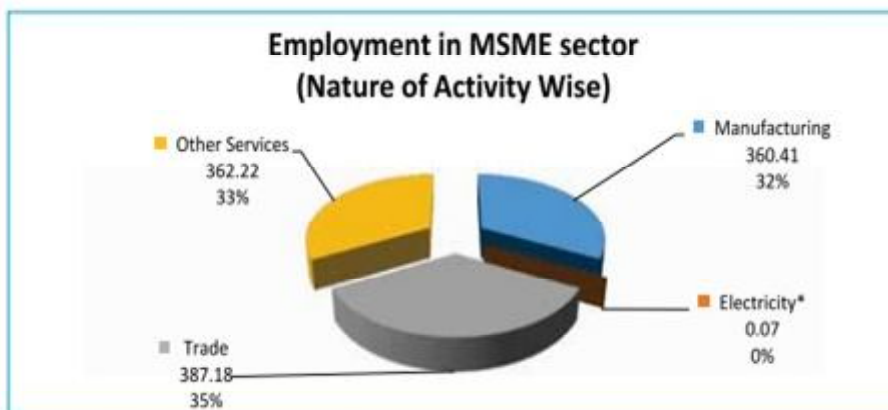
Estimated Employment in the MSME Sector(Activity wise) ,Table 4.

**Broad activity category Employment (in Lakh)(NSS) 73rd round, period 2015-16
Share%**

Broad activity category	Employment (in Lakh)(NSS) 73rd round, period 2015-16			Share%
	Rural	Urban	Total	
1	2	3	4	5
Manufacturing	186.56	173.86	360.41	32
Electricity*	0.06	0.02	0.07	0
Trade	160.64	226.54	387.18	35
Other Services	150.53	211.69	362.22	33
All	497.78	612.10	1109.89	100

*Non Captive electricity generation and transmission

Distribution of employment in the MSME sector category wise:



**Non-captive electricity generation and transmission*

Distribution of employment by type of Enterprises in Rural and Urban Areas: (Table 5)

(Numbers in Lakh)

Sector	Micro	Small	Medium	Total	Share%
Rural	489.30	7.88	0.60	497.78	45
Urban	586.88	24.06	1.16	612.10	55
All	1076.19	31.95	1.75	1109.88	100

Percentage Share of employment in Rural and Urban MSMEs in the Country:

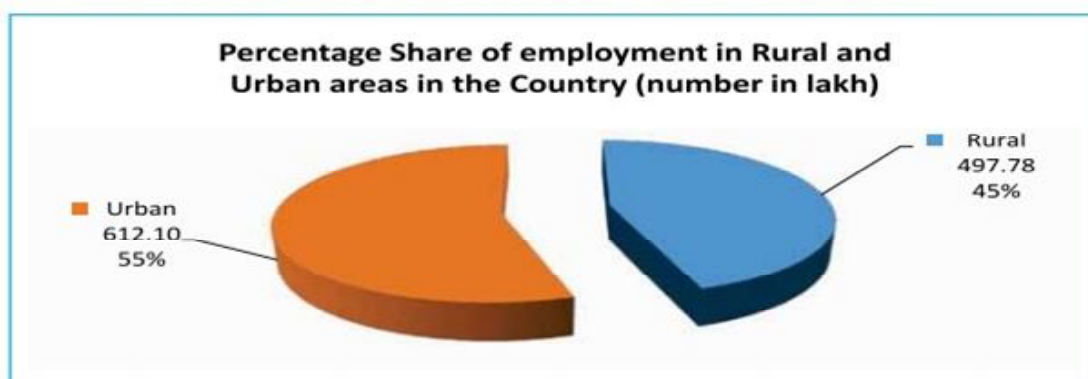
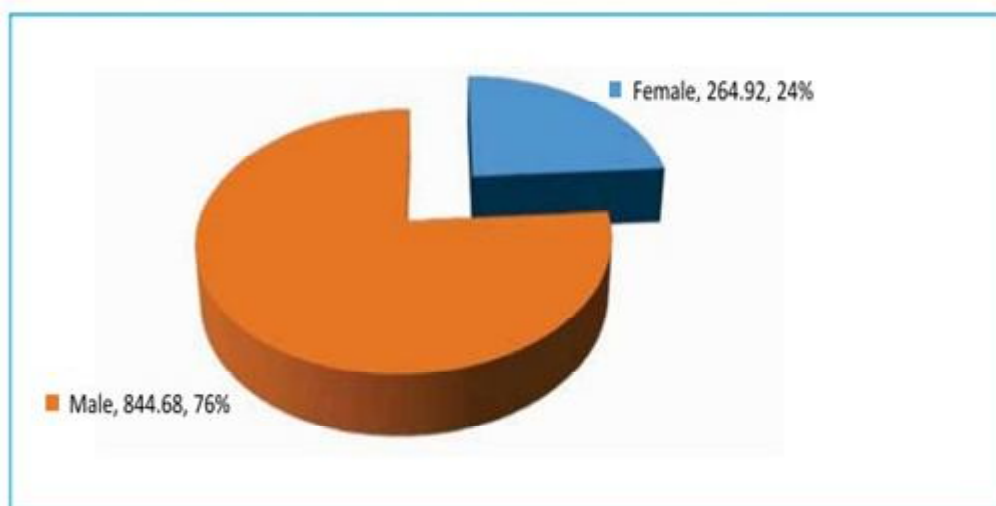


Table 5 show the sectoral distribution of workers in Urban and Rural category. Out of 1109.88lakh employees in MSME sector, 612.10 lakh (55%) are urban employees and remaining 497.78 lakh (45 %) are rural.

Distribution of workers by gender in rural & urban areas: (Numbers in lakh)

(Table 6)

Sector	Female	Male	Total	Share(%)
Rural	137.50	360.15	497.78	45
Urban	127.42	484.54	612.10	55
Total	264.92	844.68	11088	100
Share(%)	24	76	100	



Out of 1109.88 lakh employees in MSME sector, 844.68 (76%) are male employees and remaining 264.92 lakh (24%) are females. Table 6 show the sectoral distribution of workers in male and female category.

State-wise Distribution of estimated MSMEs :

State of Uttar Pradesh had the largest number of estimated MSMEs with a share of 14.20% of MSMEs in the country. Top 10 States accounted for a share of 74.05% of the total estimated number of MSMEs in the country.

Comparative distribution of top ten states: (Table 7)

SL. NO.	State/UT	NSS 73 rd round*		4 th All India Census of MSME & 5 th Economic Census**	
		Number of MSME(in Lakh)	Share of MSME(%)	Number of MSME (in Lakh)	Share of MSME(%)
1	Uttar Pradesh	89.99	14	44.03	12
2	West Bengal	88.67	14	34.64	10
3	Tamil Nadu	49.48	8	33.13	9
4	Maharashtra	47.78	8	30.63	8
5	Karnataka	38.34	6	20.19	6
6	Bihar	34.46	5	14.70	4
7	Andhra Pradesh***	33.87	5	25.96	7
8	Gujrat	33.16	5	21.78	6
9	Rajsthan	26.87	4	16.64	5
10	Madhya Pradesh	26.74	4	19.33	5
11	Total of above Ten States	469.4	74	261.04	72
12	Other States/UTs	164.5	26	100.72	28
13	ALL	633.9	100	361.76	100

*NSS 73rd Round, 2015-16,

**Fourth All India Census of MSME, 2006-07(Unregistred sector) and 5th Economic Census,

***Including Telangana in Fourth All India Census of MSME.

According to NSS 73rd round survey Uttar Pradesh has the maximum number of MSME (89.99), With 2nd number is West Bengal, 3rd is Tamilnadu and 4th is Maharashtra.

Challenges Faced by MSMEs in India :

The main challenges of MSMEs sector are as follows:

- 1- Access to Finance
- 2- Problem of Marketing and Sales
- 3- Problem of Technology Adoption
- 4- Lack of Skilled Manpower
- 5- Lack of Infrastructure as road, transport, water and electricity
- 6- Problem of healthy environment
- 7- Problem of raw material
- 8- Corruption etc.

SUGGESTION:

1-Access to Capital: MSMEs often struggle to secure funding. Simplifying loan processes, promoting alternative financing options, and encouraging venture capital investments can enhance their financial stability.

2-Compliance Burden: Streamlining regulatory compliance is essential. Simplified tax procedures, reduced paperwork, and digital platforms for filings can ease the burden on MSMEs.

3-Skill Development: Fostering digital literacy and vocational training will empower MSMEs to adapt to technological advancements and compete globally.

4-Export Promotion: Encouraging MSMEs to explore international markets through initiatives like the Global Bharat program can boost their growth.

- 5-Increase Marketing and Sales promotion
- 6-Increase awareness of training
- 7-New technology adoption
- 8-Availability of raw material
- 9-Remove corruption
- 10-Enrich infrastructure facilities
- 11-Healthy environment etc.

Conclusion:

The MSMEs in India are playing a crucial role by providing large employment opportunities at comparatively lower capital cost than large industries as well as through industrialization of rural & backward areas, inter alia, reducing regional imbalances, assuring more equitable distribution of national income and wealth. It is clear from this data that MSME sector has an important contribution in India's growth rate and in providing employment. Revised MSME definition eliminating manufacturing and services distinction expected to boost sector growth further. In order for MSMEs to sustain growth, it is imperative that they have access to efficient factors of production which include industry-friendly labor reforms, proper land acquisition policies, modern technology, enabling infrastructure, and simplified tax policies, and thus the government must prioritize these areas to ensure that MSMEs can expand their services, enhance exports, and drive growth in the Indian economy. So, we can say that MSME have more capacity to provide employment, hence the government should solve the problems of MSMEs and promote them so that more and more people can get employment.

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Renewable Energy in India: Overcoming Challenges and Fostering Sustainability

Divyam Pal & Dr. Garima Maurya

Abstract:

This Research Paper delves into the challenges hindering the effective implementation of renewable energy initiatives in India, ranging from high initial costs and supply chain vulnerabilities to climate-induced energy crises and social disparities. Despite these barriers, the potential impact of renewable energy on mitigating climate change and promoting sustainable development is vast, encompassing environmental, economic, and social dimensions. This descriptive research aims to comprehensively examine India's transition towards renewable energy and green technology, focusing on overcoming barriers and fostering sustainability. It highlights the urgent need for renewable energy adoption amidst rising energy demands and climate change concerns. Through an analysis of renewable energy sources and their benefits, the research underscores their potential in addressing energy security, environmental degradation, and socio-economic disparities. Furthermore, the research evaluates India's progress in adopting renewable energy and green technology, emphasizing key initiatives, policies, and international collaborations. It assesses barriers to implementation, such as high initial costs and reliability concerns, to provide a comprehensive understanding of the challenges hindering the transition.

Keywords: *Renewable energy, Implementation challenges, Climate change mitigation, Sustainable development, Transition barriers*

INTRODUCTION: “The climate bomb is ticking.” - UN Secretary-General António Guterres during the launch of the recent Synthesis Report of the Intergovernmental Panel on Climate Change. Driven by a burgeoning population of approximately 1.4 billion and boasting the world's fastest-growing major economy, India's energy demands are escalating at a rapid pace. India ranks as the world's third-largest energy consumer, with its peak demand soaring to a historic high of 223 gigawatts (GW) in June 2023, marking a notable 3.4% increase from the previous peak recorded in 2022, as per data from the Ministry of Power. This surge in energy consumption is anticipated to persist, fuelled by factors such as industrial expansion, urbanization, government initiatives, and favourable geopolitical conditions. As of November

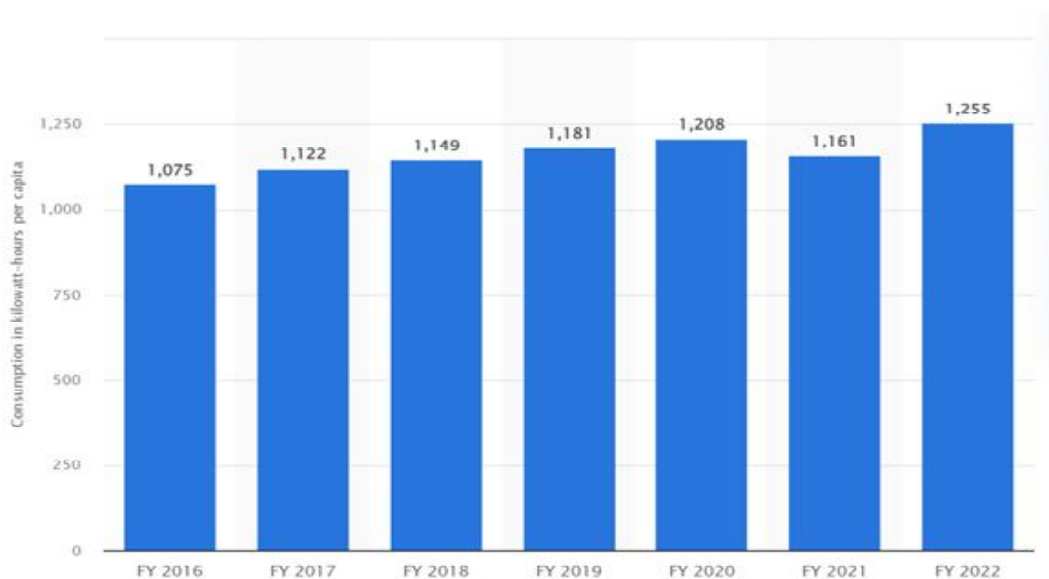
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2023, India’s installed power generation capacity is 4,26,132 MW, with 1,674 MW coming from fossil fuels and 8,269 MW from non-fossil fuels. As of June 2023, the installed capacity for each source is:

- Coal: 205,235 MW (49.3%)
- Lignite: 6,620 MW (1.6%)
- Gas: 24,824 MW (6.0%)
- Diesel: 589 MW (0.1%)
- Hydro: 46,850 MW (11.2%)
- Wind, Solar & Other RE: 125,692 MW (30.2%)
- Nuclear: 6,780 MW (1.6%)

India’s per capita energy consumption has been steadily increasing over the years, reflecting the country’s economic growth, urbanization, and rising living standards. As India’s economy expands and more people move to urban areas, there is a greater demand for energy to power homes, businesses, industries, and transportation.



Objectives of the study:

To identify and discuss the barriers hindering the widespread adoption of renewable energy in India, including policy and regulatory constraints.

To analyze existing policies and regulations promoting renewable energy adoption in India. To explore technological innovations in the renewable energy sector, examining advancements

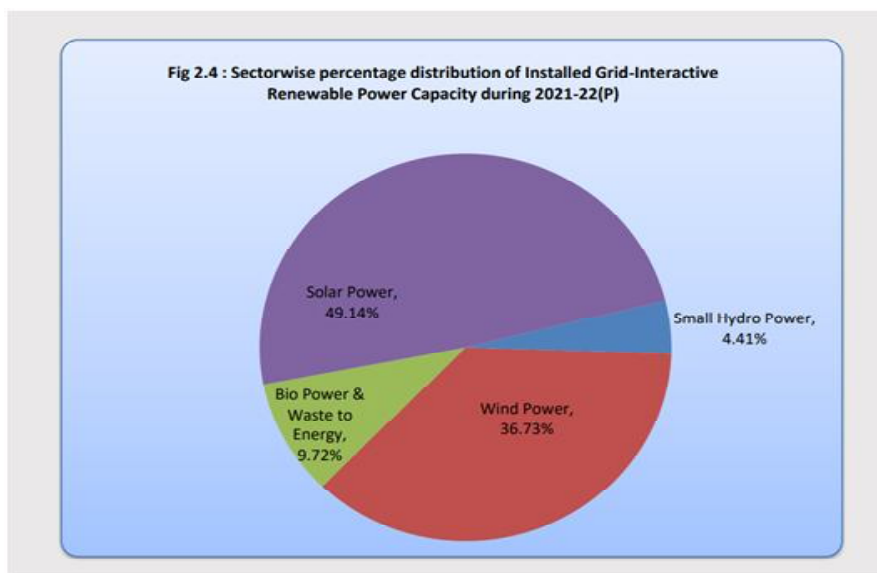
To investigate socio-economic factors influencing renewable energy adoption, including barriers faced by communities and society.

To assess the impact of renewable energy on environmental sustainability in India.

1. Overview of Renewable Energy.

Renewable energy sources are replenished sustainably, offering a cleaner alternative to fossil fuels, thus mitigating climate change. Common sources include:

- Solar energy: Utilizes sunlight for electricity or water heating, with vast expansion potential.
- Wind energy: Converts kinetic energy into electricity via wind turbines, contributing globally.
- Hydropower: Generates electricity from flowing water, providing reliability and flexibility.
- Biomass energy: Derives from organic materials, promoting sustainability through biofuels and biogas.
- Geothermal energy: Taps into Earth's heat for electricity or heating/cooling systems.
- Ocean energy: Harnesses energy from waves, tides, currents, and thermal gradients, diversifying renewable sources.



Benefits of renewable energy:

- Private sector involvement: The government's target of 450GW from renewables incentivizes private sector participation in design and manufacturing, boosting profits.

- **Low maintenance costs:** Renewable energy sources like wind, solar, and biomass require minimal maintenance, reducing labor costs and increasing operational hours.
- **Environmentally friendly:** With negligible carbon footprint and emissions, renewables mitigate pollution and greenhouse gases, aligning with environmental goals.
- **Government objectives:** Renewable energy supports various government initiatives such as Panchamrit goals, Sustainable Development Goals (SDGs), Make in India, Paris Climate Deal commitments, and employment generation.
- **Decentralization:** Renewable energy plants can be located closer to demand centers, reducing dependence on national grids and improving energy access in remote areas.

Factors driving demand for Renewables:

- Waiver of inter-state transmission charges and renewable purchase obligations (RPO) targets boost demand.
- FDI liberalization accelerates progress.
- Post-COVID economic rebound increases electricity demand.
- Falling renewable energy prices enhance affordability.
- 5. Government support schemes promote domestic manufacturing of solar photovoltaic modules.

Need for transition to renewable energy:

- Addressing climate crisis by reducing reliance on fossil fuels and promoting energy security.
- Mitigating supply volatility caused by geopolitical tensions and sanctions on major energy producers.
- Promoting sustainable development and green economy by reducing pollution externalities.
- Fulfilling commitments under the Paris Climate Agreement and achieving national carbon emission reduction targets.
- Government targets to achieve net-zero carbon emissions by 2070 and expand renewable energy capacity to 500 GW by 2030 underscore the urgency of transition.

2. India's progress in adopting renewable energy and green technology

- **Renewable Energy Capacity Expansion:** India has experienced significant growth in renewable energy capacity, surpassing 100 GW in 2021. Solar and wind energy lead this expansion, with investments in utility-scale projects driving capacity additions.
- **Ambitious Renewable Energy Targets:** India has set ambitious targets for renewable energy deployment. The National Solar Mission aims for 100 GW of solar capacity

by 2022, and the National Wind Energy Mission targets 60 GW of wind capacity by the same year. India aims for 175 GW by 2022 and 450 GW by 2030 under its National Action Plan on Climate Change.

- **Policy Support and Incentives:** Various policies and incentives promote renewable energy adoption. Initiatives like feed-in tariffs, incentives, and tax benefits stimulate investments. Projects like the Green Energy Corridor strengthen grid infrastructure for renewables.
- **International Collaboration:** India collaborates internationally to accelerate renewable energy deployment. Initiatives like the International Solar Alliance mobilize investment and technology transfer. Partnerships with international organizations provide funding and expertise. India is setting up a web of energy relationships in the extended neighborhood covering Myanmar, Vietnam in the east, with Central Asian countries like Kazakhstan and Gulf countries in the west.
- **Indo-US Nuclear deal** opened new vistas for India in field of Nuclear energy facilitating cutting edge technology and nuclear fuel. India has started to engage with China, Kazakhstan and Australia for nuclear fuel.
- **India's SCO membership** could now play a bigger role in ensuring greater energy cooperation between energy producers and consumers by linking Central Asia and South Asia
- **Technological Innovation:** India invests in R&D to advance renewable energy technologies. Institutions like Ministry of New and Renewable Energy (MNRE) and IREDA support R&D, pilot projects, and technology demonstrations. Collaboration among academia, industry, and government facilitates technology transfer.
- **In FY 2021-22,** India saw a notable shift towards renewable energy sources, with RES capacity in the utility sector growing by 16.4%, while thermal energy saw only a marginal increase of 0.06%. This trend signals a significant momentum towards sustainable energy alternatives in India's energy landscape.
- **India has initiated international collaborations** to address energy challenges. The India Energy Modeling Forum, established in partnership with the US, facilitates energy modeling research. Additionally, India launched the International Solar Alliance (ISA), a treaty-based intergovernmental organization. ISA's goal is to mobilize over \$1000 billion by 2030 to accelerate the global deployment of solar energy.

Indian Government's Renewable Energy Promotion Schemes

- **National Solar Mission (NSM):** Launched in 2010, this initiative promotes the use of solar energy for grid-connected and off-grid applications
- **National Bioenergy Programme:** This program has been recommended for implementation in two phases, with the first phase approved with a budget of Rs. 858 crore

- Development of Solar Parks and Ultra Mega Solar Power Projects: This scheme has been extended up to FY2025-26
- Biofuel: The National Policy on Biofuels mandates a blending of biofuels of approximately 20% of biofuels in transport fuels
- Hydropower Development : India aims to harness its hydropower potential while taking into consideration environmental concerns

Efforts Towards Green Energy Transition:

- In 2019 India announced that it would take up its installed capacity of renewable energy to 450 GW by 2030.
- The PLI scheme is another initiative of the Government of India for enhancing the manufacturing sector for the production of raw materials for renewable energy.
- The PM- KUSUM (Pradhan Mantri-Kisan Urja Suraksha evam Utthaan Mahabhiyan) aims to provide financial and water security to farmers through harnessing solar energy capacities of 25,750 MW by 2022.
- Solarisation of water pumps is a step in distributed power provided at the doorstep of the consumer.
- The Ministry of New and Renewable Energy on its website also hosts Akshay Urja Portal and India Renewable Idea Exchange (IRIX) Portal.
- IRIX is a platform that promotes the exchange of ideas among energy - conscious Indians and the Global community.

The Initiatives Shaping India's Energy Transition:

1. Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA).
2. Green Energy Corridor (GEC).
3. National Smart Grid Mission (NSGM) and Smart Meter National Programme.
4. Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME).
5. International Solar Alliance (ISA).

3. Barriers to Renewable Energy Implementation in India

- High Initial Cost: Renewable energy projects, such as wind-based plants, require higher upfront investment per megawatt (MW) than coal-based alternatives, hindering widespread adoption.

- **Reliability:** Solar and wind energy's variable availability necessitates backup from conventional power sources to maintain consistent energy supply.
- **Storage Infrastructure:** Affordable, high-capacity batteries are crucial to address the intermittent nature of renewable energy sources.
- **Poor DISCOMs' Condition:** Financial difficulties faced by state-owned power distribution companies (DISCOMs) impede further renewable expansion due to heavy debts.
- **Funding:** Large-scale renewable energy projects demand substantial initial investment, deterring private sector participation.
- **Low Social Acceptance:** Limited uptake of renewable energy systems in urban areas persists due to societal resistance, despite government incentives.
- **Weak Domestic Manufacturing Capability:** Insufficient domestic manufacturing capacity for renewable energy components hinders self-sufficiency goals, leading to reliance on imports.
- **Sustainability:** Balancing reliable energy access and affordability for consumers while maintaining financial stability for DISCOMs is crucial for sustainable energy growth.
- **Integration into the National Grid:** Secure and reliable integration of growing renewable energy shares into the national grid necessitates robust infrastructure and coordinated efforts.
- **Energy Poverty and Inequality:** Addressing energy poverty, particularly in rural areas where up to 44% of households lack electricity access, remains a challenge. Despite initiatives, logistical issues and inadequate implementation hinder progress.
- **Import Dependence and Supply Chain Vulnerability:** India heavily relies on imported oil and solar modules, mainly from China, posing risks to energy security amid disrupted global supply chains.
- **Climate Change-induced Energy Crisis:** Climate change disrupts fuel supply, increases energy demand, and compromises energy infrastructure resilience, particularly evident during heatwaves and erratic monsoons.
- **Women's Health Risks:** Women exposed to household energy from non-clean sources like firewood face higher risks of respiratory, cardiovascular, and psychological diseases, impacting maternal and infant mortality rates.
- **Coal Supply-Demand Gap:** Despite ample reserves, India faces a widening gap between coal demand and domestic supply, exacerbated by declining extraction rates and unresolved contractual issues.
- **Increasing Energy Demand and Costs:** Urbanization and industrialization drive energy demand surge by over 3% annually, coinciding with soaring global petroleum prices, raising domestic energy costs.

4. Impact of Renewable Energy and Green Technology on Climate Change and Sustainable Development

Renewable energy has several advantages such as minimal greenhouse gas emissions that reduce air pollution, enhance energy security and diversify the energy mix. It is becoming increasingly cost-competitive with conventional sources, attracting investments, driving innovation and promoting sustainable development. Furthermore, it provides clean and affordable energy access, improves living standards, health outcomes, socio-economic opportunities and decentralizes energy production, reducing the risk of power outages. Investing in renewable energy not only addresses environmental concerns but also fosters economic growth, social development, and technological innovation, leading towards a sustainable and prosperous future. They significantly contribute to achieving Sustainable Development Goals (SDGs), addressing global challenges while fostering economic prosperity, social equity, and environmental sustainability. Through their alignment with various SDGs, these initiatives offer solutions to pressing issues, accelerating progress towards a sustainable future.

Goal 3: Good Health and Well-being: Access to clean energy improves public health by reducing air pollution, leading to better health outcomes and improved quality of life.

Goal 7: Affordable and Clean Energy: Renewable energy sources ensure affordable, reliable, and clean energy access for all. Expanding renewable energy infrastructure reduces reliance on fossil fuels and mitigates air pollution.

Goal 8: Decent Work and Economic Growth: The renewable energy sector creates employment opportunities and drives economic growth, promoting inclusive and sustainable economic development.

Goal 9: Industry, Innovation, and Infrastructure: Green technology drives innovation and sustainable industrial practices, supporting sustainable infrastructure development and creating employment opportunities.

Goal 11: Sustainable Cities and Communities: Renewable energy adoption in urban areas contributes to building resilient, inclusive, and environmentally sustainable cities and communities.

Goal 12: Responsible Consumption and Production: Green technology promotes resource efficiency and waste reduction, minimizing environmental impact and enhancing sustainability.

Goal 13: Climate Action: Renewable energy mitigates greenhouse gas emissions, reduces carbon footprint, enhances climate resilience, and supports global efforts to combat climate change.

4. Accelerating Transition to Renewable Energy and Green Technology in India: Evidence-Based Solutions

- **Environmental Benefits:** Renewable energy sources such as solar, wind, hydroelectric, and biomass minimize air pollutants and carbon emissions during electricity generation, safeguarding environmental health.

- **Economic Opportunities:** Transitioning to renewable energy drives investments in infrastructure, manufacturing, and research, spurring economic growth and innovation. This creates job opportunities across various sectors, including construction, engineering, and maintenance, leading to substantial job creation.
- **Social Inclusion:** Prioritizing social equity in renewable energy deployment ensures fair distribution of benefits across society. By providing access to clean, affordable energy, renewables empower marginalized communities and promote community development.

5. Ways Forward:

- **Facilitating Foreign Direct Investment (FDI) up to 100 percent via the automatic route:** This policy enables foreign investors to engage in renewable energy projects in India seamlessly, eliminating the need for prior approval and fostering greater foreign participation in the sector.
- **Exemption of Inter State Transmission System (ISTS) charges for interstate solar and wind power transactions:** ISTS charges are waived for projects operational by June 30, 2025, incentivizing the sale and transmission of renewable energy across state borders.
- **Expansion of transmission infrastructure:** The government is investing in the development of new transmission lines and substations to bolster the capacity for transmitting renewable power from generation sites to the grid.
- **Introduction of Renewable Purchase Obligation (RPO) trajectory:** RPO targets are delineated through 2022, compelling obligated entities to procure a designated percentage of their energy from renewable sources, thereby stimulating demand for renewable energy.
- **Establishment of Renewable Energy (RE) parks:** RE parks offer developers land and transmission infrastructure on a plug-and-play basis, streamlining the process of establishing renewable energy projects.
- **Strategic Planning for Long-term Success:** Given the substantial investment required to scale up renewable energy infrastructure, it's imperative to establish clear policy direction well in advance. This allows the private sector to make informed, long-term investment decisions, contributing to the stability and growth of the renewable energy sector.
- **Minimize Policy Uncertainty:** Continuous changes in policies can disrupt investor confidence and hinder the growth of renewable energy projects. To avoid this, the government should engage with all stakeholders, gather extensive research, and solicit input before implementing or modifying policies. This collaborative approach ensures that policies are well-informed, consistent, and supportive of industry growth.

- **Introduction of Innovative Regulatory and Policy Frameworks:** Implementing new regulatory and policy frameworks can enhance flexibility and efficiency in the renewable energy sector. This may involve the establishment of a unified renewable energy regulator or a federal commission tasked with overseeing the generation and distribution of renewable energy resources. Such frameworks streamline processes, reduce bureaucratic hurdles, and foster a conducive environment for investment and innovation.
- **Promotion of Renewable Energy Technology as a Global Public Good:** To accelerate the adoption of renewable energy worldwide, it's essential to treat renewable energy technology as a global public good. This includes removing barriers to technology transfer, such as intellectual property restrictions, and fostering international collaboration on research, development, and deployment of renewable energy solutions.
- **Investment in Infrastructure and Grid Modernization:** Alongside policy initiatives, investments in infrastructure and grid modernization are critical for the widespread adoption of renewable energy. Upgrading transmission and distribution networks to accommodate intermittent renewable energy sources, such as solar and wind, improves reliability and efficiency, facilitating the integration of renewable energy into the grid.
- **Promotion of Renewable Energy Education and Awareness:** Increasing public awareness and understanding of renewable energy technologies and their benefits can drive demand and support for renewable energy policies. Education initiatives, outreach programs, and public campaigns can empower individuals and communities to embrace renewable energy solutions, fostering a culture of sustainability and environmental stewardship.

CONCLUSION:

In conclusion, the transition towards renewable energy and green technology represents a critical imperative for India's sustainable development trajectory and its commitments to global climate action. Despite notable strides and ambitious targets, the endeavor encounters various challenges, encompassing financial constraints, technological limitations, and institutional deficiencies.

However, the potential dividends of renewable energy adoption are multifaceted, spanning environmental, economic, and social spheres. By significantly mitigating greenhouse gas emissions, enhancing energy security, and diversifying the energy matrix, renewable energy offers a viable pathway towards a more sustainable energy future. Moreover, its deployment fosters economic growth, cultivates job creation, and stimulates innovation across diverse sectors, amplifying its socio-economic impact.

Furthermore, renewable energy holds promise in promoting social inclusivity by democratizing energy access, ameliorating living standards, and augmenting health outcomes, especially in marginalized communities.

To expedite the transition towards renewable energy, evidence-based strategies are paramount. These encompass policy reforms, financial incentives, infrastructure augmentation, and international collaboration. Long-term planning, policy coherence, and stakeholder engagement are pivotal in navigating the complex landscape of renewable energy deployment.

Crucially, investments in infrastructure, grid modernization, and public awareness campaigns are imperative to garner public support and foster widespread adoption. Through concerted efforts to surmount barriers and capitalize on opportunities, India can harness the transformative potential of renewable energy and green technology to realize its sustainable development aspirations, mitigate climate change impacts, and forge a resilient and equitable future for its populace.

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Role of Digitalization and Banking Sector in Implementing Government Scheme for Financial Inclusion (Through the Jam Trinity)

Rahul Singh

Abstract

This research shows the role of digitalization and the banking sector in the effective implementation of government schemes for financial inclusion, particularly through the prism of the JAM Trinity (Jan Dhan Yojana, Aadhaar, and Mobile). It scrutinizes how digitalization, propelled by initiatives such as mobile banking, online platforms, and digital payment systems, synergizes with the banking sector to extend the outreach of financial services to the unbanked and underbanked populace. By leveraging Aadhaar biometric authentication and mobile connectivity, the JAM Trinity facilitates seamless access to banking services, enabling individuals at the grassroots level to participate in formal financial channels. The study examines the multifaceted impacts of digitalization on financial inclusion, encompassing enhanced accessibility, affordability, and efficiency in service delivery. Moreover, it analyzes the challenges and opportunities presented by the integration of digital technologies within the banking sector to advance financial inclusion agendas. Through empirical research and case studies, this study provides insights for policymakers, financial institutions, and stakeholders on optimizing the JAM Trinity for inclusive economic growth and societal development.

Keywords:- Digitalization, government schemes, digital, JAM

Introduction

Financial inclusion is the extent of financial services available to every section of society and has been at the frontline of international and national economic debate in the past few years. Providing access to formal financial services including making payments, saving, and creditor insurance to the services necessary for disadvantaged parts of society without any discrimination.

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Studies have proven that financial inclusion is directly related to the growth of a country equally and financial exclusion results in slow growth and increases the rate of poverty in any country (Schuetz and Venkatesh,2019). Despite having potential benefits provided by banking services huge part of the world's adult problem has been left out from even access to the most basic financial service.

As per the global index of finance large proportion of adults without a formal financial account in developed countries is significantly higher. A country like India where a large portion of the Indian population is still identified to be poor requires needed support in the form of financial subsidies from the government (Kumar,2024). As per the economic survey over 10% of the national expenditure of the country has been spent on major studies for the poor section in the past few years but unfortunately still financial inclusion remains one of the biggest challenges in the country.

Initiatives like Jan Dhan aadhaar and mobile yojana will play a key role for people to get included in financial services being provided in the country which will eventually lead to equal growth for all the sections of the country. (Kulkarni and Ghosh,2021)

What is JAM(Jan Dhan Aadhaar and Mobile) trinity

JAM Trinity is a scheme introduced by the government which uses the tool to transfer cash benefits directly into the bank account of the intended beneficiary. It is the key enabler of the transformed undeveloped digital landscape of India in terms of finance. The government of India took the initiative to deal with all the leakage of government subsidies by linking the Jan Dhan accounts aadhaar cards and mobile numbers of Indian citizens (Kulkarni and Ghosh,2021).It is a combination of 3 main modes which are used to deliver direct cash benefits to the beneficiary of a bank account under the scheme of the Government of India. The government has spent over 3,00,000 crore rupees which is over 4% of the total GDP on multiple subsidies And the Jan Dhan aadhaar and mobile Trinity is one of the schemes (Kulkarni and Ghosh,2021)

While the bank accounts have provided millions of Indians easy access to banking services, they have also played the main role in stopping corruption. All the subsidies are directly deposited to the bank account in the form of direct benefit transfer which removes leakages and the scope of any discretionary action (Singh and Singh). Many schemes provided by the government like LPG subsidies are directly reached in the bank account of the beneficiaries and under this scheme, over 14,00,00,000 people are directly receiving cash subsidies (Mahesh et al.,2024). It has also identified and blocked around 3.3 crore duplicate or fraud accounts which has helped the government save thousands of crores. Currently, the government is using direct benefit transfer for over 35 to 40 schemes and approximately 40,000 words directly transferred to the beneficiaries in 2015 only (Neelam and Bhattacharya,2022). Supporting financial inclusion and providing basic banking facilities to the people Government of India has embarked historic move of providing insurance and pension cover to the citizens (Kulkarni and Ghosh,2021).



Source: Ertürk et al.,2021

Significance of financial inclusion in India

Financial inclusion is an essential provision of financial services which focuses on including those who are traditionally excluded or considered underserved by the financial sector. The primary includes individuals who do not earn enough money and once residing in rural populations who do not have much exposure to the financial services being provided by the government and also those who do not have direct access to traditional banking services or financial models to the modern world (Pradhan,2024). The main aim of financial inclusion in India is to provide access to the needy financial services like savings, Credit common insurance and payment to the people who are in need. Financial inclusion in India focuses on putting efforts to provide basic financial services to those who are excluded by the traditional system (Arindam Metia,2024)

The overall budget of India aims at providing benefits to its citizens but even today many unfortunate backward classes remain unaware of the benefits being provided by the government and a chunk of the population is still not receiving the benefits they deserve (Arindam Metia,2024). Financial inclusion in India will focus on ensuring that all the benefits which are being provided by the government are being distributed equally to the unclouded and rural part of the country. The importance of financial inclusion can be seen in the benefits it provides for example increasing financial stability is one of the main goals of financial inclusion (Pradhan,2024). Financial inclusion improves financial stability as the result of successful financial inclusion and as individuals have access to a range of financial products and services which can help them manage finances more efficiently. Greater transparency and accountability

in the financial sector are also the direct benefits of financial inclusion against the backdrop of increasing financial literacy. This is on account of people having access to basic financial services and being able to be a part of the financial system (Pradhan,2024).

Financial inclusion enhances the overall economic well-being of the country. Providing access to the financial sector to the backward people and its services can help them save money and efficiency and effectively employ the same (Pinto and Arora,2024). Funds can be effectively used to plan the future. With the help of the scheme of financial inclusion people can use the financial benefits for educational and health purposes and also for assets which can be instrumental in improving the overall well-being of the economy (Singh and Singh,2024). Giving access to formal financial services helps people make smart decisions and manage risk in terms of finance. Financial inclusion is an essential instrumental tool which increases access to financial markets and provides unlimited opportunities for investment in multiple asset classes with the help of organised segments (Kandpal and Khalaf,2020).

Overall financial inclusion easily helps people participate in the economic activities of the country which eventually improves their standard of living and creates a society which is financially stable and inclusive for all the citizens of the country (Singh and Singh,2024).

Financial education walks towards the demand by generating and promoting awareness among a huge number of people regarding the importance and benefits of financial services offered by the banking and financial sectors. These 2 strategies and combination and the perfect sink arsenal for overall financial stability which is crucial for any nation (Singh and Singh,2024).

Importance of financial inclusion for economic development in any country

Financial inclusion which is considered the main player in reducing income inequality has already become a priority for policymakers all around the globe. there is a huge difference between economic development and economic growth (Neelam and Bhattacharya,2022). The latter term refers to the increase in the total output of a country as well as an increase in the overall productivity that an economy can produce in a specific. Compared to another. In general, economic growth can easily be measured by increasing the overall percentage of gross domestic product after deducting the inflation rate but GDP also has some weaknesses while reflecting the economy of a country since it cannot differentiate between inequality in the distribution of income it only refers to the quantity rather than quality of goods and services being produced and consumed in the country (Goel,2024). Economic development is the relationship between depth in finance and economic growth for which financial inclusion is the main pillar. Focusing on easing access to financial development for the poor section reduces the inequalities and increases living standards in the backward section of society (Zameer and Khan,2024).

If financial inclusion is flexible, it becomes easy to measure the inequality (Kim and Kim,2024). It can be measured by seeing the number of people who are unable to access the financial services being provided by the government and services which result in loss of development opportunities further poverty and cost to access (Goel,2024). Households and firms can also have the opportunities to increase the overall self-reliance and income which positively impact the economic development of a country. Being able to have access to formal financial products and services might result in loss of development opportunities and further cost to have basic access to financial services and development opportunities (Sandhu et al.,2024). when the nation has a developed financial system which is accessible to the majority of people it reduces the cost of information and transactions by a huge number. The government of India is planning to install such a system which impacts the overall savings and long-term growth rate and investment decisions of people belonging to the poor sections (Zameer and Khan,2024).

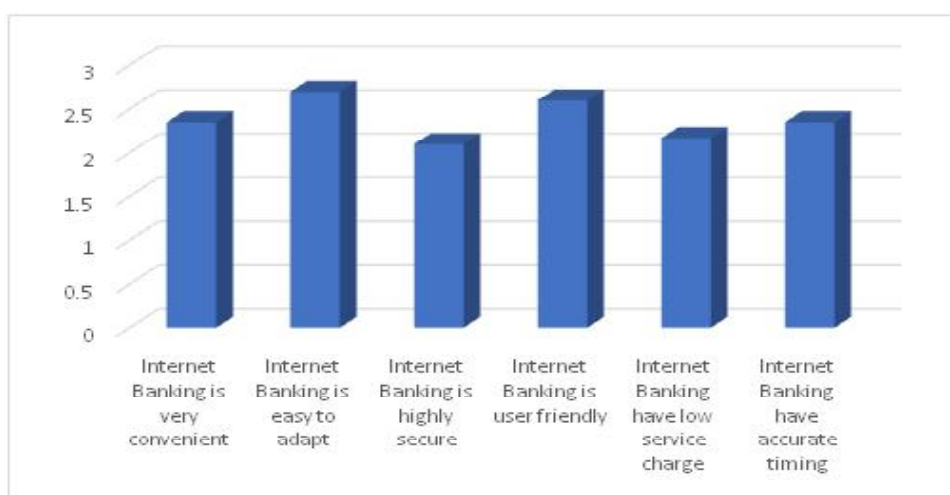
When a section of society is unable to access financial services, it directly relates to financial exclusion which in the long term converts to poverty and inequality in the country. Van a particular person or section of society is excluded when there is unemployment or lack of skill and low income, unstable city in the surrounding environment or bed health is inevitable. All of the mentioned problems can destroy families and an increase in the crime rate because of financial exclusion and illiteracy. Financial exclusion also leads towards social disparity which focuses on making the rich richer and the poor poorer and the overall distribution of GDP collapses (Khokhar and Dutta,2022). Financial inclusion is extremely important for bridging the gap between a rich section of society and the poorer section of society every country has different financial inclusion policies which suit their population. Policies like jam Trinity introduced by the government in India focus on including the unprivileged section of society to bridge the gap between poor Andres and the educated and uneducated sections of society (Zameer and Khan,2024).

Research Problem

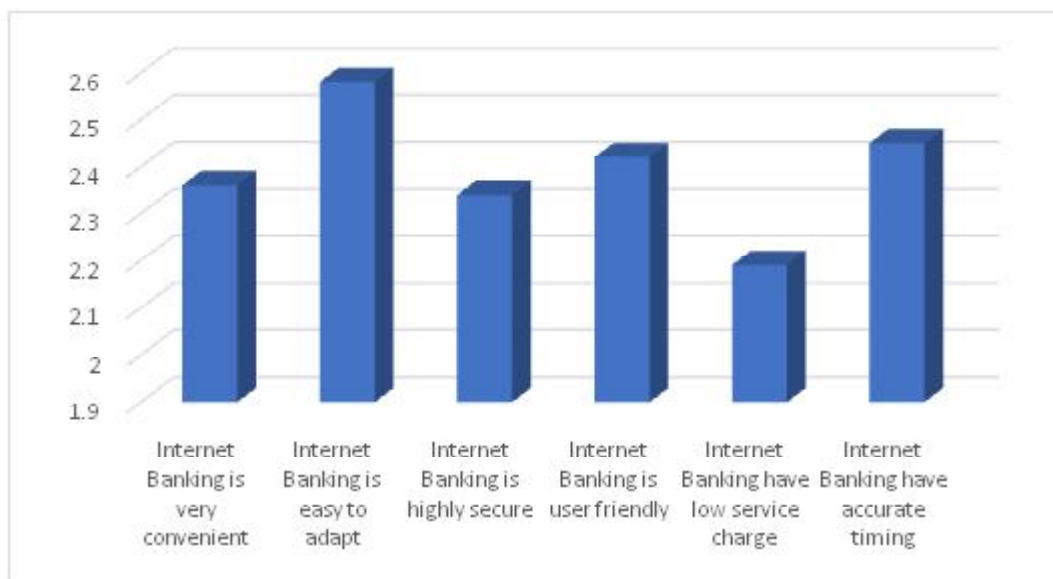
This study aims to investigate how digitalization within the banking sector facilitates the effective implementation of government schemes aimed at achieving financial inclusion. It seeks to explore the impact of digital technologies, such as mobile banking, online platforms, and digital payment systems, in reaching unbanked and underbanked populations. Additionally, the research will examine the challenges and opportunities associated with digitalization in enhancing access to financial services, promoting economic empowerment, and addressing socio-economic disparities. Through empirical analysis and case studies, the study aims to provide insights for policymakers, financial institutions, and stakeholders involved in promoting financial inclusion agendas.

Results and Discussion

Particular	ANOVA
Internet Banking is very convenient	2.35
Internet Banking is easy to adapt	2.70
Internet Banking is highly secure	2.10
Internet Banking is user friendly	2.60
Internet Banking have low service charge	2.17
Internet Banking have accurate timing	2.35



Particular	ANOVA
Internet Banking is very convenient	2.36
Internet Banking is easy to adapt	2.58
Internet Banking is highly secure	2.34
Internet Banking is user friendly	2.42
Internet Banking have low service charge	2.19
Internet Banking have accurate timing	2.45



One way ANOVA – F Value and P value

Particular	F Value	P Value
Internet Banking is very convenient	1.645	.034
Internet Banking is easy to adapt	1.342	.034
Internet Banking is highly secure	1.321	.145
Internet Banking is user friendly	1.257	.032
Internet Banking have low service charge	1.432	.021*
Internet Banking have accurate timing	0.257	0.143

In table presents findings from a statistical analysis, likely derived from a survey or study aimed at understanding attitudes towards internet banking. Each row in the table corresponds to a specific aspect or statement related to internet banking, while the columns display the F-value and p-value associated with each aspect. The F-value, a metric utilized in analysis of variance (ANOVA) tests, measures the variation between groups relative to the variation within groups. On the other hand, the p-value indicates the statistical significance of the F-value. A p-value less than 0.05 is typically considered statistically significant, suggesting evidence to reject the null hypothesis in favor of the alternative hypothesis.

Interpreting the results, aspects such as “Internet Banking is very convenient,” “Internet Banking is easy to adapt,” “Internet Banking is user-friendly,” and “Internet Banking has low service charges” demonstrate statistically significant findings with p-values below 0.05. These results imply that these particular aspects significantly influence perceptions of internet banking.

Conclusion

It can be concluded that in developing countries like India, there is a strict need for the promotion of financial inclusion especially in providing ease of access through different bank branches especially dedicated to the unprivileged section of society and providing ATMs and domestic credit cards. The government of countries like India where the economy is still developing should expand the branches of banks and ATMs to the rural section so that financial services can be provided to the rural people to enhance financial inclusion and allow them to access financial services same as urban people enjoy without spending much time or money. Financial education strategies are crucial to providing education by inviting retired people in the finance and banking sector to come to schools and villages to teach people about the basics of financial services which they are missing out on. By educating people regarding available financial services, it becomes easier for them to take advantage of schemes being provided by the government (Chakravarty,2024).

The government is also recommended to generate opportunities for startups especially those belonging to the e-commerce field by promoting the use of online transactions instead of cash. Promoting online transactions not only makes it easier for rural people who struggle to visit financial institutions which are mainly situated in urban areas it makes it cost-effective for them as they can do transactions from their devices in their homes (Sarkar and Thapa,2021). The developing countries’ governments need to consider the establishment of correct management of ATMs which are outside the branches of commercial banks as well as organising entities in the form of the joints of the company that share the responsibility in governing and monitoring such ATMs. Apart from expanding banks another impactful method to increase financial inclusion and easy access towards financial services is to promote mobile banking as it is one of the fastest-developing methods of financial inclusion by introducing unprivileged people to mobile technology which creates huge opportunities.

The government should issue regulatory policies which enhance the collaboration between mobile networks and financial access to the unprivileged section of society. Financial inclusion is a subject which if not focused on at the right time, especially in a developing country, will easily result in a huge gap between a rich and poor section of society. Financial inclusion not only includes providing services to the excluded section of society but also focuses on educating them regarding all types of financial services available in the country and how they can be accessed to save their money and time. In many cases even when people in rural areas have money to invest unfortunately, they do not know about financial services which can be used to invest their money which keeps them away from the benefits being enjoyed by the educated and which section of society. This makes financial inclusion one of the main sectors

that developing countries should be focusing on to avoid the huge GDP gap in the country. Financial inclusion is the key to equal development in developing countries and the main source of bridging the gap between rich and poor people of countries like India

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Digitalizing India's Trade Potential Leveraging E-Commerce

Abhishek Kumar Singh

Abstract

The digital revolution has transformed the global economic landscape, offering unprecedented opportunities for countries to harness the power of e-commerce in enhancing trade potential. In the context of India, a nation with a burgeoning digital infrastructure and a rapidly growing e-commerce market, the integration of digital technologies into trade holds immense promise. This paper explores the multifaceted ways in which India can leverage e-commerce to amplify its trade potential. role of e-commerce platforms in facilitating access to global markets for Indian businesses, particularly small and medium enterprises (SMEs), by reducing entry barriers and connecting them with a vast consumer base. Secondly, it discusses how digital platforms can streamline trade processes, including documentation, customs procedures, and logistics, thereby enhancing efficiency and reducing costs. Thirdly, the paper examines the potential of e-commerce in promoting inclusivity by enabling participation of marginalized communities and regions in trade activities. digitalization of trade, such as data privacy, cybersecurity, and digital divide, and suggests strategies to mitigate these risks. By harnessing the transformative power of e-commerce, India can unlock new avenues for economic growth, foster innovation, and contribute to global trade in a more inclusive and sustainable manner.

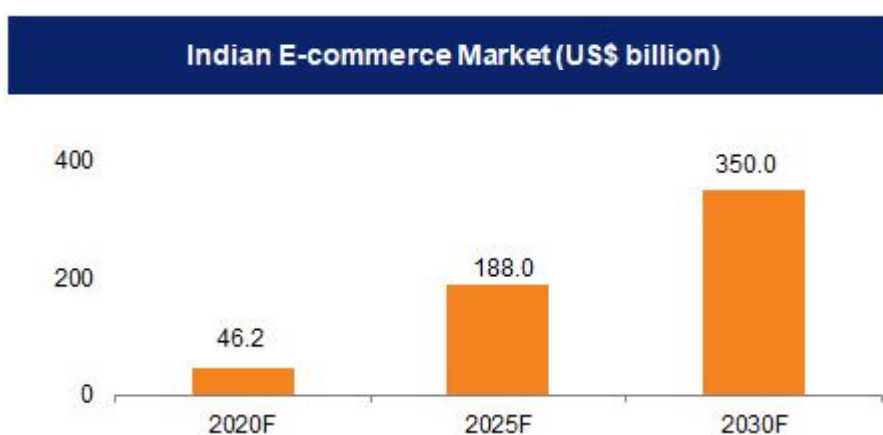
Keywords:- Digitalization, India, Trade potential, E-commerce

Introduction

In recent years, India has witnessed a significant digital transformation, propelled by the rapid adoption of internet technologies and the proliferation of smartphones. This digital revolution has not only reshaped the country's socio-economic landscape but has also opened up new avenues for trade and commerce. As the world increasingly embraces e-commerce as a fundamental aspect of business operations, India stands poised to leverage digital platforms to unlock its vast trade potential. E-commerce, encompassing the buying and selling of goods and services over the internet, has emerged as a game-changer in global trade dynamics. With its ability to transcend geographical boundaries and connect buyers and sellers across the

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globe, e-commerce offers unparalleled opportunities for businesses to expand their reach and access new markets. In the context of India, where traditional trade barriers such as infrastructure limitations and bureaucratic red tape have historically hindered the growth of businesses, e-commerce presents a transformative solution. One of the key advantages of e-commerce lies in its ability to democratize trade by providing a level playing field for businesses of all sizes. Small and medium enterprises (SMEs), which constitute a significant portion of India's business landscape, stand to benefit immensely from the digitalization of trade.



E-commerce platforms offer SMEs access to a global marketplace, enabling them to showcase their products and services to a much larger audience than ever before. This not only enhances their competitiveness but also fosters entrepreneurship and innovation, driving economic growth.

Significance of the study

The significance of this study is multifaceted and critical across various domains. Economically, it offers insights into how leveraging e-commerce can propel India's trade potential, particularly beneficial for small and medium enterprises (SMEs), thereby fostering economic growth and job creation. The study's findings hold substantial implications for policymakers, aiding in the formulation of regulatory frameworks and infrastructure investments essential for creating a conducive environment for e-commerce-driven trade expansion. By addressing pertinent issues such as data privacy, cybersecurity, and digital literacy, policymakers can ensure the evolution of India's digital trade ecosystem in an inclusive and secure manner. The study sheds light on India's role in global trade dynamics, illustrating how e-commerce can enhance its integration into global value chains and expand market access, thereby reshaping international trade patterns and bolstering India's position in the global marketplace. Socially, the study underscores the potential of e-commerce to empower marginalized communities and regions, fostering socio-economic development and reducing inequalities. Through efforts to bridge the digital

divide and promote digital literacy, this study contributes to creating a more equitable and inclusive society.

Effect of Digitization: E-commerce boom and Employment opportunities The effect of digitization, particularly the boom in e-commerce, has had a profound impact on employment opportunities, ushering in both challenges and opportunities. On one hand, the rise of e-commerce has created a surge in demand for various skill sets across sectors such as digital marketing, logistics, customer service, and data analytics. This has led to the creation of numerous job opportunities, particularly in urban areas where e-commerce companies are concentrated. The growth of e-commerce has spurred the development of ancillary industries and services, further contributing to job creation. For example, the demand for warehousing and last-mile delivery services has surged, leading to the creation of jobs in these sectors. The digitization of commerce has also resulted in the displacement of traditional brick-and-mortar retail jobs. As consumers increasingly shift towards online shopping, there has been a decline in employment opportunities in traditional retail stores. Additionally, the automation of certain tasks within the e-commerce supply chain, such as robotic fulfillment centers, has led to concerns about job losses in these areas. While the e-commerce boom has undoubtedly created new employment opportunities, it has also necessitated the acquisition of new skills and competencies. Workers in traditional industries may need to undergo reskilling and upskilling to remain competitive in the digital economy. Additionally, policymakers and businesses must ensure that the benefits of e-commerce growth are equitably distributed across society, and measures are taken to address any negative impacts on employment, such as through social safety nets and reemployment programs.

Opportunities and Challenges of Leveraging E-commerce for Trade

E-commerce presents a plethora of opportunities for countries like India to enhance their trade potential, but it also brings forth various challenges that need to be addressed for successful implementation. One significant opportunity lies in providing a platform for small and medium enterprises (SMEs) to access global markets. E-commerce platforms offer SMEs the chance to showcase their products and services to a global audience without the need for a physical presence in foreign markets. This democratization of trade levels the playing field, allowing smaller businesses to compete with larger corporations and potentially expand their customer base exponentially. Additionally, e-commerce reduces entry barriers traditionally associated with international trade, such as high upfront costs and complex logistics, making it more accessible for SMEs to participate in global commerce. E-commerce streamlines trade processes, enhancing efficiency and reducing costs. Digital platforms facilitate seamless documentation, customs clearance, and logistics management, thereby reducing the time and resources required to complete transactions. This efficiency not only benefits businesses by improving their competitiveness but also contributes to overall economic growth by fostering smoother trade flows.

Literature Review

Majumdar, S. K et al (2020) E-commerce and digital connectivity offer significant opportunities for enhancing integration between India and ASEAN countries. The proliferation of digital platforms facilitates seamless cross-border trade, enabling businesses to access new markets and consumers more efficiently. By leveraging e-commerce, India and ASEAN can deepen economic ties, foster innovation, and drive mutual prosperity. Moreover, digital connectivity initiatives such as improved internet infrastructure and digital literacy programs can bridge the digital divide, ensuring that all segments of society benefit from the opportunities offered by e-commerce. Through collaborative efforts to harness the power of digitalization, India and ASEAN can unlock their full potential for economic integration and contribute to the advancement of the digital economy in the region.

Mukhopadhyay, A. (2020).The intersection of e-commerce trade and data localization presents unique challenges and opportunities from the vantage point of developing countries. While e-commerce offers unprecedented access to global markets, concerns around data security and sovereignty prompt many nations to consider data localization measures. This perspective examines how developing countries navigate these complexities, weighing the benefits of e-commerce against the imperatives of data protection and regulatory sovereignty. It explores the implications of data localization on trade competitiveness, innovation, and economic growth, as well as the potential trade-offs in terms of increased costs and reduced cross-border data flows. By delving into the experiences and strategies of developing nations in addressing these issues, this perspective seeks to provide insights into the evolving landscape of e-commerce trade and data governance in the context of emerging economies.

Sorsa, K. (2018).The digital divide remains a significant challenge worldwide, with disparities in access to technology, internet connectivity, and digital literacy persisting across regions. However, e-commerce presents promising possibilities for narrowing these gaps and fostering greater inclusivity on a global scale. One key opportunity lies in the accessibility and affordability of e-commerce platforms. These platforms have the potential to reach underserved populations in remote areas where traditional brick-and-mortar infrastructure is lacking. By enabling individuals to access goods and services online, e-commerce can bypass geographical barriers and provide essential resources to communities that would otherwise be excluded from the digital economy. The adaptability of e-commerce to diverse socio-economic contexts offers avenues for customization and localization. This adaptability allows for the development of tailored solutions that cater to the unique needs and preferences of different populations. For example, mobile-based e-commerce platforms have gained traction in regions with high mobile penetration rates, providing convenient access to online shopping and financial services.

Takkar, I., & Sharma, S. (2021).E-commerce has significantly boosted India's exports by providing access to global markets for small and medium-sized enterprises (SMEs) and facilitating cross-border trade. Additionally, it has attracted substantial foreign investment, particularly in e-commerce platforms and related infrastructure. This influx of investment has

fueled innovation, created employment opportunities, and contributed to the overall growth of India's digital economy.

Digitalization and E-commerce: A Global Perspective

In recent years, digitalization and e-commerce have transformed the global economy, reshaping trade dynamics and opening up new avenues for businesses worldwide. The convergence of digital technologies with commerce has facilitated the seamless exchange of goods and services across borders, revolutionizing traditional trade practices. One of the most significant impacts of digitalization on global trade is the rise of e-commerce platforms. These platforms, such as Amazon, Alibaba, and eBay, have democratized trade by providing a digital marketplace where businesses of all sizes can connect with consumers worldwide. This has led to the proliferation of online retail, enabling businesses to reach new markets and consumers to access a vast array of products and services with unprecedented ease. Digitalization has facilitated the optimization of supply chains and logistics processes, leading to greater efficiency and cost savings. Technologies such as blockchain, artificial intelligence, and the Internet of Things (IoT) enable real-time tracking of shipments, inventory management, and predictive analytics, thereby streamlining trade operations and reducing bottlenecks.

Digitalization has enabled the emergence of new business models and revenue streams. Subscription-based services, digital content distribution, and online marketplaces have disrupted traditional industries and created opportunities for innovation and entrepreneurship. Additionally, the sharing economy, powered by digital platforms, has transformed sectors such as transportation, accommodation, and freelancing, facilitating peer-to-peer transactions and collaborative consumption. The rapid pace of digitalization and e-commerce adoption also presents challenges and risks. Concerns about data privacy, cybersecurity, and intellectual property rights have emerged as critical issues that need to be addressed to ensure consumer trust and business integrity. Moreover, the digital divide, characterized by disparities in internet access and digital literacy, remains a barrier to fully harnessing the benefits of e-commerce, particularly in developing countries.

Policy Implications and Regulatory Frameworks

The digitalization of trade through e-commerce necessitates the development of robust policy frameworks and regulatory measures to ensure a conducive environment for sustainable growth while addressing emerging challenges. Several key policy implications and regulatory considerations emerge in this context:

1. **Data Protection and Privacy Regulations:** Governments need to enact comprehensive data protection and privacy laws to safeguard consumers' personal information in e-commerce transactions. These regulations should outline data collection, storage, and usage practices, as well as mechanisms for enforcement and redress in case of data breaches.

2. **Cybersecurity Measures:** Given the increasing prevalence of cyber threats and attacks targeting e-commerce platforms, policymakers must establish cybersecurity standards and protocols to protect digital infrastructure and mitigate risks. This includes promoting cybersecurity awareness among businesses and consumers and fostering collaboration between public and private sectors to address emerging threats.
3. **Intellectual Property Rights (IPR) Protection:** Policymakers need to strengthen IPR laws and enforcement mechanisms to combat piracy, counterfeiting, and other forms of intellectual property infringement in the digital realm. This includes facilitating the registration and enforcement of trademarks, copyrights, and patents to protect the rights of businesses and creators in e-commerce transactions.
4. **Regulation of Digital Platforms:** As e-commerce platforms play an increasingly dominant role in facilitating trade, there is a need for regulatory oversight to ensure fair competition, prevent monopolistic practices, and safeguard consumer rights. This may involve antitrust measures, transparency requirements, and dispute resolution mechanisms to promote a level playing field in the digital marketplace.
5. **Cross-border Trade Regulations:** Policymakers must address regulatory barriers to cross-border e-commerce, including customs procedures, taxation policies, and legal frameworks for cross-border transactions. Harmonizing regulations and promoting international cooperation can facilitate smoother trade flows and reduce transaction costs for businesses and consumers engaging in global e-commerce.
6. **Promotion of Digital Literacy and Inclusivity:** Governments should invest in digital literacy programs and infrastructure development initiatives to bridge the digital divide and ensure that all segments of society can participate in the digital economy. This includes providing access to affordable internet connectivity, promoting digital skills training, and fostering entrepreneurship among underrepresented groups.

Effective policy implications and regulatory frameworks are essential to foster a supportive environment for e-commerce growth while addressing emerging challenges and ensuring that the benefits of digital trade are equitably distributed across society. Collaborative efforts between governments, businesses, civil society, and international organizations are crucial to navigating the complexities of the digital trade landscape and maximizing its potential for inclusive and sustainable development.

Research Problem

The digitalization of India's trade potential through leveraging e-commerce presents a complex and multifaceted research problem. Despite India's rapid strides in digital infrastructure and e-commerce adoption, there remains a gap in understanding the precise mechanisms through which e-commerce can be effectively harnessed to maximize trade opportunities. Key issues include the challenges faced by SMEs in accessing global markets, the efficacy of digital platforms in streamlining trade processes, and the socio-economic implications of

digital trade for marginalized communities. Additionally, addressing concerns surrounding data privacy, cybersecurity, and digital literacy is imperative to ensure the inclusive and sustainable growth of e-commerce in India. Thus, the research problem encompasses elucidating strategies to overcome barriers to digital trade adoption, optimizing the role of e-commerce platforms in facilitating trade expansion, and mitigating associated risks to foster a thriving digital trade ecosystem in India.

Results and Discussion

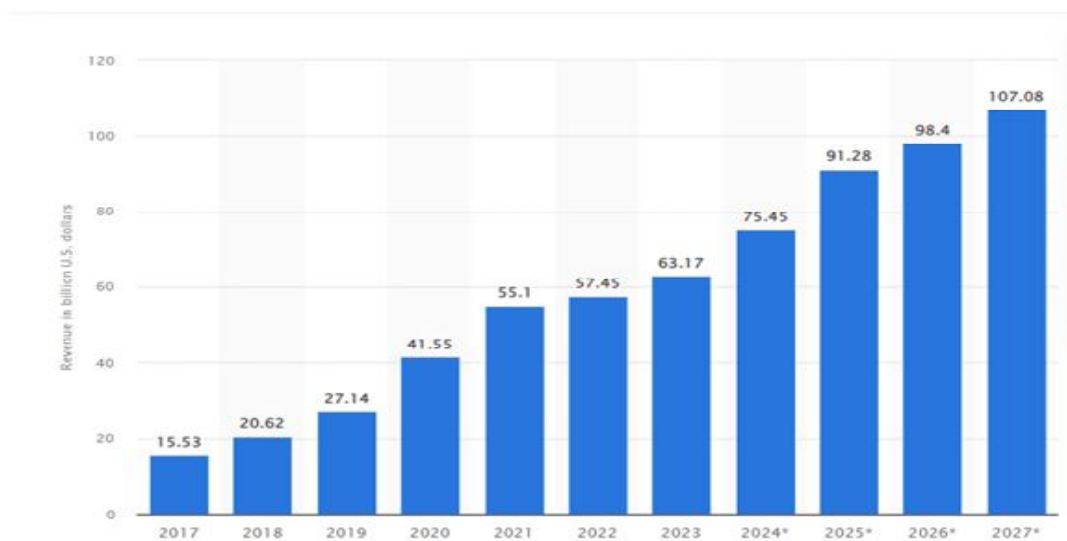


Fig 1 Revenue of e-commerce market in India

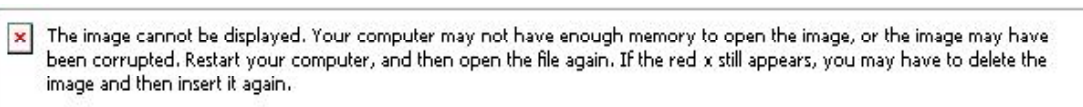


Fig 2 E-commerce company market share

Digitalizing India’s trade potential through e-commerce offers a transformative pathway towards economic growth and global integration. By harnessing digital platforms, India can effectively expand its reach in both domestic and international markets, unlocking new opportunities for businesses of all sizes. One key advantage lies in the democratization of trade, enabling small and medium enterprises (SMEs) to access global markets with minimal barriers. E-commerce facilitates seamless transactions, reducing logistical challenges and overhead costs traditionally associated with brick-and-mortar setups.

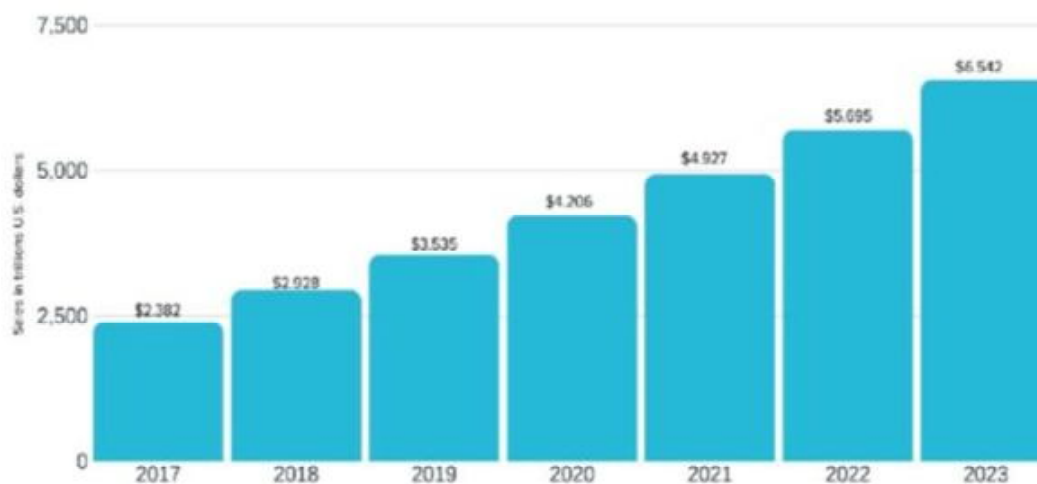


Fig 3 Global E-commerce sales growth

This fosters inclusive economic development, empowering a wider spectrum of entrepreneurs and fostering job creation. digitalization enhances efficiency and transparency in trade processes, mitigating risks associated with manual paperwork and bureaucratic hurdles. It streamlines supply chains, improves inventory management, and enhances customer experiences through personalized services and targeted marketing strategies.

Conclusion

The digitalization of India's trade potential through leveraging e-commerce represents a transformative opportunity with far-reaching implications for economic growth, global competitiveness, and social development. Through this study, it becomes evident that e-commerce platforms hold immense promise in facilitating access to global markets for Indian businesses, particularly SMEs, thereby driving economic expansion and job creation. the streamlining of trade processes through digital platforms enhances efficiency, reduces transaction costs, and fosters greater integration into global value chains. To fully realize the benefits of e-commerce, it is imperative to address challenges such as data privacy, cybersecurity, and digital literacy to ensure the inclusive participation of all segments of society. policymakers must prioritize investments in digital infrastructure, formulate robust regulatory frameworks, and promote digital literacy initiatives to create an enabling environment for e-commerce-led trade growth. By doing so, India can position itself as a global leader in digital trade, unlocking new avenues for innovation, entrepreneurship, and socio-economic development in the 21st century. Embracing the digital revolution is not merely an option but a necessity for India to thrive in the increasingly interconnected and competitive global marketplace.

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Role of Digitalization and Banking Sector in Implementing Government Scheme for Financial Inclusion

Dr. Shiv Ji Verma & Anuj Yadav

Abstract

Digitalization plays a pivotal role in facilitating the implementation of government schemes aimed at achieving financial inclusion, particularly within the banking sector. By leveraging digital technologies, banks can extend their reach to previously underserved populations, empowering individuals with access to essential financial services. The integration of digital platforms enables banks to offer a diverse range of banking services remotely, reducing the barriers of physical distance and infrastructure limitations. Mobile banking applications, internet banking, and digital payment systems play a crucial role in providing convenient and affordable banking solutions to the masses. Digitalization enhances the efficiency of government schemes by streamlining administrative processes, minimizing paperwork, and ensuring transparency in fund distribution. Beneficiaries no longer have to deal with time-consuming paperwork or lengthy processes in order to easily enroll in financial programs, get subsidies, and access credit facilities via digital channels. The unbanked are better equipped to make educated financial decisions and efficiently utilize banking services thanks to the promotion of financial literacy and awareness. Governments and banks can work together to bridge the gap between the financially excluded and the formal banking sector, boosting social and economic development by building a digitally inclusive environment.

Key Words: *Digitalization, Digital Financial Service, Fintech, Demonetisation.*

Introduction

Financial inclusion or ensuring that all people and businesses have access to affordable financial services, is critical to global economic development and poverty reduction strategies. Governments around the world have established schemes and initiatives aimed at providing

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financial access to underserved and impoverished communities. Leveraging digitization in the banking industry is key to the successful implementation of these schemes.

The banking sector has seen significant development as a result of digitalization, or the use of digital technologies into numerous business processes. This has improved the effectiveness, affordability, and accessibility of financial services. Digitalization has a revolutionary impact on breaking down traditional barriers to banking access within the framework of government financial inclusion schemes. Because there are few physical bank branches in remote and rural areas, digitalization makes it easier to provide financial services to these communities. People living in rural areas can now access a variety of financial services without having to go far, thanks to mobile banking apps, internet banking platforms, and agent banking networks. Digital channels enable banks to reduce operational costs associated with brick-and-mortar branches, making it economically viable to serve low-income and rural populations. This cost efficiency translates into lower transaction fees and account maintenance charges, thereby enhancing the affordability of banking services for financially vulnerable groups. Digitalization enhances the efficiency and transparency of government schemes by automating processes such as beneficiary enrollment, subsidy distribution, and loan disbursement. By digitizing these processes, banks can minimize administrative overheads, eliminate the risk of corruption and leakage, and ensure that funds reach intended beneficiaries in a timely manner. Digitalization promotes financial literacy and empowerment among the unbanked population by providing access to educational resources, financial management tools, and interactive platforms. Through digital channels, individuals can learn about basic financial concepts, develop savings habits, and make informed decisions regarding loans and investments.

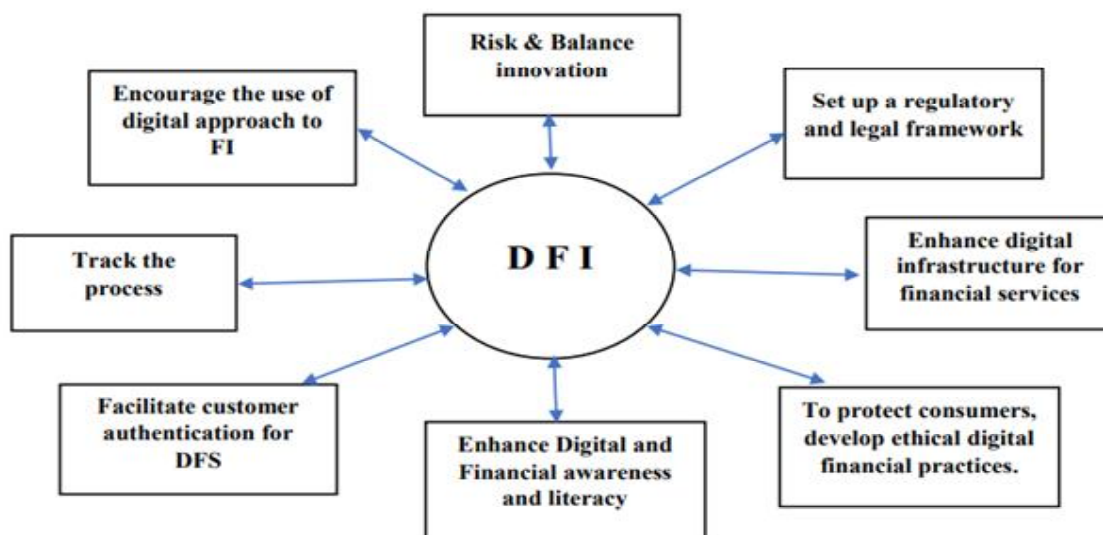


Figure: 1 High-Level principle for DFI

Table:1 Payment System Indicators

S.no.	Indicators	2018-19	2019-20	2020-21
1	Large value credit transfers- RTGS	₹ 1,356.88	₹ 1,311.56	₹ 1,056.00
2	Credit transfers through NEFT	₹ 228	₹ 229	₹ 251
3	IMPS	₹ 15.90	₹ 23.38	₹ 29.41
4	Credit transfer through UPI	₹ 8.77	₹ 21.32	₹ 41.04
5	BHIM Aadhaar pay	815	1,303	2,580
6	Payment Through debit/credit cards	₹ 11.97	₹ 14.35	₹ 12.94
7	Total digital payments (₹ lakh crore)	₹ 1,637.13	₹ 1,620.89	₹ 1,414.85
8	Total digital payments (volume in lakh)	2,32,602	3,41,240	4,37,118

Need of the Study

Governments around the world have accepted the concept of financial inclusion, which entails providing affordable financial services to all individuals and companies. To promote financial inclusion, the Indian government has sponsored several initiatives. The primary objective of these initiatives is to incorporate underserved sectors of society into the existing banking system. Digitalization and the banking industry are two of the most important factors in the efficient implementation of these protocols. To implement government financial inclusion programs, it is critical to consider the linked duties of the banking industry and the government.

1. Filling in the Gap One of the most important requirements for this research is to have an understanding of how digitalization may fill in the gap between the population that does not have bank accounts and the formal financial services. The expansion of mobile phones and internet connectivity has made it possible for digital platforms to provide a chance to efficiently reach areas that are located in rural and underserved places. Within the context of evaluating the influence that digitalization has on financial inclusion, it is necessary to investigate the role that digitalization plays in allowing last-mile connection for banking services.

2. Leveraging Technology: Another essential component is investigating the ways in which the banking industry makes use of technology in order to efficiently implement government programmes. In order to meet the varied requirements of their consumers, financial institutions are progressively embracing innovative solutions. These solutions range from mobile banking applications to services that are enabled by Aadhaar. To encourage financial institutions to grow their customer base, government programmes frequently include regulatory frameworks

and legislative incentives. For the purpose of shedding light on the problems and opportunities involved in achieving holistic financial inclusion, doing an analysis of the alignment between government policies, digitalization strategies, and banking practices can be utilised.

3. Evaluating the Impact It is necessary to evaluate the impact that digitization and initiatives in the banking sector have had on the ground level. Evaluation of criteria such as increased account ownership, patterns of usage of financial services, and general improvements in the socio-economic well-being of beneficiaries are all part of this process.

Literature Review

Rahayu, S. K. et al (2023) It is critical that SMEs have access to credit in order to stimulate economic growth and combat poverty. Digital microfinance services, which are critical in achieving this goal, make it easier to provide affordable financial products and services to SMEs. These services provide SMEs with quick and easy ways to manage their money, apply for credit, and perform transactions.

Shekhar, A. et al (2023) The digitalization of financial services has had a profound impact on enhancing financial inclusion in banking. Digitalization has enabled banks to reach previously underserved populations, including individuals and small businesses, by providing convenient and accessible banking services through digital channels such as mobile banking apps, internet banking platforms, and digital wallets.

Gupta, A., et al (2022) There are significant opportunities to boost economic growth by promoting financial inclusion in Digital India. More individuals and businesses, particularly those in underserved and rural areas, can participate in the formal economy by leveraging digital technology to improve access to financial services. Increased financial inclusion enables greater access to loans, savings, and investments, all of which are critical drivers of economic growth.

Rasheed, R. et al (2019) Financial inclusion for Small and Medium Enterprises (SMEs) is crucial for economic development and poverty reduction. The role of digital micro-financial services in achieving this goal is paramount. These services leverage digital technology to provide SMEs with access to affordable and convenient financial products and services. One key aspect of digital micro-financial services is their ability to reach SMEs in remote and underserved areas.

RESEARCH METHODOLOGY

Information obtained by someone for a purpose other than the study's objective is referred to as "secondary data." These secondary data assist the primary data, which is the primary source of data, in terms of analysis and interpretation. The use of secondary data can bring new information and understanding from a different perspective, which is valuable for research. The vast majority of the information gathered for this study came from secondary sources. Some examples of secondary sources are book chapters, research journals, government

documents, newspapers, articles, and reports. Because the investigation's topic is vast and the data sources are scattered throughout a variety of websites, this technique was chosen for the research study. Conducting an analysis and evaluation of current data would be a beneficial and useful outcome in achieving the goals of this article. This would allow for the formation of a definitive picture.

India's DFS Journey and Key Players in The Way of DFI

DFS (Digital Financial Service) development in India has been divided into three distinct phases since the year 2014. The first phase, which lasted from 2014 until August of 2016, was marked by a steady climb in volume growth on the most popular digital platforms, with monthly averages approaching 2% higher. The second phase was mostly driven by the demonetization of cash, in contrast to the third stage, which was driven by pre-paid instruments (UPI) instead of the Unified Payments Interface. The Journey Map Report and the RBI statistics for the years 2014–2018 were the sources of this data. The following are the key participants in the journey towards digital financial inclusion:

Also known as the Jan Dhan Yojana of Pradhan Mantri. The Prime Minister's Jan-Dhan Yojana (PMJDY) is a programme aimed at increasing access to digital financial services. It was a continuation of an Indian financial inclusion programme supported by banks when it was first introduced in August 2014. According to published figures, the income gap between people with impairments widened significantly between 2011 and 2014, but it has now begun to narrow. In 2011, 41% of Indians with the highest incomes had a bank account, compared to only 27% with the lowest incomes. This represents a 14% variation in the population as a whole. By the year 2014, the disparity has expanded to 16% from 43 percent to 59 percent. However, by the following year, 2017, the disparity had decreased to barely 5%. By the end of 2017, 79% of rural Indians held a bank account, compared to 76% in cities (Global Findex database, 2017). According to this, the disparity has decreased over the last year.

G2P payments, also known as government-to-person payments, and DBT, or direct benefit transfers: "The expansion of the government's Direct Benefit Transfer (DBT) programme, which currently administers 433 schemes from 56 ministry divisions, has been strongly related to PMJDY," according to the Journey Map Report from March 2019, which was published in March 2019. 11 Direct Benefit Transfer (DBT) is an initiative that is driven by the government and consists of a number of programmes in which benefits are directly transferred to beneficiaries, often through organisations that are affiliated with the state.

Customers who had just opened PMJDY bank accounts were provided with RuPay debit cards, which enabled them to utilise their accounts to withdraw cash from ATMs and make payments at points of sale (POS machines). According to a report published by the Ministry of Finance, the Government of India, "79 percent of the 330 million individuals who have PMJDY plan bank accounts have been provided with a RuPay card." Based on the findings of the Global Findex survey, the percentage of people in India who use debit cards increased from 22 percent in 2014 to 33 percent in 2017.

The spread of Aadhaar has been closely tied to the PMJDY programme. This is due to the fact that the Aadhaar number has become the legally recognised identity for rural Indians who are looking to open their first bank account. According to the Journey Map Report, which was published in March 2019, “the number of e-KYC validations with Aadhaar increased from 48 million to 138 million during the 2016-17 and 2017-18 fiscal years.” As of August 2018, the Aadhaar card had been seeded in more than 83 percent of the active PMJDY accounts (with the exception of those in the states of Jammu and Kashmir, Meghalaya, and Assam). (Continuation of PMJDY, Government of India)

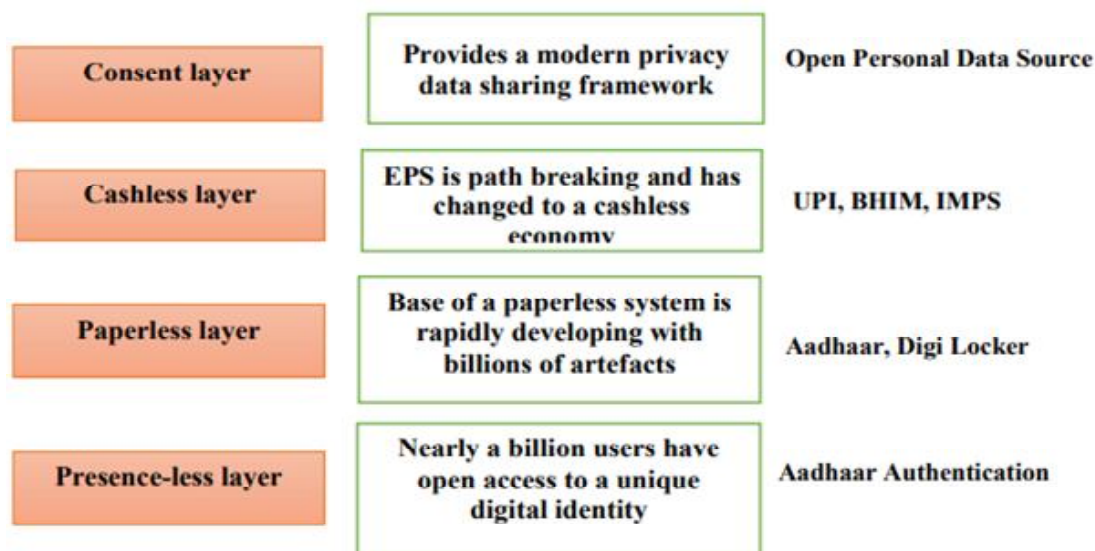
Demonetization and the Goods and Services Tax (GST): It is possible that demonetization was a driving force behind the quick surge in digital transactions. Rather than being the result of demonetization, the increase that was observed at the beginning of 2016 appears to be the result of the development of the Unified Payments Interface (UPI), which coincided with the introduction of the Goods and Services Tax (GST).

Key Players	Description	Impact/Statistics
Jan Dhan Yojana	Initiative launched in August 2014 to promote digital financial inclusion, following a legacy of bank-driven financial inclusion programs in India.	- Accessibility income gap narrowed since 2014. - Disparity in bank account ownership between lowest and wealthiest income groups reduced from 16% in 2014 to 5% in 2017.
Government-to-Person (G2P) payments and Direct Benefit Transfers (DBT)	Expansion of DBT program related to PMJDY, administering 433 schemes from 56 ministry divisions.	- DBT program strongly linked to PMJDY.
RuPay	Debit cards issued to PMJDY account holders for ATM withdrawals and POS payments.	- 79% of PMJDY account holders provided with RuPay cards. - Debit card penetration increased from 22% in 2014 to 33% in 2017.
Aadhaar	Aadhaar number linked to PMJDY, serving as a legally recognized identity for rural Indians opening bank accounts.	- e-KYC validations with Aadhaar grew from 48 million to 138 million during 2016-17 and 2017-18. - Aadhaar seeded in over 83% of active PMJDY accounts (excluding certain regions) as of August 2018.

Demonetization and GST	Demonetization potentially acted as a catalyst for the increase in digital transactions. Rise attributed to the development of UPI and improved business framework rather than demonetization.	- Increase in digital transactions attributed to UPI development and improved business framework.
Licensing to new levels of banking institutions	Introduction of a new differentiated banking structure aimed at fostering competition and innovation.	- Competitive structure of India's financial and banking markets evolved due to new legislative agenda favoring differentiated banking.
Payments Banks	Created to bring non-traditional performers into the formal banking system, using existing channels to expand DFI via modest savings and payments.	- Paytm Payments Bank processes 124 million mobile-enabled banking transactions monthly. - Aditya Birla Idea Payments Bank handles 0.35% of total transactions.
Small Finance and Microfinance Banks	New layer of banking aimed at minimizing banking service costs and expanding reach to lower-income customers using digital technology.	- 17.6 million loan accounts in June 2018, up from 17.3 million in the previous year and 15.8 million in 2016.
Fintech	Payment firms processing P2P and retail payments, leveraging India Stack and Aadhaar infrastructure. E-commerce expansion linked to fintech growth.	- PPI transactions doubled from 127m to 296m from October 2016 to January 2017.

Payment banks' goal is to integrate non-traditional performers into the conventional financial system. Non-traditional performers include business magnates, telecom corporations, fintech startups, and the postal service. Payment banks were founded with the goal of increasing direct financial inclusion by utilizing pre-existing channels for minor deposits and withdrawals.

Paytm Payments Bank processes 124 million mobile-enabled financial transactions every month, which is 47% more than SBI, the bank that comes in second. Furthermore, Aditya Birla Idea Payments Bank processed 0.35% of all transactions.



Internet and Smartphone Penetration: The rate at which smartphones and low-cost internet have reached areas that have previously been underrepresented in the digital economy has enabled India’s rapid growth in digital finance institutions (DFI). Because of the falling prices of hardware, the former has profited from this trend.

Conclusion and Recommendations

Digital platforms have played a crucial role in increasing financial literacy and awareness among the unbanked population. Individuals have gained the information and skills needed to make informed financial decisions, manage their finances successfully, and use banking services to improve their quality of life through educational resources, interactive tools, and digital platforms. The potential for promoting financial inclusion goals through the synergy of digitization and the banking sector is immense. As technology continues to evolve, opportunities emerge for innovative solutions such as biometric identification, blockchain-based transactions, and artificial intelligence-driven banking services, which can further enhance accessibility, security, and efficiency in financial inclusion initiatives. digitalization has transformed the landscape of financial inclusion, empowering individuals and communities with access to essential banking services, improving livelihoods, and driving economic development. By continuing to harness the power of digital technologies, governments and the banking sector can work together to build a more inclusive financial ecosystem, where no one is left behind in the journey towards prosperity and economic well-being.

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Sixteenth Finance Commission and Contemporary Challenges

Dr.Asha Srivastava

Several exogenous shocks have affected Indian Economy in past years. Global Financial crisis has led to a slowdown in Gross Domestic Product growth affecting revenue base and significant incremental recessionary public expenditure. Sharp Increase in commodity prices have impacted public finances by raising the cost of financing fuel and fertiliser subsidies. Fifteenth Finance Commission was more complicated due to pandemic thus fiscal management faced new challenges at centre and state levels and it gave consensus for stimulus changes in form of Expansionary Fiscal Policy to offset the economic upshot. Sixteenth Finance Commission must make devolution of resources with sound exit plan from the consequences of the deficit with the stanch path of Fiscal consolidation. Due to sharp rise in public debt and Global Macroeconomic uncertainty Fiscal restructuring for fiscal recovery has become critical issue. M.Suresh Babu, Economic Advisory Council to the Prime Minister, M. Govinda Rao, Former Member 14th Finance Commission and former Director, NIPFP., Nirvikar Singh, NIPFP have also shown deep concern over devolution of resources.

Share of Maharashtra in the taxes devolved by the centre during XVth Finance Commission (2020-26) was 6.32% while that for Rajasthan was 6.02% though Maharashtra is developed state and Rajasthan is underdeveloped state. Devolution criteria must be scanned very meticulously and accordingly corrections are urgently required. Fiscal Assessment and Forecast, Normalisation of the Base year, Policy Changes and Comparability of Data, Outline for Fiscal Sustainability, Welfare Schemes Vs Freebies, Off-Budget Borrowing and Fiscal Responsibility and Restructuring of Centrally Sponsored Schemes are the main issues before Sixteenth Finance Commission.

Key words: Finance Commission, Devolution of resources, restructuring, fiscal sustainability

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Theme-2
Role and Impact of Social Protection Programmes

Impact of e-NAM Integration on Modernizing India's Agricultural Trading Landscape: A Comprehensive Analysis

Divya Tiwari and Prof. Kiran Singh

Abstract

The integration of APMC mandis into the e-NAM platform marks a transformative shift in India's agricultural trading. With leaders like Gujarat and Rajasthan, followed by Maharashtra and Uttar Pradesh, adopting e-NAM, the platform's reach extends even to smaller states, emphasizing inclusivity. The inclusion of 841 mandis is not just a number; it signifies a fundamental change in agricultural trade. E-NAM, by enabling online trading, overcomes geographical barriers, enhances transparency, and empowers farmers nationwide. States like Andhra Pradesh, Haryana, Madhya Pradesh, and Tamil Nadu reflect a collective push towards digitizing agricultural markets. The diverse range of commodities under e-NAM, from food grains to spices, showcases the platform's adaptability to varied consumer preferences and India's rich agricultural biodiversity. The phased plan, focusing on legal reforms, infrastructure, grade expansion, and global integration, aims to enhance market efficiency and transparency, aligning with global sustainability goals. In essence, APMC mandis' integration into e-NAM signifies a significant stride towards a more efficient, transparent, and inclusive agricultural market ecosystem, contributing to the nation's economic development.

Keywords-*e-NAM integration, agricultural digital transformation, phased development strategy, global agricultural ecosystem.*

Introduction

The integration of Agricultural Produce Market Committees (APMC) mandis into the National Agricultural Market (e-NAM) platform signifies a pivotal advancement in modernizing India's agricultural trading landscape. This initiative represents a transformative approach to agricultural trade, moving from traditional physical marketplaces to a unified digital trading platform. The primary objective of integrating 841 APMC mandis into e-NAM is to streamline the agricultural trade process, making it more efficient, transparent, and inclusive. By leveraging

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technology, e-NAM aims to eliminate geographical barriers, foster transparency, provide farmers with access to a broader market, and ensure better pricing for their produce. This digital revolution in agricultural trading is a strategic move towards enhancing the agricultural value chain in India, benefiting stakeholders across the spectrum, from farmers to traders and consumers.

Methodology

The analysis employs a multi-faceted approach to evaluate the integration of APMC mandis into e-NAM, encompassing:

- ❖ **Data Analysis:** Utilizing available data on the number of mandis integrated, the variety of commodities listed, and the geographical spread of e-NAM adoption.
- ❖ **Comparative Study:** Benchmarking states and union territories based on their progress in integrating mandis into e-NAM, highlighting leaders and regions with potential for growth.
- ❖ **Impact Assessment:** Evaluating the qualitative impact of e-NAM on farmers' market access, price realization, and the agricultural trade ecosystem as a whole.
- ❖ **Strategic Review:** Analyzing the phased implementation plan for e-NAM, from immediate reforms to long-term goals, to understand the strategic vision behind the initiative.

This methodology aims to provide a comprehensive overview of the e-NAM platform's integration process, its impact on India's agricultural trading system, and the roadmap for its future development.

Objectives

1. **To Analyze the Uptake of e-NAM:** Understanding the adoption rate across different states and union territories, identifying leaders in integration like Gujarat and Rajasthan, and acknowledging the participation of smaller regions.
2. **To Evaluate the Impact of e-NAM:** Assessing how e-NAM has transformed agricultural trade by improving market access, price transparency, and the overall trading experience for farmers.
3. **To Review the Commodity Spectrum:** Examining the range of commodities covered under e-NAM, from food grains to miscellaneous items, and understanding their significance in diversifying the market.
4. **To Outline the Phased Implementation Plan:** Detailing the strategic phased approach for e-NAM's development, from immediate legal reforms to long-term global integration goals.

Mandies integrated to e-NAM

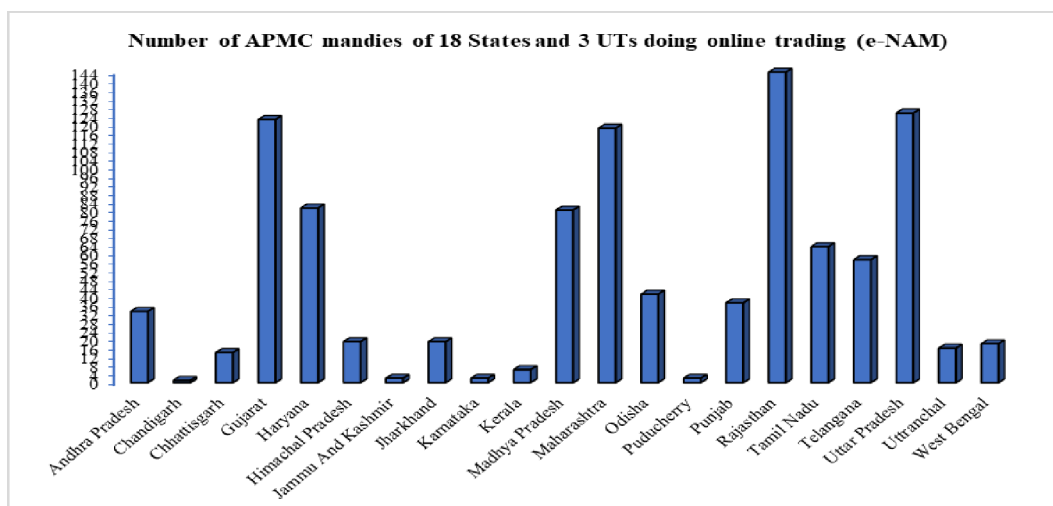
The integration of Agricultural Produce Market Committees (APMC) mandis into the National Agricultural Market (e-NAM) platform marks a significant leap towards modernizing India's agricultural trading landscape. Looking at the numbers, it's evident that there's been substantial uptake across various states and union territories. Gujarat and Rajasthan stand out with an impressive number of mandis integrated, showcasing a strong commitment to embracing digital platforms for agricultural trade. Maharashtra and Uttar Pradesh follow closely behind, further emphasizing the widespread adoption of e-NAM across major agricultural hubs. States like Andhra Pradesh, Haryana, Madhya Pradesh, and Tamil Nadu also demonstrate significant strides in integrating a substantial number of mandis, reflecting a nationwide momentum towards digitizing agricultural markets. This widespread adoption of e-NAM is not just a numerical feat; it represents a fundamental shift in how agricultural trade is conducted. By facilitating online trading, e-NAM eliminates geographical barriers, promotes transparency, and empowers farmers with access to a wider market and better prices for their produce. Moreover, the inclusion of smaller states and union territories like Chhattisgarh, Himachal Pradesh, and Puducherry underscores the inclusive nature of the e-NAM initiative, ensuring that farmers across the country, regardless of their location, can benefit from the platform's advantages. However, it's essential to acknowledge that while significant progress has been made, there's still room for growth and improvement. States with fewer integrated mandis could focus on accelerating their adoption of e-NAM to unlock its full potential in transforming agricultural trade and uplifting the livelihoods of farmers. In essence, the integration of 841 APMC mandis into e-NAM signifies a remarkable journey towards a more efficient, transparent, and inclusive agricultural market ecosystem in India. It's a testament to the collective efforts of various stakeholders and underscores the nation's commitment to modernizing its agricultural sector for the betterment of farmers and the economy as a whole.

Table No.1 Number of APMC mandies of 18 States and 3 UTs doing online trading (e-NAM)

Number of APMC mandies of 18 States and 3 UTs doing online trading(e-NAM)		
S.No	State/UT	Mandies integrated to e-NAM
1	Andhra Pradesh	33
2	Chandigarh	1
3	Chhattisgarh	14
4	Gujarat	122
5	Haryana	81
6	Himachal Pradesh	19
7	Jammu And Kashmir	2
8	Jharkhand	19
9	Karnataka	2
10	Kerala	6
11	Madhya Pradesh	80
12	Maharashtra	118
13	Odisha	41
14	Puducherry	2
15	Punjab	37
16	Rajasthan	144
17	Tamil Nadu	63
18	Telangana	57
19	Uttar Pradesh	125
20	Uttranchal	16
21	West Bengal	18
	Total	841

Source: www.ccsniam.gov.in

Graph No.1 Number of APMC mandies of 18 States and 3 UTs doing online trading (e-NAM)



Commodities dealt under e-NAM

The e-NAM (National Agriculture Market) platform integrates a broad spectrum of commodities, spanning across six major categories: Food grains, Oilseeds, Fruits, Vegetables, Spices, and Miscellaneous items. This diversity reflects the comprehensive approach of e-NAM towards encompassing a wide array of agricultural products, catering to the varied needs of farmers, traders, and buyers across India. Here’s a detailed conclusion based on the categories and commodities dealt under e-NAM:

1. **Food Grains:** With 26 commodities listed, this category is a testament to e-NAM’s role in facilitating the trade of staple food grains that form the backbone of the Indian diet. Including essential items such as Wheat, Paddy, Maize, and various pulses like Arhar, Moong, and Urad, the platform ensures a robust mechanism for trading the core ingredients of Indian cuisine. The inclusion of grains like Buck Wheat and commodities tailored for specific culinary needs (e.g., Basmati rice, Chakhao or Black Rice) highlights the platform’s adaptability to diverse consumer preferences.
2. **Oilseeds:** The platform lists 14 types of oilseeds, including Mustard seed, Soyabean, Sunflower seed, and more exotic varieties like Neem Seeds and Kusum seed. This variety not only supports the domestic oil extraction industry but also encourages the cultivation of oilseeds that have specific uses in various industries, including the health and cosmetic sectors.
3. **Fruits:** e-NAM’s fruit category is notably diverse, with 31 types of fruits ranging from staples like Mango, Banana, and Oranges to more regional and exotic fruits such

as Amla, Papaya Raw, and Passion Fruit. This wide array reflects India's rich biodiversity and the platform's capacity to handle the complexity of fruit trading, which requires careful handling and logistics given the perishable nature of these commodities.

4. **Vegetables:** With 50 different vegetables, this category is the most extensive, reflecting the vast variety of vegetables cultivated and consumed across India. The list includes everyday vegetables like Tomato, Potato, and Onion, alongside less common varieties such as Jimikand (Suran) and Ribbed celery. This extensive range supports small and large scale farmers alike by providing a marketplace for a wide variety of produce, including those with niche markets.
5. **Spices:** India, known globally as the land of spices, showcases 16 essential spices on e-NAM, including Turmeric, Red chilli, and Cardamoms. This segment not only supports the domestic market but also has significant export potential, underlining e-NAM's role in promoting Indian spices on a global platform.
6. **Miscellaneous:** This category, with 38 items, highlights the versatility of e-NAM, covering a wide range of commodities from Areca nut (betel nut) to Jaggery and even non-food items like Cotton and Raw Jute. The inclusion of flowers and other non-conventional agricultural commodities indicates e-NAM's broad approach, facilitating trade in various sectors of the agricultural market beyond food production.

Table No.2 Commodities dealt under e-NAM

Commodities dealt under e-NAM			
S.No	Category	Number of Commodities	Commodities Dealt
1	Food grains	26	Arhar, Arhar Dal Split, Bajra, Barley, Basmati rice, Buck Wheat, Chakhao Or Black Rice, Chana Dal Split, Chana whole, Horse Gram, Jowar, Kabuli Chana Whole, Lobia Maize, Masoor whole, Moong Dal Split, Moong whole, Moth, Oats Raw, Paddy, Ragi, Rajma, Urad Dal Split, Urad whole, Wheat, White Peas
2	Oilseeds	14	Castor seed, Cotton Seed, Kusum seed, Linseed, Mustard seed, Neem Seeds, Nigar Seed, Peanut kernel, Pongam seeds, Rapeseed, Sal Seed, Sesame seed, Soyabean, Sunflower seed

3	Fruits	31	Amla, Apple, Apricot, Banana, Ber, Cherry Red / Black, Custard apple, Grapefruit, Grapes, Guava, Jackfruit, Jamun, Kinnow, Lemon, Litchi, Mango, Musk melon, Orange, Papaya, Papaya Raw, Passion Fruit, Peach, Pear, Pineapple, Plum, Pomegranate, Raw Mango, Sapota, Strawberries, Sweet orange, Watermelon
4	Vegetables	50	Aloe Vera, Banana Raw, Beetroot, Bhindi/Okra, Bitter gourd, Bottle gourd, Brinjal, Broccoli/Calabrese, Button Mushroom, Cabbage, Capsicum, Carrots, Cauliflower, Cluster beans, Colocasia vegetable, Coriander leaves, Cucumber, Curry Leaves, Drumstick, Fenugreek Leaves, Garlic, Gherkin, Ginger, Green chillies, Ivy gourd, Jimikand (Suran), Lobia Pods, Mint Leaves, Mustard leaf, Onion, Oyster Mushroom, Pea, Pointed gourd, Potato, Pumpkin, Reddish, Ribbed celery, Ridge Gourd, Safed Petha, Sem, Snake Guard, Spinach, Sponge Gourd, Spring Onion, Sugar Snap Peas, Sweet Corn, Sweet potato, Tapioca, Tinda, Tomato
5	Spices	16	Ajwain, Black Pepper Whole, Cardamoms Whole, Cloves Whole, Coriander whole, Cumin, Dried Raw Mango Slices, Dry Ginger, Fennel seed, Fenugreek seed, Large cardamom, Mace Whole, Poppy Seed, Red chilli, Tejpata, Turmeric
6	Miscellaneous	38	Anthurium, Areca nut (betel nut), Bamboo, Betel leaves, Carnation, Chhappan Kaddu, Chironji, Chrysanthemum, Coconut, Coconut with Husk, Cotton, Gerbera, Gladiolus, Groundnut with pods, Guar seed, Hilsa, Isabgol, Jaggery, Jute Seeds, Lily, Mahua flower, Mahua Seed, Marigold, Nutmeg Whole, Persimmon, Raisins, Raw Cashew nut, Raw Jute, Rittha, Rose Cut Flower, Safed Musli, Saffron, Spray Chrysanthemum, Tamarind, Tende

Source: www.ccsniam.gov.in

Various Component of the Market

The phased implementation plan for various components of the market to be achieved over different periods—spanning from the immediate 0-2 years (Phase I) to a long-term horizon of 7-12 years (Phase III)—reflects a comprehensive and strategic approach to revolutionize and strengthen the agricultural market system through the e-NAM platform. Each phase targets specific areas of development, focusing on creating an enabling environment, enhancing infrastructure, expanding commodity grades, refining functions, increasing farmer participation, advancing skill development, establishing institutions, promoting the market, improving finance and insurance options, extending input and extension services, and ultimately influencing the agricultural ecosystem on a regional to global scale.

Phase I (0-2 years): Foundation and Immediate Reforms

- ❖ **Enabling Environments:** Immediate legal reforms to support e-NAM.
- ❖ **Infrastructure:** Focus on the necessary hardware and software to kickstart e-NAM.
- ❖ **Grades:** Start with selected commodities for grading standards.
- ❖ **Functions:** Introduction of e-price discovery as a core function.
- ❖ **Farmers Participations:** Encourage individual or group participation.
- ❖ **Skill Development:** Launch mass awareness campaigns for extensive outreach.
- ❖ **Institutions:** Set up national level agencies and identify Special Purpose Vehicles (SPVs).
- ❖ **Promotion:** Develop and launch the NAM portal.
- ❖ **Finance and Insurance:** Implement direct payment mechanisms.
- ❖ **Input and Extension:** Begin with information dissemination.
- ❖ **Focus:** Initially concentrate on regional integration and support.
- ❖ **Agri Ecosystem:** Address post-harvest management challenges.

Phase II (3-6 years): Expansion and Integration

- ❖ **Enabling Environments:** Shift towards facilitating roles for smoother operations.
- ❖ **Infrastructure:** Upgrade mandies and initiate the creation of physical delivery and collection centers.
- ❖ **Grades:** Achieve comprehensive coverage of commodities.
- ❖ **Functions:** Integrate bank settlements, Negotiable Warehouse Receipts (NWR), and logistics into the system.
- ❖ **Farmers Participations:** Move towards forming farmers groups/Farmer Producer Organizations (FPOs).

- ❖ **Skill Development:** Shift to specialized skill development programs.
- ❖ **Institutions:** Focus on the functioning of institutes for training, research, grading, and international trade.
- ❖ **Promotion:** Enhance product promotion strategies.
- ❖ **Finance and Insurance:** Expand to include payment and credit solutions.
- ❖ **Input and Extension:** Offer advisory services.
- ❖ **Focus:** Broaden the focus to national level integration.
- ❖ **Agri Ecosystem:** Incorporate sanitary and phytosanitary standards.

Phase III (7-12 years): Maturation and Global Integration

- ❖ **Enabling Environments, Infrastructure, and Grades:** These components are expected to reach maturity, with a robust system in place for all commodities, supported by comprehensive infrastructure and legal frameworks.
- ❖ **Functions:** Further expand to include Management Information Systems (MIS), promotion, demand creation, and global trading functionalities.
- ❖ **Farmers Participations:** Evolve into producer companies for higher scale operations.
- ❖ **Skill Development:** Tailor skills development as per global requirements.
- ❖ **Institutions and Promotion:** Strengthen institutions and brand e-NAM on a global platform.
- ❖ **Finance and Insurance:** Aim for complete risk coverage solutions.
- ❖ **Input and Extension:** Ensure delivery of both physical and technical inputs seamlessly.
- ❖ **Focus:** Transition from a national focus to making a mark on the global stage.
- ❖ **Agri Ecosystem:** Strive for a zero carbon footprint, aligning with global environmental and sustainability goals.

This strategic phased approach demonstrates a holistic vision towards establishing a digitally integrated platform that not only transforms the agricultural market within India but also prepares it for a significant role in the global agricultural ecosystem. By gradually building up the e-NAM platform's capabilities, infrastructure, and reach, the initiative is poised to enhance market transparency, improve supply chain efficiencies, increase farmers' income, and ensure sustainable agricultural practices in the long run.

Table No.3 Various Component of the Market to be Achieved over a Different Period of Time

Various Component of the Market to be Achieved over a Different Period of Time			
Phases / Components	Phase I (0-2 years)	Phase II (3-6 years)	Phase III (7-12 years)
Enabling Environments	Legal	Complete reforms	Facilitating role
Infrastructure	Hardware and Software	Up-gradation of Mandies	Creation of physical delivery center and collection center
Grades	Selected commodities	Comprehensive coverage	All commodities
Functions	e-price discovery	Bank settlement, NWR, and logistics	MIS, promotion, demand creation
Farmers Participations	Individual/groups	Farmers groups/FPO	Producers company
Skill Development	Mass awareness (extensive)	Specialized	As per global requirements
Institutions	Establishing a national level agencies Identification of Special Purpose Vehicle	Institute for functions like training, research, defining grades and international trade	
Promotion	NAM Portal	Product	Branding
Finance and Insurance	Direct payment	Payment and credit	Complete risk coverage
Input and Extension	Information dissemination	Advisory	Delivery of physical and technical inputs
Focus	Regional	National	Global
Agri Ecosystem	Post Harvest Management	Sanitary and phytosanitary	Zero carbon footprint

Source: www.ccsniam.gov.in

Findings

- 1. Geographical Adoption:** Gujarat and Rajasthan lead in the integration of APMC mandis into e-NAM, showcasing robust commitment. Maharashtra and Uttar Pradesh closely

follow, reflecting widespread adoption. Even smaller states like Chhattisgarh, Himachal Pradesh, and union territories like Puducherry participate, highlighting the inclusive nature of the initiative.

- 2. Nationwide Momentum:** Significant strides are observed in states such as Andhra Pradesh, Haryana, Madhya Pradesh, and Tamil Nadu, indicating a nationwide momentum towards digitizing agricultural markets. This trend marks a fundamental shift in the traditional methods of agricultural trade.
- 3. Empowering Farmers:** The e-NAM platform facilitates online trading, breaking geographical barriers, ensuring transparency, and empowering farmers with a broader market access. Smaller states and union territories benefit, emphasizing the inclusivity of e-NAM, leading to better prices for farmers.
- 4. Room for Improvement:** While substantial progress has been made, states with fewer integrated mandis have growth potential. Accelerated adoption of e-NAM in these regions could unlock its full potential, further transforming agricultural trade and uplifting farmers' livelihoods.

Suggestions

- 1. Accelerated Adoption Strategies:** States with fewer integrated mandis should focus on implementing strategies to accelerate the adoption of e-NAM. This could involve targeted awareness campaigns, incentives, and capacity-building programs.
- 2. Stakeholder Collaboration:** Continued collaboration among various stakeholders, including government bodies, agricultural boards, and technology providers, is crucial. This collaboration can address challenges, streamline processes, and enhance the overall efficiency of e-NAM.
- 3. User-Friendly Interfaces:** Ensuring that the e-NAM platform remains user-friendly, especially for farmers in remote areas, is essential. User education programs and simplified interfaces can enhance accessibility and usability.

Conclusions

- 1. Remarkable Transformation:** The integration of 841 APMC mandis into e-NAM signifies a remarkable journey towards a more efficient, transparent, and inclusive agricultural market ecosystem in India. It reflects a fundamental shift in approach and demonstrates the collective commitment of stakeholders towards modernizing the agricultural sector.
- 2. Inclusive Growth:** The comprehensive categorization of commodities under e-NAM, spanning food grains to miscellaneous items, highlights its inclusive approach. This diverse range caters to varied needs, supporting both large and small-scale farmers and contributing to the rich biodiversity of Indian agriculture.

- 3. Strategic Phased Approach:** The phased implementation plan, spanning from immediate reforms to long-term global integration, showcases a holistic vision. The strategy encompasses legal, infrastructural, and institutional aspects, ensuring a gradual and sustainable evolution of the agricultural market system through the e-NAM platform. In conclusion, the integration of APMC mandis into e-NAM is a transformative initiative that not only enhances efficiency and transparency in domestic agricultural trade but also positions India on a global stage. With continued efforts, collaborative initiatives, and a focus on inclusive growth, e-NAM has the potential to revolutionize the agricultural landscape, benefiting farmers, traders, and the overall economy.

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Evaluating the Economic Impacts of the Ethanol Blended Petrol (EBP) Programme in India: Opportunities and Challenges

Prabal Agarwal and Dr. Pradeep Kumar Tripathi

Abstract:

The Ethanol Blended Petrol (EBP) programme in India has garnered significant attention as a strategy to reduce dependence on fossil fuels, enhance energy security, and mitigate environmental pollution. This paper evaluates the economic impacts of the EBP programme, focusing on the opportunities it presents and the challenges it faces. Through a comprehensive analysis of existing literature, government policies, and empirical data, this study assesses the economic feasibility, market dynamics, and potential socio-economic implications of ethanol blending in petrol. It examines the opportunities for revenue generation, job creation, and rural development associated with ethanol production and blending. Additionally, it identifies key challenges such as supply chain logistics, infrastructure limitations, and technological constraints that may impede the successful implementation and scalability of the EBP programme. By synthesizing these findings, this paper provides insights into the broader implications of ethanol blending for India's economy, energy sector, and sustainable development goals.

Keywords: *Ethanol Blended Petrol (EBP), Economic Impact, India, Energy Security, Environmental Pollution, Revenue Generation*

Introduction

The Ethanol Blended Petrol (EBP) Programme in India, launched in 2003, aims to decrease the nation's reliance on imported fossil fuels, encourage the adoption of renewable energy sources, and combat environmental pollution (Economic Times, 2021). This initiative involves blending ethanol, derived from diverse sources such as sugarcane, molasses, corn, and biomass, with petrol to produce a fuel mixture that burns cleaner and reduces emissions (Business Standard, 2020). Over time, the Indian government has established increasingly

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ambitious targets for ethanol blending with petrol, striving to achieve specific percentages of ethanol incorporation in the fuel distribution system (The Hindu, 2023).

Purpose of the Study

This research aims to evaluate the economic impacts of the Ethanol Blended Petrol (EBP) Programme in India. By examining the various dimensions of the programme's effects on the economy, agriculture, energy security, and environment, this study seeks to provide valuable insights into the overall effectiveness and implications of the EBP initiative.

Literature Review

1. *Dey, B., Roy, B., Datta, S. (2023)* The Government of India has recognized the use of ethanol to be beneficial for the country's environment and energy security. In this context, this paper presents a comprehensive overview of the ethanol sector in India, including the production, consumption, feedstocks, trades, and policy for ethanol in India.
2. *Pohit, Biswas, Kumar, Jha (2009)* Keeping in view the potential of ethanol as a substitute to gasoline and its other benefits like employment and income generating capabilities, different countries, including India, have been actively promoting this sector. These countries have adopted policies of mandatory blending, subsidies or tax concessions, and various kinds of incentives for cultivation/production, R&D in technology innovations, etc.
3. *Basavaraj, Rao, Basu, Reddy, Kumar, Rao, Reddy (2013)* Currently, the entire bio-ethanol requirement has to come from molasses, a by-product of sugarcane. The availability of molasses to meet blending mandates depends on cane and sugar production that are cyclical in nature. Lower molasses availability will put pressure on molasses prices and availability of molasses for ethanol production.
4. *Borse, Sheth, (2017)*. The development of ethanol production technology is old and ever changing since last 40 years. Today ethanol is produced from a variety of sugar and starch-bearing feedstocks for use as an industrial chemical, beverages, alcohol, and fuel ethanol.
5. *Petrulis, M, Sommer, J, and Hines, F. (1993)*. Job gains will be concentrated in the rural areas, where most of the Nation's corn is grown. Small communities elsewhere can benefit through new biomass technologies that can distil ethanol from organic matter other than corn.

Objectives of the Research

The specific objectives of this research are as follows:

1. To analyse the economic implications of EBP implementation for key stakeholders, including ethanol producers, agricultural sector, and consumers.

2. To identify the challenges and constraints hindering the widespread adoption and success of the EBP programme.
3. To explore potential opportunities for enhancing the EBP programme’s effectiveness and sustainability.

Methodology

This research paper uses secondary data for descriptive purposes and does not use primary data for analysis. Secondary data is compiled from a variety of journals, newspapers, government websites, and research articles.

Data Interpretation

Emissions	Gasoline	Two-wheelers		Four-wheelers	
		E10*	E20*	E10*	E20*
Carbon Monoxide	Baseline	20% lower	50% lower	20% lower	30% lower
Hydrocarbons	Baseline	20% lower	20% lower	20% lower	20% lower
Oxides of nitrogen	Baseline	No significant trend	10% higher	No significant trend	same

* E10 project was carried out in 2009-10, E20 project in 2014-15. Hence, the test vehicles were not the same. However, the emission trend is similar.

Figure 1 source: NITI Aayog, MoP&NG

India regulates vehicular emissions, including CO, HC, and NOx. Using ethanol-blended gasoline reduces emissions. A summary of the emission benefits of E10 and E20 fuels compared to plain gasoline is given in fig 1. E20 fuel reduced carbon monoxide emissions by 50% in two-wheelers and 30% in four-wheelers. Ethanol blends cut hydrocarbon emissions by 20% when compared to regular gasoline. Nitrous oxide emissions varied depending on vehicle type and operating conditions, with no notable trend seen. Unregulated carbonyl emissions, such as acetaldehyde, were higher with E10 and E20 compared to regular gasoline, owing to the presence of hydroxyl groups in ethanol. However, these emissions were modest (in micrograms) as compared to regulated emissions (in grams). The evaporative emission test findings for E20 fuel were comparable to those for E0. Ethanol mixing can reduce emissions from both two and four-wheelers.

Feedstock	Cost / MT of the feedstock (Rs.)	Quantity of ethanol per MT of feedstock	Ex-mill Ethanol Price (Rs./litre)
Sugarcane juice / Sugar / Sugar syrup	2850 (Price of sugarcane at 10% sugar recovery)	70 litre per ton of sugarcane	62.65
B Molasses	13,500	300 litre	57.61
C Molasses	7123	225 litre	45.69
Damaged Food Grains (Broken Rice#)	16,000	400 litre	51.55
Rice available with FCI	20,000	450 litre	56.87
Maize#	15,000	380 litre	51.55

#The rates vary from region to region and also in accordance with demand/supply or quality.

Figure 2 Source: NITI Aayog, MoP&NG

The Department of Food and Public Distribution (DFPD) promotes fuel-grade ethanol distilleries across the country. The government has approved ethanol production/procurement from sugarcane-based raw materials such as C & B heavy molasses, sugarcane juice / sugar / sugar syrup, leftover rice with Food Corporation of India (FCI),¹⁰ and maize. Figure 2 shows the raw material conversion efficiency.

Ethanol Supply Year	Qty Supplied (crore Lit)	Blending %age PSU OMCs
2013-14	38.0	1.53%
2014-15	67.4	2.33%
2015-16	111.4	3.51%
2016-17	66.5	2.07%
2017-18	150.5	4.22%
2018-19	188.6	5.00%
2019-20	173.0	5.00%
2020-21	332	8.50%

Figure 3 Source: NITI Aayog, MoP&NG

As per Figure 3 Ethanol supply under the EBP Programme increased from 38 crore litres in ESY 2013-14 to 173 crore litres in ESY 2019-20, resulting in a blend percentage increase from 1.53% to 5.00%. Furthermore, the allocation for the ongoing ESY (2020-21) has increased to 332 crore litres, which is 91% greater than the ethanol supply obtained during the previous ESY (2019-20).

Raw material Source	Ex-mill Ethanol Price (Rs./litre)
B-Heavy	57.61
C-Heavy molasses	45.69
Sugar/Sugar Syrup	62.65
Damaged Food Grains/ Maize	51.55
Surplus Rice (FCI)	56.87

Figure 4 Source: NITI Aayog, MoP&NG

The Administered Pricing Mechanism for Ethanol was implemented in ESY 2014-15, leading to increased ethanol purchase. The Cabinet Committee on Economic Affairs (CCEA) approves the prices of ethanol produced from sugarcane, whilst OMCs decide on those produced from foodgrains. Since ESY 2018-19, the government has implemented a differential pricing scheme, offering higher rates to sugar mills producing ethanol from B-heavy molasses and sugarcane juice. Further In ESY 2019-20, prices for converting sugar/sugarcane juice to ethanol increased significantly. Figure 4 shows the ex-mill price paid to ethanol suppliers for ESY 2020-21 generated from various sugarcane and food grain varieties.

Findings

1. Achievement of 10% Ethanol Blending Target:

- ❖ India has successfully achieved the target of **10% ethanol blending** in petrol, **five months ahead of schedule**. This milestone was reached in June 2022.
- ❖ The Public Sector Oil Marketing Companies (OMCs) have consistently maintained an average of 10% ethanol blending across the country.
- ❖ This achievement has not only enhanced India's energy security but also resulted in several positive impacts:
 - **Forex Impact:** Over **Rs. 41,500 crores** saved in foreign exchange.
 - **Reduced GHG Emissions:** Approximately **27 lakh MT** of greenhouse gas emissions reduced.
 - **Farmers' Income:** Expedited payment of over **Rs. 40,600 crores** to farmers.

2. Roadmap for Ethanol Blending:

- ❖ The **National Policy on Biofuels**, notified by the Indian Government in 2018, initially aimed for **20% ethanol blending in petrol by 2030**.
- ❖ Due to encouraging performance and various interventions since 2014, the target was **advanced to 2025-26**.
- ❖ A detailed "**Roadmap for Ethanol Blending in India 2020-25**" was released by the Hon'ble Prime Minister in June 2021, outlining the pathway to achieve 20% ethanol blending.
- ❖ An intermediate milestone of **10% blending** was set to be achieved by November 2022, which has already been met successfully.

3. Future Goals:

- ❖ India plans to completely switch to **20% ethanol blended petrol by 2025**, five years earlier than the originally planned 2030 target.
- ❖ The government's commitment to environmental sustainability includes a pledge to reach **net-zero emissions by 2070**.

4. Ethanol Production Capacity:

- ❖ To achieve the 20% blending target by 2025, approximately **1016 crore litres of ethanol** are required.
- ❖ The total ethanol requirement, including other uses, stands at **1350 crore litres**

In summary, India's EBP Program has not only contributed to energy security but also fostered environmental benefits and supported farmers' livelihoods. With continued efforts, the program remains on track to achieve the ambitious goal of 20% ethanol blending by 2025-26.

Conclusion

To effectively handle the challenges and opportunities of the EBP Programme, government, industry, academia, and civil society must work together. India can promote renewable energy, improve energy security, and create inclusive and sustainable development through a holistic approach that incorporates research, policy, and practice insights.

Suggestions

Long-term Socioeconomic and Environmental Impacts: Longitudinal studies are crucial for assessing the socioeconomic and environmental effects of ethanol blending on rural livelihoods, agricultural land use, and air quality.

Circular Economy Approaches and Supply Chain Resilience: Research on circular economy techniques, biofuel supply chain resilience, and climate change adaptation strategies might help anticipate future issues and offer holistic solutions for sustainable bioenergy.

Limitations

Infrastructural Constraints: The successful execution of the Ethanol Blended Petrol (EBP) Programme in India encounters various infrastructural limitations. These encompass insufficient storage and distribution facilities for ethanol-blended fuels, particularly in rural and remote regions (Singh & Sharma, 2020).

Technological Limitations: Technological limitations present significant hurdles to the widespread adoption of ethanol blended petrol in India. The production of ethanol from diverse feedstocks necessitates advanced processing technologies and equipment, which may not be readily accessible or affordable for small-scale producers (Singh & Tyagi, 2019).

Policy and Regulatory Hurdles: Policy and regulatory obstacles pose significant challenges to the effective implementation of the Ethanol Blended Petrol (EBP) Programme in India. Despite the government's introduction of various measures to promote ethanol blending, such as blending mandates, pricing mechanisms, and incentives for ethanol production, weaknesses persist in enforcement and compliance mechanisms (Saini & Choudhary, 2020).

Socioeconomic Implications: The Ethanol Blended Petrol (EBP) Programme carries significant socioeconomic implications that warrant careful consideration and mitigation. While the program presents opportunities for income generation and employment creation, particularly in rural areas where ethanol feedstocks are cultivated, it also raises concerns regarding equity and distributional impacts (Kumar & Mishra, 2020).

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Role of MSME in Rural Employment Generation in India

Prof. Ritu Tiwari

Abstract

MSME plays very important role in the growth and development of Indian economy. They have very significant contribution in Inclusive and sustainable growth, employment generation, poverty eradication, rural development, Income distribution as well as export and regional resource generation. This is one of the most vital and vibrant sector of Economy to create more jobs and providing self efficient base of Industrial development.

MSME is providing opportunities for both type of employment self (as entrepreneur) and wage employment. This is also contributing significantly in social and economic welfare of the country. In this paper we used secondary data from various sources and descriptive research methodology to study role of MSME. SMEs have the power to propel India to new heights. Hence, it seems like there is a silent revolution happening in India powered by MSMEs.

MSME has amazing capacity to utilize all local resources at very low cost and analyze the need of market as well as they adjust their production according to meet the demand of their product. This is the most dynamic sector just next to agriculture in India. This is a reason it is called “Back Bone” of the whole economy. Today the MSMEs are widening their domain across sectors of the economy, producing diverse range of various products and services to meet the demand of domestic and international markets. Small and Medium Enterprises (SMEs) are playing vital role for the economic growth and stability of country and decisive position especially for developing countries as they facilitate economic activity and provide huge employment thus contributing to poverty reduction.

In this paper a detail analysis made to cover the performance, growth and relation with employment to understand their role in employment generation, product diversification and importance in Indian Economy.

Key words: *MSME, Employment, GDP Contribution, Growth and Development,*

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1.Introduction:

In 2007 Ministry of Small Scale Industries and Ministry of Agro and Rural Industries were merged to form Ministry of Small, Medium and Large Scale Industries. Development of MSME is very positive indicator of country's economy. MSME plays very curtail role to generate employment to the huge populated country like India. The Idea behind focusing and promoting MSME is to generate more employment opportunities, eradication of poverty, utilizing regional natural resources and create healthy business environment to mobilize labours, capital and local resources etc.....(Dr Uma Pujar (2014)). it has been observe that acknowledgement and promotion of MSME has been one of the important strategy of developing countries to increase exports and stand strong in world market. MSME has amazing capacity to utilize all local resources at very low cost and analyze the need of market as well as they adjust their production according to meet the demand of their product. This is the most dynamic sector just next to agriculture in India. This is a reason it is called "Back Bone" of the whole economy.

MSME works as the primary class for entrepreneurship, which basically started by individual creativity and innovation. As per CSO Ministry of statistic and programme implementation (MOSPI) the share of MSME in Gross Value Added in total GAV was 31.8% in 2016-17. According to the Directorate General of Commercial Intelligence and Statistics (DGCIS) the share of MSME related products in total Export from India was 48.10% in 2018-19. The information share by NSSO 73rd round in 2015-16, estimated worker of unincorporated agriculture MSME were 11.10 crore. The importance of MSME is very much proved by these facts.(Press information Bureau,(2019) MSME).

Today the MSMEs are widening their domain across sectors of the economy, producing diverse range of various products and services to meet the demand of domestic and international markets.Small and Medium Enterprises (SMEs) are playing vital role for the economic growth and stability of country and decisive position especially for developing countries as they facilitate economic activity and provide huge employment thus contributing to poverty reduction. The Micro sector with 630.52 lakh estimated enterprises accounts for more than 99% of total estimated number of registered MSMEs. Small sector with 3.31 lakh and Medium sector with 0.05 lac estimated registered MSMEs accounts for 0.52% and 0.01% of total estimated MSMEs, respectively.(Mehta, R.(2019).

MSME sector are instruments of inclusive and sustainable growth which touch upon the lives of the most vulnerable and deprecate. In India, for many families, it is the only source of livelihood. Thus, instead of taking a welfare approach, this sector seeks to empower people to break the cycle of poverty and deprivation. It focuses on people's skills and agency. However, different segments of the MSME sector are dominated by different social groups.

Both the central and state Governments have been working toward the promotion and development of MSMEs in an effort to encourage entrepreneurship, employment and livelihood opportunities. Government is also committed to enhance the competitiveness of MSMEs in the changed economic scenario.

Apart from all importance and challenges now the issues of low demand in the economy in large measure because of the COVID19 pandemic and the ban on the Chinese goods. This issue has devastating impact on MSME businesses. On the bright side domestic MSMEs are known for producing expensive but better-quality products in comparison to the poor-quality Chinese products which dominate the unorganized retail sector. And this will be a brighter opportunity for MSME sector.

2. Statement of the problem:

This is the second largest employment generation section just after agriculture. It provides near about 11.10 crore employment all over the India but still the situation of MSME in India is not much better. 90 % of MSME are in financial crises and depend on informal sectors for funding. (Micro, small & medium enterprises, (2019). Although they generate huge employment and contribute in GDP but still they have low outreach and facing serious threat to non availability of new market reach. Even lack of skilled labour and knowledge make their situation worse in competitive world.

This sector has huge potential but not develop systematically. This sector suffers lot due to lack of technical up-gradation and weak financial sources. Although this sector contribute about 45% of total export income but still neglected and backward. With the huge capacity to produce millions of employment and self-sufficiency of developing country like India it should be re-considered and redefined. Even the Government of India believes that there is only one way to sustained job creation and inclusive economic growth is the micro, small and medium businesses like any other country in the world. Unemployment growth is rising day by day due to various reasons and in present circumstances MSME is the only way to stop and increase jobs in rural as well as urban employment.

3. Scope and Objective of the study:

As the problem is well known and huge so this is an urgent need to focus on improving employability to achieve self-efficiency, we must develop MSME and resolve its related issues. Poor litigation system, Bureaucratic delays in getting clearances and financial support is main issues. MSME not only helpful in generating employment but also contribute in Export income.

The main objective of this paper is:

- ❖ To understand the role of MSME in ruralemployment generation of the country.
- ❖ To understand the main drawbacks of MSME
- ❖ To analyze status of MSME and their diversification.
- ❖ To evaluate importance of MSME in Economy.

4.Relevance of the proposed study for policy making:

MSME has very important role to developing country like India. They help reduce poverty by creating jobs for the country's growing labor force. MSME are the boon for fresh talent and it is the most significant driver in India which is contributing to the tune of 8% to GDP. Considering its contribution to manufacturing, exports, and employment, other sectors are also benefitting from it. This micro enterprises aim to create large-scale employment in country, separate from the formal sector. And they can achieve this target with very limited finances and investment. Another objective is to spread industries and trade in an economically backward area. This helps in the development of the overall economy. This analytical study will help to understand the present situation of MSME and employment with basic understanding of various issues. According to World Bank, formal SMEs contribute up to 60% of total employment and up to 40% of national income (GDP) in emerging economies. (Micro, small & medium enterprises, (2019)

Today MSME enterprises need to adopt best practices of corporate culture and follow international standards to move forward for offering innovative solutions. This focus should be on transfer of information and skill development to effectively use the transferred technology. This will help policy makers to find some way out to provide basic support to survive in comparative world. The policies of interest are state outlays and subsidies targeted towards this sector. More specifically, its capacity to create employment opportunities and its capability to achieve sustainable growth should be notice.

5.Major research work reviewed:

There are many studies have been done in MSME sector with various perspective and analysis at national International level. Some are very relevant to understand nexus between employment and MSME we can quote as:

(Syal Sabina, (2015) explain in her paper that MSME sector is often being termed the "engine of growth" of the country. The factor like export promotion, tooling and technology, manpower training, managerial skills are gave enormous opportunities for growth and better performance to the economy. It is concluded that MSME in the Indian economy have shown limitless opportunities and excellent performance with the contribution of Industrial production and export Income.

According to financial express near around 5.70 lakh micro enterprises have been supported with margin money of Rs 12,902 crore giving employment to approximately 47 lakh people as on October 31, 2019, under the scheme of central government Prime Minister's Employment Generation Programme (PMEGP) in FY09, according to the government data. The PMEGP scheme intends to boost entrepreneurship by supporting individuals setting up micro-enterprises with loans up to Rs 25 lakh in the manufacturing sector and Rs 10 lakh in the service sector along with 15-35 per cent subsidy for various categories. The central government's FY 19 MSME report, out of total 6.33 crore registered MSMEs in India, 6.30 (99 per cent) are

micro-units while only 3.31 lakh are medium enterprises and 0.05 lakh are medium businesses. (FE, NEWS (2019))

In another study we found that India needs 6 to 7 million jobs a year to cease unemployment and global data shows that it is the MSMEs including start-ups, which create net new jobs in any country. On the other hand these Start-ups are also the centers of innovation and are a great way to enhance employment creation in the economy. One of the data from National Sample Survey (NSS) 73rd round will further emphasize on the significance of MSME sector in India as it states that during the period 2015-16, MSME sector has been creating 11.10 crore jobs in the rural and the urban areas across the country. Micro sector with 630.52 lakh estimated enterprises provides employment to 1076.19 lakh persons, which accounts for around 97% of total employment in the sector. Small sector with 3.31 lakh and Medium sector with 0.05 lakh estimated MSMEs provides employment to 31.95 lakh (2.88%) and 1.75 lakh (0.16%) persons of total employment in MSME sector, respectively. Out of 1109.89 lakhs employees in MSME sector, 844.68 (76%) are male employees and remaining 264.92 lakhs (24%) are females. (Mehta, R. (2019)).

In one study it is found that there is very high positive correlation between cost of fixed investment and employment which stood 0.994 and in export stood 0.847. Moreover the correlation is highest in between production and export which stand 0.978 and correlation is 0.973 between production and employment. It is also observed that positive growth in production, exports and employment. (S. Kishore,)

According to researcher Shukla, Rekha (2020) daily wage laborers are suffering the most due to coronavirus. Around 25 to 30 percent of the people in urban areas work on daily wages. The country's 75 million MSMEs are the pillars for growth of the Indian economy, creating around 180 million jobs. It also speeds up the economy by about \$ 1183 billion. Out of this only, 7 million MSMEs are registered.

Worldwide Trend in MSME

Japan – Japan has SMEs employ 70% of the wage earners and this sector contributes 55% of the value-added.

Thailand – In Thailand SMEs employ 60.7% of the population while contributing 38% to the GDP of the country.

China – The SMEs contribute near about 68% of the exports – in the last 20 years created more SMEs than the total number of SMEs in Europe and the US combined.. (Jose, Tom (2019))

United States – USA has' 30 million SMEs account for nearly two-thirds of net new private sector jobs in recent decades.

Russia – As of March 2019, there were 6.2 million SMEs in Russia employing 15.8 million people. 95% of SMEs were micro enterprises, which accounting for 47 percent of

the SME employment and SMEs account for 22 percent of Russia's GDP and 25 percent of total employment.

France— In 2017, there were approximately 2.96 million SMEs in France. One year before, studies have shown that French SMEs employed more than 9 million individuals.

Germany—In 2017 there were approximately 2.45 million Small and Medium-Sized Enterprises (SMEs) in Germany an increase of 360 thousand enterprises when compared with 2011.

Singapore—In Singapore, SMEs account for an estimated two-thirds of all employment and contribute just short of \$200b to the economy. As of April 2019, there were an estimated 220,000 SMEs in Singapore, with the services sector constituting close to 80% of these enterprises in 2019.

South Africa—South Africa's formal, employing SME segment of the economy is much, much smaller than originally thought. Collectively, there are only some 250 000 formal employing micro, small and medium enterprises in South Africa.

6. Growth and performance of MSME in Indian Economy:

In the recent years this sector perform higher growth rate as compare to overall industrial sector of India. During the XI plan this sector recorded a growth rate of 13% on an average. An impressive performance compare to most of the sectors. It is estimated that in terms of value, MSME sector contribute 45% of manufacturing production and around 40% of total export, which increased by 45% of export income of the country.(Syal Sabina, (2015)

The MSME continue over 90% of total enterprises in most of the economies in the world, and are created with highest rate of employment growth and major share of industrial support and export. They contribute very significant amount in GDP also. In India too they play very vital role.

There are some reliable secondary data to understand the present status of MSME in India.

Table 1: Distribution of MSME (Activity wise in 2018-19) (In Lakh)

Activity Criteria	Rural	Urban	Total	Share %
Manufacturing	114.14	82.50	196.65	31
Trade	108.71	121.64	230.35	36
Other Services	102.00	104.85	206.85	33
Electricity	0.03	0.01	0.03	00
ALL	324.88	309.00	633.88	100

Source: annual report of MSME govt. of India (2018-19) pdf available at <https://msme.gov.in>.
pp 28

It is found from the above data that maximum number of 36% MSMEs was engaged in trade while 31% were found to be in doing manufacturing activities and 33% were in other activities. On the other hand it is stated that out of 633.88 units 324.88 means 51.25% were working in rural areas and 309 working units' means 48.75% were in urban areas.

Table 2: Distribution of MSME (Category wise) (In Lakh)

Area/Sector	Micro	Small	Medium	Total	Share
Rural	324.09	0.78	0.01	324.88	51%
Urban	306.43	2.53	0.04	309.00	49%
ALL	630.52	3.31	0.05	633.88	100

Source: annual report of MSME govt. of India (2018-19) pdf available at <https://msme.gov.in>. pp 29

Depicts from table 2 that out of the total number of 633.88 working Enterprises 99% (630.52) were in Micro sector, whereas only 3.31 lakh were working as small Enterprises and Medium units account only 0.05 (0.01%). In other words we can say that 99% working Enterprises have under 25 lakh working capital in manufacturing and 10 lakh working capital in service sector. Investment of capital is very poor for various reasons.

7. Challenges:

The MSME are often said to grow faster than any large enterprise. It is empirically tested that this sector grows faster means maintain high growth rate but also facing high death rate. Many challenges they face like:

- ❖ Absence of adequate and timely banking finance.
- ❖ Lack of working capital
- ❖ Lack of investment in technology.
- ❖ Poor production capacity.
- ❖ Ineffective to take market advantage.
- ❖ Ease of doing Business.
- ❖ Constraints on expansions.
- ❖ Non availability of skilled labour at affordable cost.
- ❖ Low productivity
- ❖ Inadequate and irregular supply of raw material.
- ❖ Underutilization of capacity.
- ❖ Constraints of infrastructure

- ❖ Deficiency of technical and managerial skills.
- ❖ Imperfect knowledge of market.etc....

8. Opportunities:

The opportunities of MSME are enormous due to the following facts:-

- ❖ Influencing of E Commerce trend.
- ❖ Social media platform for marketing.
- ❖ Less capital intensive.
- ❖ Project profile.
- ❖ Machinery procurement.
- ❖ Utilization of local resources
- ❖ Manpower training
- ❖ Technical and managerial training
- ❖ Export promotion
- ❖ Tool and testing support

9. Methodology:

This paper is based on secondary data of MSME which is collected from the website of Ministry of Small, Medium and Large Enterprises government of India and Annual report of MSME 2019-20: registered sector.

10. Discussion:

MSME sector in India creates huge opportunity of employment of Indian Populace. It has been estimated that a lakh rupees of investment in fixed assets in a small scale sector generate employment of four persons.(Syal Sabina, (2015). MSME not only provide large number of employment opportunities at comparatively lower capital cost but also help in Industrialization in rural and backward area, there by helps in reducing regional imbalance, poverty, income disparity and resource management at local level. They are complementary to large industries as ancillary units and contribute in GDP as well. There are more than 6000 items ranging from traditional to high-tech are being manufactured by MSME in India.(Syal Sabina, (2015).

As per the NSSO sample survey 73rd round conducted in the year 2015-16, MSME has been created 11.10 crore jobs.

Table 3: Estimated employment of MSME (Category wise) (In Lakh)

Activity Criteria	Rural	Urban	Total	Share %
Manufacturing	186.56	173.86	360.41	32
Trade	160.64	226.54	387.18	35
Other Services	150.53	211.69	362.22	33
Electricity	0.06	0.02	0.07	00
ALL	497.78	612.10	1109.89	100

Source: annual report of MSME govt. of India (2018-19) pdf available at <https://msme.gov.in>. pp 33

Table depicts the distribution of employment among different activities. The share of trading was higher (35%) as compare to another two activities. Although distribution of MSME is slight higher in(51%) rural areas but as per employability is concern trading generates more jobs in urban areas 58%. similar trend has been seen in other services which provides more jobs in urban areas as compare to rural. Manufacturing activity was providing more jobs in rural unlike another two.

Table 4: Distribution of MSME employment in Rural & Urban Area India

Area/Sector	Micro	Small	Medium	Total	Share
Rural	489.30	7.88	0.60	497.78	45
Urban	586.88	24.06	1.16	612.10	55
ALL	1076.19	31.95	1.75	1109.89	100

Source: annual report of MSME govt. of India (2018-19) pdf available at <https://msme.gov.in>. pp 33

The table shows that Overall MSME generates 55% jobs in urban area as well as 45% jobs in rural areas. Micro enterprises were created almost 97% of total employment out of which 54.45% of employment generated in urban areas as 45.54% in rural India.

11. Findings:

The main findings are

- ❖ Micro enterprises were biggest in number with 99% of registered enterprises. This is a dominant segment not only in numbers but also providing employment opportunities (97%) in both rural and urban areas, thus micro enterprises are very important segment for development and employment.

- ❖ Registered micro enterprises were slight high 51% in rural areas but they provide more jobs in urban areas (55%) than rural area (45%).

- ❖ The sector acts as the instrument of inclusive growth empowering the most vulnerable and marginalized groups.

❖ In category wise analysis Trading were dominated (35%) as compare to manufacturing and other services.

12. Conclusion:

Though it has been observed that MSMEs were recognized as an important for employment generation and eradicate disparity of income from the earliest days of Indian Independence, it appears that the objectives of policies stressing the role of MSMEs are not being realized yet. Therefore, we need an entitlement approach that can have likely to compelling all related stakeholders to work on a common national agenda and compound decision under a scientifically structured framework. This perspective demands the identification and analysis of major security threats to the MSMEs, and entrepreneurship at the grass root level.

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Ayushman Bharat: A Roadmap for Healthier India

Amrish Chandra, Prof. (Dr.) Alpana Srivastava

ABSTRACT

Healthcare in our country is primarily provided by 3 tier system. Primary Health Care Centers (PHC), secondary and tertiary Healthcare taking care of varied needs of patients. Despite of best efforts of government by launching various social Insurance Scheme and large network of 2,00,000 Government primary healthcare facilities (GPHCF), the objective of sound public health could not be achieved because of various reasons, mainly because of high catastrophic out-of-pocket expenditure which compels patients to abandon their treatment in between because of financial hardship. In India around 40 crore people still do not have any type of health insurance policies. Government of India launched Ayushman Bharat scheme also known as Pradhan Mantri Jan Aarogya Yojana (PM-JAY) towards end of august 2018. Ayushman Bharat has two components Health and Wellness Centre (HWC) to take care of primary health care services and Pradhan Mantri Jan Aarogya Yojana (PM-JAY) to provide financial protection to poors against secondary and tertiary health care services. This paper reviews the recent developments and milestones achieved under Ayushman Bharat yojana and present a brief overview of various building blocks of world's largest health Insurance scheme, "Ayushman Bharat", along with bottlenecks creeping in to hamper its successful implementation.

Key words: *Health Insurance, Ayushman Bharat, HWC and PMJAY, ABDM*

Introduction

According to global healthcare security index (GHS) which measures the readiness of 195 countries to fight against epidemics and pandemics, our country stands at 66th position out of 195 with an index score of 42.8, where as another ranking which assesses health and health systems performance India stood at 112th position out of 167 countries, which by no means can be acceptable for 5th largest economy of world. As per 15th census of India in 2011 around 69% of the population lives in rural India where healthcare services are provided by Primary Health Care centres (PHCs) characterised by shortage of resources, trained

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manpower, IT support services etc. hence rural population is compelled to move to private healthcare providers which put a lot of burden on their pocket. Recently we have become most populated country in the world which can worsen the present healthcare system further. There is a dire need on part of government not only to increase healthcare expenditure but also strengthen Primary healthcare centres to achieve universal health coverage. Ayushman Bharat aims to fill this gap through its two components: Health and Wellness centres (HWC) to strengthen primary healthcare centres on one side and PM-JAY on the other , to extend financial protection for secondary and tertiary care.

Pyramidal structure of Health System

In most of the health system pyramidal structure consist of up to 3 tiers of healthcare with increasing complexity and degree of specialization along with higher cost of care moving up from tier1 to tier3.

Primary Health Care- Services a patient receives at the very first contact with health system including rehabilitation, treatment, disease prevention, health promotion and at times palliative care. These services could be offered by wide range of healthcare professional like general practitioner, physiotherapist, speech and language therapist, at times by non-medical personal who had some basic training in health promotion.

Secondary Healthcare- Services where patients are referred by primary health care facilities as they require some special treatment provided by doctors or other qualified health professionals only at well-established clinics or Hospitals. These services are provided by specialist like Dermatologist, obstetrician, paediatrics, gynaecologist, cardiologist Etc.

Tertiary care-These services are above secondary healthcare services which involves advance and complex diagnostic and treatment procedures performed by super specialised professionals in state of art facilities.

Status of Health Expenditure by Government

According to survey only 1.2% of GDP was spend on health sector in 2014, which raised to 2.2% of GDP in 2022- 23. As per national health policy 2017 government has targeted an expenditure of 2.5% of GDP in health sector by 2025. Burden of catastrophic out-of-pocket expenditure on common man has gone down because of increased government spending on health. As per economic survey a decline of 16% is witnessed in out-of-pocket expenditure incurred in 2019 as compared to 2014.

	Government contribution in Total Healthcare expenditure (THE)	Out of Pocket expenditure
2014	28.6%	64.2%
2019	40.6%	48.2%

Objectives

To explore the recent developments and contribution of two components of Ayushman Bharat i.e., Health and Wellness Centre (HWC) and Pradhan Mantri Jan Arogya Yojana (PM-JAY) in facilitating universal health care (UHC), a must to achieve Sustainable Development Goals (SDGs).

Research Methodology

This research is primarily exploratory in nature. Scholastic work was researched using PubMed, ResearchGate, Google scholar and reports published by reputed bodies like Niti Aayog, MoH&FW (Ministry of Health and Family welfare), Organization for Economic Co-operation and Development (OECD) alongwith news article published in reputed Print media. A general search was conducted on the topic, "Ayushman Bharat". The Keywords used in research are Health and Wellness center, PMJAY, Ayushman Bharat Digital Mission. Studies were considered eligible for inclusion if they 1. Provide detail about Ayushman Bharat. 2. Provide detail about Health and wellness center 3. Provide detail about PMJAY.

Literature Review

Laharia C. (2020) studied the role of health and wellness center in strengthening primary health care in India and proposed measures to ensure success of health and wellness centers. **Chellaiyan VG. (2020)** explored PMJAY program in achieving the goal of Universal health coverage. He advocated the importance of pay -for- performance and strong verification process. **Panda P.(2021)** investigated implementation mechanism for Ayushman Bharat and financial mechanism of the scheme. **Sriee GV VP.(2021)** studied impact, utilization, coverage Ayushman Bharat scheme at practice area of a medical college in Chennai and showed his concern for middle income section for not being covered under this scheme which can push them below poverty line. **Lahariya C.(2019)** identified the role of Mohalla clinics in strengthening the Primary Health Care facility which could be a trigger point to improve Healthcare system and suggested few measures to strengthen Mohalla clinic. **Verma N. (2022)** advocated to work upon supply side and demand side of the scheme for effective implementation of PM-JAY. she also advocated recommended stronger grievance redressal and faster claim settlement. **Indumathi K.et al (2016)** identified conductor and empirical study and found education and socio-economic status as determinants of Health Insurance awareness among rural population. **Singh V.(2021)** talked about role of Communication and community engagement in achieving health goals. He also talked about complex process affected by no. of contextual factors.

Ayushman Bharat Program

"Insurance for all by 2047", with this aim the government, under National Health mission has taken various steps towards achieving Universal health coverage and joined hands with state governments to make quality Health Care available to individuals at affordable price. Four missions launched under Ayushman Bharat, namely

- (i) Ayushman Bharat Health and Wellness centres (AB-HWC)
- (ii) Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY)
- (iii) Ayushman Bharat digital mission (ABDM)
- (iv) PM Ayushman Bharat Health infrastructure mission (PM-ABHIM),

Recent development in Ayushman Bharat

Proposed increase in coverage amount and beneficiaries -Government of India as a step to make Health Insurance cheaper and to increase the number of citizens with health coverage has proposed in the interim budget to increase the scope of Ayushman Bharat to cover more citizens apart from increasing the health coverage amount. Currently Aayushman Bharat offers annual coverage of Rs 5 lakh per year per family for those families having annual income less than 2.5 lakhs. Private health insurance of 5 lacs/year cost somewhere between 15 -35k depending upon age. Government proposes to increase the coverage amount from current 5 lakhs to 7-8 lakhs to the families having annual income 5 lakhs per year.

Inclusion of Palliative care facility - Palliative care facility for cancer patients of golden cardholder is also included in Ayushman Bharat scheme, so that they don't abandon their treatment midway because of the financial hardship. As per research conducted by hospital administration of SGPGI on patients of head and neck cancer receiving Palliative care, Daily Expense on treatment comes out to be Rs 2014 while Rs 518 as other expenses.

Ayushman Bhav Campaign

Aayushman Bhav campaign and Aayushman Bhav portal was launched by honorable President of India. It has three components Aayushman melas at health and Wellness centres (HWC) and CHCs, Ayushman aapke Dwar and Ayushman sabhas/ Ayushman Gram Panchayat.

(i) Aayushman Mela would facilitate to achieve the objectives of creating ABHA ids, building awareness among the people about healthy life style through behavior change, routine immunization and population based screening for diseases like a cancer , hypertension, diabetes etc.

(ii) Aayushman aapke Dwar (AAD) provides PVC Aayushman cards free of cost to remaining eligible beneficiaries enrolled under PMJAY Scheme.

(iii) Aayushman Gram Panchayat or Aayushman urban ward status awarded to ward or villages that could achieve 100% coverage on the following indicators of Ayushman panchayat like Aayushman card distribution (above 5 years of age), Abha ID generation (above 5 years of age), screening for non communicable diseases (30 years and above) , number of TB examinations , screening for Sick cell disease (SCD).

Health ATM – To provide better health services to the citizens of the Uttar Pradesh, health ATMs are installed at community health centers (CHC). These ATMs carry out pathological test, help patients to interact with doctors and dispenses medicines without cost. these ATMs

can screen the body of patient for checking blood pressure, height, weight, blood glucose and oxygen levels. These health ATMs would provide 30 types of free investigations along with the tele consultancy services. 1st such health ATM was inaugurated at Chargawan community health centre (CHC) in Gorakhpur by Chief Minister of UP, Mr. Yogi Adityanath.

Medical colleges to associate with PHC– Number of medical colleges has gone up to 660 in 2023, a staggering 70% increase over 387 in 2014. Number of All India Institute of Medical Sciences (AIIMS) Rose to 22 from mere 7. Union minister for Health and Family Welfare Dr. Mansukh Mandavia said that there are 1,33,000 health and Wellness Centre functioning in country. Students and medical colleges would be associated with health and Wellness Centre which will take care of shortage of doctors to an extent. Further 96,000 seats of MBBS would be increased to 1 lakh by 2024.

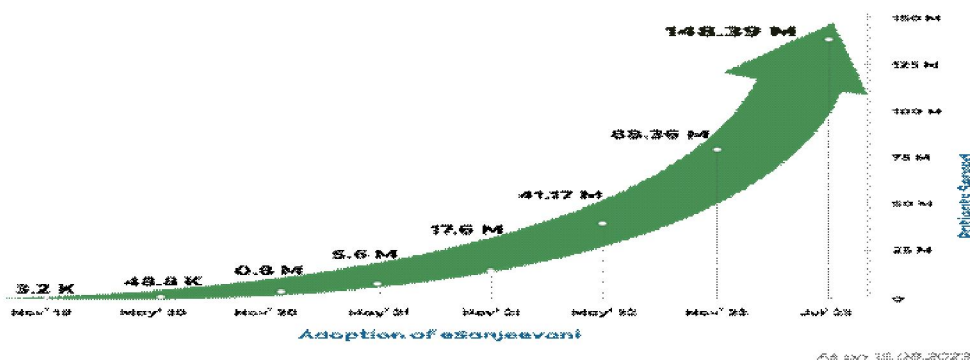
	2014	2023
No. of Medical Colleges	387	660
No. of AIIMS	7	22
No. of PG Seats	31,185	65,335
No. of MBBS Seats	51,348	1,01,043

ABHA to be linked with E shrushat– E-Shrushat, a hospital management information system (HMIS) has been developed by Centre for development of advanced computing (CDAC) which will provide online facility in 22 medical colleges of Uttar Pradesh, ranging from registration for OPD consultation to being admitted for treatment. Every patient’s Aadhar linked health ID ABHA would be connected to e- Shrushat for the easy availability of the services. Patient need not carry his reports and prescriptions, his entire health record would be available online and doctors can refer to his case history therein and accordingly can treat him.

E Sanjivani–As a cornerstone to Ayushman Bharat scheme the cloud based eSanjivani platform operates in two modes.

(i) **eSanjeevani AB-HWC (Hub-and-Spoke model)** Where tele consultation is provided to patients walking in at health and Wellness Centre (Spoke) through Community Health officers (CHO) who is interconnected to specialists and doctors in Hubs established in secondary and tertiary health care facilities.

(ii) **eSanjivani OPD**, citizens through their smart phones or laptops can access the health services being confined to their homes.



Source: <https://esanjeevani.mohfw.gov.in>

Ayushman bharat linkages with Health, child protection, nutrition

School Health program

As a component of Health and Wellness centers under Aayushman Bharat program, Government of India launched school health program to strengthen promotive and preventive aspect of health through age appropriate health promotion activities in schools, a joint initiative of department of school education and literacy under ministry of human resource development and ministry of health and family welfare.

Two concerned ministries, ministry of health and ministry of education will provide training to two teachers of school (health and Wellness ambassadors) at block level, who will arrange activities in a school on weekly, fortnightly, quarterly and bi annual basis.

Age Appropriate Health promotion		
Primary School	Middle School	High School
Personal Safety, Nutrition and Physical activity, Health growth and development, Hygiene practices	Puberty and related changes, Bullying prevention, HIV/AIDS, Prevention of Substance abuse	Sexual and reproductive health, Violence prevention, Road safety, Meditation and yoga

PM cares for children

Covid-19 played havoc for many of the families where both the parents could not survive. To take care of such children and protect their future who lost their parents “PM-CARES for children” scheme was launched which provides Health Insurance coverage of Rs. 5 lakhs

under Aayushman Bharat (PM-JAY) for such children and the premium would be paid out of PM cares fund, Apart from making provisions for their higher education and contributing towards their fixed deposit fund to be realized when he or she attains 18 years of age.

Community engagement for Health Promotion

As health is also affected by various environmental and social determinants which does not fall within the periphery of health system alone and hence health promotion requires community engagement and intersectoral convergence.

Some initiative in this direction has been creation of village health sanitation and nutrition committee (VHSNC) and Mahila aarogya Samiti (MAS) to spread awareness about various health issues at community level through information and communication technology (ICT), FSSAI developed right eat toolkit to check on poor dietary habits and NCD.

ManPower at Ayushman Bharat

Community Health Officers (CHO)

To attain objective of universal health coverage (UHC) for all, in a country like India, characterized by lack of infrastructure facilities, inaccessible Road conditions, underdeveloped transportation system and concentration of specialty healthcare facilities in urban areas, there is a huge dearth of mid level healthcare professionals to act as bridge between rural community and specialized doctors.

A new pivotal role of community health officer (CHO) is constructed to act as middle level healthcare professional, facilitating healthcare access to community at large .These CHOs are provided training through certificate course in community health nursing (CCHN). They are being paid a remuneration of 35,500 per month and are required to sign a bond of 2.5 lakhs to provide services at health sub-centers and HWCs for 3 years.

Roles and Responsibilities of CHO

Community health officer (CHO) is entrusted with responsibilities to provide a HealthCare Services along with the administrative responsibilities.

- (i) Healthcare Services: It ranges from awareness about the Ayushman Bharat scheme, to provide maternal health care services , neonatal and Infant Healthcare, eye and ENT, oral health, geriatric and palliative Care Health Services and like .
- (ii) Administrative Services : responsibility to carry out fund management , data management, supervision of national health program and ASHA workers , to carry out health promotion activities, arranging training programs for other co-health workers , maintenance of inventory and many more.

Ayushman Mitra - Government is planning to recruit Aayushman Mitra who will help the beneficiaries on various aspects like checking their eligibility, entitlement, provide information

about the scheme, help in obtaining Aayushman cards, and identify the nearest Healthcare facilities supplying the required benefits. Ayushman Mitra could be 8th, 12th pass or graduate.

Village level Entrepreneur (VLE) - Village level entrepreneurs facilitates the use of IT enabled services for rural population by educating and training them on use of digital devices and also helps in availing benefits of central government schemes by making them digital literate and lessens digital divide between Rural and Urban Population.

Implementation Challenges of Ayushman Bharat

1. Non availability of Specialist doctors at government hospitals even when being offered remuneration of upto 5 lacs per month.
2. Ensuring optimum utilization of facilities at CHC is a challenge, as despite having Adequate infrastructure (873 CHC with 26000 beds @30 beds at each CHC in UP) only delivery is being performed, rest of the patients are referred to District hospital or Private hospital in large cities.
3. Though Ayushman beneficiaries can get their Ayushman card by using app through their mobile phone but Lack of awareness about Ayushman app among rural population restricts them to obtain it on their own.
4. ASHA worker (Rural Areas) and kotedar (Urban areas) have the list of beneficiaries with them, but they are finding it difficult to locate beneficiaries as many of them are out of home because of Job or any other reason.
5. Earlier to issue Ayushman card, biometric identification system BIS 1.0 was used which requires fingerprints and Aadhar Card only but now BIS 2.1 is being used which requires face identification and mobile OTP. Because of slow speed of portal around 2 crore 65 lakh Ayushman card were stuck in software and could not be issued timely to Beneficiaries.
6. There exist problems with details of patients to be uploaded on portal, whose golden card is issued but their details could not be viewed by physician on the portal because of which they fail to get treatment.
7. In some of cases Aadhar card mismatch was an issue, because of which golden card could not be issued.

Conclusion

Despite of some challenges in implementation, health system in India is definitely improving because of multipronged strategy taken by central government like dissolution of Medical Council of India (MCI) which was creating obstacles in opening new medical colleges and increasing seats in existing colleges due to corrupt practices followed by the body, designing policy towards other factors which causes deterioration in health like e-waste management policy and air pollution control measures.

Main benefit of this scheme is beneficiary can make use of services anywhere in India and success of this scheme will depend upon community involvement, high degree of intersectoral convergence among different spokes of this mammoth system, high quality backend Information Technology, providing incentives to different stakeholders to keep them motivated for superior performance with dedication, robust monitoring and feedback mechanism.

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The Repercussion of Economical Growth on Socio-Economic Factors in the Indian Economy

Nikita Yadav and Dr. C.B. Singh

Abstract:

The growth in the Gross domestic product of any country has its impact on all other economic and social variables. The study aims to explore the impact of GDP on economic, social and environmental variables. The secondary data is used in the study is from year 2012 to 2022 which is being analysed with many of the tests like regression and correlation. It is found that consumer spending is moving in the positive correlation with the GDP but other socio-economic variables show a decline with the growing GDP rates like increase in suicide rate, carbon emissions, decline in happiness index and increase in corruption rate. It is recommended for the government to take the necessary measure to improve the performance of variables which are under performing in the economy.

Keywords: *social, economic, unemployment, corruption, suicide, happiness index*

1. Introduction

India's GDP has shown notable growth, with average annual growth rates regularly above 7%. The nation's broad and diverse economy has placed it among the world's leading economies that are advancing quickly. The development of India's economy has been significantly aided by the service sector, which includes the financial, IT, and business process outsourcing industries. Despite the remarkable development rates, India has a number of challenges, such as income inequality, poverty, and unemployment. The advantages of growth have not always been equally divided, and many people continue to experience financial challenges. (Bhagwati, 1970). These changes promoted economic activity by opening up the economy to foreign investment. Despite the fact that agriculture still accounts for a sizable portion of the economy, India has seen a shift from agriculture to industry and services. The creation of jobs and a diversified economy depend on the growth of manufacturing and industry (Sen, 1999).

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Infrastructure investments in areas like transportation, electricity, and digital connectivity are essential to maintaining economic growth. Growth might be hampered by inadequate infrastructure. The “Make in India,” “Digital India,” and “Startup India” programs are just a few of the measures the Indian government has launched to promote economic growth and development. These regulations are designed to promote manufacturing, technology, and business initiatives. Indian participation in the world economy has increased as a result of trade agreements and foreign investment (Rodrik, 2005). As a result, both exports and imports have increased, supporting economic expansion. Concerns about the environment have become more prominent as growth continues. In order to strike a balance between economic growth and ecological preservation, India is placing more and more emphasis on sustainable development and renewable energy. The COVID-19 pandemic presented a significant obstacle to India’s economic development. Businesses were affected by lockdowns and other interruptions, which slowed GDP growth. On the other hand, recovery activities are now under way. India has made considerable progress and continues to face difficulties on its path to economic growth. Government, politicians, and industry are always coming up with solutions to these problems while maintaining the pace of economic growth (Bardhan, 2010).

The Public Distribution System (PDS) for food security, the Integrated Child Development Services (ICDS) for child nutrition and development, and the National Social Assistance Program (NSAP) for the social security of vulnerable groups are just a few of the welfare programs that the Indian government has put into place. Urban regions are now the focus of social development initiatives as urbanization continues to rise. The goal of initiatives like the Smart Cities Mission is to enhance urban services, living conditions, and infrastructure. Environmental sustainability and social growth are intertwined (Ghosh, 2017). Cleanliness and sanitation are the focus of initiatives like the Swachh Bharat Abhiyan, and India is also working on renewable energy projects to lessen the environmental impact of development. The rich cultural history of India is essential to its socioeconomic progress. The country’s rich cultural traditions and languages are preserved and promoted. To raise the general standard of living and general well-being of the Indian populace, the government, civil society organizations, and international partners are actively addressing these concerns. Despite the difficulties, there have been remarkable successes and improvements in a number of areas of social development (Rajan, 2003).

2. Review of Literature

(Easwaran, 2022) explores how sophisticated innovative technology affects societal development in emerging economies through improving access to healthcare and education. With a focus on these two key drivers of development, the necessity for and contributions of many parties throughout the past few decades in India, including the private sector, NGOs, and the government, have also been examined. The article examines initiatives like extending the usage of digital technology to lower socioeconomic strata and its impact on education and healthcare with the help of a few instances of creative entrepreneurial efforts.

(Krishna Koduru & Archana, 2019) determine how India's economic progress is impacted by its rapid population expansion. This is significant because, based on the rates of population increase in both China and India, the latter will soon pass the former as the second most populous nation in the world. Therefore, the government may be able to examine the impact of population increase on their policies in the future thanks to the study of the relationship between these variables.

(Das, 1999) studies the current inter-state variation in development and, as a result, pinpoints the development-related indicators. States are grouped according to the indices created using four widely accepted components, rather than investigating the variability of a specific variable among states, as a result of principal component analysis. 1) Economic production and condition, or level of economic development, 2) Common Minimum Needs, 3) Health and Health-Related Services, and 4) Communication. The findings of the analysis support the general perception about the states. The states in India are marked with wide disparity in socioeconomic development. The factors, which are found out to be more important for the overall development process, relate to basic needs like education, availability of food, minimum purchasing power and facilities like safe drinking water, health care infrastructure, etc.

(Bodh ire& Muley, 2021) According to data given by the National Crime Records Bureau, Ministry of Home Affairs, and Government of India, the crime rate in India was reported as 385.5 in 2019 and has been on the rise since 1980. A regression model is used to try and determine the association between the crime rate and literacy rate in the states and union territories. The outcome demonstrates that, despite the weaker strength of link, there is a positive correlation between literacy rate and IPC, SLL, and crime against children.

(Strotman & Volkert, 2018)For some aspects, there are links between Multidimensional Poverty Index deprivation and lack of happiness; for most other dimensions, the correlation is minimal. It appears from the results that happiness depends on one's "relativity" toward other villagers. In addition, our findings demonstrate the need for the Multidimensional Poverty Index to include additional "missing dimensions" of deprivation in addition to financial deprivation measures. Measurement of multidimensional poverty at the household and individual levels may also be useful.

(Hu et al., 2021) investigates the impact of economic growth, investment in the energy sector, non-renewable energy, renewable energy, and renewable energy on CO2 emissions in the Indian economy. A negative relationship between CO2 emissions and renewable energy is revealed via empirical regression. Hence, it is suggested that in the face of the economic growth trajectory, renewable energy acts as a remedy for sustainable development. However, there was a correlation between CO2 emissions and rising real GDP as well as non-renewable GDP. We see a one-way causation on the Granger analysis between the use of renewable energy and CO2 emissions, economic growth, and energy investment. These findings have significant policy implications for India's economy's goal of environmental sustainability.

3. Research Objectives:

1. To compare economic and social variables of an Indian economy on the basis of their performance from 2012 to 2021.
2. To investigate the relationship between economic and social variables of an Indian economy from 2012 to 2021.

4. Methodology and Data

The research adopts descriptive and analytical methods in the analysis. The study is purely based on the secondary data. Descriptive methods used in the research are figure, and average indicators. This provides a practical and simple information which provides an overview of development and convergence among regions, inculcating deep research and informative analysis. The level of social development is represented with the help of descriptive statistics. These methods remain simple for the understanding part and limited because they reflect the development according to the sectors which specific to it. To fulfil the objective to understanding better the relationship carrying by the variables and their correlation different analytical analysis is used i.e., Pearson correlation is being applied on the GDP per capita, consumer spending per capita and carbon emissions per capita. Further on regression is carried out for GDP per capita and consumer spending per capita. The relationship between corruption and happiness index and crime rate unemployment rate is being assessed with the help of Pearson correlation.

In this research the emphasis is given on the significance of the economic development in the country and social upliftment which is suffering for the case of the prosperous countries. The generally accepted conception is that the growth in the economic variables will subsequently helps in the development of the social indicators in any economy but few socio-economic variables also participate in the growth process and shows a negative correlation with the economic variables. In this study the socio-economic variables taken are suicide rate, happiness index, corruption rate, crime rate, unemployment rate. Along with an environmental variable i.e., carbon emission per capita.

5. Results and Discussion

5.1 Demographic Profile

According to primary Census 2011 data, there are 1210.19 million people living in the nation, of which 623.72 million (51.54) are men and 586.46 million (48.46) are women. moment in New Delhi, RGI Shri. Chandramouli and Union Home Secretary Shrike. Pillai revealed the primary Census 2011 data. The following are the main points of the Census 2011 (Provisional numbers) Over the decade from 2001 to 2011, India's population grew by further than 181 million people. manly growth rates were 17.19 and womanish growth rates were 18.12 between 2001 and 2011. With the exception of 1911 – 1921, the decade from 2001 – 2011 is the first in which population growth was lower than that of the previous decade. The most populated

State in the nation is Uttar Pradesh, with 199.5 million people, followed by Maharashtra with 112 million. The six countries with the loftiest chance decadal growth rates between 2001 and 2011 dropped from 1991 to 2001. From 25.85 to 20.09) Uttar Pradesh 22.73 to 15.99) Maharashtra 28.62 to 25.07) Bihar Bengal (17.77 compared to 13.93) From 14.59 to 11.10 percent, Andhra Pradesh (24.26 to 20.30) Madhya Pradesh. In comparison to 15 States/ UTs with a share of roughly 42 during the period 1991- 2001, where 25 States/ UTs with a share of nearly 85 of the nation's population had an periodic growth rate of lower than 2. Between 2001 and 2011, 15 States/ UTs endured periodic growth rates of lower than 1.5, compared to just 4 in the previous decade. 52 of children between the periods of 0 and 6 live in Uttar Pradesh (29.7 million), Bihar (18.6 million), Maharashtra (12.8 million), Madhya Pradesh (10.5 million), and Rajasthan (10.5 million). mainly population growth was disadvantage (-) 2.42 percent and womanish population growth was disadvantage (-) 3.08 percent between 2001 and 2011. As a percentage of the overall population, children between the ages of 0 and 6 make up 13.1% of the population, down from 15.9% in 2001. The decrease was 2.8 points in magnitude.

In comparison to Census 2001, when the overall sex ratio was 933, it has grown by 7 points to 940 in Census 2011. This sex ratio is somewhat lower than in 1961 and is the greatest since the Census of 1971. In 29 States/UTs, there has been an increase in the sex ratio. The sex ratio has decreased in three important States (J&K, Bihar, and Gujarat) when compared to Census 2001. Daman & Diu has the lowest sex ratio at 618, followed by Puducherry with 1038 and Kerala with 1084.

Between 0 and 6 years, there are 914 children. In Punjab, Haryana, Himachal Pradesh, Gujarat, Tamil Nadu, Mizoram, and the A&N Islands, the child sex ratio (0-6) is on the rise. The child sex ratio has decreased since Census 2001 in each of the remaining 27 States and UTs.

The state with the greatest child sex ratio (0-6 years) is Mizoram (971), which is followed by Meghalaya (970). Punjab comes in second with a ratio of 846 while Haryana is last with a ratio of 830. The literacy rate increased by 9.21 percentage points from 64.83 percent in 2001 to 74.04 percent in 2011. The percentage increase in literacy between 2001 and 2011 is 38.82; for men it is 31.98% and for women it is 49.10%. The population aged seven and older is made up of 74% literate people and 26% illiterate people.

5.2 Gross domestic product and consumer spending

Gross domestic product or GDP is the total value in money terms of all the finished goods and services produced in some given time period within the nation's borders. The GDP further divides into the real and nominal GDP. The estimation of the GDP includes all private and public consumer spendings, government spendings, estimates of capital formation, building up or the construction costs and foreign trade balances. The consumer spending is the monetary value spent on the finished goods and services by the households for their daily

needs and wants in an economy. It includes all the purchase of durable and non-durable items made by the private individuals. It is evident from past many years that consumer spending is appearing to carrying the highest proportion of the GDP.

The data of GDP and consumer spending is taken from the year 2012 to 2022.

Table 1: GDP per capita and consumer spending per capita for 2012-2022

Year	GDP per capita	GDP growth rate	consumer spending per capita	consumer spending growth rate
2022	2,389	6.72%	1,282	7.34%
2021	2,238	16.98%	1,203	11.23%
2020	1,913	-6.68%	1,090	-5.23%
2019	2,050	3.84%	1,161	5.17%
2018	1,974	0.84%	1,115	7.09%
2017	1,958	14.22%	1,053	6.24%
2016	1,714	7.80%	1,003	8.13%
2015	1,590	1.94%	938	7.93%
2014	1,560	8.47%	880	6.39%
2013	1,438	0.28%	837	7.30%
2012	1,434	-1.08%	790	5.47%

Source: Ministry of statistics and programme implementation.

In table 1, we can see Gross domestic product and consumer spendings for 2012 to 2022 and percentage change of both the factors, for the purpose of fulfilling the objectives, analysis is being done for the GDP per capita and consumer spending per capita.

Table 2: Correlation of GDP per capita and consumer spending per capita

Correlations			
		GDP_PC	CONS_SPEND
Pearson Correlation	GDP_PC	1.000	.993
	CONS_SPEND	.993	1.000
Sig. (1-tailed)	GDP_PC	.	.000
	CONS_SPEND	.000	.
N	GDP_PC	10	10
	CONS_SPEND	10	10

Source: Prepared by authors

It is found in the table 2 that the correlation between both the variables i.e., GDP per capita and Consumer spending per capita is highly positive. Which is highly expected between both of the variables that simply means that the process of demand creation is continuously growing and there is no deficiency of spending in various sectors of the economy.

Table 3: Regression of GDP per capita and consumer spending

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993 ^a	.987	.985	33.55097

Source: Prepared by authors

In the further analysis when we analyse a model it is found that in table 3. The value of R-Square is .987 which represents that the variation in the dependent variable i.e., consumer spendings is explained by the GDP per capita. The value is found to be greater than 0.05 which validates the perfect fit of the model. The value of Adjusted R-square shows that GDP accounts for 98% of change in consumer spending, which significantly covers the majority of the part. The rest of the 2% share can be diverted towards the variables not taken in this study likewise savings, investments, etc.

Table 4: ANOVA Table

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	685727.561	1	685727.561	609.174	.000 ^b
	Residual	9005.339	8	1125.667		
	Total	694732.900	9			
a. Dependent Variable: GDP_PC						
b. Predictors: (Constant), CONS_SPEND						

Source: Prepared by authors

The p-value in the regression analysis is found to be 0.00 which is less than the alpha value 0.05 which simply reflects that there is a significant relationship between GDP per capita and GDP spendings

5.3 Unemployment Rate and Crime Rate in India

The most popular measure for assessing the state of the labour market is the unemployment rate. When discussing the supply of labour (from households) and demand for labour (by businesses and other organizations), economists refer to the labor market. The unemployment rate is a crucial consideration when considering monetary policy since it can offer information about how the economy is doing more generally. Since the crime rate is often expressed as X number of crimes per 100,000 people, the crime rate is computed by dividing the total number of recorded crimes of any kind by the total population and then multiplying the result by 100,000. The prevalence of crime varies widely between nations and is affected by numerous variables.

Table 5: Unemployment rate and crime rate from 2012-2021

year	Unemployment rate	Crime rate
2021	7.71	2.94
2020	10.20	2.91
2019	6.51	2.93
2018	7.65	2.99
2017	7.73	3.03
2016	7.84	3.16
2015	7.92	3.35
2014	7.98	3.62
2013	8.04	3.55
2012	8.10	3.73

Source: World Bank

The table 5 shows the unemployment rate and crime rate in India. The change is not normal for the covid years as the unemployment levels hikes up. But the crime rate still shows so such trend.

Table 6: correlation between change in crime rate and change in unemployment

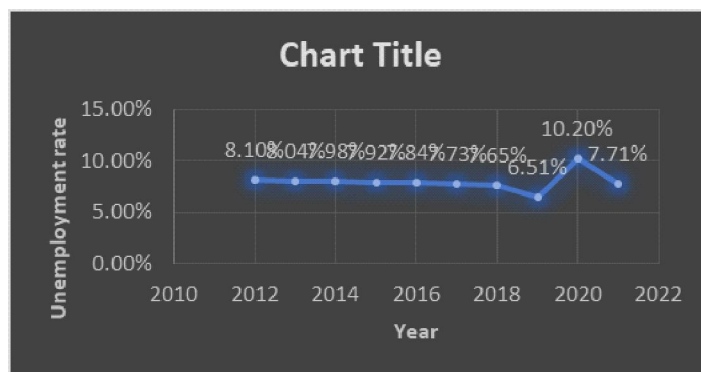
Correlations			
		CRIME	unemploy
CRIME	Pearson Correlation	1	260
	Sig. (2-tailed)		499
	N	9	9
unemploy	Pearson Correlation	260	1
	Sig. (2-tailed)	499	
	N	9	10

Source: Prepared by authors

The Pearson correlation is applied on the both of the variables i.e., crime and unemployment which is being reflected in the table 6. It shows that correlation positive between both of it

and the value associated with it is .260. The increase in change in both the values is taking place together. There is a positive change in crime rate and the same positive change is taking place in unemployment level. So, as unemployment level is increasing that also reflects that crime rate is also increasing the reason behind if people are not having an employment or a source of income then, they will suffer for arranging the daily needs it doesn't matter if the means will be legal or illegal when it comes on the matter of lives.

Figure 1: Chart representation of unemployment rate



Source: Prepared by authors

In figure 1, chart representation is given which reflects unemployment level the which is being working within the limits between 7% to 8%. The level is little improved at the time of 2019 by some policy measures and demand and supply levels in the economy which rests at 6.51%. Then comes a covid era in 2020 and 2021, the unemployment level is hiked up to 10.20%.

Figure 2: Chart representation of crime rate



Source: Prepared by authors

The figure 2, given a representation of crime rate which show that crime rate was higher in the earlier times i.e., in 2012. Due to policy change, there shows a decline in the rate in 2021.

5.4 Corruption perception index and happiness index

Table 7: India's score in Happiness index and corruption index

year	Happiness index	Corruption index
2012	111	36
2013	111	36
2014	117	38
2015	118	38
2016	122	40
2017	133	40
2018	140	41
2019	144	41
2020	139	40
2021	136	40

Source: Transparency International and World Bank

The Corruption Perceptions Index (CPI) is an index that rates nations “by their perceived levels of public sector corruption, as determined by expert assessments and opinion surveys. Corruption is often referred to as the “abuse of entrusted power for private gain” by the CPI. Transparency International, a non-governmental organization, has released the index every year since 1995.

The World Happiness Report uses a variety of metrics to determine which nations are the happiest in the world, including GDP per capita, social support, healthy life expectancy, freedom of choice, generosity, and perceptions of corruption. A representative sample of people from each nation is surveyed for the study, and they are asked to rate various aspects of their lives on a scale from 0 to 10. By averaging these responses, each nation's overall happiness score is determined.

Table 8: correlation between change in corruption index and change in happiness index

Correlations			
		corruption	HAPPI
corruption	Pearson Correlation	1	.919**
	Sig. (2-tailed)		.000
	N	10	10
HAPPI	Pearson Correlation	.919**	1
	Sig. (2-tailed)	.000	
	N	10	10

Source: Prepared by authors

In table 8, the Pearson correlation applied on the change occur in the India's scoring in corruption index and happiness index. There found a positive strong correlation between both of the variable. Simply means that both the variables are moving towards the same direction together so we can see in the case of corruption that the score of India is increasing in number that means more corruption our country is facing as years are passing and same thing is visible in the case of happiness index that ranking of India is being increased that means the performance is going down in the both the variables.

5.5 GDP, Consumer Spending and Carbon Emissions

The table 9 shows the data of GDP per capita, consumer spending per capita and carbon emission per capita of India from 2012 to 2020

Table 9: GDP per capita, Consumer spending per capita, and Carbon emissions per capita

year	GDP per capita	consumer spending per capita	Metric Tons Per Capita
2020	1,913	1,090	1.58
2019	2,050	1,161	1.75
2018	1,974	1,115	1.8
2017	1,958	1,053	1.7
2016	1,714	1,003	1.64
2015	1,590	938	1.63
2014	1,560	880	1.64
2013	1,438	837	1.53
2012	1,434	790	1.5

Source: World Bank

Table 10: Correlation between change in GDP per capita, Consumer spending per capita, and carbon emissions per capita

Correlations				
		CO2	G	C
CO2	Pearson Correlation	1	.553	.584
	Sig. (2-tailed)		.122	.099
	N	9	9	9
G	Pearson Correlation	.553	1	.992**
	Sig. (2-tailed)	.122		.000
	N	9	9	9
C	Pearson Correlation	.584	.992**	1
	Sig. (2-tailed)	.099	.000	
	N	9	9	9

Source: Prepared by authors

The correlation between change in carbon emissions per capita and GDP per capita is found to be positively strong that means the more GDP the more carbon emissions will be there with addition to the consumer spending per capita will also be there.

5.6 Suicide Rate in India

The term “suicide rates” refers to fatalities that are purposefully planned out and carried out by a person with knowledge or anticipation that they would die as a result. A number of reporting criteria, such as how a person’s intention to kill themselves is determined, who is in charge of filling out the death certificate, whether a forensic investigation is conducted, and the provisions for confidentiality of the cause of death, affect the comparability of data between countries. Therefore, it is important to use caution when analysing differences between nations. The WHO Mortality Database is where the data’s original source is. This indicator is quantified in terms of deaths per 100 000 inhabitants (total), per 100 000 males, and per 100 000 women. It is reported as a total and by gender.

As table 10 reflects as the GDP is increasing the suicide rate is also increasing year by year. The development reflects in the economic indicators and some of the social variables the development is lacking the case of mental levels the issues of the mental health is getting worse with the economic development of the country.

Table 10: Suicide rate in India

Year	Suicide rate
2021	164.03
2020	153.05
2019	139.12
2018	134.52
2017	129.89
2016	131.01
2015	133.62
2014	131.67
2013	134.8
2012	135.45

Source: World Bank

In table 11, the correlation between suicide rate and GDP growth rate is reflected which comes as a strongly positive correlation with a value of .604. which tells that as GDP is increasing, the suicide rate also increases subsequently.

Table 11: correlation between suicide rate and GDP growth rate

Correlations			
		suicide	GDP
suicide	Pearson Correlation	1	.604
	Sig. (2-tailed)		.064
	N	10	10
GDP	Pearson Correlation	.604	1
	Sig. (2-tailed)	.064	
	N	10	10

Source: Prepared by authors

Although the factors which grows with the GDP are progressing in the economy but few of the social factors are not performing well which forms a major part of the development in any society.

Conclusion and Recommendations

The development process in any country influences by numerous factors and build by many of the components. Those factors sometimes influence development positively and negatively as well. The development process in reverse impacts other factors too likewise increasing poverty levels, increases literacy rate, improvement in health care and many more. Few factors degrade with the development likewise increase in suicide rates as it is found in the analysis part of the paper, increase in the carbon emissions. The growth and development process are very beneficial for few of the economic and development indicators but this process is not so worthful for the other factors indicated in the analysis part. It is recommended for the government to focus on those factors to attain the inclusive development in the economy.

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Role of Sports in Economic Development of India

Dr. Pratima Ghosh & Prof. Manjula Upadhyay

Abstract

Even now, a lot of emerging nations still have difficulty industrializing quickly enough to accelerate economic growth and development. In light of this, they keep looking for solutions to the problems caused by their underdevelopment. Many people advocate for sports development as a solution to the problems associated with underdevelopment in developing nations. The main issues that emerging nations now confront, meanwhile, are how to increase sports and effectively utilize its advantages for development and economic prosperity. This paper aimed to investigate the problems associated with sports development in developing countries, the long-term pillars or complementary strategies that support sports development in these countries, as well as the advantages of sports development and how they will affect the development and economic growth of these countries. To reach its conclusions, this work used a narrative review research methodology. It concludes that the establishment of long-term complementary strategies, or cardinal pillars, must be developed holistically in order for sports to flourish. Moreover, there are eight important advantages to sports development that might support economic expansion and advancement in emerging countries. One of the main conclusions of the study is that both the development of sports and the economic growth and development of developing nations depend on adequate and sustained levels of investment in all forms of sports, along with strong institutions, sound governance, and workable and interconnected policies.

Keywords: *Economic Growth And Development, Sports Development, Service Sector Development, Linear Stages Of Economic Growth, Developing Nations, Narrative Overview*

INTRODUCTION

In order to accelerate economic growth and development, many emerging nations continue to face challenges in their industrialization efforts. They keep looking for solutions to the problems caused by their underdevelopment in light of this. Many people claim that one

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solution to the problems of underdevelopment in underdeveloped nations is the development of sports. Still, the two biggest issues facing developing nations today are how to increase sports and how to effectively utilize its advantages for development and economic prosperity. This study aims to investigate the problems associated with sports development in developing countries, the long-term complementary approaches or fundamental pillars of sports development in developing countries, and the advantages of sports development and their implications for the economic expansion and development of developing countries. The present Research Paper seeks to find the ways to utilise sports and related activities in the development of India

LITERATURE REVIEW

This section is devoted to the literature on the theories of ‘the service economy’ of Walt Whitman and Rostow’s linear stages of growth. Theories of ‘The Service Economy’ Allan George Barnard Fisher, a New Zealand economist, pioneered the dominant sequential contributions of the primary, secondary, and tertiary sectors to economic growth and development. He classified economies by the proportion of their labour force employed in the three sectors. Primary production included agriculture, pastoral production, fishing, forestry, hunting, and mining. Secondary production consisted of manufacturing and construction. Again, tertiary production comprised transportation, communications, trade, government, and personal services (Haksever & Render, 2013; Acquah-Sam, 2020). Today, these sectors are also called the agricultural sector, the industrial sector, and the service sector. At the early stages of an economy’s life, the agricultural sector contributes relatively more to GDP than the other sectors. It, however, gives way to the industrial sector over time in terms of its share in GDP. Finally, as the economy develops, both the agricultural and industrial sectors shares in GDP reduce while the service sector’s share in GDP increases significantly. This development is called ‘the service economy’. Witt & Gross (2019) wrote that the dominance of the service sector as an economy develops results in rising employment levels and a higher share in the growth of GDP. The following theories explain the leading role of the service sector in economic development:

Intersectoral linkages promote the dominant role of the service sector in economic development.

But the stages of economic growth applicable in the developed countries, do not apply in developing countries like India. There are many reasons for the decline in the performance of the industrial sector in such countries. In Tafirenyika (2016), one can read that Africa’s leaders have failed to pursue bold economic policies out of fear of antagonising donors. Again, African leaders have also failed to spend the high commodity prices’ windfalls on productive investments but instead used them to pay high salaries to public sector workers. Furthermore, Nzau (2010) argued that a bad political culture, weak political and social institutions, poor leadership, and bad governance seem to have contributed to the less industrialised state of African countries. Again, development partners’ efforts to promote industrialisation in Africa

through financial, logistical and technical aid became a plan to produce jobs for westerners in the name of expatriates and find a market for their exports (imported by African states as capital goods). Also, it is to continue exploiting the African economy on behalf of Western powers that essentially control them. In sum, several countries in the developing world still struggle to industrialise because of unfavourable social, economic, political, cultural, human, and natural conditions and a lack of technical skills. Among the questions that now bother the minds of the connoisseurs of industrialisation; Acquah Sam E.(2021).

Under these deficiencies in developing nations' pursuit of industrialisation, each nation and region needs to assess its strength and weaknesses in promoting industrialisation. One must bear in mind that industrialising developing nations do not sufficiently provide the magic wand for their economic transformation. Therefore, they must develop economic subsectors that can help promote economic growth and development faster to reduce the unemployment rate among the youth when adequately harnessed. Acquah .Sam E.(2021).

One of such subsectors is the sports sector. The sports sector is a labour-intensive sector, so it can help promote economic growth faster at relatively low costs in developing nations. The government and the private sector must give it sufficient attention for it to develop. The large populations of their unskilled underemployed and unemployed youth, most of whom can resort to social and political vices, can also be absorbed by the sports sector. According to the World Bank, the youths in India account for about 60% of India's unemployed population. The Asian Development Bank Group (2018) also estimated that each year, ten (10) to twelve (12) million Young Indian join the job market. Also, Vinicius Pinheiro, the Regional Director of the International Labour Organisation, revealed 9.4 million unemployed young people and more than 30 million who only got informal employment in Indian subcontinent. The situation was not good and could become more complicated by the effects of COVID-19 (International Labour Organisation, ILO, 2020). Furthermore, the International Labour Organisation (2020) added that more than 700 million young people in Asia-Pacific accounted for almost half the Asia-Pacific's joblessness. Without sufficient numbers of new and decent job opportunities created by governments in developing countries, there will be a compromise of the regions' social and economic growth potential. Harnessing the increased youth population could support increased productivity and inclusive, sustainable economic growth and development across the regions. Sports have become like a religion due to the passion with which people follow them. Because of their love for sports, many sports fans jubilate over victories chalked by their teams, heroes, and heroines inside and outside sporting facilities. They parade themselves on the principal streets and at entertainment centres during and after major sporting events. The recent wins in Olympics and Asian games have increased the possibilities of sport related activities in India.

RESEARCH GAPS

There is dearth of research on the challenges to how developing nations like India can develop sports to make the sector one of the major subsectors that will contribute to their economic growth and development. Furthermore, they give little attention to how developing nations can exploit the numerous benefits of sports development to help them achieve economic growth and development.

HYPOTHESES

1. Sports can indulge a vast population to have a paying and healthy career.
2. Sports sector along with allied activities can positively help the government in revenue generation

OBJECTIVES

With regards to these gaps in the literature, this paper seeks to:

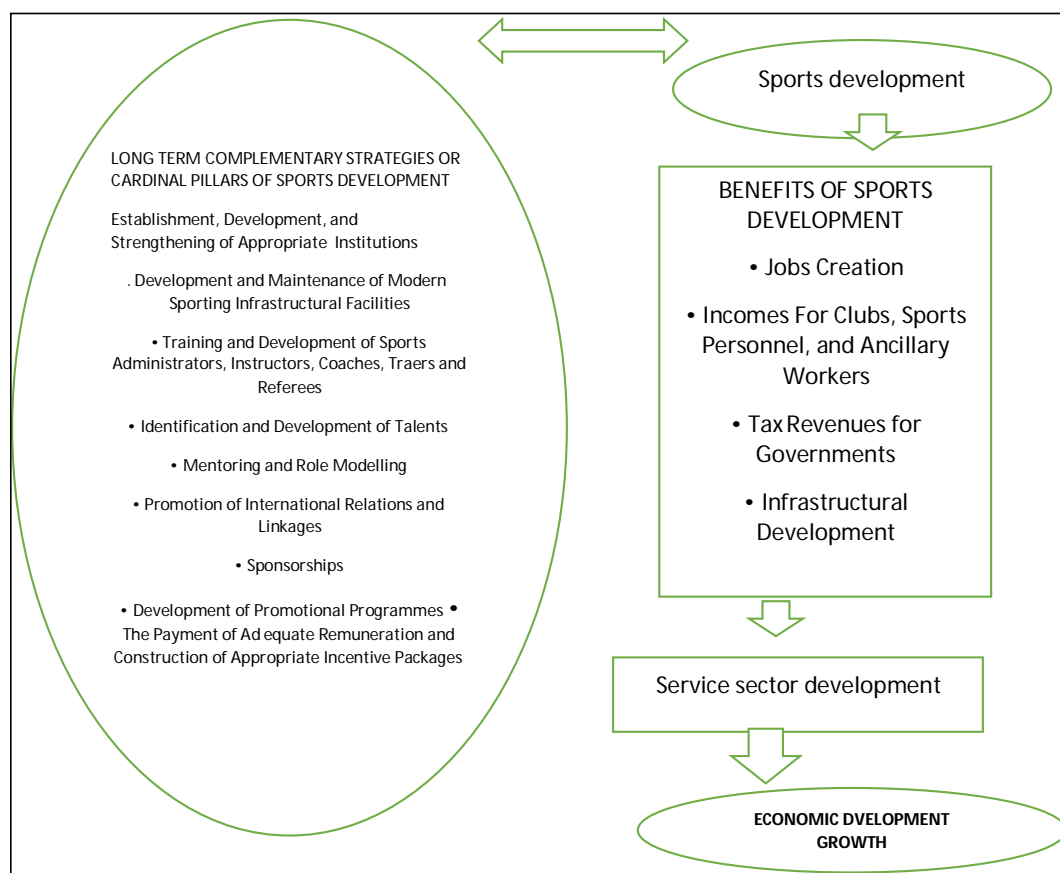
1. To explain in a holistic and synchronised manner the long-term complementary strategies or cardinal pillars of sports development, the benefits of sports development, and the effects of sports development on the service sector growth and development
2. To provide a roadmap for governments, policy-makers, sports administrators, development partners, and entrepreneurs to make rational decisions regarding sports development and economic growth

METHODOLOGY

This research employs a narrative overview research approach for its analysis and conclusions. According to Shah (2018), secondary research publications include narrative reviews, systematic reviews, or meta-analyses. Secondary research publications provide a different perspective on the current literature or additional analysis of the current literature. By this, researchers identify gaps in the current knowledge in a particular field and throw more light on the direction for future studies. A narrative review summarises what is known and highlights either new perspectives or reveals pending questions that remain unanswered or inadequately addressed in a field of study. Bourhis (2018) also posited that a narrative review is a description or the mixing of different ideas to make a whole idea that is different or new without using quantitative methods. Green, Johnson & Adams (2006) mentioned that the three types of narrative review are editorials, commentaries, and overview articles. These are comprehensive narrative syntheses of previously published information. Shah (2018) and Green, Johnson & Adams (2006) have argued about several benefits of narrative reviews.

RELATIONSHIP BETWEEN SPORTS DEVELOPMENT, SERVICE SECTOR DEVELOPMENT AND ECONOMIC GROWTH AND DEVELOPMENT

Figure 1 Relationships among Sports Development, Service Sector Development, and Economic Growth and Development



Source: Sam A construct

LONG TERM COMPLEMENTARY STRATEGIES OR CARDINAL PILLARS OF SPORTS DEVELOPMENT

Private organizations for-profits and for non-profits have been playing instrumental role in funding, training, consulting and developing infrastructure through PPPs as well as independently. Capable corporate entities are actively partaking in evolving franchise-based leagues and sponsoring individual talents across the country

India is drawing international investment in the sports sector, according to India (Investment Grid). By implementing massive sports infrastructure projects and investigating and promoting investments under the public private partnership (PPP) model, the government hopes to turn India into a worldwide athletic superpower with long-term effects on health, education, and tourism. One could view a significant cash inflow into the sports industry as beneficial to India’s economy. The Indian Premier League, second only to the United States NFL in value, was acquired for approximately \$6.2 billion by the Board of Control for Cricket in India (BCCI) in exchange for the broadcast rights to five seasons of the league. Over \$18 million was spent on infrastructure by the Indian state of Haryana in order to host the 2022 Youth Olympic Games in Khelo, India. I Between 2022 and 2027, the state of Gujarat will implement its own Sports Policy with the goal of increasing sports manufacturing and tourism.

TENTATIVE POPULATION THAT CAN BE ABSORBED IN VARIOUS FIELDS RELATED TO THIS SECTOR

Execution of a major athletic event contributes greatly to a nation’s economic development by creating jobs, securing foreign investment, improving infrastructure, and producing players and athletes. Consequently, it may be claimed that sports have a multifaceted effect on the economy and society. Over 5 lakh people work in the sports goods manufacturing sector, according to <https://www.investindia.gov.in/sector/sports>. In September 2023, unemployment hit a record level, prompting 25 lakh applicants for 368 peon positions in Uttar Pradesh. Approximately two lakh individuals have BTech, Mcom, and MSc degrees, while about 300 have Ph.D.s.(Chappelet,J)

As Developed economy USA and Australia engage their 20 per cent populaton and 90 per cent population where as India indulges only 5.5 per centage population Table 1. When poverty and unemployment in India is predominant then more population can be encouraged towards sports and sport related industries

Table 1:POPULATION INDULGED IN SPORTS ACTIVITIES IN USA CHINA INDIA

COUNTRY	POPULATION PERCENTAGE	COUNNTRY	POPULATION PERCENTAG
USA	19.3	CHINA	32
AUSTRALIA	90	INDIA	5.5

Sports manufacturing industry in India specially the MSME sector is fragmented unable to scale and is dominated by 10 to 12 manufacturer the small players lack access to funds skilled man power availability and direct connect with the marketplace **Lange, D. (2020}**

LONG TERM STRATEGIES OR CARDINAL (FUNDAMENTAL) PILLARS OF SPORTS DEVELOPMENT

- ❖ India is the major exporter of table tennis, tennis, badminton, tennis balls, and inflatable balls.
- ❖ The export value of bicycles and its parts from India amounted to over \$ 461 Mn in the fiscal year of 2022.
- ❖ Sports Authority of India has established 23 National Centres of Excellence and 67 SAI Training Centres to implement sports promotional schemes across the country.
- ❖ Under the National Investment Pipeline, capital expenditure of \$ 1.1 Bn (FY20-FY25) has been earmarked for developing sports infrastructure in the country.
- ❖ Cluster cities for sports goods manufacturing, Jalandhar and Meerut, account for ~ 82% of total production, and host more than 3000 manufacturing units and 130 exporters owing to their expertise.
- ❖ India is one of the potential bidders to host 2036 Summer Olympics. Regional games packaged in interesting league formats have been successful in Government of India is playing a vital role in growth of the sports sector through several initiatives and programmes, Khelo India Programme, Target Olympics Scheme etc. Government of India increased sports budget by 11.08 % in 2022-23. Sports Goods Export Promotion Council (SGEPC) set up for promotion of India's exports of sports goods. (Clarke et al 2013)
- ❖ Driven by a young digital audience, and rapidly increasing smart phone and internet penetration, India is witnessing significant growth in online consumption of sports content. Indian Premier League digital rights for Indian subcontinent, attracted highest bid of ~\$ 6.41 Mn per match for 2018-22 cycle.
- ❖ The rural viewership is increased. The seventh season of non-cricket sport Pro Kabaddi League attracted 1.2 Mn impressions and a cumulative reach of 352 Mn, which is set to grow in the coming years further.

Sports sector in India is growing due to entry of multiple sports **start-ups** involved in sports infrastructure, data/content aggregation, education and training, online retail, technology and online ticket booking.

CONCLUSION AND RECOMMENDATION

While it is clear that India's sport policy 2001,2011 is still developing the persistent issues of poor governance, the high rates of population inaction, and enhancing the performance of elite athletes internationally, should be taken care of.

The 2019 FIT India policy, which aims to address the pervasive issues of physical inactivity that affect people, is still too early to evaluate, but as it becomes more integrated

into national, state, and local environments, its implementation will be observed throughout time.

India's middle class household expenditure in 2025 statistics indicates that 10% of India exercises less than 1 hour per week and study is that India's 67 million middle class households will grow to about 547 million households by 2025 at a conservative and estimate of INR 15000 and 30% participation rate India's annual spend on sports and recreation will balloon to about 3.7 billion US dollar (ILO)

Fitness and sports should be top priority for the masses Corporate funds needed to augment public moneys to develop sport as the sport minister recently indicated there is enough money to support Indian sport but it needs to be spent wisely and as part of structure and main plan Under CSR umbrella it should be made compulsory to corporate India to advocates small percentage to its sports development sport tax on all vice banned based industries including cigarettes alcohol and gambling this will automatic create a development fund.

India could just improve access to available sports infrastructure for the masses 1/3 of the gender will be addressed if more people have access to sporting facilities at an approxable cost utilization rates

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Public Expenditure on Agriculture Sector in India: A Budgetary Analysis

Dr. Shikha Sharma & Prof. Anup Kumar Mishra

Abstract

After seventy-seven years of freedom and continuous growth, the agriculture sector is still playing an important role in GVA contribution, but seasonal farming faces many consequences of climate change. Due to the influential role of this sector, this paper has focused on the trend of public spending in the budget and the year-on-year growth of expenditure on various heads in this sector over the period 2011 to 2021. The finding of this paper shows public expenditure has increased over time on agricultural research and education and the government has also included the heads of climate-resilient agriculture initiatives to meet the target of agriculture production along with the pressure of climate change.

Keywords: *Budget expenditure, agriculture sector, soil and water conservation, climate-resilient agriculture initiatives*

Introduction

To achieve the goal of Viksit Bharat in 2047 and a \$5 trillion economy, every sector of the economy has to play a vital role. The Indian Agriculture sector has played an important role in food production and employment since independence (Himani 2014), and registered positive growth during pandemics. This sector has occupied 54.6 percent of the total workforce and this sector has registered 4.3 percent in the COVID-19 pandemic and 3.3 percent growth in GVA in 2022.

The COVID-19 pandemic and climate change challenges have driven special attention to the green growth agenda. The Indian government has committed to a net zero emission target along with the \$5 trillion economy and Viksit Bharat development goal. Climate-resilient agricultural growth is the need of the hour and it includes innovations, new practices, and technologies that provide higher production with low greenhouse gas emissions, and sustainable use of natural resources. Every year government makes an expenditure plan according to the goal in the public budget of major heads and every ministry and department receives budget

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allocation according to short and long-term targets. The agriculture sector has two Department of Agriculture and Farmer Welfare and the Department of Agricultural Research and Education under the Ministry of Agriculture and Farmer Welfare. Under this Ministry, the government allocates a budget for various developmental heads including central sector schemes and expenditure on agricultural research and education, crop science, and climate-resilient agricultural initiatives.

This study has focused on major agricultural developmental heads that help in climate-resilient agricultural growth. To analyze climate-resilient agriculture efforts focused on three important developmental heads of the budget- expenditure on soil and water conservation, expenditure on agricultural research and education, and climate-resilient agricultural initiatives.

Review of literature

Agricultural sector development and production largely depend upon government expenditure. Singh, Priscilla, and Vatta (2022) examined the effect of public expenditure on agricultural growth in the state of Punjab for the period of 1990-91 to 2019-20. He used a Granger causality test to find out the relationship between agricultural GSDP and public expenditure and analyzed the effect of public expenditure on crop husbandry, dairy development, agricultural research and education, soil and water, conservation, forestry, and wildlife. The study results show that expenditure done by the government on crop husbandry, agriculture, research and education, and dairy development has positively increased the state's agricultural growth, but expenditure on forestry, wildlife, and soil and water conservation has no impact on agricultural growth.

Megbowon & et.al.(2022) investigated the effect of public expenditure on the agriculture sector and economic growth in the kingdom of Lesotho for the period of 1982 to 2019. The study found that the current level of public expenditure is less to boost economic growth in a proper way in the country and focused on the importance of domestic investment for desired economic growth.

Ngobeni E. & Muchopa C.L. (2022) analyzed the effect of public expenditure on agricultural production in South Africa from 1983 to 2019 and used a vector auto-regressive approach. In addition, this study has focused on expenditure impact on the consumer price index, food import value, annual average rainfall, and population on agricultural production. The result shows that public expenditure is not the Granger cause of the value of agricultural production whereas increasing public expenditure in agriculture, average annual rainfall, and population are the causes to increase the value of agricultural production. The price index and food import value have deteriorated the value of agriculture production.

Rajesh T. & Anuja, A.R. & Singh K.(2020) studied the impact of public expenditure on agricultural inputs and support services at national and international levels and used panel data for comparative regional analysis. The study found that in the western and southern regions, public expenditure has majorly focused on the irrigation sector whereas in the Eastern region

focused on rural development, crop husbandry, and agricultural inputs and services have been the main focus of expenditure increased threefold in eleven years. This study also shows a disparity between the interstate allocation of public expenditure.

De, U.K. & Dahun S.D.(2018) assessed the effects of public expenditure on agriculture and allied activities from 1984 to 2013 in Meghalaya. He used the Granger causality test to find out the relationship between gross state domestic product and public expenditure. The study found a significant positive relationship between agriculture expenditure and crop husbandry on GSDP growth, while on the other hand, found a negative relationship between public expenditure and dairy, forestry, and irrigation.

Wangusi C. & Muturi W. (2015) examined the impact of agricultural public spending on agricultural productivity in developing countries in Kenya for the period of 1973 to 2012. This study used correlation and a simple regression model to determine the relationship between public spending and agricultural productivity. The result shows a positive and significant relationship between agricultural productivity and public spending.

It analyzes the impact of public expenditure and investment on the agricultural and allied sectors. The study concluded that public expenditure was stagnant in the 1990s while it stepped up in the mid-2000 decade (Singh, Pal, and Jha,2015).

Salunkhe H. A. & Deshmush B.B.(2014) Studied agricultural subsidies and discussed the types of agriculture, subsidies, and distribution criteria in India.

Okidim I.A. & Albert C. O.(2012) assessed the impact of budgetary allocation for the agriculture sector and agriculture output in River estates from 1999 to 2010 and used regression models to explain the effect of budgetary allocation on the crop cassava yam oil palm and plantain.

Chittedi K.R. & Bayya P.K.(2012) studied the effect of public expenditure on irrigation and agriculture production in Andhra Pradesh. Applied regression method to find out the relation between expenditure and irrigation effect.

It examines the trend and pattern of public expenditure on the rural economy in different years of a budget. Discussed the trend of expenditure since the 1950s along with the composition of expenditure on measure heads and comparatively analyzed public expenditure across the state. The result shows inadequate public expenditure by the government in the sector during this period (Jha P., & Acharya N.,2011).

Objectives and Methodology

This study is based on secondary data and uses various years of union budget, and agricultural statistics at a glance and covers the period of 2011-2021.

The objectives of the study are as follows-

To study the trend of budget allocation to the Department of Agricultural and Farmer Welfare.

To study annual growth in public expenditure on soil and water conservation.

To study the annual growth in public expenditure on agricultural research and education.

To study the annual growth in public expenditure on climate resilient agriculture initiative

Tools and techniques

The study analyzed the trends of total government expenditure to the Department of Agriculture and Farmer Welfare in the last ten years. Additionally examined trend and year-on-year growth of expenditure on agricultural research and education, soil and water conservation, and climate-resilient initiatives. Decadal growth in budget allocation on these heads has been discussed. Graphical method has been used to find out the trends of government expenditure on different heads of the expenditure including total expenditure on agriculture and farmer welfare plan and non-planned and expenditure on climate-resilient agricultural growth.

Result and Discussion

The study analyzed annual and decadal growth in expenditure on different developmental heads. Figure 1&2 shows the annual growth in total expenditure received by the Department of Agricultural and Farmer Welfare. From 2011 to 2021 agricultural and farmer welfare registered less allocation in 2015 and 2018 and DGR has fallen by 25 percent.

Figure 3 & 4 present that the budget allocation for soil and water conservation; budget expenditure was the same 15 crore in 2011-12 & 2012-13 and 16 crore in 2013-14 & 2014-15 and later expenditure increased in 2016-18 and then almost constant for the next three years. But during this decade budget allocation has increased by 74 percent on this head.

Figure 5&6 shows that government expenditure on agricultural research and education. From 2011 to 2021 allocation has increased by more than 200 percent while yearly growth shows a decline in 2012 and no increase in allocation in the years 2013 & 14 and 2019 & 2020.

Figure 7&8 depict budget expenditure on climate-resilient agricultural initiatives has registered 58 percent negative growth during this decade. The annual growth rate shows less expenditure in the years 2012-13 to 2013-14 and 2016-17 to 2018-19.

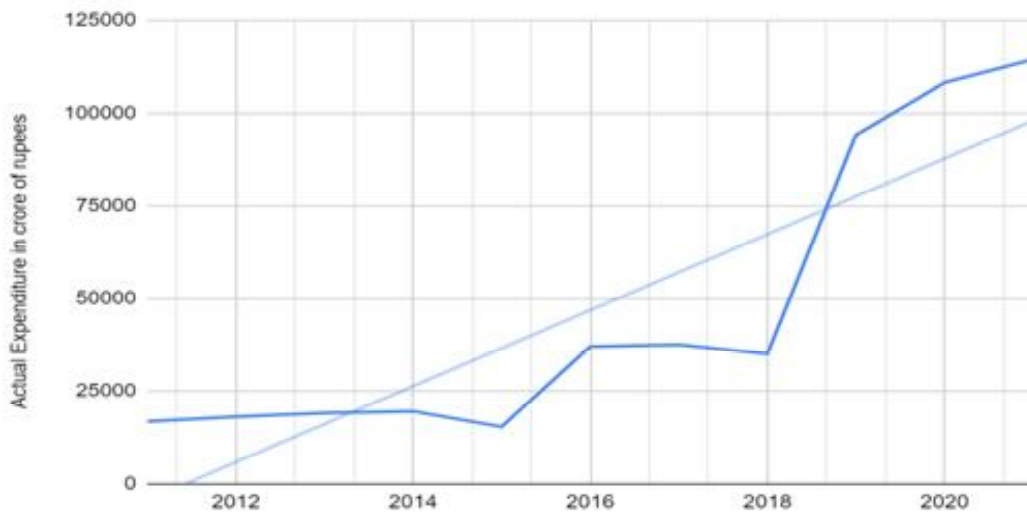


Figure 1 Total budget allocation to the Department of Agriculture and Farmer Welfare

Source- Various years of agriculture statistics at a glance

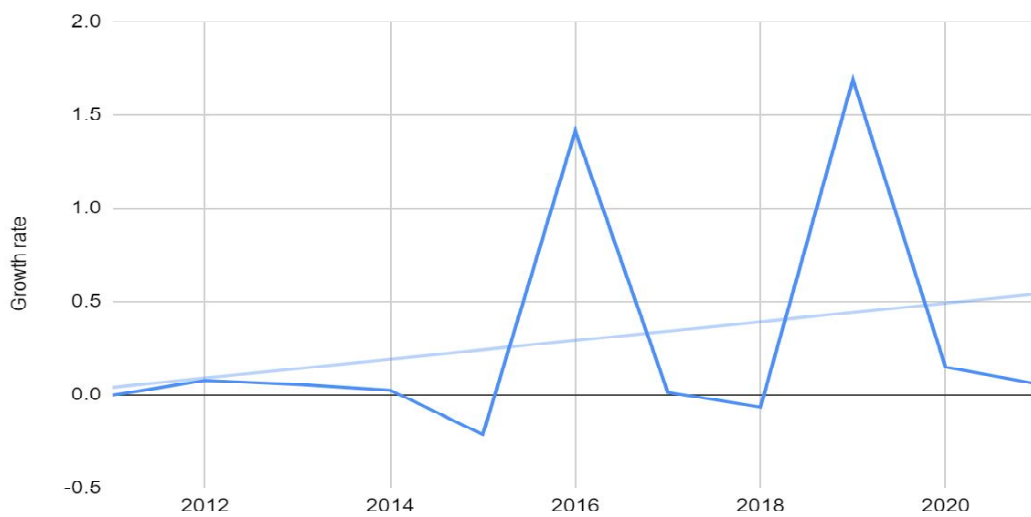


Figure 2 Annual growth in budget allocation to the Department of Agriculture and

Farmer Welfare

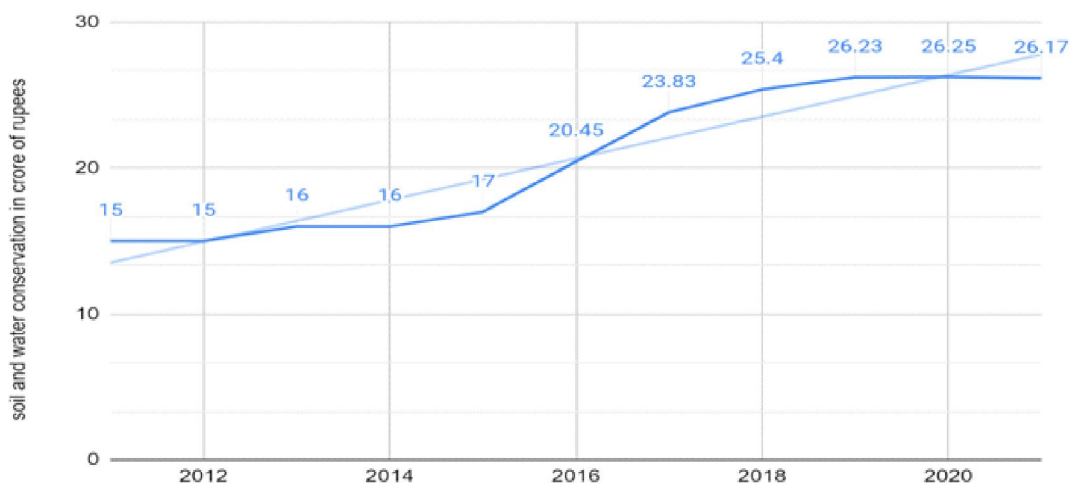


Figure 3 Government expenditure on soil and water conservation

Source: Various union budget documents



Figure 4 Year on Year growth in government expenditure on soil and water conservation

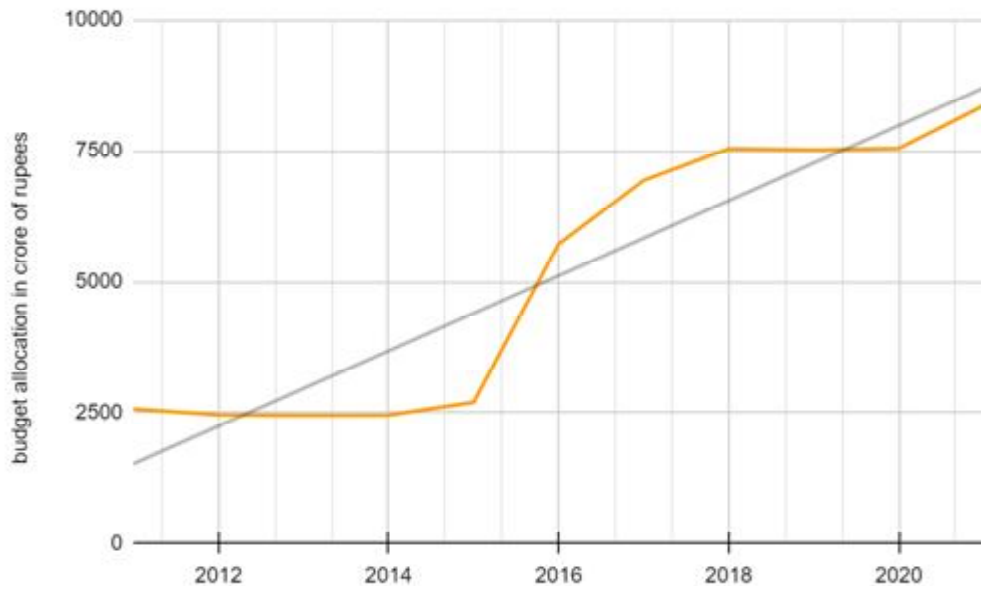


Figure 5 Budget allocation on agricultural research and education

Source: Various union budget documents

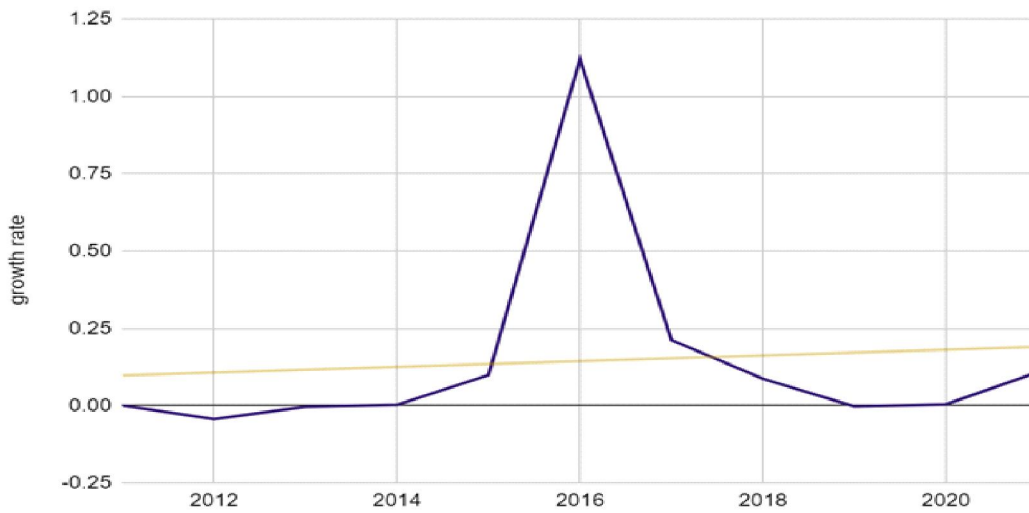


Figure 5 Annual growth in budget allocation on agricultural research and education

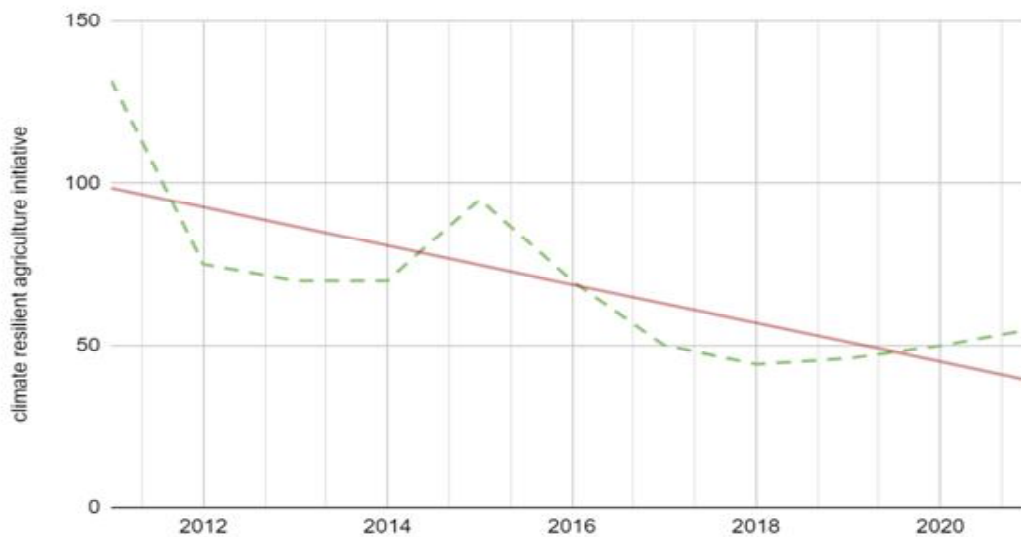


Figure 6 Budget allocation on climate resilient agriculture initiative

Source: Various union budget documents

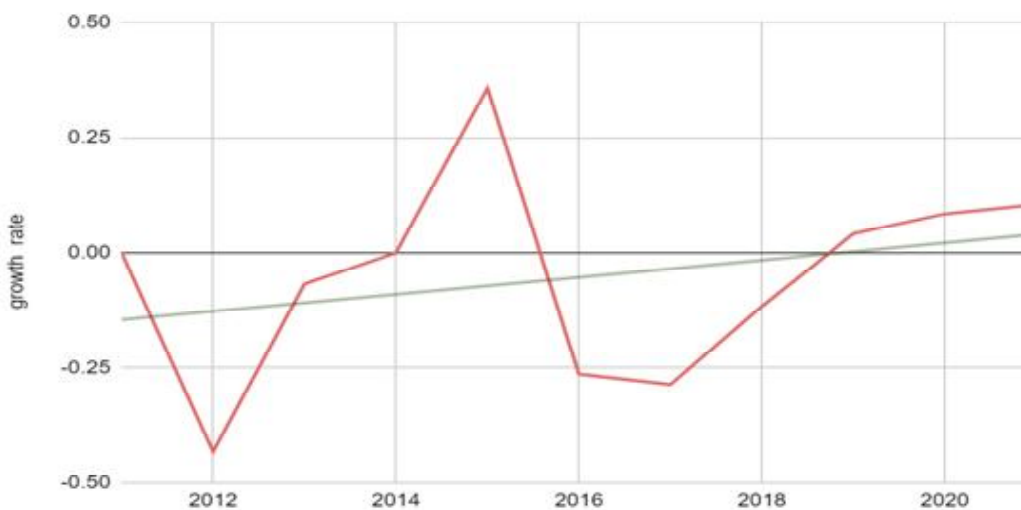


Figure 6 Annual growth in budget allocation on climate resilient agriculture initiative

Conclusion

From 2011 to 2021 total expenditure received by this department has declined by 25 percent while budget allocation on soil and water conservation has increased by 74 percent during this decade.

Government expenditure on agricultural research and education has registered the highest 200 percent decadal growth whereas expenditure on climate-resilient agricultural initiatives has declined by 58 percent.

In this decade expenditure for the Department of Agriculture and Farmer Welfare and agricultural research and education has declined while expenditure increased on soil and water conservation. To face the climate change challenge one of the important government efforts is the inclusion of climate-resilient agriculture initiatives.

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Future Prospects and Challenges for Millet Production in the Proportion of Total Food Grain Production Trends

Aman Kumar & Kiran Singh

ABSTRACT

Millet, often marginalized as a crop, is experiencing a resurgence of interest due to its nutritional richness, resilience in adverse conditions, and potential contributions to food security and sustainability. This research paper delves into the future prospects and obstacles facing millet production in light of overall food grain production trends. Utilizing a comprehensive examination of historical data and contemporary agricultural methodologies, the study scrutinizes the evolving significance of millets in global food systems. Secondary data spanning from 1950-51 to 2021-22, sourced from various governmental publications and websites including Agricultural Statistics at a Glance, form the basis of analysis. The paper employs graphical representations to illustrate the trends in food grain and millet production over the aforementioned period. The study divides the timeline into three segments based on significant milestones in food grain production – 100 million tons in 1970-71, 200 million tons in 1998-99, and 300 million tons in 2021-22. Separate analyses are conducted for each period, exploring the proportion of millet production relative to total food grain production. Statistical tools such as standard deviation and coefficient of variation are applied to enrich the analysis.

1. INTRODUCTION

In recent years, there has been a growing recognition of the importance of diversifying food production systems to enhance food security and nutrition, particularly in countries like India with large and diverse populations. Among the grains gaining attention for their potential contributions to food security and nutrition is millet. Millets are a group of small-seeded grains widely cultivated and consumed in various parts of the world, including India, where they have been integral to traditional diets for centuries. The prospect of millet production in India holds significant promise, not only for bolstering agricultural sustainability but also for addressing nutritional challenges. Millets are highly resilient crops, well-adapted to diverse agro-climatic

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conditions, and requiring minimal inputs such as water and fertilizers. This makes them particularly suitable for cultivation in regions prone to environmental stress, such as drought or low soil fertility, thus contributing to climate resilience in agriculture. Moreover, millets are nutritionally rich, offering a range of health benefits. They are naturally gluten-free and have a low glycemic index, making them suitable for individuals with gluten sensitivity or diabetes. Millets are also rich in essential nutrients such as proteins, dietary fibers, vitamins, and minerals, contributing to balanced diets and improved nutritional outcomes, especially in communities vulnerable to malnutrition. Despite these advantages, the proportion of millet production in India's total food grain production has declined over the years, largely due to the promotion of high-yielding varieties of rice and wheat through government policies and subsidies. However, there is a growing realization of the need to revive millet cultivation as part of a broader strategy for enhancing food and nutritional security.

2.OBJECTIVES OF THE PAPER

This paper aims to explore the prospect of millet production in India and its proportion in total food grain production, with a special focus on its implications for nutritional security. By examining the opportunities and challenges associated with promoting millets, as well as the policy interventions required to support their cultivation and consumption, this study seeks to inform strategies for achieving sustainable food systems and improved nutritional outcomes in India.

3.MILLETS AND SDGs

The year 2023 has been designated as the 'International Year of Millets' by the United Nations General Assembly, with the initiative spearheaded by the Prime Minister of India and supported by over 70 nations worldwide. This declaration underscores the global recognition of the significant role of millets in sustainable agriculture and their status as a smart and nutritious superfood. The historical roots of millets trace back to the ancient Indus Valley civilization, where they were among the earliest crops domesticated for human consumption. Widely cultivated across 131 countries, millets serve as a staple food for approximately 60 crore people in Asia and Africa. Recognizing the potential of millets to become a global food phenomenon, the Government of India has declared the International Year of Millets, 2023, with the aim of fostering a grassroots movement to promote Indian millets, culinary traditions, and value-added products worldwide.

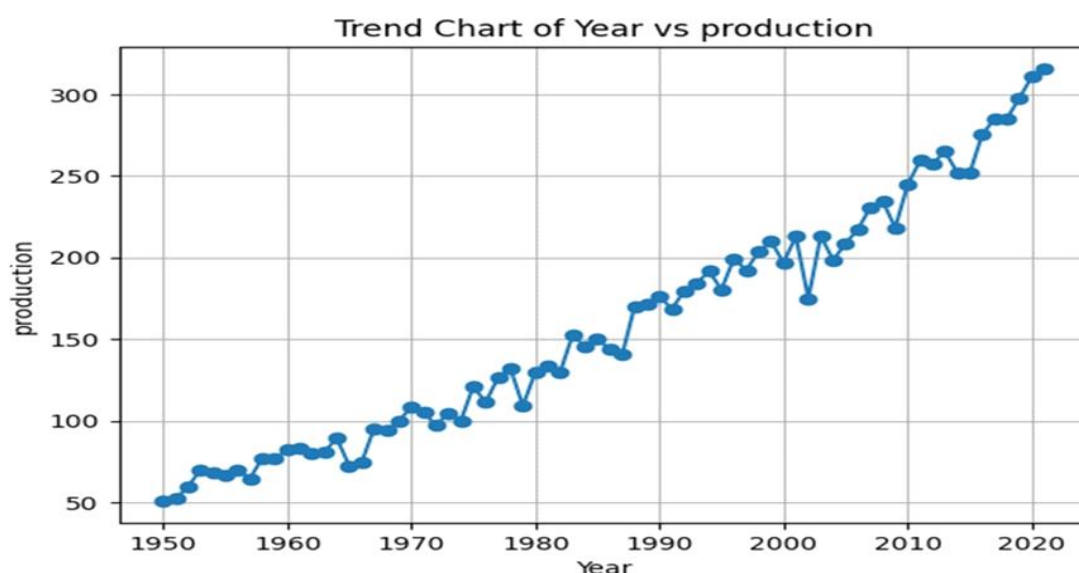
Aligned with the United Nations' 2030 Agenda for Sustainable Development, the International Year of Millets, 2023, seeks to address issues related to zero hunger (SDG 2), good health and well-being (SDG 3), decent work and economic growth (SDG 8), responsible consumption and production (SDG 12), climate action (SDG 13), and biodiversity conservation (SDG 15).

4.NUTRITION FRON MILLETS

Millets are highly advantageous due to their affordability, ease of cultivation, and rich

nutritional content. They boast a plethora of vitamins, minerals, and fiber, making them a remarkable addition to one’s diet. Niacin, a form of Vitamin B present in millets, supports energy production, nerve health, and digestive well-being, particularly beneficial for those with food sensitivities. The presence of magnesium, zinc, and fiber in millets renders them excellent for regulating blood sugar levels, particularly beneficial for conditions like PCOD and diabetes. Folic acid aids in iron absorption, enhancing skin health and fertility. Furthermore, millets are a rich source of calcium, iron, protein, and various minerals, promoting overall health. With primarily unsaturated fat content, they are conducive to a low-fat diet. Their gluten-free nature ensures easy digestion and a lower glycemic response, crucial for diabetic individuals in managing blood sugar levels. Additionally, millets contribute to maintaining bone health, reducing blood cholesterol, combating anemia, and facilitating weight management.

5. Trends of Foodgrain production and Millet production in India



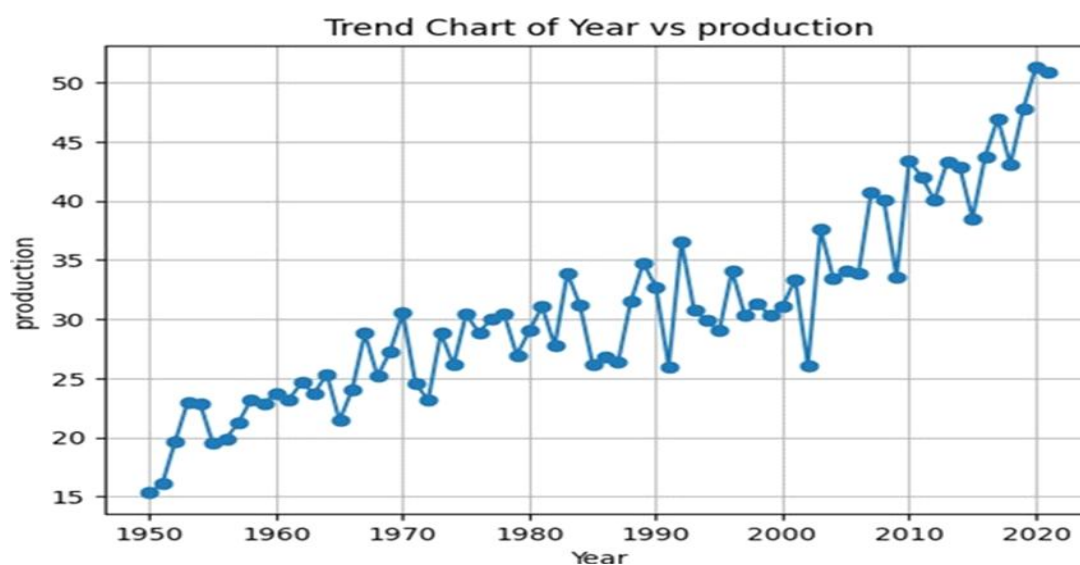
Production (in million Tonnes)

Source: Agricultural statistics at a glance

Figure1: Trend of Foodgrains production with time from 1950-51 to 2021-22

5.1The data provided depicts the trajectory of food grain production from 1950-51 to 2021- 22, revealing notable trends and fluctuations over the decades. Initially, production levels were relatively modest, hovering around 50-70 million metric tons in the 1950s and 1960s. However, from the 1970s onwards, there was a pronounced uptrend, with production steadily increasing over successive years. Significant spikes in production occurred in certain

years, such as 1977- 78, 1983-84, and 1998-99, reflecting periods of exceptional growth likely driven by favorable agricultural conditions or technological advancements. Conversely, there were occasional downturns, as seen in the early 1970s and late 1990s, which could be attributed to factors like adverse weather or economic challenges. Notably, the production surpassed the 100 million metric tons mark in the early 1970s and continued to soar, reaching milestones like 200 and 300 million metric tons in more recent years. This upward trajectory suggests sustained efforts in improving agricultural practices, including the adoption of modern technologies, expansion of cultivated land, and enhanced infrastructure for irrigation and distribution. The consistent growth in food grain production reflects the resilience of agricultural systems, though external factors such as climate change and global market dynamics may pose challenges to sustaining this upward trend in the future. Overall, the data underscores the importance of ongoing investment and innovation in agriculture to meet the growing demands of an expanding population.



Production (in million Tonnes)

Source: Agricultural statistics at a glance

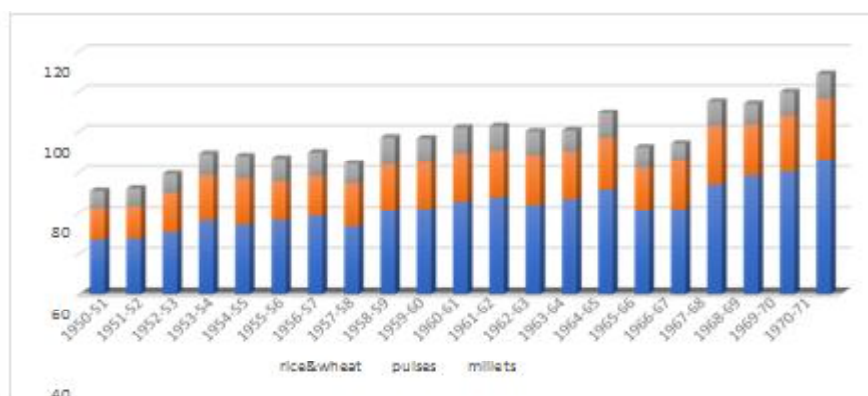
Figure2: Trend of millets production with time from 1950-51 to 2021-22

5.2 The data provided illustrates the production trends of millet over the span of several decades, from 1950-51 to 2021-22. Initially, millet production figures were relatively modest, with quantities ranging from around 15 to 25 million metric tons during the 1950s and 1960s. However, from the 1970s onwards, there was a notable increase in millet production, with figures consistently surpassing 25 million metric tons. Significant spikes in production occurred

in certain years, such as 1967-68, 1975-76, and 2007-08, indicating periods of exceptional growth likely driven by favorable agricultural conditions or increased demand. Conversely, there were occasional dips in production, such as in 1971-72 and 1991-92, which may have been influenced by factors like adverse weather or market dynamics. Notably, millet production surpassed 30 million metric tons in the early 1970s and continued to rise, reaching milestones like 40 and 50 million metric tons in more recent years. This upward trajectory suggests sustained efforts in improving millet cultivation practices, including advancements in technology, breeding of high-yield varieties, and better agronomic practices. The consistent growth in millet production underscores the importance of this cereal crop in global agriculture, particularly in regions where it serves as a staple food. However, fluctuations in production

highlight the need for continued investment in research and development to address challenges and ensure the resilience of millet farming systems in the face of evolving environmental and economic conditions.

6. Production trend during 1950-51 to 1970-71



Production (in million Tonnes)

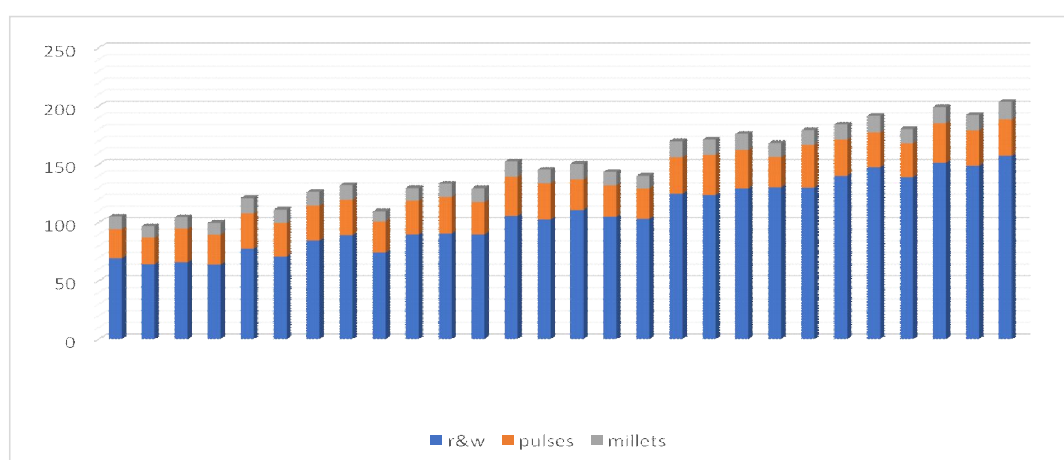
Source: Agricultural statistics at glance

Figure3: total foodgrains production including rice & wheat, pulses and millets from 1950-51 to 1970-71

5.1 The provided data outlines the production levels of three major crop categories, namely rice and wheat, pulses, and millets, over the period from 1950-51 to 1970-71. Rice and wheat production experienced steady growth throughout the period, starting at 27.04 million metric tons in 1950-51 and reaching 66.05 million metric tons by 1970-71. This significant increase reflects the emphasis placed on these staple grains to meet the growing demand for food. Pulses, another essential component of diets, also showed a notable rise in production, starting at 15.38 million metric tons in 1950-51 and peaking at 30.55 million

metric tons in 1970-71. Despite some fluctuations, the overall trend indicates an increasing focus on pulse cultivation. Meanwhile, millets, although produced in smaller quantities compared to rice, wheat, and pulses, also demonstrated a consistent growth pattern, with production levels ranging from 8.41 million metric tons in 1950-51 to 11.82 million metric tons in 1970-71. Millets play a crucial role in many diets, especially in regions where they serve as a staple food.

7.1. Production trend during 1971-72 to 1998-99



Production (in million Tonnes)

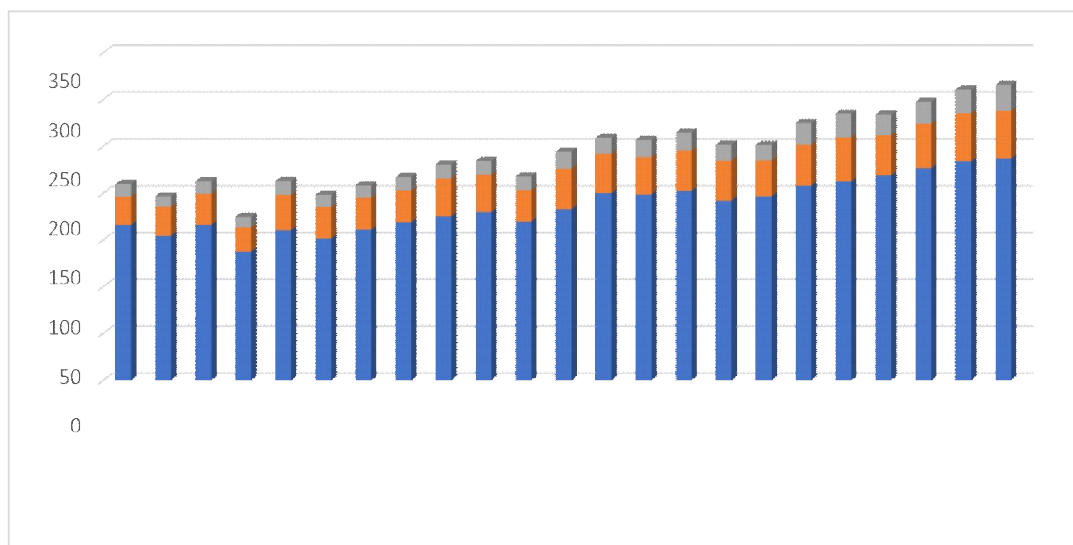
Source: Agricultural statistics at glance

Figure: total foodgrains production including rice & wheat, pulses and millets from 1971-72 to 1998-99

7.1 The data provided outlines the production levels of three key crop categories—rice and wheat (R&W), pulses, and millets—across the years from 1971-72 to 1998-99. Rice and wheat production exhibited a fluctuating yet overall increasing trend during this period, starting at 69.48 million metric tons in 1971-72, dipping slightly in subsequent years before experiencing significant growth, peaking at 157.37 million metric tons in 1998-99. This rise reflects ongoing efforts to meet the rising demand for staple grains, likely driven by advancements in agricultural technology and increased cultivation area. Pulses, essential sources of protein in many diets, also demonstrated fluctuations in production over the years. Starting at 24.6 million metric tons in 1971-72, pulse production varied annually, reaching a peak of 36.59 million metric tons in 1992-93 before slightly declining in subsequent years. Despite the fluctuations, the overall trend indicates a notable increase in pulse production over the period, likely driven by both domestic demand and export markets. Millets, although produced in smaller quantities compared to rice and wheat, showed a relatively stable production trend

during this period, fluctuating between 9.91 million metric tons in 1972-73 and 14.91 million metric tons in 1998- 99.

8 Production trend during 1999-00 to 2021-22



Production (in million Tonnes)

Source: Agricultural statistics at glance

Figure: total foodgrains production including rice & wheat, pulses and millets from 1999-00 to 2021-22

8.1 The provided data presents the production levels of three primary crop categories—rice and wheat (R&W), pulses, and millets—across the years from 1999-00 to 2021-22. Firstly, examining R&W production, there’s a discernible pattern of fluctuation in output over this period. R&W production started at 166.05 million metric tons in 1999-00, dipped in subsequent years, and experienced fluctuations until reaching 237.13 million metric tons in 2021-22. This trend suggests varying factors influencing R&W production, such as changes in agricultural practices, weather conditions, and market dynamics.

In contrast, pulse production witnessed a more erratic trajectory. From 1999-00 to 2021-22, pulse production fluctuated within a certain range, with occasional spikes and declines. Notably, there were significant peaks in production in certain years, such as 2003-04 and 2019- 20, when production levels reached 37.6 million metric tons and 47.75 million metric tons, respectively. These peaks likely resulted from favorable conditions for pulse cultivation or increased demand for pulses in domestic or international markets.

Similarly, millet production exhibited fluctuating trends over the specified period. Despite some variability, there's evidence of a general upward trajectory in millet production, particularly in the later years. Millet production started at 13.42 million metric tons in 1999-00 and gradually increased to 27.89 million metric tons by 2021-22. This upward trend suggests sustained efforts to promote millet cultivation or changing consumer preferences favoring millet-based products.

9. Food grain production in different time period

Table1: Foodgrains production in different period

Time period	Initial production	Final Production	% growth	CAGR	MEAN	SD	CV
1950-71	50.83	108.42	113.29	4.29%	68.145	19.99	29.33%
1972-99	105.17	203.61	93.60	5.12%	116.379	41.14	35.35%
2000-22	209.8	315.72	51.43	3.15%	265.142	71.26	26.88%

Production (in million Tonnes)

Source: Agricultural statistics at glance

1950-1971: This period experienced a substantial increase in food grain production, with a high growth rate (113.29%) and a moderate CAGR of 4.29%. The mean production was 68.145 million metric tons, with a standard deviation of 19.99 million metric tons, indicating significant variability relative to the mean. Millets/Nutri cereals production.

1972-1999: Food grain production continued to increase, albeit at a slightly lower growth rate compared to the previous period (93.60%). The CAGR increased slightly to 5.12%. The mean production more than doubled to 116.379 million metric tons, with a higher standard deviation of 41.14 million metric tons, indicating increased variability in production.

2000-2022: The growth rate slowed down further in this period (51.43%), with the lowest CAGR of 3.15% among the three periods. However, mean production increased substantially to 265.142 million metric tons, indicating a significant rise in average production levels. The standard deviation decreased compared to the previous period, suggesting relatively less variability around the mean.

Overall, the data illustrates a trend of increasing food grain production over time, albeit with varying growth rates and levels of variability. The most recent period (2000-2022) shows a significant increase in average production levels, indicating advancements in agricultural practices and technology. However, the lower growth rate suggests potential challenges or limitations in sustaining rapid production increases observed in earlier periods.

10. Millet production with initial and final production as a percentage of total food grain production in different time period

Table2: Millets production in different period

Time period	Initial production	Final Production	% growth	CAGR	MEAN	SD	CV
1950-71	50.83	108.42	113.29	4.29%	68.145	19.99	29.33%
1972-99	105.17	203.61	93.60	5.12%	116.379	41.14	35.35%
2000-22	209.8	315.72	51.43	3.15%	265.142	71.26	26.88%

Production (in million Tonnes)

Source: Agricultural statistics at glance

1950-1971: During this period, millet production witnessed substantial growth, with a growth rate of 98.63%. The CAGR was 4.19%, indicating a steady increase in millet production relative to total food grain production. Initially approx 30% of the total foodgrain production takes place in the form of millets and in the end of the period 28% millets in the overall foodgrains production. The mean percentage of millet production was 21.63%, with a standard deviation of 5.67%, suggesting moderate variability around the mean.

1972-1999: Millet production growth slowed down significantly during this period, with a growth rate of 27.27% and a lower CAGR of 1.56%. In this period, we can see that initially 23.39% millets in overall foodgrains production but this proportion come down to 15.39% in the end of this period. The mean percentage of millet production remained relatively stable at 25.748%, with a lower standard deviation of 3.76%, indicating less variability compared to the previous period.

2000-2022: Millet production growth picked up again during this period, with a growth rate of 67.82% and a CAGR of 3.18%. despite high growth in this period the proportion of millets in overall foodgrains production do not increases. The mean percentage of millet production increased to 42.39%, with a standard deviation of 9.94%, suggesting increased variability around the mean compared to the previous period.

Overall, the data suggests fluctuations in millet production relative to total food grain production over the three time periods. While there were periods of significant growth, there were also periods of slower growth or even decline. The variability in millet production percentages highlights the changing dynamics of agricultural practices and preferences over time.

11. Based on the above data of millets and foodgrains production in India, some of the key challenges identified, which hinder their cultivation, productivity, and contribution to nutritional security.

❖ Low Productivity and Yield Variability:

Millets often have lower yields compared to other staple crops like rice and wheat. Yield

variability due to factors such as erratic weather patterns, soil degradation, and pest infestations further exacerbates the issue, leading to inconsistent production levels. •Lack of High-Yielding Varieties:

Compared to major cereals like rice and wheat, there has been limited research and development of high-yielding varieties of millets. The absence of improved seed varieties adapted to diverse agro-climatic conditions constrains productivity growth.

❖ **Water Scarcity and Irrigation Constraints:**

Millets are often grown in rainfed regions where water availability is limited. Erratic rainfall patterns and drought conditions can severely impact crop growth and yield. Additionally, the lack of efficient irrigation infrastructure further limits their cultivation in water-stressed areas.

❖ **Pest and Disease Management:**

Millets are susceptible to various pests and diseases, which can cause significant yield losses if not effectively managed. Limited access to affordable and environmentally sustainable pest management solutions exacerbates the problem, particularly for smallholder farmers.

❖ **Market and Price Volatility:**

Millets often face market challenges such as price volatility, low market demand, and inadequate market infrastructure. Fluctuations in prices and lack of market integration can discourage farmers from investing in pulses and millets cultivation.

❖ **Limited Mechanization and Post-Harvest Infrastructure:**

The cultivation of Millets is often labor-intensive, which increases production costs and reduces profitability. Limited access to mechanization technologies and inadequate post-harvest infrastructure further hampers efficiency and market competitiveness.

❖ **Lack of Awareness and Extension Services:**

Many farmers lack awareness of the nutritional benefits and agronomic practices associated with Millets cultivation. Insufficient extension services and outreach programs hinder the dissemination of best practices, limiting adoption among farmers.

❖ **Policy and Institutional Constraints:**

Policy support for Millets production has historically been limited compared to major cereals. Inadequate government incentives, subsidies, and research investments hinder the development and promotion of these crops.

12. Based on the provided data on crop production in India, several innovations and interventions can be considered to address challenges and capitalize on opportunities. Here are some potential innovations:

❖ **Precision Agriculture:**

Implementing precision agriculture techniques can optimize resource use and enhance productivity. Precision farming technologies, such as sensors, drones, and data analytics, can help farmers make informed decisions regarding irrigation, fertilization, and pest control.

❖ **Drought-Resistant Crop Varieties:**

Developing and promoting the cultivation of drought-resistant varieties of rice, wheat, and other crops can mitigate the impact of climate change on agricultural productivity. Research and development efforts should focus on creating resilient crops that can withstand varying weather conditions.

❖ **Millets Promotion and Value Addition:**

Promoting millets as a staple food through awareness campaigns and education can lead to increased cultivation. Additionally, supporting research for value addition in millet-based products can create a market demand, making it economically viable for farmers to grow millets.

❖ **Integrated Pest Management (IPM):**

Developing and promoting integrated pest management strategies can help reduce crop losses and minimize the use of chemical pesticides. This includes the use of natural predators, crop rotation, and biological control methods.

❖ **Water Conservation and Efficient Irrigation:**

Innovations in water conservation and irrigation techniques are crucial for sustainable agriculture. This includes the adoption of drip irrigation, rainwater harvesting, and efficient water management practices to optimize water use and reduce water wastage.

❖ **Climate-Smart Agriculture:**

Implementing climate-smart agricultural practices can help farmers adapt to changing climate conditions. This includes introducing climate-resilient crops, implementing agroforestry practices, and adopting sustainable land management techniques.

❖ **Digital Agriculture Platforms:**

Leveraging digital technologies and mobile applications to provide farmers with real-time information on weather, market prices, and best agricultural practices. This can empower farmers to make informed decisions, improving overall productivity.

❖ Promoting Agroecological Practices:

Encouraging agroecological practices that emphasize the integration of biodiversity, crop rotation, and organic farming methods can contribute to sustainable and resilient agricultural systems.

❖ Government Policies and Incentives:

Implementing supportive policies and incentives for farmers to adopt innovative practices. This can include subsidies for adopting new technologies, financial support for sustainable farming practices, and policies that promote crop diversification.

CONCLUSION

The growing recognition of millet as an important crop with considerable potential in addressing nutritional deficiencies, adapting to challenging environments, and enhancing food security and sustainability. Through a thorough analysis of historical data and contemporary agricultural practices, the study underscores the evolving role of millets within the global food system. The division of the study period into three segments based on significant milestones in food grain production allows for a nuanced understanding of millet production trends in relation to overall food grain production. The application of statistical tools adds depth to the analysis, providing insights into variability and trends over time. Overall, the findings suggest a promising future for millet production, albeit with certain challenges that need to be addressed to fully realize its potential in contributing to global food security and sustainability efforts.

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Kautilya's Economic Ideas & Measures for Social Welfare and Economic Development: Finding the Relevance

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ABSTRACT:

Kautilya lays out his political ideas in the Arthashastra, an old Indian book written in Sanskrit that shows statecraft, economic approach, and military tactics and principles. This study article provides a comprehensive analysis of key subjects that are pertinent to monarchs who govern with autocratic authority. This work also provides advice regarding taxation, foundation, exchange, organisations, and discretion. This study examines Kautilya's Arthashastra, a historic Indian text, and its contemporary insights on modern hierarchical governance.

KEYWORDS:- *Kautilya's Arthashastra, Law, Recommendations, Infrastructure, War, Taxation, and Irrigation, etc.*

INTRODUCTION

The Arthashastra is a treatise on the principles and strategies of governance for a kingdom or country. The author of this work is Kautilya, who is also known as Chanakya. Kautilya was an Indian philosopher, administrator, intellectual, and prime minister to Chandragupta, the emperor of the Mauryan Empire. He lived from 350 to 275 BC. The term "Arthashastra" is a Sanskrit phrase that specifically denotes "The Science of Material Gain". It is also known as the "Study of Political Economy" or "Study of Politics". Kautilya, also known as Vishnu Gupta and Chanakya, is credited as the creator of the work. Kautilya, a learned individual, served as a scholar at Takshashila. He played the role of both a teacher and protector for Emperor Chandragupta Maurya. The Arthashastra is believed to have been written between the 2nd century BC and the 3rd century BC. The Arthashastra exerted influence until the 12th

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century, subsequent to which it vanished. The text was re-discovered in 1905 by R. Shamasastri and subsequently published in 1909. The initial English translation was released in 1915. Kautilya implemented a variety of economic, investment, financial, political, and administrative tactics throughout the 3rd and 4th centuries BC. Remarkably, a significant number of his beliefs and practices continue to be adhered to in the present day. Chanakya initiated the development of the census, segmentation analysis (both general and demographic), and other statistical methods that are being utilised. The Arthashastra provides a comprehensive account of these activities. This study project focuses on the historical origins of the Arthashastra, with a special and succinct emphasis on the management practices employed in the Mauryan Empire of ancient India. It also explores the practical relevance of these practices in contemporary organisational governance.

OBJECTIVES OF THE STUDY

Main Objective-

1. The main objective of the study is to analyse and comprehend the significance and applicability of Kautilya's principles of organisational management in the modern era.

Other Objective-

2. To study and assess the element of organisational governance in Arthashastra.
3. To establish a connection between historical organisational governance systems and their relevance in contemporary times.

HYPOTHESIS OF THE STUDY

The purpose of this study is to gain an appreciation for the 'Arthashastra' and its examination of organisational management, a topic that dates back thousands of years.

RESEARCH METHODOLOGY

The proposed study is based on Secondary data, which were gathered from a variety of books, articles, and journals, would serve as the foundation for the suggested research. It was necessary to do a review and study of the many books that are currently accessible on Arthashastra and Kautilya's teachings in order to establish a connection between these texts and the current state of organisational governance and to arrive at a method that demonstrates how modern organisations can successfully implement effective organisational management.

REVIEW OF LITERATURE

Kautilya possessed all the qualities necessary to govern a state and was a cunning businessman. A technical treatise on statecraft and administration was among his many economic programmes. In order to bring wealth to his realm, he took a holistic but rational

approach to economics. He is the progenitor of numerous ideas and philosophies that have recently made a comeback. His primary goals were the generation of wealth and the efficient use of available resources. A ruler, in his view, is nothing without his subjects. His realm became one of the most powerful kingdoms in India's history thanks to his effective governance. *Professor Balbir Sihag* and *Dr. Hrishikesh Vinod* have worked tirelessly to shed light on this issue.

ECONOMIC IDEAS OF KAUTILYA IN ARTHSHAstra

The core idea of Kautilya's economic treatise is that the welfare of the people must be balanced with the management of the state. The Arthshastra, which was penned twenty-five hundred years ago. Beyond his academic prowess, he was a remarkable statesman. According to him, "Economics is the most important aspect" since it ensures that humans will continue to exist. He was pivotal in establishing the Maurya Dynasty. He oversaw the solid administration and excellent budgetary management that allowed the empire to grow steadily under his watch. Even while his work placed a premium on the monarch's prosperity, efficiency, and well-being, his true goal was to serve the people, not the king. This led him to believe in the public welfare.

WELFARE STATE

The systematic basis for developing India as the first welfare state is outlined in Arthashashtra. He is an advocate for social welfare among all social groups. In addition to people, he addressed the welfare of other living beings. He asserts that the monarch derives satisfaction from the happiness of his subjects, and his well-being is contingent upon their well-being. He will prioritise what satisfies his followers over his personal preferences, finding it advantageous to him.

He advocates for job security, more protection for vulnerable areas, customer safety, and the well-being of incarcerated individuals inside the Welfare State. The systematic basis for developing India as the first welfare state is outlined in Arthashashtra. He is an advocate for social welfare in all social spheres. In addition to people, he addressed the welfare of other living entities. He advocated the belief that the king's full-filment is derived from the happiness of his subjects, and his own well-being is dependent on their welfare. He will not regard something as tantamount solely based on his own satisfaction, but rather view everything that satisfies his subjects as useful to him. He advocates for job security, protection of vulnerable places, buyer safety, and the welfare of inmates. The King's duty is to safeguard his relatives in a direct, logical, and magnanimous manner. He should exhibit a paternal demeanour towards his followers. According to Kautilya, the perfect ruler is someone who is constantly engaged in enhancing the well-being of individuals and who impresses others by promoting the overall prosperity of the people and achieving remarkable accomplishments for them.

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SOUND GOVERNANCE

Administration encompasses all facets of governing a nation, encompassing its fiscal arrangements and organisational framework. Kautilya held extensive understanding of several facets of administration, including tax assessment, diplomacy, currency exchange, commerce, organisation, and more. He purportedly had expertise in both medicine and astrology. He has been likened to Aristotle, Plato, Machiavelli, and The Ruler due to the fact that his treatise on political economy bears similarities to Machiavelli's *The Ruler*. Kautilya analyses the structure of a state's economy, the appointment of priests, the execution of warfare, and the management and allocation of tax collection. The significance of a covert network of agents and informants, acting as the Lord's reconnaissance corps, is emphasised. This network primarily focuses on identifying and addressing both foreign threats and internal dissension.

He utilises a holistic strategy in managing and finds key areas important to the overall functioning of a nation. The primary sectors are responsible for the governance of legal proceedings, fiscal matters, labour supervision, safeguarding the nation, international relations, plans for economic advancement, and financial and labour oversight. He believes that in order to achieve efficient administration, it is necessary for the state's objectives to be both met and understood. This is achievable due to effective planning and meticulous organisation. He proposes that effective management should avoid making sound decisions and taking positive actions. Decisions should be determined by the prevailing circumstances. Emphasising the comprehensive strategy for managing open Accounts and state planning, which principally focuses on finances, markets, and notably, Furthermore, the experts reached a consensus that understanding

- I. Dharma,
- II. Artha,
- III. Kama, and
- IV. Moksha

The Arthashastra is widely regarded as the most authoritative and widely acknowledged treatise on statecraft, proposing a system of structure and management for governments globally. It delves into several aspects such as the state's economics, currency, code of ethics, and criminal legislation. Remarkably, its significance persists even today.

The Arthashastra compares political and financial administration. Political administration refers to the methods or processes used to govern or manage a political system, while monetary administration is the objective or goal of managing financial resources. Regardless, political administration serves as a method to achieve a desired outcome, while financial

management serves as the method to achieve financial objectives, which cannot be achieved without political objectives. The Kautilyan theory should be based on the fundamental principle that “the end justifies the means.” The tools and components of the transactions consist of political influence and tangible assets. Furthermore, effective governance, whether in the realm of politics or finance, relies on the protection of resources in consideration of the social, financial, and political contexts.

According to Kautilya, successful governance necessitates an effectively controlled transparent organisation, where the ruler should relinquish his personal preferences in favour of the well-being of his subjects, and the workforce managing the Government should be both receptive and accountable. Kautilya also stressed the importance of maintaining consistent and authoritative procedures, as well as having competent leaders and authorities who possess attributes such as leadership, responsibility, mental acuity, strength, exceptional leadership skills, physical well-being, and the ability to make prompt choices. The notion of administration, as defined by Kaufmann and Kraay, is not novel. Kautilya exemplified fundamental principles of governance, placing significant emphasis on justice, morality, and opposition to authoritarian inclinations. He proceeds to elaborate on the obligation of the ruler to maintain the wealth, as well as the contributions of the citizens, in order to protect the prosperity of both the state and its people. A king who ensures fairness based on the four standards of excellence will conquer the land.

- I. Nature,
- II. Proof,
- III. Case History, and
- IV. Common Law.

FOREIGN TRADE

A healthy foreign commerce sector has always been essential for every economy. Kautilya acknowledged that foreign exchange enterprises and commodities serve as a substantial method for enhancing the wealth of a nation. He argued that in order for international brokers to make a profit, it is necessary to promote foreign commerce by offering a few benefits, such as exemption from assessments. He assigned a precise degree of importance to imports. He stated that utilising foreign cash can augment the availability of things that might otherwise be inaccessible inside the local market. Imports provide a more cost-effective means for a state to acquire items from overseas suppliers. He articulated a notably adaptable perspective on international commerce in the following manner. He argued that it is advantageous for several kingdoms when imported commodities are more affordable than locally available ones. He held the belief that engaging in commerce with a mutually advantageous position would be advantageous for both the exporting and importing nations. The exchange is a significant revenue stream for the Treasury. Kautilya endorses the use of taxes, such as import charges and fare taxes. The promoters of Kautilya were enticing foreigners with exceptional expertise in a specific field.

He supports the implementation of import and transit tariffs. He proposed levying a substantial tax load on commodities that are regarded luxurious and are located far away, while putting minimal tariffs on goods that are used frequently. Any item that provides significant advantages to the nation should be exempted from import limitations. He was the initial one to verify the identify, which is needed in order to surpass the limitations.

COLLECTION OF TAXES

According to Jha and Jha (1997), Chanakya placed great importance on maintaining a huge treasury, which had a favourable impact on all activities of the organisation. He devoted much effort to implementing effective financial management practices and strategies for the development of every area of the economy. According to him, open revenue serves as a means to enhance national wealth, rather than for the king's entertainment. He recognised that the main source of revenue is the tax assessment. While the state is constantly overwhelmed, it is not suitable to have excessively high tax assessments.

He argued that the duty base, rather than the assessment rate, should be raised. He criticised the overwhelming load of responsibility imposed on individuals. The phrase "A king should gather taxes like a bumblebee, enough to sustain but not excessive enough to destroy" was created by Kautilya. Kautilya does recommend a direct yearly evaluation. He emphasises the rationality, stability of cost structure, fiscal decentralisation, prevention of excessive taxation, ensuring tax uniformity, and investments to rejuvenate capital arrangement. He supported the idea of imposing restrictions on the state's tax collection rates, ensuring a consistent and gradual rise in tax evaluations, and, of utmost importance, establishing a tax structure that guaranteed uniformity. The concepts presented in Kautilya's theory of political economy are applicable to contemporary society. In an ideal scenario, the government would gather taxes in a manner similar to how a bumblebee selectively consumes the appropriate amount of nectar from a blossom, ensuring the survival of both entities. Kautilya's tax collecting technique encompassed citizen penance, direct benefits to citizens, pay redistribution, and duty incentives for desired investors. He proposed utilising expenditure event as an incentive, implying that everyone who develops more land should be granted a minimum of two years exemption from agricultural assessment. He advocated for a hybrid economic system and a particularly proactive government intervention. In his discourse on tax collection, he outlined three principles: the restriction of tax collection authority, the avoidance of excessive and burdensome tax collection, and the necessity for fair duty increments. To enhance the economy's capacity to generate long-term income, he proposes a mechanism for collecting expenditures and promoting transparent utilisation of funds. He argued that the assessment basis should be increased, not the tariff rate. I have studied the positive correlation between the rate of personal assessment and the quantity of duty income, as described by Kautilya in Arthashastra, up until Laffer Bend. He advocated for hidden expenses such as extraction and custom duties, direct fees for yearly evaluations of individuals, levies on wealth, and telephone rates. In addition, he advocated for the implementation of land revenue, water levies, tolls,

finer, and penalties. He categorises charge receipts into three groups: wages earned from taxes on imported and exported commodities within a country, earnings received from taxes on goods produced in the capital, and income obtained from taxes on fares and imports. He contends that affluent individuals should contribute a proportionate amount of additional taxes commensurate with their financial capacity. Similarly, he contemplates the capacity-to-pay approach. It is necessary to have a mandatory annual expense.

FRAMEWORK

Kautilya regards a robust foundation as crucial for the progress of the state and very advantageous for the expansion of commerce and commercial endeavours. He proposes that the government allocate funds for the construction and maintenance of highways, with a specific focus on improving international trade, economic activity, and the state's overall revenue. Constructing roads would facilitate the development of new markets for both domestic and international goods, resulting in significant benefits.

MODERN RELEVANCE OF ARTHASHASTRA

Kautilya, also known as Chanakya or Vishnu Gupta, was a famous Indian political philosopher. Although he lived long ago, some of his principles still apply today. The Sanskrit book examines statecraft notions. Kautilya showed how progress, polity, politics, and government affect people's welfare. After reviewing Kautilya's economic views, it can be stated that while Arthashastra's vocabulary may have evolved, the state's role in the economy appears to be constant. It covers government, politics, and the economy and is still in use as a legislation and textbook on country management. In India, his ideas persist.

Economic science was greatly influenced by him. It offers economic advice on foreign trade, taxes, public spending, agriculture, and industry. Government stability and effectiveness are linked. Stability comes from receptive, responsible, detachable, and recallable rulers. If not, stability exists. Current democracy makes this even more crucial. Avoiding excessive taxes is smart. High tax rates make people reluctant to pay and learn how to escape them. State revenue will increase with reduced taxes. He knew that economics were not the only element affecting business.

Without specific safeguards and policy measures, no independent system can ensure that a country will benefit from trade. The primary focus of Kautilya's economic ideas revolves around the concept of promoting societal welfare. The State bears the duty to support the vulnerable and helpless individuals and actively engage in advancing the well-being of its citizens. Given that growth is unattainable without the accumulation of human capital, Kautilya emphasised the need of fostering the development of human capital. Furthermore, Arthashastra encompasses a diverse range of significant issues, including the conservation of natural resources. The foundational principles of Arthashastra's economic theories are applicable in the present day.

CONCLUSION

The Arthashastra, penned by Kautilya (Chanakya), provides timeless principles of governance and organizational management. Kautilya's economic ideas, stressing welfare state principles and effective governance, retain relevance today. His insights on foreign trade, tax collection, and infrastructure development highlight the interplay between economic policies and societal well-being. Kautilya's emphasis on transparency, accountability, and efficient resource management serves as a blueprint for contemporary leaders. His recognition of the importance of fostering human capital and conserving natural resources underscores the enduring relevance of his economic theories. In essence, the Arthashastra offers valuable guidance for navigating modern governance challenges and fostering prosperity and stability. By studying Kautilya's principles, policymakers and leaders can glean insights into effective governance practices that prioritize societal welfare and sustainable development, making the Arthashastra not only a historical artifact but also a practical guide for contemporary governance.

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A State Level Analysis of Financial Inclusion and its Impact on Poverty in India

Mr. Md Shamshad Alam

ABSTRACT:

Financial inclusion means connecting people with banking services at affordable and transparent manner. It is seen to be essential for lowering poverty and fostering economic growth. In India, where a sizable section of the population is underbanked or unbanked and 67% of people live in rural areas, the degree and effects of financial inclusion varied among states and regions. However, after the introduction of Pradhan Mantri Jan Dhan Yojana (PMJDY), number of accounts increased significantly, but almost half of the accounts are not in regular usage. This study looks at the differences in financial inclusion among Indian states at the state level and how such differences impact household welfare and poverty rates. Using a variety of financial inclusion metrics, such as banking penetration—the percentage of individuals with bank accounts—availability of banking services and utilisation of banking services. We use the Principal Component Analysis to develop the common index of financial inclusion for each state. In this way we use regression analysis, taking into account other socioeconomic and demographic factors in order to understand the impact of financing inclusion on poverty reduction. Our findings indicate that financial inclusion has a substantial and detrimental effect on poverty, suggesting that raising the poor's economic opportunities and living standards can be achieved through increasing their access to and use of financial services. We also discover that women, low-income groups, and rural areas benefit more from financial inclusion, indicating that policies promoting financial inclusion ought to specifically target these societal groups.

Keyword: *financial inclusion, financial inclusion index, multidimensional poverty, principal component analysis*

INTRODUCTION:

Financial services are regarded the backbone of a country. It is essential to the nation's expansion and development. Financial inclusion means ensuring the access of banking services

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to the people at affordable cost in transparent manner. Reserve Bank of India (RBI) defines “financial inclusion as the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections of society and low groups at affordable cost in a fair and transparent manner by mainstream institutional players”. Financial inclusions can play a crucial role in poverty reduction by providing opportunities for income generation, consumption smoothing, risk management and the social empowerment. However, the extent and effects of the financial inclusions may vary amongst the nation’s states, depending on a number of variables such as economic development, institutional quality, social norms and demographic characteristics. Therefore, it is important to analyse the state-wise patterns and determine the financial inclusions and its effects on poverty reduction.

This paper aims to investigate the connection between financial inclusion and poverty alleviation in India, a nation with a sizable and diverse population and a significant presence of poverty and inequality. India has launched a number of programs to encourage financial inclusion including expanding the network of bank branches, introducing no frills account, implementing the Pradhan Mantri Jan Dhan Yojana (PM-JDY) and promoting digital payment. However, the level and the quality of financial inclusion remains low and uneven across the states of India. Furthermore, little research has been done to adequately understand or test the relationship between financial inclusion and poverty.

REVIEW OF LITERATURE:

Omar and Inaba (2020) that explores how financial inclusion affects poverty and income inequality in developing countries. The study finds that financial inclusion is higher when per capita income and internet access are higher, while financial inclusion is lower when age dependency ratio, inflation and income inequality is higher. The results of study provide strong evidence that financial inclusion lowers poverty and income inequality.

A study by **Hung Thi Thanh Tran et.al (2022)** that examines how financial inclusion affects multidimensional poverty. The study finds that multidimensional poverty is lower for households that have access to financial products and services like bank accounts, bank savings, using debit or credit cards, investing in bonds and stocks. The study also finds that urban households that have access to information on production and business are less likely to be multidimensionally poor. The study further finds that chances of multidimensional poverty increases with the number of household members.

Zhian Zhiow Augustinne Wong et.al (2023) examine the relationship between financial inclusion, income inequality, and financial innovation in ASEAN countries. They find that financial inclusion lowers the poverty rate, as it gives the poor more chances to earn income by enhancing their skills or starting small micro enterprises. However, they also find that financial inclusion does not reduce income inequality, as it favours the rich more than the poor. They attribute this to the low level of financial literacy among the poor, who cannot make the best use of the financial products and services available.

OBJECTIVES OF THE STUDY:

1. To create a state-level composite index of financial inclusion.
2. To investigate how the expansion of financial inclusion affects state economic growth and poverty alleviation.

METHODOLOGY and DATA:

The study's foundation is secondary data, published through various reports of RBI, Government of India, Economic Survey of India and Census reports. The data pertains to the year 2022-23 for financial variables and 2011 census for demographic variables.

Creation of composite Index of Financial Inclusion (FII):

The researcher takes into account the three fundamental elements of financial inclusion, banking penetration (X_1), availability of banking services (X_2) and usage of the banking system (X_3). The percentage of the population with a bank account or the size of the banked population is a gauge of the banking penetration. An inclusive financial system should penetrate widely amongst its users. If every person in an economy has a bank account, then the value of banking penetration would be 1.

The availability of banking services is taken as the number of banks per thousand population. Banking services should be easily available to users.

Credit-Deposit ratio is taken as the measure of the usage of banking services.

The index of financial inclusion will be computed by first calculating a dimension index for each dimension of financial inclusion.

For constructing index for each dimension of financial inclusion, following formula is used:

$$X_i = \frac{A_i - m_i}{M_i - m_i}; \quad i=1,2,3..$$

Where A_i is the actual value of the i th component, m_i is the minimum value and M_i is the maximum value of i th component. This procedure is used to normalize the raw data and to make data unit free.

Each index will take the values between 0 and 1, 0 indicates complete financial exclusion and 1 indicates complete financial inclusion.

Once the value of each index is identified, then the second step is to assign the weights to the indicators for constructing the composite index of financial inclusion (FII). Principal Component Analysis is used to compute the weights of the indicators.

FINDINGS OF THE STUDY:

Computation of Index of Financial Inclusion

Depending on the value of FII score, States are categorized into three groups:

1. 0.5 – 1.0 = high financial inclusion
2. 0.3- 0.5 = medium financial inclusion
3. 0 – 0.3 = low financial inclusion

Banking penetration(X1): The size of the banked population as proportion of people having bank account is a measure of the banking penetration.

Table 1: State-wise Banking Penetration

State/ Union Territory	No. Of Bank accounts	Population (as per 2011 census)	Bank accounts as proportion of population	Banking Penetration(X1)*
ANDHRA PRADESH	100356722	49577103	2.024255471	0.16626596
ARUNACHAL PRADESH	2093419	1383727	1.512884406	0.088823761
ASSAM	56882605	31205576	1.822834643	0.135762725
BIHAR	158631066	104099452	1.523841509	0.090483108
CHHATTISGARH	45493127	25545198	1.780887625	0.129410255
GOA	6320770	1458545	4.333613293	0.515995857
GUJARAT	115748971	60439692	1.91511517	0.149737718
HARYANA	66351754	25351462	2.617275248	0.256073067
HIMACHAL PRADESH	16594860	6864602	2.417454064	0.225812083
JAMMU & KASHMIR	24513034	12541302	1.95458446	0.15571496
JHARKHAND	54789800	32988134	1.660894187	0.11123841
KARNATAKA	143759011	61095297	2.353029088	0.216055543
KERALA	90843196	33406061	2.719362693	0.271533223
MADHYA PRADESH	129791040	72626809	1.787095451	0.13035037
MAHARASHTRA	258512123	112374333	2.300455238	0.208093743
MANIPUR	3598482	2855794	1.260063576	0.050536492
MEGHALAYA	3506501	2966889	1.181878055	0.038696052
MIZORAM	1664672	1097206	1.517191849	0.089476081
NAGALAND	1832801	1978502	0.926357921	0
NCT OF DELHI	126406800	16787941	7.529619028	1
ODISHA	79578034	41974218	1.895878894	0.14682457
PUNJAB	71320660	27743338	2.570731035	0.249024397
RAJASTHAN	117782931	68548437	1.71824386	0.119923463
SIKKIM	1232900	610577	2.019237541	0.165506043
TAMIL NADU	178253442	72147030	2.470696881	0.233875192
TELANGANA	80947704	35003674	2.312548791	0.209925194
TRIPURA	7100330	3673917	1.93263212	0.15239049
UTTAR PRADESH	361038793	199812341	1.80688936	0.133347966
UTTARAKHAND	23136832	10086292	2.293888775	0.207099315
WEST BENGAL	182483391	91276115	1.999245816	0.16247849
ALL-INDIA	2523805081	1210854977	2.084316561	0.175361631

Source: Basic Statistical Returns of Scheduled Commercial banks in India, RBI (2023)
Census of India 2011, *- author's calculation

The table 1 shows that NCT of Delhi has the highest banking penetration, i.e. NCT of Delhi has the highest number of bank accounts as proportion of its population while the Nagaland has lowest banking penetration. The dimension index turns out to be 1 for National Capital Territory of Delhi and 0 for Nagaland. Only NCT of Delhi and Goa have recorded a high value of 1 and 0.516 respectively in banking penetration dimension. Kerala, Tamil Nadu, Karnataka, Telangana, Punjab, Maharashtra, Himachal Pradesh and Uttarakhand have recorded low values ranging between 0.2 and 0.3 in this dimension. Rest all states have recorded low values below 0.2 in the range 0-0.3.

All India average is also low with a value of 0.175 in banking penetration dimension.

Availability of Banking Services(X2):

Total number of bank branches per 1000 population has been used as the indicator of availability of banking services.

In the table 2, the availability dimension has been computed for 30 states/union territory of India for year 2022-23. To capture the availability dimension, total branches of scheduled commercial banks per 1000 population is taken as a measure. It is seen that Goa has recorded the highest value of 1 while Bihar has recorded the lowest value of 0 in this availability dimension. Apart from Goa, only Sikkim has recorded a value of 0.52 above 0.5. states like Delhi, Haryana, Punjab, Kerala, Himachal Pradesh, Mizoram and Uttarakhand have recorded medium values ranging from 0.3 and 0.5 in the respect of availability dimension. All other states lie in the low value range between 0 and 0.3 on this dimension index. Goa scores the highest in both banking penetration dimension as well as availability dimension. Sikkim has recorded high value on availability dimension while Delhi falls into medium value group on this dimension. Therefore, the availability dimension alone cannot highlight a state's achievement in respect of financial inclusion

Table 2: State-wise Availability of Banking Services

Table 2: State-wise Availability of Banking Services				
State/ Union Territory	No. of Banks Offices	Population (as per 2011 census)	Branch per 1000 population	Availability of banking services(X2)*
ANDHRA PRADESH	7663	49577103	0.154567321	0.207264675
ARUNACHAL PRADESH	187	1383727	0.135142264	0.156514036
ASSAM	3085	31205576	0.098860537	0.061723022
BIHAR	7832	104099452	0.075235747	0
CHHATTISGARH	2979	25545198	0.11661683	0.108113784
GOA	668	1458545	0.457990669	1
GUJARAT	8862	60439692	0.146625499	0.18651557
HARYANA	5326	25351462	0.210086503	0.352316191
HIMACHAL PRADESH	1734	6864602	0.252600224	0.463389147
JAMMU & KASHMIR	1877	12541302	0.149665481	0.194457942
JHARKHAND	3298	32988134	0.099975343	0.064635605
KARNATAKA	11034	61095297	0.180603099	0.275286735
KERALA	6921	33406061	0.207177973	0.344717255
MADHYA PRADESH	7541	72626809	0.103832181	0.074712128
MAHARASHTRA	13972	112374333	0.124334442	0.12827711
MANIPUR	240	2855794	0.084039675	0.023001477
MEGHALAYA	374	2966889	0.126057968	0.132780061
MIZORAM	227	1097206	0.206889135	0.343962626
NAGALAND	192	1978502	0.097043116	0.05697476
NCT OF DELHI	3775	16787941	0.224863788	0.390923885
ODISHA	5548	41974218	0.132176376	0.148765243
PUNJAB	6612	27743338	0.238327486	0.426099653
RAJASTHAN	8304	68548437	0.121140618	0.119932804
SIKKIM	168	610577	0.275149572	0.522302428
TAMIL NADU	12407	72147030	0.171968271	0.252727055
TELANGANA	5819	35003674	0.166239692	0.237760354
TRIPURA	613	3673917	0.166851891	0.239359808
UTTAR PRADESH	18415	199812341	0.092161475	0.044220798
UTTARAKHAND	2202	10086292	0.218316107	0.373817165
WEST BENGAL	9761	91276115	0.106939258	0.082829794
ALL-INDIA	158642	1210854977	0.131016516	0.145734949

Source: Basic Statistical Returns (BSR)-2- Deposits with SCBs, RBI, March 2023. Census of India 2011, *- author's calculation

Usage of Banking services(X3):

For the computation of the usage dimension, credit-deposit ratio has been used as a measure of this dimension.

Table 3: State-wise Usage of Banking Services

State/ Union Territory	Deposits (in crores)	Credits (in crores)	Credit-Deposit ratio	Usage of Banking Services(X3)*
ANDHRA PRADESH	429718.6632	641271.696	1.492305899	1
ARUNACHAL PRADESH	26656.4016	7509.7225	0.28172304	0.013912134
ASSAM	207312.2152	112373.9368	0.542051691	0.225964471
BIHAR	478429.1163	231858.6964	0.484624971	0.179187175
CHHATTISGARH	216407.0054	165325.5909	0.763956743	0.406718623
GOA	102037.7539	27003.6424	0.264643638	0
GUJARAT	1027452.765	828363.7399	0.806230484	0.441152965
HARYANA	702370.0609	453537.277	0.645724102	0.310411484
HIMACHAL PRADESH	136485.6652	46720.1676	0.342308238	0.063262188
JAMMU & KASHMIR	162908.2564	92150.9349	0.565661538	0.24519602
JHARKHAND	304044.0182	109382.2721	0.359758014	0.077476012
KARNATAKA	1485252.916	1027655.693	0.691906194	0.348029397
KERALA	724012.8399	489202.9815	0.675682743	0.334814483
MADHYA PRADESH	547367.403	411420.1928	0.751634443	0.396681416
MAHARASHTRA	3922907.833	3332738.636	0.84955823	0.476445852
MANIPUR	14850.5826	11312.8744	0.761779838	0.404945412
MEGHALAYA	31274.5838	11873.8358	0.379664071	0.093690616
MIZORAM	14681.8489	6954.403	0.473673517	0.1702666
NAGALAND	15579.4457	7805.2737	0.500998165	0.192524063
NCT OF DELHI	1658865.954	1535985.561	0.925925062	0.538650934
ODISHA	463318.1299	216310.9497	0.466873484	0.164727591
PUNJAB	560275.3074	314822.639	0.561907039	0.242137769
RAJASTHAN	594425.8077	515017.8739	0.866412372	0.490174499
SIKKIM	13553.9585	5885.3457	0.434216004	0.138126235
TAMIL NADU	1211393.864	1325332.961	1.094056195	0.675603204
TELANGANA	693886.8658	776337.7993	1.11882475	0.695778586
TRIPURA	34065.312	14499.0961	0.4256264	0.131129519
UTTAR PRADESH	1548627.202	755488.8184	0.487844213	0.181809429
UTTARAKHAND	200424.6734	77094.0527	0.384653503	0.097754789
WEST BENGAL	1056366.627	535874.9228	0.507281193	0.197641943
ALL-INDIA	18742310.88	14198005.61	0.757537622	0.401489888

Source: Basic Statistical Returns (BSR)-2- Deposits with SCBs, RBI, March 2023 and Basic Statistical Returns of Scheduled Commercial Banks in India-2023, *-author's calculation

In table 3, the usage dimension has been computed for year 2022-23. For constructing this dimension, credit -deposit ratio of the scheduled commercial banks of all 30 states/union territory of India have been calculated. In the above table, it is seen that Andhra Pradesh has recorded highest value of 1 and Goa has recorded the lowest value of 0 in terms of their achievement in this dimension. Apart from Andhra Pradesh, states like Telengana , Tamil Nadu and National Capital Territory of Delhi have also recorded high values above 0.5 in usage dimension index. Chhattisgarh, Gujrat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur and Rajasthan have recorded medium values in the range of 0.3 and 0.5 in the usage dimension. All other states have recorded low values ranging between 0 and 0.3 in the usage dimension.

Goa which has recorded the highest value in above two dimensions, has dropped to the worst in usage dimension index.

State-wise Dimension Indices of Financial Inclusion:

The state-wise index of financial inclusion has been estimated by using data on three dimensions viz. banking penetration, availability of banking services and usage of banking services. The composite index of Financial Inclusion is constructed using Principal Component Analysis (PCA)

Table 4: State-wise Dimension Indices of FII

State/ Union Territory	Banking Penetration(X1)	Availability of banking services(X2)	Usage of Banking Services(X3)
ANDHRA PRADESH	0.16626596	0.207264675	1
ARUNACHAL PRADESH	0.088823761	0.156514036	0.013912134
ASSAM	0.135762725	0.061723022	0.225964471
BIHAR	0.090483108	0	0.179187175
CHHATTISGARH	0.129410255	0.108113784	0.406718623
GOA	0.515995857	1	0
GUJARAT	0.149737718	0.18651557	0.441152965
HARYANA	0.256073067	0.352316191	0.310411484
HIMACHAL PRADESH	0.225812083	0.463389147	0.063262188
JAMMU & KASHMIR	0.15571496	0.194457942	0.24519602
JHARKHAND	0.11123841	0.064635605	0.077476012
KARNATAKA	0.216055543	0.275286735	0.348029397
KERALA	0.271533223	0.344717255	0.334814483
MADHYA PRADESH	0.13035037	0.074712128	0.396681416
MAHARASHTRA	0.208093743	0.12827711	0.476445852
MANIPUR	0.050536492	0.023001477	0.404945412
MEGHALAYA	0.038696052	0.132780061	0.093690616
MIZORAM	0.089476081	0.343962626	0.1702666
NAGALAND	0	0.05697476	0.192524063
NCT OF DELHI	1	0.390923885	0.538650934
ODISHA	0.14682457	0.148765243	0.164727591
PUNJAB	0.249024397	0.426099653	0.242137769
RAJASTHAN	0.119923463	0.119932804	0.490174499
SIKKIM	0.165506043	0.522302428	0.138126235
TAMIL NADU	0.233875192	0.252727055	0.675603204
TELANGANA	0.209925194	0.237760354	0.695778586
TRIPURA	0.15239049	0.239359808	0.131129519
UTTAR PRADESH	0.133347966	0.044220798	0.181809429
UTTARAKHAND	0.207099315	0.373817165	0.097754789
WEST BENGAL	0.16247849	0.082829794	0.197641943
ALL-INDIA	0.175361631	0.145734949	0.401489888

Source: author's calculation

The table 4, presents the normalized value of all three dimensions indices for 30 states/ union territory of India. Now, the next step is to assign weights to the indicators and Principal Component Analysis (PCA) is used for this. SPSS software has been used for conducting PCA analysis.

The initial Eigen Value (Total) which are more than one, are identified.

Table 5: Total Variance Explained

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.552	51.743	51.743	1.552	51.743	51.743	1.551	51.714	51.714
2	1.105	36.827	88.570	1.105	36.827	88.570	1.106	36.857	88.570
3	.343	11.430	100.000						

Extraction Method: Principal Component Analysis.

In the table 5, we have two Eigen values which are greater than one is 1.552 and 1.105. These two components explain 88.57 % variance of the variables in the given analysis.

Table 6; Rotated Component Matrix

Rotated Component Matrix ^a		
	Component	
	1	2
Banking Penetration(X1)	.885	.266
Availability of banking services(X2)	.876	-.287
Usage of Banking Services(X3)	-.003	.976

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

The number of Eigen values greater than one, the same number of components will be extracted for each variable as shown in table 6. Since two Eigen values are greater than one, therefore two components have been extracted.

Table 7: Weights of Variables

Variables	Components Extracted(L)		Eigen Value(E)		Weights
	1	2	1	2	
Banking Penetration(X1)	0.885	0.266	1.552	1.105	1.66745
Availability of banking services(X2)	0.876	-0.287			1.676687
Usage of Banking Services(X3)	-0.003	0.976			1.083136
Grand Total Weights					4.427273

In the table 7, the first Eigen value above 1 is 1.552, is multiplied with the first Extracted component column (0.885, 0.876, -0.003) and second Eigen value above 1 is 1.105, is multiplied with the second Extracted component column (0.266, -0.287, 0.976). Here absolute value is taken into consideration irrespective of sign. We have summed up the values obtained to determine their weights.

The following formula is used to get the composite index of financial inclusion (FII):

$$FII = \sum X_i (\sum |L_{ij}| \cdot E_j) / \sum (\sum |L_{ij}| \cdot E_j)$$

Where FII is the financial inclusion index; X_i is the dimension indicator; L_{ij} is the factor extracted component of i th variable on j th factor and E_j is the Eigen value of j th factor.

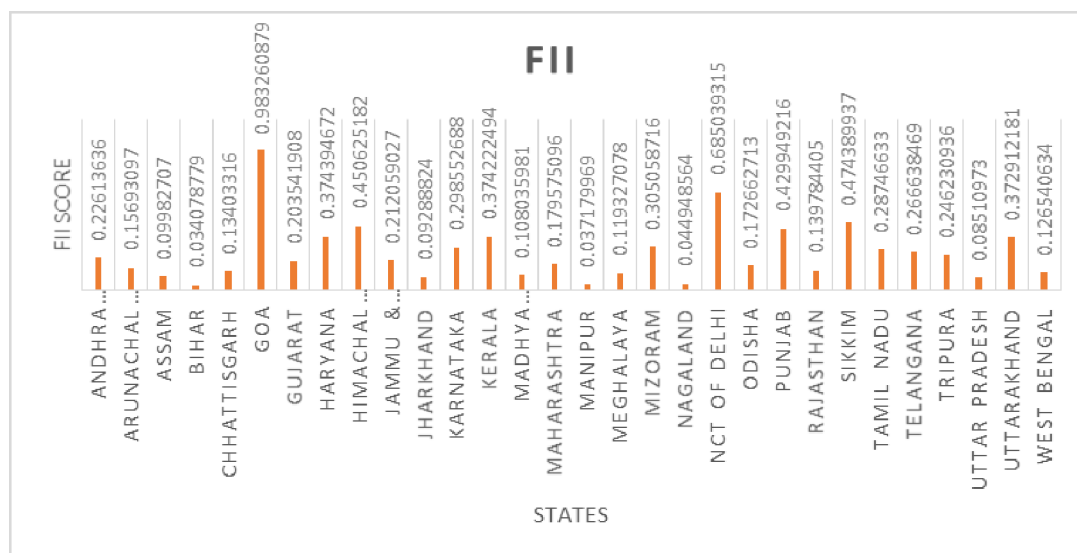
Table 8. State-Wise Financial Inclusion Index

State/ Union Territory	weighted value of X1	weighted value of X2	weighted Value of X3	FII	Rank
ANDHRA PRADESH	0.277240176	0.347517986	0.376409241	0.22613636	14
ARUNACHAL PRADESH	0.14810918	0.262425049	0.284242018	0.15693097	20
ASSAM	0.226377556	0.103490188	0.112093948	0.09982707	26
BIHAR	0.150876058	0	0	0.034078779	31
CHHATTISGARH	0.21578513	0.181272976	0.196343286	0.13403316	22
GOA	0.860397291	1.676687	1.81608005	0.983260879	1
GUJARAT	0.249680158	0.312728231	0.338727205	0.203541908	16
HARYANA	0.426989036	0.590723978	0.639834407	0.374394672	6
HIMACHAL PRADESH	0.376530357	0.776958559	0.841551786	0.450625182	4
JAMMU & KASHMIR	0.25964691	0.326045104	0.35315119	0.212059027	15
JHARKHAND	0.185484487	0.108373679	0.117383433	0.09288824	27
KARNATAKA	0.360261816	0.46156969	0.499942747	0.298552688	10
KERALA	0.452768073	0.577982941	0.62603413	0.374222494	7
MADHYA PRADESH	0.217352725	0.125268853	0.135683205	0.108035981	25
MAHARASHTRA	0.346985911	0.215080564	0.232961501	0.179575096	18
MANIPUR	0.084267074	0.038566277	0.041772523	0.037179969	30
MEGHALAYA	0.064523731	0.222630602	0.241139219	0.119327078	24
MIZORAM	0.149196892	0.576717663	0.624663663	0.305058716	9
NAGALAND	0	0.095528839	0.103470725	0.044948564	29
NCT OF DELHI	1.66745	0.655456995	0.709949068	0.685039315	2
ODISHA	0.244822629	0.249432748	0.270169589	0.172662713	19
PUNJAB	0.41523573	0.714435748	0.773831079	0.429949216	5
RAJASTHAN	0.199966378	0.201089773	0.217807573	0.139784405	21
SIKKIM	0.275973052	0.87573769	0.948543019	0.474389937	3
TAMIL NADU	0.389975189	0.423744168	0.458972563	0.28746633	11
TELANGANA	0.350039765	0.398649695	0.431791836	0.266638469	12
TRIPURA	0.254103523	0.401331478	0.434696572	0.246230936	13
UTTAR PRADESH	0.222351066	0.074144437	0.080308508	0.08510973	28
UTTARAKHAND	0.345327753	0.626774381	0.678881896	0.372912181	8
WEST BENGAL	0.270924758	0.138879638	0.150425536	0.126540634	23
ALL-INDIA	0.292406752	0.244351894	0.264666333	0.181020005	17

Note: Author's calculation

From table 8, it is seen that Goa has recorded the highest FII value of 0.9832. National Capital Territory of Delhi has occupied second position in FII ranking with the score of 0.6850. Goa and Delhi are only states come under the category of High Financial Inclusion. Seven states fall into the category of medium financial inclusion with values between 0.3 and 0.5, Sikkim leading the group with 3rd rank with the value of 0.474, followed by Himachal Pradesh, Punjab, Haryana, Kerala, Uttarakhand and Mizoram respectively. Remaining 21 states belong to the category of low financial inclusion with FII values ranging 0 and 0.3. Bihar is the worst performing state in financial inclusion with FII value of 0.0340, followed by Manipur, Nagaland, Uttar Pradesh, Jharkhand, Assam and Madhya Pradesh respectively from bottom.

All India average of FII also falls under the category of low financial inclusion with FII value of 0.1810.



POVERTY:

Poverty is defined as the lack of sufficient resources or opportunity to meet one’s basic needs.

Poverty has various dimensions such as income, health, education, living aspiration. It is a complex and multifaceted challenge that affects millions of people in India and across the world. According to United Nation’s National Multidimensional Poverty Index: A Progressive Review 2023, there is steep decline in poverty headcount ratio in India from 24.85% to 14.96% between period 2015-16 to 2019-21. India is successfully managed to escape 135 million people out of multidimensional poverty between 2015-16 and 2019-21.

Table 9: National Multidimensional Poverty

State/Union Territory	NFHS-5 (2019-21)		
	Headcount Ratio (%)	Intensity (%)	MPI
Andhra Pradesh	6.06	41.12	0.025
Arunachal Pradesh	13.76	43.04	0.059
Assam	19.35	44.41	0.086
Bihar	33.76	47.4	0.16
Chhattisgarh	16.37	42.61	0.07
Delhi	3.43	41.99	0.014
Goa	0.84	38.69	0.003
Gujarat	11.66	43.25	0.05
Haryana	7.07	43.34	0.031
Himachal Pradesh	4.93	40.22	0.02
Jammu & Kashmir	4.8	42.11	0.02
Jharkhand	28.81	45.59	0.131
Karnataka	7.58	41.21	0.031
Kerala	0.55	36.92	0.002
Madhya Pradesh	20.63	43.7	0.09
Maharashtra	7.81	41.77	0.033
Manipur	8.1	41.91	0.034
Meghalaya	27.79	48.01	0.133
Mizoram	5.3	45.62	0.024
Nagaland	15.43	42.61	0.066
Odisha	15.68	44.5	0.07
Punjab	4.75	41.22	0.02
Rajasthan	15.31	42.7	0.065
Sikkim	2.6	41.02	0.011
Tamil Nadu	2.2	38.7	0.009
Telangana	5.88	40.85	0.024
Tripura	13.11	42.68	0.056
Uttar Pradesh	22.93	44.83	0.103
Uttarakhand	9.67	41.99	0.041
West Bengal	11.89	42.35	0.05
India	14.96	44.39	0.066

Source: NHFS-5, and NITI Aayog (National Multidimensional Poverty Index 2023)

Handbook of Statistics on Indian States, RBI (2023)

Above table 9, shows that Bihar has the highest proportion of multidimensionally poor. Bihar has 33.76% of population living under poverty followed by, Jharkhand (28.81%), Meghalaya (27.79%), Uttar Pradesh (22.93%) and Madhya Pradesh (20.63%) respectively, while Kerala has lowest proportion of multidimensionally poor only 0.55%, followed by Goa (0.84%), Tamil Nadu (2.2%), Sikkim (2.6%) and Delhi (3.43%) respectively.

All India average is 14.96%, i.e. in India 14.96% of people are multidimensionally poor. As per UNDP Global Multidimensional Poverty Index 2023, globally 1.1 billion people are under acute poverty. More than 230 million people in India are still living under multidimensional poverty which is more 20% globally.

Poverty and Financial inclusion:

Financial inclusion has a positive impact on growth and development of a country. A high level of financial inclusion indicates low level of poverty and high level of employment.

Table 10. State-wise values of Financial Inclusion and Headcount ratio

State/ Union Territory	FII	Rank (FII)	Headcount Ratio (Per cent)	Rank(H)
ANDHRA PRADESH	0.22613636	14	6.06	20
ARUNACHAL PRADESH	0.15693097	19	13.76	11
ASSAM	0.09982707	25	19.35	6
BIHAR	0.034078779	30	33.76	1
CHHATTISGARH	0.13403316	21	16.37	7
GOA	0.983260879	1	0.84	29
GUJARAT	0.203541908	16	11.66	14
HARYANA	0.374394672	6	7.07	19
HIMACHAL PRADESH	0.450625182	4	4.93	23
JAMMU & KASHMIR	0.212059027	15	4.8	24
JHARKHAND	0.09288824	26	28.81	2
KARNATAKA	0.298552688	10	7.58	18
KERALA	0.374222494	7	0.55	30
MADHYA PRADESH	0.108035981	24	20.63	5
MAHARASHTRA	0.179575096	17	7.81	17
MANIPUR	0.037179969	29	8.1	16
MEGHALAYA	0.119327078	23	27.79	3
MIZORAM	0.305058716	9	5.3	22
NAGALAND	0.044948564	28	15.43	9
NCT OF DELHI	0.685039315	2	3.43	26
ODISHA	0.172662713	18	15.68	8
PUNJAB	0.429949216	5	4.75	25
RAJASTHAN	0.139784405	20	15.31	10
SIKKIM	0.474389937	3	2.6	27
TAMIL NADU	0.28746633	11	2.2	28
TELANGANA	0.266638469	12	5.88	21
TRIPURA	0.246230936	13	13.11	12
UTTAR PRADESH	0.08510973	27	22.93	4
UTTARAKHAND	0.372912181	8	9.67	15
WEST BENGAL	0.126540634	22	11.89	13
ALL-INDIA	0.181020005		14.96	

Above the both dynamic map of poverty and financial inclusion, clearly depicts that state having high financial inclusion score has low headcount ratio and vice-versa.

Spearman's rank correlation coefficient is -0.84827. This implies a high degree of association between financial inclusion and poverty. Negative sign indicates direction of association.

The Problem:

To look into how financial inclusion affects poverty.

Hypothesis:

H₀: Financial inclusion has no effect on poverty.

H₁: Financial inclusion has a considerable effect on poverty.

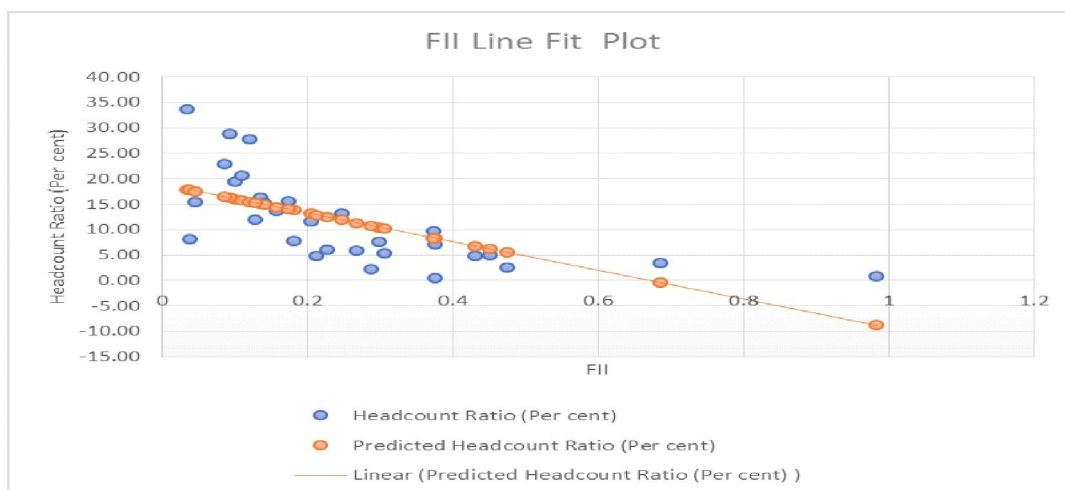
Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.663 ^a	.439	.419	6.60250	.439	21.915	1	28	<.001
a. Predictors: (Constant), FII									

R: represents the Karl Pearson Correlation coefficient.

R₂: represents the coefficient of determination or goodness of fit of a model.

Here, value of R= 0.663 which shows there is a significant association between financial inclusion and poverty (headcount ratio). The value of R₂= 0.439, which means 44% of dependent variable (Headcount ratio, H) is explained by independent variable (FII).

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	18.829	1.959		9.613	<.001	14.817	22.841
	FII	-28.080	5.998	-.663	-4.681	<.001	-40.367	-15.793
a. Dependent Variable: Headcount Ratio (Per cent)								



Here, the dependent variable Headcount ratio H is regressed on predicting variable FII to test H₀ hypothesis.

Hypothesis	Beta coefficient	R	R ²	F	t-value	p-value	Sig. F	Hypothesis supported
H ₀	-28.080	.663 ^a	.439	21.915	-4.681	<0.001	<0.001	NO

If P-value is < 0.05, then we Reject null hypothesis, H₀.

Since p-value is < 0.001(<0.05), then we fail to accept null hypothesis H₀.

Therefore, alternate hypothesis H₁ is accepted that there is a significant impact of FII on poverty. There is a significant and negative impact on poverty. i.e. when the financial inclusion increases by 1% in state, its poverty is reduced by 0.28%.

Conclusion:

Several studies have been done to establish a relationship between financial development and economic growth. The growth of the banking facilities has been uneven across India as seen in the above index table. Some regions have recorded high rate of financial inclusion while others lagging behind. Eastern region and North-Eastern region show low progress except Sikkim, Bihar records lowest value in financial inclusion. Southern states show maximum progress in this indicator. Goa topped in index, occupying highest value in financial inclusion. Regression analysis results shows that there is a significant and negative impact of financial inclusion on poverty, implying that improving access to and usage of financial services can enhance the living standards and economic opportunities of the poor. It is necessary that fruits of financial development reach to the vast majority of our population. The impact of financial inclusion is stronger for rural areas, women, and low-income groups, suggesting that financial inclusion policies should target these segments of the society.

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Embracing Digital Currency: India's Path to a Cashless Economy

Ms. Pooja Kumari & Prof. (Dr.) Alpana Srivastava

Abstracts

As the world steadily transitions towards a cashless economy, India stands at a pivotal juncture in its economic evolution. This research paper delves into the dynamics of this transformation, focusing on the viability of a digital-first economy in India and its implications for the future of physical currency. Through an interdisciplinary approach, drawing from economics, technology, and policy analysis, we explore the drivers, challenges, and potential outcomes of this shift. By examining case studies, statistical data, and expert opinions, we offer insights into the factors influencing the adoption of digital payment systems, the impact on financial inclusion, and the role of regulatory frameworks. Additionally, we assess the socio-economic ramifications, including implications for privacy, security, and accessibility. Through this comprehensive examination, we aim to provide a nuanced understanding of the cashless horizon in India and illuminate pathways towards a sustainable and inclusive digital economy.

Introduction

The fourth industrial revolution has exponentially modified the financial service sector. With the advent of information technology, the financial system started to redefine its routines and processes through technological innovations (Muhuri, Shukla, & Abraham, 2019). Thus, financial operations underwent periodic innovations in their process patterns to fulfill operational gaps presented in the financial system (Breidbach & Tana, 2021; Milian, Spinola, & de Carvalho, 2019; Li et al., 2021). To fill these gaps, a new economic agent appeared in the financial system, which is denominated as fintech. Fintechs are responsible for automating financial services through technology and, consequently, increasing the financial system's efficiency (Gomber, Koch, & Siering, 2017; Liu, Li, & Wang, 2020). To Fuster et al., (2019) and Chen et al., (2017), financial management and intermediation operations conducted by the fintech's represent an important step for the sustainable development of the economic system, with the potential to reduce financial service delivery costs by up to 90%. Thus, researchers

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highlight fintech's as the protagonists of a revolution in the payments system (Gomber et al., 2018; Haddad & Hornuf, 2019; Lenka & Barik, 2018). Due to the advantages afforded by fintech's, this subject has been shown to encompass different sectors (Haddad & Hornuf, 2019). However, despite its relevance, it is still in its embryonic stage and requires more exploration by financial market managers and technology professionals (Thakor, 2020). As a modern research field, this economic agent has awoken multidisciplinary interest, paving the way for analyses pertaining to different fields of research (Milian, Spinola, & de Carvalho 2019; Puschmann, 2017), such as shared economy (Netto & Tello-Gamarra, 2020; Liu, Wu, & Yu, 2019), legislation (Irwin & Dawson, 2017), technology (Chen et al., 2017), finances (Trivedi, Mehta, & Sharma, 2021; Wang et al., 2020), organizational management (Chen & Bellavitis, 2020) and innovation (Bukhtiarova et al., 2018). As such, many theoretical and empirical analyses need to be developed to better structure information and trends connected to fintechs (Liu, Li, & Wang, 2020; Li et al., 2021). One of the tools used by researchers to increase their understanding of different fields of research is bibliometry. There is a lack of bibliometric articles in fintechs literature, except for those from Liu et al., (2020), Milian et al., (2019) and Zavolokina et al., (2016). Although these advances are important, a more encompassing bibliometric study is still necessary, especially due to the recent and expressive increase in studies about fintechs. In this sense, this article's objective is to conduct a bibliometric study on the scientific publications about fintechs from the past 30 years (1991-2020). This study is different from the existing bibliometric studies due three reasons. Firstly, to analyze this phenomenon over a 30-year period permits the identification of aspects that were not identified in shorter studies. This study permits an evolutionary analysis of the fintech phenomenon from a quantitative point of view due to the variation in the amount of studies per time period, and from a qualitative point of view as it identifies the subthemes' evolution during this same time period. Furthermore, this study is not limited to a specific geographical area. Unlike bibliometric studies that analyze research behavior in certain regions, this document analyzes fintech research behavior around the world.

The Indian economy has been moving towards a cashless model for some time now, with the government and financial institutions promoting the use of digital payment methods such as debit and credit cards, mobile payment apps, and electronic fund transfer systems. The government has also taken steps to encourage the adoption of these methods by providing incentives and making it easier for individuals and businesses to access them. In this video we will discuss Can e-rupee replace physical cash or at least cannibalize its market share, how the cashless Indian Economy is moving, and what are the trends of Cashless mode in India.

Background and significance of study

In recent years, India has witnessed a significant surge in digital transactions and cashless initiatives, driven by technological advancements, government policies, and changing consumer preferences. With the rapid proliferation of smartphones, widespread internet connectivity,

and the introduction of digital payment platforms, the traditional reliance on physical currency is gradually diminishing. This transition towards a digital-first economy holds immense potential to revolutionize the way transactions are conducted, offering numerous benefits such as increased efficiency, transparency, financial inclusion, and reduced opportunities for corruption and tax evasion. However, the journey towards a cashless society is not devoid of challenges. India, despite making substantial progress in digital payments, still faces barriers such as inadequate infrastructure, concerns regarding cybersecurity and data privacy, low digital literacy levels, and the persistence of a cash-dependent informal economy. Furthermore, the coexistence of digital and physical currency poses questions about the future role and relevance of cash in the evolving financial landscape.

Significance:

The research paper “Navigating the Cashless Horizon: Exploring the Viability of Digital-First Indian Economy and the Future of Physical Currency” addresses these critical issues and explores the feasibility and implications of transitioning towards a cashless economy in India. This study holds significant importance due to several reasons:

Policy Relevance: As governments worldwide increasingly prioritize digitalization and cashless transactions, understanding the Indian context provides valuable insights for policymakers to formulate effective strategies and regulatory frameworks.

Economic Impact: The shift towards a cashless economy has profound economic implications, including its effects on financial inclusion, GDP growth, inflation, and employment patterns. Analyzing these impacts can inform economic policy decisions and business strategies.

Technological Innovation: Investigating the technological infrastructure supporting digital payments in India and identifying areas for improvement can drive innovation and investment in fintech solutions, enhancing the efficiency and security of digital transactions.

Social and Cultural Dynamics: Exploring consumer attitudes and behaviors towards digital payments and physical currency sheds light on cultural norms, trust factors, and barriers to adoption, informing interventions to promote financial literacy and behavior change.

Global Perspective: Given the global trend towards digitalization, studying India’s progress towards a cashless economy provides valuable insights for other emerging economies facing similar challenges and opportunities.

Overall, this research paper aims to contribute to the scholarly discourse on digital transformation, financial inclusion, and economic development, offering evidence-based recommendations to navigate the complexities of the cashless horizon in India and beyond.

Objective and scope of the paper

To investigate the current landscape of digital transactions and cashless initiatives in the Indian economy to understand the extent of adoption and usage.

To Assess the technological infrastructure and policy framework supporting the transition towards a digital-first economy in India, focusing on its strengths, weaknesses, opportunities, and threats.

To Analyze the economic implications of a cashless society, including its potential effects on financial inclusion, efficiency, transparency, and security.

Examine consumer attitudes and behaviors towards digital payments and physical currency, identifying factors influencing adoption and acceptance.

Evaluate the role of government interventions, regulatory measures, and incentives in promoting a cashless economy, and assess their effectiveness in driving the transition.

Review of literature

Currency systems have evolved significantly since their inception, transitioning from traditional physical forms to digital representations in recent years. Historical studies trace the origins of currency systems to ancient civilizations, where barter and commodity-based exchanges were prevalent. The emergence of metal coins and later paper currency marked significant milestones in the evolution of physical currency, facilitating trade and commerce on a broader scale.

Rise of Digital Currency. The advent of digital technology and the internet revolutionized financial transactions, leading to the emergence of digital currency in the late 20th century. Early experiments with digital currencies, such as DigiCash and e-gold, laid the foundation for contemporary cryptocurrencies like Bitcoin, which introduced decentralized, peer-to-peer transactions based on blockchain technology. Physical currency continues to serve as a widely accepted medium of exchange globally, offering tangible representation of value and facilitating transactions in both formal and informal economies. However, the proliferation of digital payment systems, including mobile wallets, contactless cards, and cryptocurrencies, has transformed the way individuals and businesses conduct financial transactions, driving the digitization of the economy. ha, Raghendra, and D. Subbarao. "The Evolution of Money in India: What is the Historical Evidence?" *Journal of Economic Integration*, vol. 35, no. 2, 2020, pp. 356-382. This paper provides a historical overview of currency evolution in India, from barter systems to metal coins and paper currency. It discusses the role of colonialism and the establishment of the Reserve Bank of India (RBI) in shaping India's currency system.

Digital Payment Adoption in India. Ravi, Vikram. "Digital Payments in India: Recent Trends, Issues, and Policy Recommendations." *Indian Journal of Economics and Development*, vol. 16, no. 2, 2020, pp. 289-302. This study analyses recent trends in digital payment adoption in India, highlighting factors influencing consumer behavior and preferences. It discusses the role of government initiatives such as Digital India and demonetization in promoting digital payments. Comparative Analysis of Physical and Digital Currency. Chakraborty, Soma, et al. "A Comparative Study of Traditional and Digital Payment Systems in India: Opportunities and Challenges." *International Journal of Engineering and Advanced Technology*,

vol. 9, no. 2, 2019, pp. 218-224. This research paper conducts a comparative analysis of traditional (physical) and digital payment systems in India, focusing on factors such as usability, security, and transaction costs. It discusses the challenges and opportunities associated with the transition to digital payments.

Security Concerns in Digital Currency Transactions. Gupta, Amit, and Rajendra Kumar Sharma. "Security Issues and Challenges in Digital Currency." *International Journal of Advanced Research in Computer Science*, vol. 11, no. 1, 2020, pp. 97-101. This paper examines security issues and challenges in digital currency transactions, including cybersecurity threats such as hacking, identity theft, and fraudulent activities. It discusses the importance of encryption and authentication mechanisms to mitigate security risks.

Financial Inclusion and Digital Currency. Pradhan, Rajesh, and Ashwani Kumar. "Financial Inclusion in India: An Overview of Progress and Challenges." *Journal of Accounting & Finance*, vol. 20, no. 5, 2020, pp. 125-140. This study provides an overview of financial inclusion initiatives in India and evaluates their impact on reducing the unbanked population. It discusses the role of digital currency in promoting financial inclusion and expanding access to formal financial services.

Policy Implications of Digital Currency Adoption. Reserve Bank of India. "Report of the Committee to Assess the Feasibility of Introducing a Central Bank Digital Currency." Reserve Bank of India, 2021. This report by the RBI assesses the feasibility of introducing a central bank digital currency (CBDC) in India. It discusses the potential benefits, challenges, and policy implications of CBDC adoption, including implications for monetary policy and financial stability.

Consumer Perspectives on Digital Payments. Kumar, Manish, et al. "Consumer Preferences and Perceptions towards Digital Payments: A Study of Urban Consumers in India." *Journal of Retailing and Consumer Services*, vol. 58, 2021, p. 102393. This research examines consumer preferences and perceptions towards digital payments among urban consumers in India. It provides insights into factors influencing adoption and usage patterns of digital payment platforms.

The literature surrounding the transition towards a cashless economy in India encompasses a diverse array of topics, including technological innovations, policy interventions, consumer behavior, economic implications, and societal impacts. This literature review synthesizes key findings from relevant studies to provide a comprehensive understanding of the current landscape and identify gaps for further exploration.

Research by Gupta et al. (2020) highlights the importance of robust technological infrastructure, including digital payment platforms, mobile banking services, and secure networks, in facilitating the adoption of cashless transactions. Additionally, studies by Mishra and Kumar (2019) emphasize the role of innovations such as Unified Payments Interface (UPI) and Aadhaar-enabled payments in driving financial inclusion and expanding access to digital financial services. The literature underscores the significance of supportive policy frameworks and regulatory measures in promoting the transition towards a cashless economy. Studies by Arora and Bansal (2018) discuss the impact of demonetization and government initiatives such as Digital India and Jan Dhan Yojana in accelerating the adoption of digital payments. However, scholars like Singh and Sharma (2021) caution against over-reliance on digital modes and advocate for measures

to address issues of cybersecurity, privacy, and consumer protection. Understanding consumer attitudes and behaviors towards digital payments is crucial for driving the shift towards a cashless economy. Research by Kaur and Kaur (2020) identifies factors influencing consumer adoption, including convenience, trust, perceived security, and familiarity with technology. Moreover, studies by Singh and Dhir (2019) explore the role of demographic variables such as age, income, and education in shaping digital payment preference. Several studies examine the economic implications of a cashless economy, including its impact on GDP growth, financial inclusion, and transaction costs. Research by Choudhary et al. (2019) suggests that digitalization can contribute to economic growth by reducing the cost of cash handling and increasing efficiency in transactions. However, scholars like Arora and Singh (2020) caution against overlooking the implications for marginalized populations and informal sectors heavily reliant on cash transactions. The literature also delves into the societal and cultural dimensions of the cashless transition, exploring issues of trust, social norms, and digital literacy. Studies by Jain and Gupta (2018) highlight the importance of building trust and awareness among consumers, particularly in rural and semi-urban areas where cash remains prevalent. Additionally, research by Agarwal and Garg (2021) examines the cultural factors influencing consumer preferences for cash versus digital modes of payment. Overall, while existing literature provides valuable insights into various aspects of the cashless transition in India, there is a need for further research to address emerging challenges and opportunities. This paper aims to contribute to this evolving discourse by exploring the viability of a digital-first Indian economy and the future role of physical currency in navigating the cashless horizon.

Methodology

This research paper adopts a mixed-methods approach, utilizing both exploratory and descriptive research designs to investigate the viability of transitioning towards a digital-first economy in India and its implications for physical currency.

Exploratory Research Design: A thorough examination of existing literature on cashless economies, digital payment systems, and the Indian economic landscape will be conducted. This review will provide insights into the current state of digitalization, challenges faced, and potential future directions. **Focus Groups:** Focus group discussions will be organized with consumers, merchants, and representatives from different sectors of the economy to explore their attitudes, perceptions, and experiences regarding digital payments and the use of physical currency. These discussions will uncover insights into user behavior, preferences, and concerns.

Descriptive Research Design. A structured survey questionnaire will be designed based on the insights gathered from the exploratory phase. The survey will collect quantitative data on various aspects related to digital payments, including usage patterns, satisfaction levels, security concerns, and future intentions. Secondary data will be collected from government reports, financial institutions, and relevant scholarly articles. Observational studies may also be conducted to understand real-time usage patterns and behaviors. The study's generalizability may be limited due to the specific context of the Indian economy and its unique socio-economic factors.

Data analysis

The shift from Cash to Cashless. Since the late 20th century, India has been slowly but steadily moving towards a cashless economy with ATMs, MICR, debit cards, and credit cards. Today, you have mobile wallets, recharge vouchers, UPI, NFC payments, QR codes, etc. Come to think of it, India has performed well on the digital adoption front. The cashless economy has become the talk of the town since the emergence of CBDC (Central Bank Digital Currency) talk by RBI Governor

Difference between E-Rupee, UPI, and Mobile Wallets:

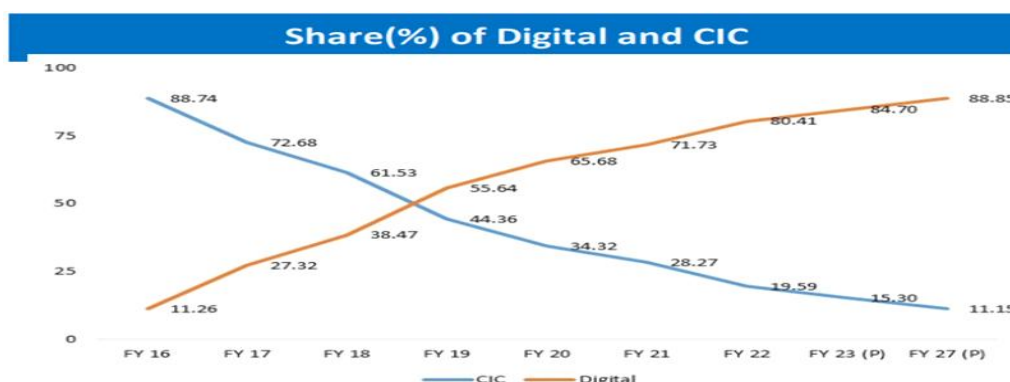
UPI & Mobile wallets, ATM transactions have a bank as the intermediary for conducting transactions, however, banks do not have the knowledge to whom the cash is being paid, which brings the benefit of anonymity.

E-Rupee also comes with the benefit of anonymity, along with a reduction in the cost of printing rupees.

The CBDC will be an exact digital copy of the physical currency, with the anonymity of physical cash. So, when the digital currency is transferred to a consumer’s wallet, the transaction will be captured by the bank, as happens with physical cash. But subsequently, all wallet-to-wallet transactions will remain anonymous, with no record in the core banking system of a bank, just the way it is with physical cash. The RBI plans to remove all records of digital transactions between wallets.

UPI platforms and other wallets – from PhonePe to Google Pay and Paytm – are enabling platforms for digital money transactions. E-rupee is a currency in digital form and transactions in it will not require any intermediaries. Transaction between two parties, individuals or businesses, leads to money being transferred from one wallet to another without banks getting involved. There will be no difference between paper and digital currencies, and the income tax rules of physical cash will also apply to E-Rupee, RBI governor Shaktikanta Das said recently

Can Digital Rupee Replace Cash?



Source : RBI Data

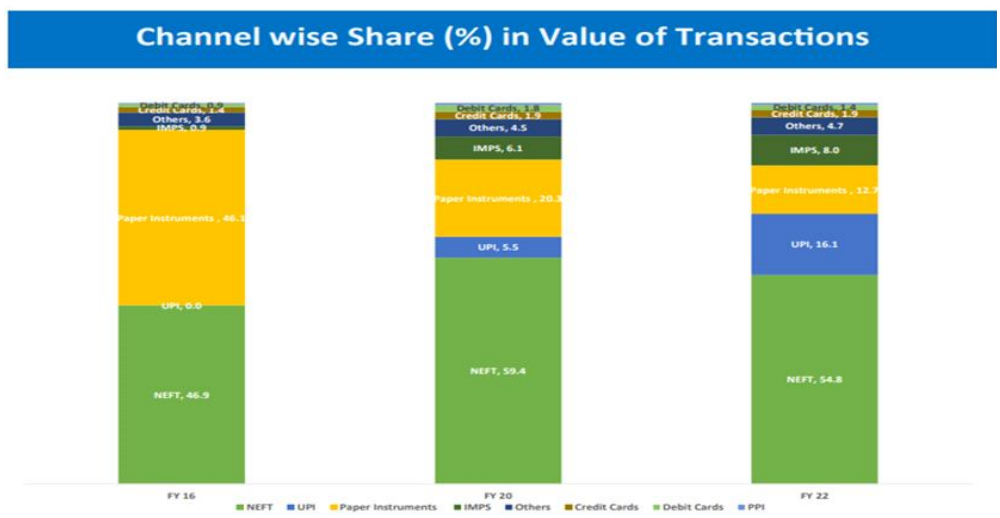
To look at the trend of digital and cash transactions in the total payment system, we defined digital transactions as the transactions in IMPS, UPI, PPI, and cash transactions as CIC.

The trends are revealing, as the share of CIC has been declining from 88% in FY16 to 20% in FY22 and is estimated to go down further to 11.15% in FY27. Consequently, the digital transactions share is continuously increasing from 11.26% in FY16 to 80.4% in FY22 and is expected to touch 88% in FY27.

Simply, during the Era of Demonetization currency in circulation was around 88% while digital transactions were around 12%.

The Govt & Digital Agencies expect that by FY 2027 this trend is going to visit vice versa.

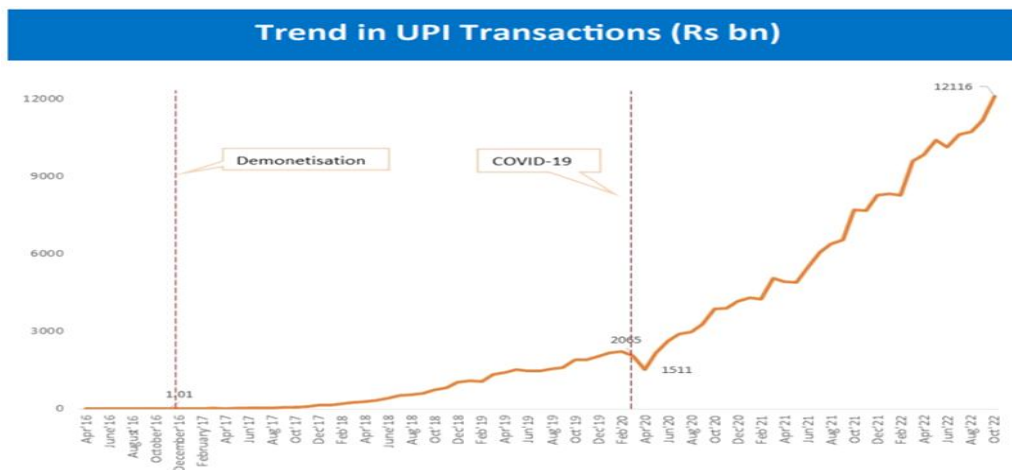
Channel-Wise Share % in Value of Transactions:



Source : RBI Data

The trend in UPI Transactions (Rs. Billion).

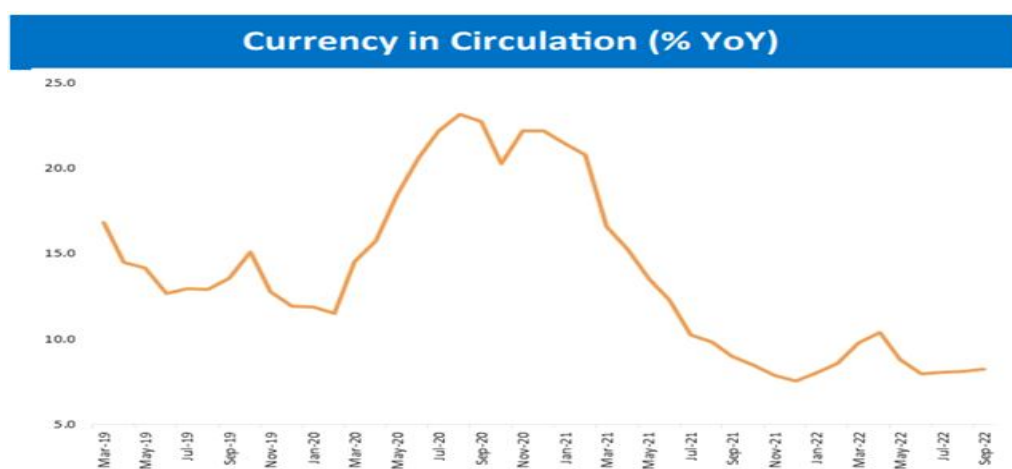
UPI transactions that were non-existent in the era of demonization have already reached 16% of overall transactions. they are expected to witness a humongous rise going forward are



Source : RBI Data

expected to witness a humongous rise going forward.

Currency in Circulation (% YoY):



Source : RBI Data

Future prospects and recommendations

The transition towards a digital-first economy presents an opportunity to enhance financial inclusion by providing access to banking services and digital payment solutions to underserved populations. Policymakers should focus on designing initiatives to promote digital literacy and infrastructure development in rural and remote areas. There is a need for a robust regulatory framework to address concerns related to cybersecurity, data privacy, and consumer protection

in the digital payments ecosystem. Regulatory bodies should work closely with industry stakeholders to establish standards and guidelines to ensure the security and integrity of digital transactions. Continued investment in technology and infrastructure is crucial to support the scalability and reliability of digital payment systems. This includes upgrading telecommunications networks, expanding internet access, and promoting the adoption of secure digital payment platforms. Efforts should be made to promote digital literacy among all segments of society, including consumers, merchants, and financial service providers. Educational campaigns and training programs can help individuals understand the benefits of digital transactions and mitigate concerns about security and usability. Governments and financial institutions can incentivize digital payments by offering rewards, discounts, and cashback schemes for using digital payment platforms. This can help accelerate the adoption of digital transactions and reduce reliance on physical currency.

Collaboration between the public and private sectors is essential to drive innovation and address challenges in the transition towards a cashless economy. Public-private partnerships can facilitate the development of interoperable payment systems, infrastructure sharing, and regulatory compliance. It is important to identify and mitigate risks associated with digital payments, including fraud, identity theft, and system failures. This requires proactive monitoring, cybersecurity measures, and continuous risk assessment to maintain the integrity and trustworthiness of digital payment ecosystems. While digital payments offer convenience and efficiency, it is important to ensure the availability of diverse payment options to cater to the preferences and needs of different segments of society. This includes supporting alternative payment methods such as mobile wallets, contactless cards, and digital currencies.

Policymakers and industry stakeholders should adopt a long-term vision for the evolution of the digital economy while remaining adaptable to changing technological trends and consumer behaviors. Flexibility and innovation will be key to navigating the cashless horizon and ensuring the sustainability of digital-first initiatives. By addressing these recommendations and leveraging the opportunities presented by the digital-first economy, India can pave the way towards a more inclusive, efficient, and resilient financial ecosystem, while simultaneously shaping the future of physical currency in alignment with evolving societal needs and technological advancements.

Conclusions

The exploration of India's journey towards a digital-first economy and the future of physical currency underscores several key conclusions. Firstly, the momentum towards a cashless horizon is undeniable, driven by technological advancements, government initiatives, and changing consumer behaviors. However, while digital payment systems offer numerous benefits such as efficiency, transparency, and convenience, significant challenges remain.

One of the foremost challenges lies in ensuring widespread adoption and accessibility, particularly among marginalized and rural populations. Addressing this requires concerted

efforts from policymakers, financial institutions, and technology providers to bridge the digital divide and promote financial inclusion. Moreover, concerns surrounding privacy, security, and data protection must be effectively addressed to build trust and confidence in digital transactions. Regulatory frameworks need to evolve in tandem with technological advancements to safeguard consumer rights and mitigate risks associated with cyber threats and fraud. Furthermore, the coexistence of digital and physical currency is likely to persist in the foreseeable future, necessitating a balanced approach that leverages the strengths of both systems. While digital payments offer efficiency and traceability, physical currency remains crucial for segments of the population with limited access to digital infrastructure and for transactions in remote areas. In conclusion, navigating the cashless horizon in India requires a holistic approach that prioritizes inclusivity, security, and innovation. By harnessing the potential of digital technologies while addressing the challenges inherent in the transition, India can chart a path towards a sustainable and inclusive economic future. Collaboration between stakeholders across sectors will be paramount in shaping this future and realizing the vision of a vibrant digital-first economy while preserving the essential role of physical currency in the evolving financial landscape.

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A Study of Female Workforce and Their Employment Composition, with Special Reference to Madhya Pradesh

Amrin Noor

Abstract

In the ever-evolving landscape of the global workforce, understanding the dynamics of female participation in various employment categories is crucial for fostering gender equality and social progress. Over the years, significant transformations have taken place in the structure of female employment across different segments of the workforce within the realms of own-account workers, employers, self-employed, casual labour, salaried workers, and unpaid workers. The paper analyzed the latest trend of change female workforce and its composition in Madhya Pradesh over the time period (1993-2023) using the NSSO Employment & Unemployment survey data from 1993-94 to 2011-12 and PLFS data from 2017-18 to 2022-23. The study has found that the share of self-employed women in the total of employed women was relatively higher in rural areas compared to urban areas. Even the unpaid female workers were almost 20 per cent higher in rural areas as compared to urban area. The study uses the binary logistic regression model to find the determinants that can push the female workforce from the category of unpaid workers to other categories of self-employment like own account workers or employers. Education and vocational training were found to play a crucial role that enables unpaid female workers to be in more rewarding categories such as own-account workers or employers. Education and vocational training nurture creativity and critical thinking that can help in the transition from unpaid workers to own account workers or employers. Those, findings evaluated the effectiveness of existing policies and make data-driven decisions for future legal and policy reforms.

Keywords: Workforce, Self-Employment, Multinomial Logistic Regression, Madhya Pradesh

JEL: J210, J24, C31, R50

1. Introduction

The employment of women serves as both a gauge of their economic empowerment and a significant metric of their contribution to economic development. In recent decades, there

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has been a noticeable decline in the Work Participation Rate (WPR) of women in India. It has been declined from 29.6 per cent in 1983 to 21.9 per cent in 2011-12 as per the 38th and 68th rounds of National Sample Survey and further to 16 per cent according to the recently published Periodic Labour Force Survey (PLFS 2017-18). Mitigating gender discrimination within the labour market and fostering significant female participation is likely to have a positive impact on a nation's economic growth as suggested by Esteve-volart (2004) and Tansel (2001). The active involvement of women in the workforce can contribute to reducing gender inequality, empowering women and enhancing their ability to make choices and decisions in key aspects of their lives. As argued by Desai and Jain (1994), Kabeer (2012) and Mammen and Paxson (2000). Despite of attaining consistently high rates of growth, there remains argument that Madhya Pradesh has not been able to translate the growth experience into its female labour market especially in rural area. However (MOW & CD, 2021) include many program which aimed at women have been introduced, including Ujjawala, Beti Bachao Beti Padhao, and the Pradhan Mantri Janani Suraksha Yojana, Pradhan Mantri Matru Vandana Yojana and Swadhar Greh Scheme. With these significant efforts the rise has been occurred in the female labour force participation in the last two decades from 235.39 lakhs in 1993-94 to 416.79 lakhs in 2022-23 but according to numerical point of view. Even though with the increase, women's participation rate is still much lower than that of men's and also demonstrate slowed down in recent years.

The Indian Constitution maintains the equal treatment of men and women through a number of law provisions (Articles 14, 15, 42) and constitutional clauses (Planning Department, 2021). In order to provide equal chances and do away with long-standing prejudice, it also includes affirmative action measures. The purpose of the 73rd and 74th constitutional amendments is to increase women's political empowerment and active involvement in decision-making by expressly allocating seats for them in local governments (Hazarika, 2011). Such changes in the favors of women in workforce reflecting in increasing number of females in workforce (Chand and Singh, 2022).

Keeping all the above facts in mind the specific objectives set for this study are:

- (1) To analyze changes in the labour force in Madhya Pradesh during a specific time period to determine the causes of expansion or contraction.
- (2) To examine the composition of the female workforce, analyzing changes in female employment across sectors, industries and skill levels.

Furthermore, other than core objectives this study also focused to analyze policies to address gender disparities in the labour market. This study also offers policy recommendations based on observed labour force changes, unemployment trends and gender specific dynamics, offering guidance for crafting more inclusive and effective labour market policies in Madhya Pradesh. This analysis offers insights into both economic development and demographic changes within the state.

2. Review of Literature

An analytical and focused review of the most important studies on female workforce in India as follows that address issues in the process of economic development. A substantial body of literature has emerged in recent decades. It examines various aspects of this intricate matter.

The 17th International Conference of Labour Statisticians (2003) established criteria for defining informal employment. It encompasses remunerative activities such as wage employment and unregistered self-employment. Workers in the informal sector lack legal regulation without social security, employment guarantees, and worker benefits.

According to Bonnet et al. (2019) globally, most men work in the informal economy but in India, it's the opposite. More women in India are involved in informal sectors than men.

Boserup's (1970), focusing on women participation in economic sectors, not only assessed their contributions but also crystalize on the inherent, biases within development policies. According to Mehrotra (2015), measurement errors and the challenge of differentiating between contributions to the family and household duties are to blame for the significant decline in the number of women in the workforce.

According to Rangarajan et al. (2011) and Sudarshan and Bhattacharya (2009), research indicates a growing trend where more women are opting to abstain from the labour force primarily to fulfil 'domestic duties,' highlighting the noticeable influence of household and nurturing responsibilities on women.

Jadhav (2020) and Srivastava (2020) found that women are particularly affected, as they are more commonly found in unstable occupations such as street vending, waste picking, home-based work, construction, domestic jobs, beauty parlours, gyms, head-loading, and other short-term contracts. According to WIEGO (2020a), women, facing limited access to resources and opportunities, grapple with challenges such as credit, land, technology, savings, and decision-making power compared to men. Nevertheless, a significant number of women engage in this sector, often out-earning their male counterparts while contributing to family support.

In the historical context of India, societal stratification has manifested through the segregation of various social groups (Deshpande, 2001; Government of India, 2006; Kijima, 2006; Gaiha et al., 2007; Gang et al., 2007; Desai and Kulkarni, 2008), delineated by factors such as castes, religions, and ethnic identities, each exhibiting heterogeneous characteristics. Extensive economic disparities based on caste, religion, and ethnicity has been documented in scholarly works. Consequently, it becomes imperative to scrutinize the role of these social variables in elucidating earning differentials among the working-age populace in India.

Golden, C (1995) investigated that during the process of expansion process, both income and substitution effects take place with industrialisation, the higher wages of men lead to an increase in household income, causing a decline in the labour participation of women who

then dedicate themselves to child care and domestic work.

Even though such studies were used different parameters to analyse participation of women, those parameters were not enough compatible in the Madhya Pradesh state. So this research is to make an attempt to fill the research gap and provides important avenues for the further research. Therefore, this research will identify and examine the appropriate factors that determine women's participation decisions.

3. Data and Methodology

In exploring the complexities of female workforce engagement and employment categories in Madhya Pradesh, comprehensive data collection is the fundamental building block of this research initiative. The authors identified vital parameters for studying the trend of female workforce which comprised Labour Workforce Participation Rate (LFPR), Workforce Participation rate (WPR), Unemployment rate and also its sector wise composition which includes Own Account Worker Employer, Unpaid Family Labour, Self Employed, Regular Wage/Salaried Worker and Casual Labour in Madhya Pradesh over the time period.

The authors collected and calculated data by combining unit level data from different National Sample Survey Organisation (NSSO) rounds of the Employment & Unemployment (E&U) survey and the Periodic Labour, Force Survey (PLFS). This study encompasses multi-decade time frame, spanning from 1993-94 to 2022-23. The historical data from 1993-94 to 2011-12 has been precisely collected from the E&U survey. Recent data spanning from 2017-18 to 2022-23 is sourced from the PLFS survey unit level data.

The tools for analysing the data in this study were both descriptive and inferential (econometrics model) statistical analysis. The basic descriptive statistics are used to present an overview of Female Labour Force Participation (FLFP) trends over the selected time period. The study analyzed regional variations in female employment categories, distinguishing between rural and urban areas to identify disparities and trends. Further a temporal analysis tracks evolution of female employment categories and the factors that have shaped them.

Binary logistic regression is a type of logistic regression, that is used when the dependent variable is dichotomous (two) and the independent variables are of any type (dichotomous, trichotomous, polychotomous, and continuous (Hosmer et al.,1997).The binary logistics regression model is employed to analysis the factors that drive the transition from unpaid work to more advantageous employment categories.

4.1. Results and discussion

As an economy undergoes the transition from an agrarian based to an industrial based structure, a discernible reduction in the engagement of the female labour force becomes evident. This section presents the main results of our analysis of the labour market in Madhya Pradesh. The Table No.1 depicts that a decline in LFPR and WPR from 1993-94 to 2011-12 followed by a recent recovery. This shift can be attributed to the transition from cottage

industries to centralized, large-scale production in industrial units. In households where women are predominantly illiterate or possess minimal education, there is a dearth of domestic employment opportunities. Nevertheless, as family incomes increase and the educational attainment of females improves, more women join the workforce, primarily in non-manual or service-oriented roles. This correlation accounts for the U-shaped association between female labour force participation and economic expansion (Goldin,1994). This study demonstrates that women are primarily involved in work that can be seen as an extension of their household duties.

Table 4.1.1: Change in Labour force, Workforce, and Unemployment in Madhya Pradesh

Year	LFPR %	WPR %	Unemployment rate %	Labour force (Lakh)	Workforce (Lakh)	Unemployed (Lakh)
1993-94	45.86	45.29	1.24	236.39	233.46	2.94
2004-05	43.69	43.30	0.89	282.76	280.24	2.52
2011-12	38.85	38.50	0.90	284.96	282.39	2.57
2017-18	41.83	39.97	4.45	337.21	322.21	14.99
2018-19	39.82	38.41	3.54	325.55	314.02	11.53
2019-20	44.07	42.76	2.97	365.33	354.47	10.86
2020-21	45.79	44.90	1.94	384.82	377.34	7.48
2021-22	46.02	45.07	2.06	391.71	383.63	8.09
2022-23	48.38	47.61	1.59	416.79	410.16	6.63

Source: Authors estimation using E&U survey and PLFS survey unit-level data

A sharp increase of 4.45 per cent in the unemployment rate in 2017-18 highlights economic challenges. The subsequent decline to 1.59 Per cent in 2022-23 suggests an economic recovery through improving labour market. Complex factors like global economic trends and local job market dynamics influence these fluctuations in this region. In rural areas, there was a growing eagerness among people to move away from underemployment in the agricultural sector due to push and pull factors. They also try to escape from disguised unemployment in agriculture. Furthermore, the steady growth in the total labour force signifies demographic changes and economic expansion.

The Table No. 4.1.2 presents, the transformation in the participation of females in labour force in Madhya Pradesh. The proportion of females in the labour force experienced a notable decline from 35.04 per cent in 1993-94 to 20.83 per cent in 2011-12. This trend indicates demographic changes due to the scarcity of jobs and pointing to a less voluntary withdrawal from the labour force than the income effect. Apart from the influence of income changes and measurement challenges, the primary factor behind the decreasing female labour force

participation rate is the shift in local job opportunities. Rural-to-urban migration in India, as part of urbanization, reduces farming opportunities in small villages and creates intermediate spaces.

Table 4.1.2: Change of Females in Labour force, Workforce and Unemployment in Madhya Pradesh

Year	Labour force	Workforce	Unemployment
	Share in population (%)		
1993-94	35.04	34.87	0.49
2004-05	31.72	31.63	0.28
2011-12	20.83	20.72	0.53
2017-18	23.39	22.89	2.14
2018-19	20.76	20.42	1.64
2019-20	28.03	27.64	1.39
2020-21	30.25	29.98	0.89
2021-22	30.24	29.97	0.89
2022-23	33.43	33.03	1.20
	Number (Lakh)		
1993-94	86.22	85.80	0.42
2004-05	97.99	97.71	0.28
2011-12	73.68	73.29	0.39
2017-18	90.41	88.48	1.93
2018-19	81.01	79.69	1.33
2019-20	112.58	111.01	1.57
2020-21	124.00	122.89	1.11
2021-22	125.52	124.40	1.12
2022-23	138.90	137.24	1.66

Source: Authors estimation using E&U survey and PLFS survey unit-level data

Research indicates that women's labour force participation in this region, typically low, often increases during crises, showcasing its counter-cyclical nature and finding support. This assertion is substantiated by Abraham (2009), Ishaan Bansal and Kanika Mahajan (2021). Similar pattern is observed in percentage of females in the workforce. Then started to recover, reaching 33.03 per cent in 2022-23. The unemployment saw fluctuations as well, with a peak of 2.14 per cent in 2017-18 because the number of employment increased in agriculture that followed by a reduction to 0.89 per cent in 2020-21 and 2022-23. The cause was economic crises had a gendered impact, the PLFS data shows that the share of women working in agriculture augmented in 2019-20 and 2020-21, the years of the pandemic before registering a small decline in 2021-22 that showed slight increment to 1.20 per cent in 2022-

23. Nevertheless, this temporary increase in women’s employment was short-lived, as their employment declined once households’ economic conditions improvised. This underscores the role of women’s labour as a form of insurance for poorer households during periods of low income.

The change in the composition and workforce of females in Madhya Pradesh over a span of several years has been shown in the Table No. 4.1.3. This indicates a substantial positive change in female entrepreneurship during this period. The significant marginal growth rate of 13.15 percentages has been observed during the period from 2017 to 2022.

Table 4.1.3: Change in Composition and Workforce of Females in Madhya Pradesh

Year 1: Own

Year	1: Own account worker	2: Employer	3: Unpaid family labour	Self Employed	4: Regular wage/ salaried worker	5: Casual Labour
Share in total workforce (%)						
1993-94	6.45	0.44	52.69	59.58	3.31	37.07
2004-05	6.91	0.32	50.58	57.81	6.55	35.65
2011-12	10.11	0.01	46.17	56.29	7.34	36.37
2017-18	9.56	0.19	47.85	57.60	10.56	31.83
2018-19	13.94	0.48	44.19	58.61	10.66	30.73
2019-20	12.64	0.13	50.62	63.39	10.42	26.19
2020-21	13.84	0.13	49.44	63.41	8.42	28.17
2021-22	13.71	0.27	54.65	68.63	7.67	23.70
2022-23	17.02	0.29	53.44	70.75	7.67	21.58
Worker by type (lakh)						
1993-94	5.53	0.38	45.21	51.12	2.84	31.81
2004-05	6.75	0.31	49.42	56.48	6.40	34.83
2011-12	7.41	0.01	33.84	41.26	5.38	26.66
2017-18	8.46	0.17	42.34	50.96	9.34	28.16
2018-19	11.11	0.38	35.21	46.70	8.49	24.49
2019-20	14.03	0.14	56.19	70.37	11.57	29.07
2020-21	17.01	0.16	60.76	77.93	10.35	34.62
2021-22	17.06	0.34	67.99	85.38	9.54	29.48
2022-23	23.36	0.40	73.34	97.10	10.53	29.62

Source: Authors’ estimation using E&U survey and PLFS survey unit-level data

Whereas, the limited growth in the employer category suggests that changes were relatively stable. This low volatility could be due to challenges and barriers women faced in becoming employers. In addition to it, due to rapid decrease in female involvement in the labour market has led to a significant and swift increase in gender inequalities. This claim is further supported by Mamgain’s (2021). However, women’s participation in unpaid family labour increased by 5.59 per cent from 2017 to 2022. On the other side regular wages/ salaried workers and casual labour category experienced a decrease of 2.89 percent and 10.25 percent respectively. This suggests a volatile shift away from precarious and daily wage work.

The data under Table No. 4.1.4 suggested that in the rural sector, there was a decrease in the percentage of female employers because Government funding schemes are typically one-time opportunities, but running a business requires on-going financial support, which can pose obstacles in establishing their enterprises, resulting in a marginal percentage decrease of approximately -26.67 per cent in 1993-94 to 2022-23, which was mirrored by a significant reduction of about -82.69 per cent in the urban sector in the same time period. There was also a noticeable trend towards self-employment among rural females, with a marginal percentage increase of approximately 19.83 per cent from 2018-19 to 2022-23. However, the situation in the urban female workforce remained unchanged.

Table 4.1.4: Sector-wise Change in composition and workforce of Females in Madhya Pradesh

Sector	Year	Share in total workforce (%)						Worker by type (lakh)					
		1: Own account worker	2: Employer	3: Unpaid family labour	Self Employed	4: Regular wage/ salaried worker	5: Casual Labour	1: Own account worker	2: Employer	3: Unpaid family labour	Self Employed	4: Regular wage/ salaried worker	5: Casual Labour
Rural	1993-94	5.20	0.45	55.46	61.11	1.15	37.70	4.04	0.35	43.12	47.52	0.89	29.31
	2004-05	5.38	0.34	53.36	59.08	3.17	37.75	4.66	0.29	46.24	51.20	2.75	32.71
	2011-12	7.70	0.00	49.87	57.57	2.70	39.74	4.85	0.00	31.39	36.24	1.70	25.02
	2017-18	7.26	0.16	53.37	60.79	4.42	34.78	5.39	0.12	39.64	45.15	3.28	25.83
	2018-19	10.76	0.45	50.23	61.44	4.67	33.89	7.17	0.30	33.48	40.95	3.11	22.59
	2019-20	9.77	0.02	58.33	68.12	4.12	27.77	9.06	0.02	54.11	63.19	3.82	25.76
	2020-21	11.09	0.16	54.69	65.94	3.57	30.49	11.49	0.17	56.64	68.29	3.70	31.58
	2021-22	11.54	0.28	60.79	72.61	2.77	24.63	12.40	0.30	65.30	78.00	2.98	26.46
	2022-23	15.21	0.18	58.24	73.63	3.40	22.97	18.30	0.22	70.09	88.61	4.09	27.64
Urban	1993-94	18.50	0.43	25.92	44.85	24.22	30.93	1.49	0.03	2.08	3.61	1.95	2.49
	2004-05	18.9	0.14	28.77	47.81	33.00	19.18	2.09	0.02	3.18	5.29	3.65	2.12
	2011-12	24.77	0.07	23.72	48.56	35.55	15.89	2.56	0.01	2.46	5.03	3.68	1.65
	2017-18	21.58	0.34	19.00	40.92	42.66	16.42	3.06	0.05	2.70	5.81	6.06	2.33
	2018-19	30.18	0.63	13.31	44.12	41.26	14.62	3.94	0.08	1.74	5.76	5.38	1.91
	2019-20	27.27	0.68	11.47	39.42	42.40	18.18	4.98	0.12	2.09	7.20	7.74	3.32
	2020-21	28.59	0.00	21.25	49.84	34.42	15.74	5.52	0.00	4.10	9.62	6.65	3.04
	2021-22	27.42	0.23	15.77	43.42	38.71	17.87	4.65	0.04	2.68	7.37	6.57	3.03
	2022-23	29.90	1.04	19.23	50.17	38.10	11.73	5.05	0.18	3.25	8.48	6.44	1.98

Source: Authors' estimation using E&U survey and PLFS survey unit-level data

Despite these improvements, a substantial gender gap in workforce was found. The Madhya Pradesh Economic Survey (2022-23) data reveals that in rural areas, the proportion of women in the workforce is relatively low indicating that gender equality in employment may still persist. Further, the decline in the share of female regular wage/salaried workers in the rural sector reached from 4.67 per cent in 2018-19 to 4.09 per cent in 2022-23 which followed a negative trend. This indicates that there might be limited growth in formal job opportunities in rural areas, which in turn could restrict women's access to stable and well-paying positions compared to urban areas. While the transition from casual labour to self-employment might appear advantageous in certain aspects, it could also signify that women are pushed into establishing their own means of livelihood due to the absence of accessible employment options but it might be riskier and less secure.

4.2. Determinants of females to choose as own account self-employed

The results of binary logistic regression analysis have been depicted in Table No.4.2.1 which contains the estimate of the binary regression coefficient ($\hat{\alpha}$), Standard Error of Estimates {S.E.($\hat{\alpha}$)}, p -value and odds ratio with 95 per cent Confidence Interval (C.I) that were calculated for each of the categorical variables. The overall model performs well, with good predictive accuracy and goodness of fit as indicated by the likelihood ratio, score and Wald statistics. According to the fitted model that aims to understand the variables that influence whether females were employed as "own account workers" or not. An increase in age was associated with a higher likelihood of being employed as an own account worker. The coefficient for age was positive (0.0379), indicating that as age increases, the odds of being in this employment category also increases. Similarly, coefficient of education was positive (0.0434), suggesting that education played a significant role. In addition to it, vocational training was a strong predictor.

Table 4.2.1: Binary logistic regression model results

Parameter	Estimate	Standard Error	Wald	Pr > ChiSq
			Chi-Square	
Dependent variable= if female employed as own account worker then 1 otherwise 0				
Intercept	-0.6983	0.1838	14.44	0.000
Age	0.0379	0.0072	27.62	<.0001
Age ²	-0.0003	0.0001	9.41	0.002
Schooling Year	0.0434	0.0042	107.69	<.0001
Vocational training if yes =1	0.4294	0.0347	153.16	<.0001
HH Size (family size)	-0.1033	0.0081	163.76	<.0001
ST_ dummy	0.1235	0.0585	4.46	0.035
SC dummy	-0.2660	0.0584	20.76	<.0001
OBC dummy	-0.1536	0.0492	9.73	0.002
Rural sector Dummy	-0.9924	0.0393	637.20	<.0001
Islam Dummy	0.5562	0.0715	60.52	<.0001
Jain Dummy	-0.5355	0.2271	5.56	0.018
Religion Other	0.1413	0.2715	0.27	0.603
Survey_year_2018-19	0.0965	0.0635	2.31	0.129
Survey_year_2019-20	-0.0142	0.0587	0.06	0.809
Survey_year_2020-21	-0.0459	0.0572	0.64	0.423
Survey_year_2021-22	-0.0996	0.0564	3.11	0.078
Survey_year_2022-23	0.0476	0.0551	0.75	0.388
Likelihood Ratio	2133.86***			
Score	2237.04***			
Wald	1818.29***			
Per cent Concordant	78.2			
Somers' D	0.568			
Gamma	0.57			
Tau-a	0.204			
C	0.784			

Source: Authors' estimation using E&U survey and PLFS survey unit-level data

A larger family size was associated with decrease likelihood of being employed as an “own account worker”. Furthermore, belonging to the Scheduled Caste (SC) or Other Backward Class (OBC) categories reduces the likelihood of being in this employment category (-0.2660) and (-0.1536) respectively in Madhya Pradesh region. However, rural sector residence also strongly associated with a reduced likelihood of being an “own account worker” which reached at (-0.9924). It implies that people in rural areas were less likely to be self-employed compared to those on other location.

Moreover, the Islamic faith was associated with a higher probability (0.5562), this implied that positive association was more likely to be self-employed, while being Jain was associated with a lower likelihood (-0.5355). The economic differentiation constitutes probably the primary source of this distinct status of various religions. This is because the ownership of assets, occupation and income prospects at the household level crucially influences the essential living conditions of women.

These fluctuations are suggests that external factors or economic conditions specific to certain years may have affected employment patterns. It provides insights into the relative important factors in determining female employment in Madhya Pradesh.

5. Conclusion

The analysis of labour market of Madhya Pradesh over the past three decades reveals a complex interplay of factors that significantly influence female workforce participation and employment patterns. The shift from an agrarian to an industrial economy in the state has had a noticeable impact, with an initial decline in female labour force participation followed by signs of recovery. Economic challenges and subsequent recovery were reflected in the fluctuations of the unemployment rate, with rural labour market dynamics playing a significant role in these fluctuations. Moreover, a considerable proportion of women opt for home-based employment due to its compatibility with their domestic duties. This scenario presents difficulties in precisely measuring the scope of market-oriented work in contrast to the non-market domestic caregiving tasks undertaken by women. The shift towards self-employment has shown in rural areas while urban areas remain relatively stable. The decline in female regular wage/salaried workers and casual labour signifies a transition away from precarious daily wage work. These changes highlight the intricacies of gender equality in the labour market. The counter-cyclical nature of local work prospects was a significant element that has been found to influence women's decision to leave the labor sector. The study emphasized how formal work options have grown more slowly in rural regions, which resulted a drop in the percentage of women in regular wage employment and restricted access to steady, well-paying jobs. The research indicated the distinctive status of various religions was largely shaped by economic differentiation.

Furthermore, the study also highlighted the sanctity of age as a key predictor of the changes in employment. The research also accentuated on the crucial role of education and vocational training in empowering women economically. However, with the expansion of service industry the association of female employment has been created. During this process, income and substitution effects take place with industrialization in labour market.

In essence, Madhya Pradesh's journey to enhance female workforce participation reflects both progress and on-going challenges. Our research underscores the need for nuanced policy interventions to promote gender equity and provide more secure and fulfilling employment prospects for women in the state. The promotion of gender parity and social advancement

is crucial, and requiring a comprehensive strategy that encompasses legal frameworks, education, skill enhancement, labour regulations, and entrepreneurial assistance. This necessitating targeted policies to address these inequalities and offer more stable employment opportunities for women.

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Economic Impact of Social Protection Programme in Education

Dr. Atika Khatoon

Abstract :

Social protection consists of government policies and programme designed to reduce poverty, unemployment and inclusive growth and equality in disadvantage groups. Social security may be provide in many forms such as social insurance, Pradhan mantra AwasYojana, AyushmanYojna, MGNREGA, Ujjalayojana , Pradhan Mantrii Mudra Yojna ,SukanyaYojna, PM FasalBimaYojna. SPP can be measures as food and nutrition programePublic distribution system. Housing programe for poor people aim house for all, self-employment programe and many more. The paper aims to analyses the impact of various social protect programme especially in education on economic growth. Many studies examine that there are significant relation between education and economic growth. Social protection Programme in the field of education as Sarvashikshaabhiyan (SSA), integrated child development scheme (ICDS), Mid-Day Meals, BetiParahoBetiBacha, Scholarship Schemes for primary, upper primary and higher education have a positive impact on reducing poverty and improving living standard of people and their income. Education has been considered the most important component in human capital among social sector indicators. There are significant improvement in the field of education in indicators like literacy, enrolments, number of schools, colleges and universities. In this paper we have discussed the progress and current status of literacy in rural, urban and male and female. Government has been making special efforts to promote education, girls' education and reduce gender gap as well as dropout rate. Total expenditure on education as percentage of GDP has shown increasing trend and for the year 2020-21 .it is 4, 6 percentage. The main data source are census 2001,2011and national sample survey office (NSSO)

The Indian government has been trying to enhance the quality of education since the time of independence. There have been numerous policies and schemes that aimed at providing better education for everyone, irrespective of caste and religion. Indian constitution allows children with the right to education, which means that education isn't just something that children want, it is their right. Better literacy and educational level definitely have a positive impact on economic growth. Considering the importance of education, India has enacted

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‘Right to Education’ to ensure free and compulsory Education for children in the age group 6-14 years. The Right to Education Act in India was a major turning point for school education, it made education a fundamental right for children in the age group 6 to 14 year has the right to free and compulsory education. The Act brought positive changes in the school education system. Through SarvaShikshaAbhiyan, the umbrella scheme for implementation of RTE Act, this led to increase in enrolment at both the primary and upper primary level. Along with this, schemes like RashtriyaMadhyamikShikshaAbhiyan and National Scheme of Incentives to Girls for Secondary Education emphasized secondary education of girls through scholarships, subsidies and incentives. With the introduction of BetiBachaoBetiPadhao in 2014 a renewed emphasis was given to education of girls.

1.Status of Education in India:

In recent years, India has reportedly shown considerable improvement in education both male and female. The literacy rate has also increased than the past decades. In 1991 literacy rate was 52.21and in 2001 literacy rate was 64.83 but in 2011 literacy rate improved by 72.98.in rural area in 1991 female literacy was 30.17 and in 2011 literacy rate was 57.93. In urban area also increasing literacy rate in 1991 67.20, 86.70 in 2001 and in 2011 literacy rate was 88.76 that show constancy increase both female and male literacy rate rural as well as urban area.

Table: 1 - Trend in Literacy Rates from 1991 to 2011 in India

Year	Rural			Urban			Total		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1991	30.17	56.96	36.00	64.05	81.09	67.20	39.29	64.13	52.21
2001	46.70	71.40	59.40	73.20	86.70	80.30	53.67	75.26	64.83
2011	57.93	77.15	66.77	79.11	88.76	84.11	64.63	80.88	72.98

Source: Census of India, 2011

The literacy rate at all India level has steadily increased from 64.83% in 2001 to 72.98% in 2011 and the increase in literacy rates for females and males were 42.2% and 68.8% to 57.2% and 77.3% respectively as per population censuses (Table -2). The 2011 Census shows that overall level of literacy of the country has increased from 65% in 2001 to 73% in 2011 and U.P. (13.5%)have shown substantial increase in the literacy percentage. It is hoped that this good performance in improving in future

Table 2 Comparison of Literacy Rates

	2001			2011		
	Female	Male	Total	Female	Male	Total
Uttar Pradesh	42.2	68.8	56.3	57.2	77.3	67.7
India	53.67	75.26	64.83	64.63	80.88	72.98

Source: Census of India, 2011

Educational level of the household members of age 15 years and above highest level of education successfully completed by the members of the household considering all general/technical/vocational educational level is considered as the educational level of the household member. For determining the highest level of education successfully completed, 'diploma/certificate up to secondary is included in level of education secondary diploma certificate of level higher secondary is included in level of education 'higher secondary' and 'diploma/certificate of graduation & above' is included in level of education 'graduate and above'. Percentage distribution of persons of age 15 years and above by highest level of education successfully completed is given in table 3. The table shows that illiteracy is more in female than male in rural and urban area. It is good in primary level but it becomes very less in graduation.

Table 3 Percentage distribution of persons of age 15 years and above by highest level of education successfully completed All India

Highest level of Education Completed	Rural		
	Male	Female	Person
Not literate	22.2	41.2	31.5
Literate	21.2	20.4	20.9
Up to primary	19.8	14.4	17.2
Middle Secondary	17.3	12.5	15.0
Higher Secondary	12.0	7.6	9.9
Graduate and Above	7.4	3.9	5.7
All	100.00	100.00	100.00
Urban			
Not literate	8.8	19.3	13.6
Literate	13.5	15.9	14.7
Up to primary	14.6	13.4	14.0
Middle Secondary	20.4	17.9	19.2
Higher Secondary	18.1	15.1	16.6
Graduate and Above	24.6	18.6	21.7
All	100.00	100.00	100.00
Rural+ Urban			
Not literate	18.1	34.5	26.1
Literate	18.9	18.9	18.9
Up to primary	18.2	14.1	16.2
Middle Secondary	18.2	14.2	16.2
Higher Secondary	13.9	9.8	11.9
Graduate and Above	12.8	8.3	10.6
All	100.00	100.00	100.00

Major Initiatives for Improvement of Girls' Education in India: Government of India has taken different initiatives for improvement in girls' education. These are given like, Mahila Samakhyia (MS) is an ongoing scheme for women's empowerment that was initiated in 1989 to translate the goals of the National Policy on Education into a concrete programme for the education and empowerment of women in rural areas, particularly those from socially and economically marginalized groups. (MHRD Annual Report, 2014-15). Kasturba Gandhi Balika Vidyalaya Scheme (KGBV), this scheme was launched in July, 2004, to provide education to girls at primary level. It is primarily for the underprivileged and rural areas where literacy level for girls is very low. The schools that were set up have 100% reservation: 75% for backward class and 25% for BPL (below Poverty line) girls. (MHRD Annual Report, 2014-15). National Programme for Education of Girls at Elementary Level (NPEGEL), this programme was launched in July, 2003. It was an incentive to reach out to the girls who the SSA was not able to reach through other schemes. The SSA called out to the "hardest to reach girls". This scheme has covered 24 states in India. Under the NPEGEL, "model schools" have been set up to provide better opportunities to girls. (MHRD Annual Report, 2014-15). National Scheme of Incentive to Girls for Secondary Education (NSIGSE) was launched in May 2008 with the objective to establish an enabling environment to reduce the dropouts and to promote the enrolment of girl children belonging mainly to SC/ST communities in secondary schools. (MHRD Annual Report, 2014-15). Indira Gandhi National scholarship scheme: is provided for single girl child for pursue both higher and technical education. (MHRD Annual Report, 2014-15). Swami Vivekananda Scholarship for Single Girl Child: The dropout ratio at various levels of education for girls is much higher than that of boys. Keeping Swami Vivekananda ideas of women education and to promote girls education,

UGC has introduced the Swami Vivekananda Scholarship for Single Girl Child for research in Social Sciences with an aim to compensate direct costs of higher education especially for such girls who happen to be the only girl child in their family. (MHRD

Annual Report, 2014-15). Saakshar Bharat, The National Literacy Mission was recast with its new variant, Saakshar Bharat launched in 2009. It aims to accelerate adult education, especially for women's (in the age group of 15 years and above) who have no access to formal education, targeted female literacy as a critical instrument for women's empowerment. This has led to an increase in literacy, amongst women, from 53.67% (Census 2001) to 65.46% (Census 2011).

Udaan: The Scheme is dedicated to the development of girl child education, so as to promote the admission of girl students. The aim is to address the teaching gap between school education and It seeks to enhance the enrolment of girl students in prestigious technical education institutions through incentives & academic support (MHRD Annual Report, 2014-15)

Pragati - Scholarships for Girl Child for Technical education. It aims at providing encouragement and support to girl child to pursue technical education (MHRD Annual Report, 2014-15).

Beti Bachao, Beti Padhao: This is newly announced Scheme of the Govt. of India for enhancing girls' education in India. (MHRD Annual Report, 2014-15).

Mid-Day Meal Scheme: The gender gap in school participation tends to narrow, as the Mid-Day Meal Scheme helps erode the barriers that prevent girls from going to school.

The Indian government has had some long-term education policies along with some latest additions. Mentioned below are some of the best schemes that were framed to promote education in India-

List of Government Initiatives for Students

- National Education Policy (NEP) 2020
- STARS Project
- Kala Utsav
- Swachh Vidyalaya Abhiyan
- Shiksha Parv Initiative
- National Means cum Merit Scholarship (NMMS)
- National Talent Search Exam(NTSE)
- ISHAN UDAY
- Ishan Vikas

Government schemes for schools

- Mid-Day meal
- Sarva Shiksha Abhiyan
- Institution of Eminence Abhiyan
- Higher Education Financing Agency (HEFA)
- Rashtriya Madhyamik Shiksha Abhiyan
- SamagraShiksha
- Eklaya Model Residential Schools
- National Achievement Survey
- National Curriculum Framework
- Rashtriya Avishkar Abhiyan
- Padhe Bharat, Badhe Bharat

Government Initiatives for Digital Education

- PM E-Vidhya
- DIKSHA
- National E-library
- Swayam Prabha
- Swayam
- Vidya Daan
- E Pathshala
- SMART India Hackathon

Government Initiatives for Girls

The special schemes for boosting girl's education at elementary education stage like Kasturba Gandhi Balika, Vidyalayas (KGBV) and Mahilla Smakhya.

- Beti Bachao, Beti Padhao
- Kasturba Gandhi Balika Vidyalaya
- National Programme for Education of Girls at Elementary Level (NPEGEL)
- National Scheme of Incentives to Girls for Secondary Education (NSIGSE)
- PRAGATI
- CBSE Single child merit scholarship
- Rani laxmibai Atma Raksha Parikshan

Government Initiatives for disabled students

- Inclusive Education of the Disabled at the Secondary Stage
- International Economic Development Council
- SAKSHAM
- Identification camps for CwSN

Government Initiatives for school teachers

- NISHTHA

Government Initiatives for mental health of students

- National Tele Mental Health Programme(Tele MANAS)
- National Mental Health Programme for UPSC
- School Mental Health Program (SMHP) India

Government Scheme for Higher School

- ❖ SHREYAS Scheme: Scheme for Higher Education Youth in Apprenticeship and Skill (SHREYAS)

Launched by Ministry of Human Resource Development on 30th April 2021. The scheme aims to improve the employability of introducing employment relevance to the learning process of higher education and Close link between education and industry/service sector.

- ❖ NEAT Scheme- National Educational Alliance for Technology (NEAT)

Objective is to use Artificial Intelligence to make learning more personalised and customised as per the requirements of the learner.

- DHRUV- The Pradhan Mantri Innovative Learning Programme -DHRUV has been started by the Ministry of Human Resource Development, Government of India to identify and encourage talented children to enrich their skills and knowledge.The program is to be launched from the Indian Space Research Organisation (ISRO).
- NISHTHA- National Initiative for School Heads and Teachers Holistic Advancement.
- SHAGUN– Union HRD Minister launches Integrated Online junction for School Education ‘Shagun.It is one of the world’s largest Integrated Online Junction for – School Education.
- UDISE+ Unified District Information System for Education Plus – To ensure quality, credibility and timely availability of information from all the schools in the country.
- **RISE– Revitalising Infrastructure and Systems in Higher Education (RISE).**
- Higher Education Financing Agency (HEFA) scope was expanded to meet the rising financial requirements of educational infrastructure in the country
- Education infrastructure like AIIMSSs, KendriyaVidyalayas, the CCEA has approved five windows for financing under HEFA.
- IMPRESS- Impactful Policy Research in Social Sciences.Under the Scheme, 1500 research projects will be awarded for 2 years to support the social science research in the higher educational institutions and to enable research to guide policymaking.
- SPARC- Scheme for Promotion of Academic and Research Collaboration.SPARC scheme aims at improving the research ecosystem of India’s higher educational institutions by facilitating academic and research collaborations between Indian Institutions and the best institutions in the world.
- LEAP-Leadership for Academicians Programme. It is a flagship leadership development training programme.
- ARPIT- Annual Refresher Programme in Teaching (ARPIT). It is a major and unique initiative of online professional development of 15 lakh higher education faculty using the MOOCs platform SWAYAM.

- Pradhan Mantri Vidya Lakshmi Karyakram- It is a first of its kind portal for students seeking Education Loan. A fully IT-based Student Financial Aid Authority has been proposed through the 'Pradhan Mantri Vidya Lakshmi Karyakram.
- Institutes of Eminence Scheme- The aim of the scheme is to bring higher educational institutions selected as IoEs in top 500 of the world ranking in the next 10 years and in top 100 eventually overtime.
- Samagra Shiksha Scheme- The scheme is an overarching programme for the school education sector extending from pre-school to class XII and aims to ensure inclusive and equitable quality education at all levels of school education.

These governmental initiatives and schemes are vital for the economic and social development of a country and its people. An exhaustive amount of research, analysis, and discussions goes into the formulation of a single scheme and launch of a particular initiative. However, citizens remain unaware of most of these benefit-driven ideas launched and implemented for them. Therefore, this is an important article for everyone involved in the educational sector directly or indirectly.

It is significant for students, teachers, girl children, and above all parents who would be better able to identify the scheme which is most suitable for them. If students are aware of the schemes, initiatives, and scholarship programmes launched by the government for them, then they can take a step ahead in their academic or career journey. These schemes aim at providing students with various opportunities of education and career, thus it is equally important for students and parents to grab the relevant opportunity and make full use of it.

Some Challenges to face for implementing the scheme in proper way:

1. Lack of enthusiasm and interest of the officials in charge of education is a problem for promoting education especially girls education. Lack of awareness among implementing agencies and community members to implement different schemes and provisions of girls' education at grass root level. The education is an integral part of development of country.
2. Equal Access to Education: Plan supports community initiatives that promote positive attitudes towards equal access to education, and that raise awareness on its importance for both boys and girls. Plan also supports the creation of gender-sensitive learning environments to ensure both boys and girls enjoy their right to education.
3. Educating Boys about Gender Equality: Gender equality is good for everyone; boys and girls, women and men. Plan engages boys in solutions to achieve gender equality to help change social norms in entire communities.
4. Girls' Scholarships: Scholarships help girls with tuition fees, school uniforms, school supplies and safe transportation.

5. Challenging Gender Roles: Raising awareness at family and community levels will promote positive attitudes towards education for girls. It's also important to engage parents in open dialogue regarding commonly held gender stereotypes.
6. Preventing Violence in Schools – Plan works with communities to ensure that their schools are violence-free and that they provide a safe learning environment for girls.

Conclusion:

Before drawing conclusion it may be mentioned that the task of the school authorities in India is to prepare the girls for the triple role she will have to play in adult life. First, as the founder and fashioner of a happy home, secondly to be able to earn her livelihood independently an honorably if circumstances demand her to do so and thirdly to discharge her duties as a responsible and enlightened citizen. The Indian Education Commission 1964-66, rightly emphasized, "For full development of our human resources, the improvement of homes and for moulding the character of children during the most impressionable years of their infancy, the education of girls is of greater importance than that of boys". However, the change in the attitude of the public towards girls' education would go a long way in improving the situation.

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Role of PMJDY in Financial Inclusion: A case study of Mahua Bazar Village of Saharsa District

Khushboo Kumari & Dr. Deepti Samantaray

A large section of rural population today still remains outside the coverage of the formal banking system. They have no access to basic financial services like saving, credit, insurance and pension etc. in a cost effective, transparent and fair manner. In this background, financial inclusion has been focusing on the delivery of financial services at affordable costs to sections of disadvantaged and low-income segment of society. The government of India has brought many schemes to promote financial inclusion. One of which is very important scheme that is Pradhan Mantri Jan Dhan Yojna. PMJDY is the national mission for financial inclusion. This scheme is not only limited to opening of a bank accounts but has other benefits with it such as zero balance accounts, overdraft, credit, pension, insurance, etc. Since many researches on PMJDY have been done but no comprehensive study has yet been done to find out the role of PMJDY in financial inclusion in Mahua Bazar village of Saharsa district. Hence the study aim to study the current status of financial-inclusion on the basis of PMJDY. The study also aims to know whether the benefits under this scheme reaches to the rural people or not. The study also aim to know the awareness of the scheme among the people of rural areas. The study is based on primary and secondary data . Primary data is collected with the help of a schedule that has been prepared for primary data collection. And secondary data is collected from articles, journals, PMJDY website, RBI publication, etc. The research work is based on descriptive and analytical research design. During the research it was found that PMJDY scheme is fully helpful to rural area people in getting directly the benefits of govt. schemes. The study concludes that PMJDY scheme has created an impressive result in the banking sector with regard to eradication of financial exclusion in the mahua bazar village. Apart from this, ATM setup and service facility should be improved in the mahua bazar village.

Keywords: *PMJDY: financial inclusion, bank services*

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Introduction

The soul of India lives in the villages, said Mohandas Karamchand Gandhi, popularly known as the father of the nation in India, in the beginning of the 20th century. But by the 21st century rural India has turned out to be disconnected from the main stream of development. A large group of rural population today still remains outside the coverage of the formal banking services. They have no access to basic financial services like savings, credit, insurance, remittance, loan, pension and subsidy, etc. in an effective, transparent and fair manner. In this background financial inclusion has been focusing on the delivery of financial services at affordable costs to sections of disadvantage and low income segment of society. The concept of financial inclusion is not new in India. The belief is prevailing in India for the last 53 years. The concept of financial inclusion was developed in 1904 with the beginning of cooperative movement in India. It gained momentum in 1969 when the government 14 major commercial banks were nationalized. Regional rural banks were established in 1975 and after 1991, steps were taken to reform the banking sector. In those areas, large number of bank branches were opened in the country which were previously neglected. Despite various measures, a large portion of the country's population was excluded from the formal banking system (Chattopadhyay, 2011). In 2005, the RBI started a campaign for financial inclusion, in which formal financial system promotes the participation of every household at the district level like saving accounts for 'unbanked' and to provide a basic banking 'no frill' account (Krishna Kumar, 2013). The number of branches of commercial banks was 8826 in Dec 1969, which has increased to 1,62,904 by 2023. Financial inclusion is not limited only bank account instead it extends to other financial services like pension, insurance, remittance, subsidy and loan. Banking and financial services play a very vital role in economy development. "According to planning commission, financial inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance, pension, subsidy, remittance and equity products. The government of India has brought many schemes to promote financial inclusion one of which is very important scheme that is PMJDY. It is the national mission for financial inclusion to ensure access to financial services, i.e. Banking, saving and deposits account, credit, pension, etc. in an affordable cost. Financial inclusion promotes economic growth, enhances the standard of living, increases in saving habits and getting pension, subsidy, insurance benefits and reduced poverty and inequality.

ABOUT PRADHAN MANTRI JAN DHAN YOJNA:

Pradhan Mantri Jan Dhan Yojna is a National mission for financial inclusion on 15th August 2014 PM Narendra Modi announced PMJDY which was considered as a way to financial inclusion. On 28th August 2014 this scheme was launched. After the failure of previous govt. Plans including Swabhiman, the scheme is introduced. It ensures access to financial services, like Banking, saving and deposit accounts, pension, credit, insurance and remittance in an affordable cost. The motto of this scheme is "Mera khata Bhagya Vidhata". The main

motive of this scheme, every people of India had to open an account in the bank which is going to open with zero balance. As a result 1.5 crore bank accounts were opened on the first day of the scheme. Now 51.55 crore beneficiaries banked under Pmjdjy in January 2024. and 28.60 crore female beneficiaries banked under PMJDY in January 2024. 35.05 crore Rupay debit card issued to PMJDY account holder in January 2024. Under the provisions of the scheme account holder is authorised to get accidental insurance worth Rs 1 Lakh, life insurance of Rs 30,000 and overdraft of up to Rs. 5000. on the accident insurance covered of Rs 1 Lakh being offered to new account holders, pension and subsidy can be accessed by account holder under this scheme. The PMJDY also aims at eliminating extortion as it would facilitate routing of subsidies directly into the accounts of intentional beneficiaries. It's helps lady of the households has been given priority in opening bank accounts and the women get an opportunity to fulfill their needs through the micro - credit facility also being offered under PMJDY. It have been imagined with gender equality and women empowerment. This scheme would touch the life of everyone in a positive and constructive way.

Review of literature:

1. Mohammed Nabeel.K and Dr. M Sumathy (2022), discussed according to the report, PMJDY expended the number of bank accounts for disadvantage and poor people by weakening KYC, however transaction in the accounts are quite restricted many accounts remain dormant due to a lack of adequate income to route via that account or a lack of savings to deposit. It is suggested that policy makers focus on promoting financial literacy in rural areas in order to make better use of PMJDY accounts.

2. Singh et. al (2020), analysed the influence of financial inclusion, as promoted by the PMJDY scheme on economic performance in Indian state. According to finding of the study is most Indian states have a low or medium degree of financial inclusion. The results demonstrate that the PMJDY scheme boosted the speed of economic -growth but did not raise the overall degree of economic prosperity across States.

3. Crisil (2018), used four penetration indicators, namely deposit, insurance, branches and credit, constructed a district wise FII of India. The study's significant finding is that north-eastern States fall under the low financial inclusion category. Southern states are performing better than other states, with Kerala scoring the top position.

4. United nations (2016), It is titled in blue book "Building inclusive financial sectors for development", defined financial inclusion as the "access to the range of financial services at a reasonable cost for the bankable people and farms". Basic financial services includes saving, short and long term credit, leasing and factoring, mortgage, insurance, pension and remittance, etc.

5. Divyesh kumar (2014), discussed the overview of financial inclusion through PMJDY in India. It is revealed that, it is the greatest steps ever taken to remove poverty are Financial inclusion through PMJDY. It is suggested that, the success of PMJDY scheme regular check and review is extremely essential.

Objective of the study:

1. Study the current status of financial inclusion on the basis of PMJDY.
2. To know whether the benefits under this scheme reaches to the rural people or not.
3. To know the awareness of the scheme among the people of rural areas.

Research methodology:

The study is based on primary and secondary data. primary data collected with the help of a schedule through random sampling in the mahua bazar Village of saharasa district and secondary data is collected from articles, journals, PMJDY website, RBI publication, etc. The research work is based on descriptive and analytical research design.

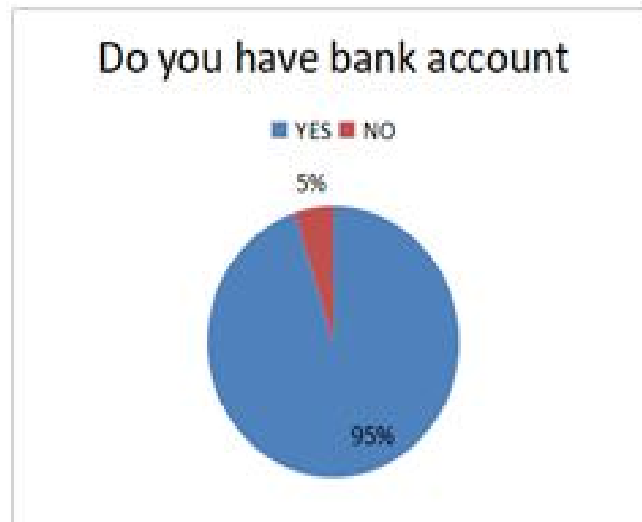
Data Analysis:

In the present research, a self made schedule will be used for data collection available standard tools can be used to establish the quality of the research. A primary survey was done in mahua bazar Village of saharasa district and data was collected through a schedule from 100 people. Schedule collected through random sampling.

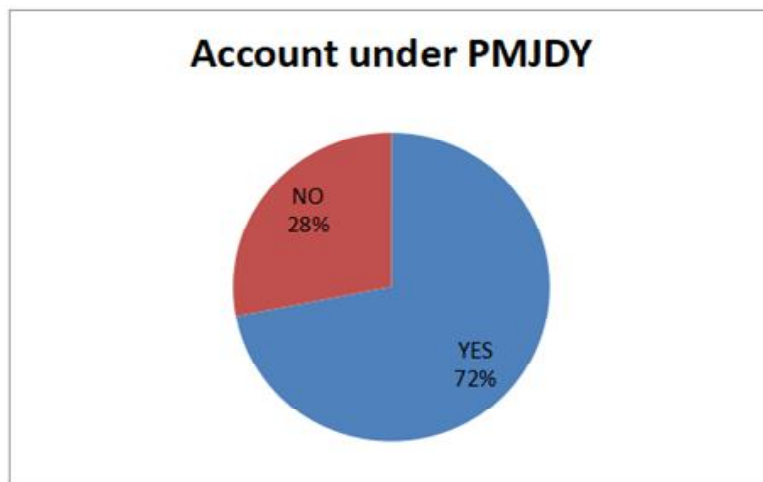
The following questions were asked :

- Do you have bank account ?
- year of account opening ?
- in which bank you have opened your account ?
- Do you have account under PMJDY.if yes, then what benefits have you availed out of it.
- Do you know about facilities of PMJDY ?
- what was the reason for opening it?
- Is it helpful to develop your saving habits by opening an account?
- Do you deposit your monthly income in bank? If yes, how much?
- what is your other mode of saving?
- Have you availed any loan in the past?if yes, for what purpose.
- How far is Bank from your home?
- Are you satisfied by the services offered under PMJDY?
- PMJDY is a beneficial scheme for you.if yes, please mention how the PMJDY scheme beneficial for you?
- Are you satisfied with the way the banker handles your problems.

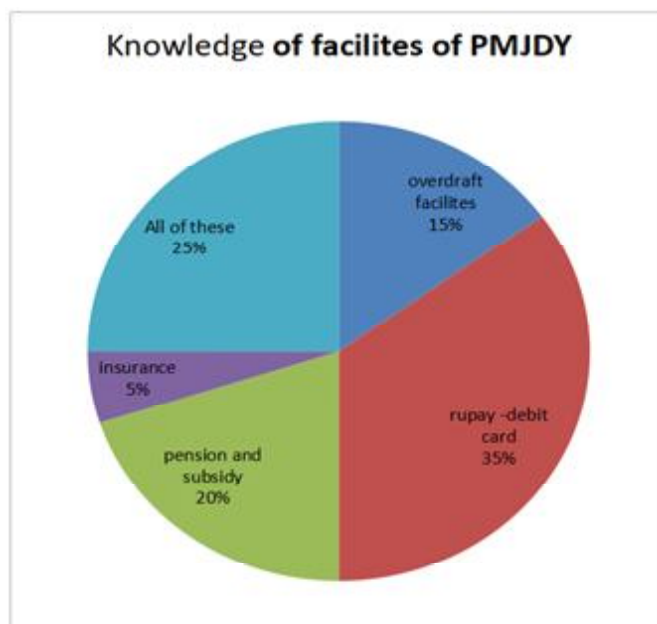
The data obtained from different sources has been systematically arranged into classes and table with the help of statistical technique several pie- chart and Bar - diagram have been prepared on the basis of primary data.



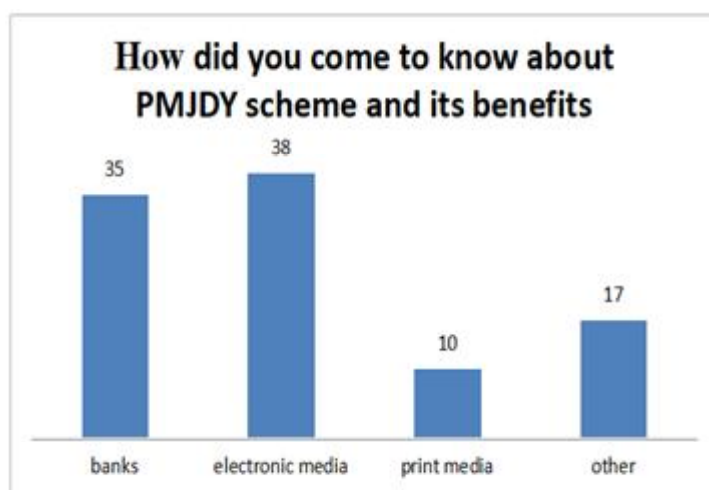
This figure shows that 95% people have bank account only 5% people don't have bank account in which women are more in number.



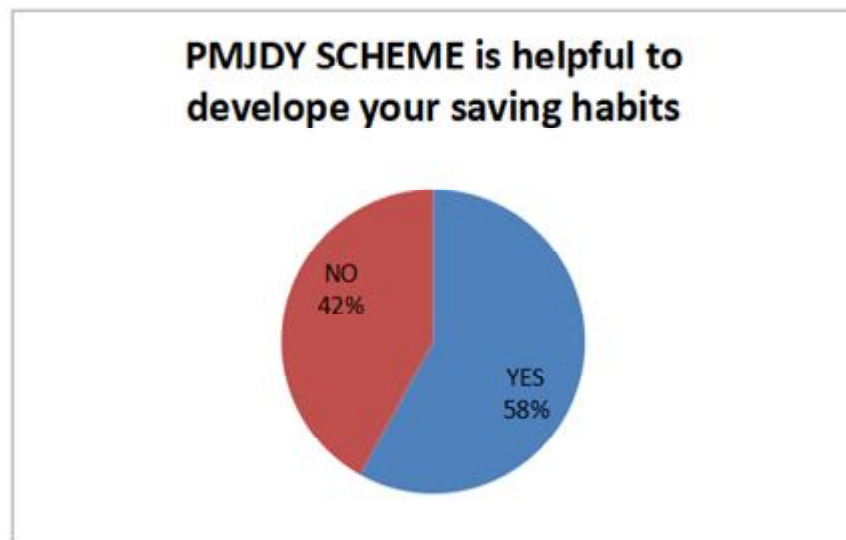
This figure shows that people of Mahua Bazar village. 72% people have account under PMJDY rest of 28% people don't have account under this scheme. Some people don't have idea about zero balance account.



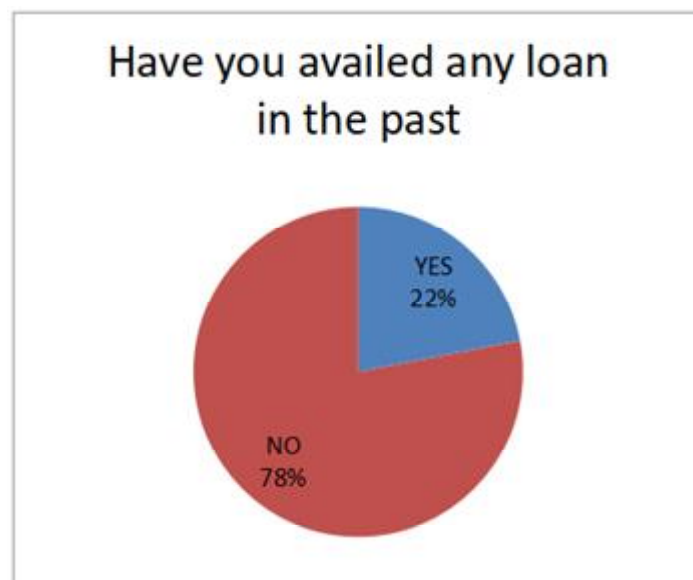
This figure show that people of Mahua bazar village in PMJDY scheme facilities. 25% people know overdraft, Insurance, Rupay-card, loan, subsidies and pension, etc. related to PMJDY scheme. 15% people know only overdraft facilities and 35%. people know only rupay debit card and 20% people know pension and subsidy Rest 5% people know Insurance facilities of PMJDY scheme. Most of the people (35%) know rupay debit card.



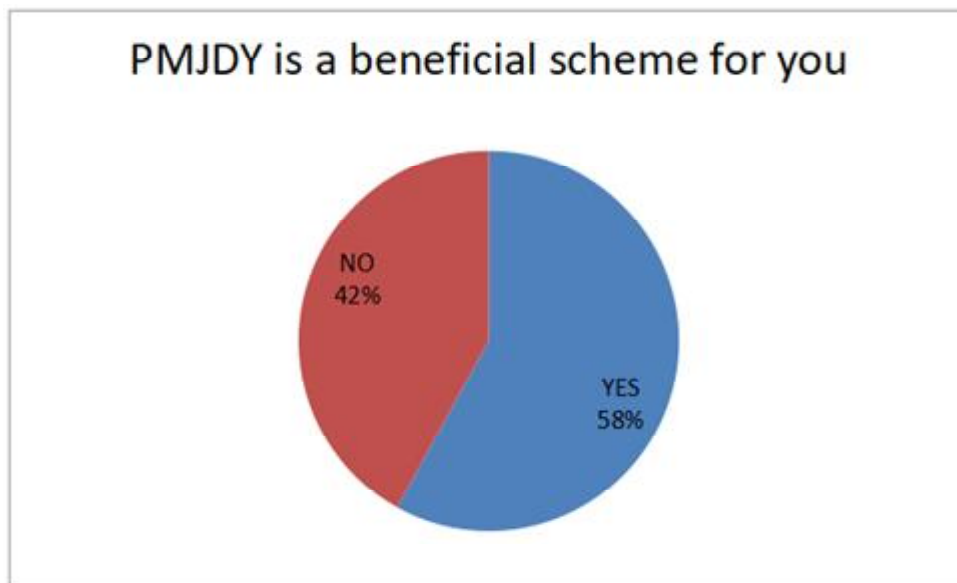
35 people came to know about PMJDY scheme from the banks , 38 people from electronics media , 10 from print media and 17 people from other sources.



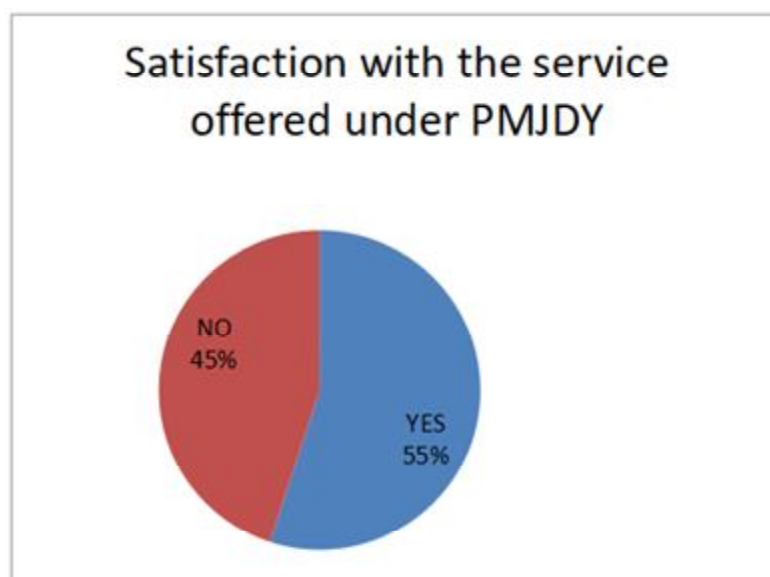
58% people believes that PMJDY scheme is helpful for them in developing their saving habits and 42% people don't believe that PMJDY scheme is helpful in developing their saving habits.



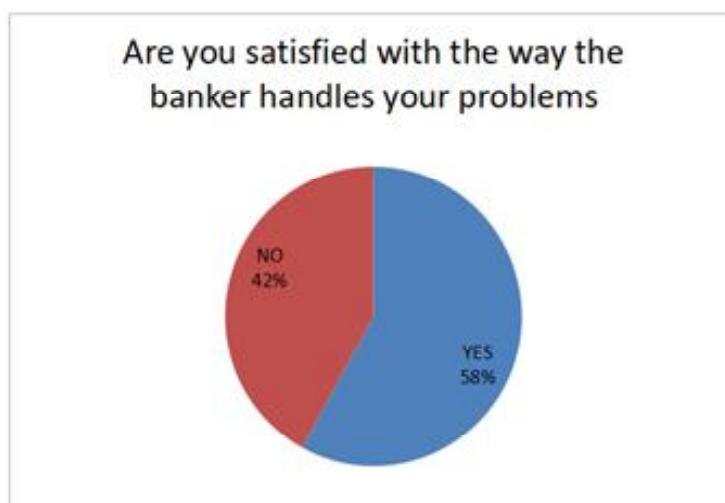
This figure shows that 22% people have availed loan . among these peoples 8% have business loan , 5% have home loan and 9% have loan for their treatment and the large section i.e. 78% people don't availed any loan.



The chart shows that in total 58% people said that PMJDY scheme is beneficial for them and 42% people said its not beneficial for them.



55% people are satisfied with the service offered under PMJDY scheme and 45% people are not satisfied with the services they got under the scheme as they are getting less facilities and some people don't aware about the services under PMJDY.



58% people are satisfied with the way banker handles their problems with solution while 42% people are not satisfied with the way banker handles their problems as they took long time or they don't give appropriate solution.

Finding of the study:

1. People are not aware about the different benefits given under this scheme and most of the people opened the account because it's can be open with zero balance .
2. People may face problem due to ATM in rural area as there is low network of ATM. So, people are not well know how to use ATM .
3. 72% people have account under PMJDY but benefits related to account are not known to people.
4. Maximum people 40% said personal committee and 25% people said jivika is our other mode of saving.
5. 43% people said maintain minimum cash balance in your account and maximum people said not maintain it .
6. Mostly people opened account after 2014 and most of the people opened account in bank of India and uttar bihargramin bank. Maximum people opened account in bank of india in Mahua bazar Village of saharsa district.
7. 55% people are satisfied with the service under PMJDY scheme in mahua bazar.

8. Customer are not able to follow proper channel of opening account as they are not much aware about the procedure and benefits to the account holder .

Suggestions:

1. setting of Biometric ATM in rural areas for illiterate customers.
2. Government should make sure that every people rural area should know about financial -literacy program and learn about it.
3. Benefits of the scheme should be clearly explained to each and every person in the rural and urban area.
3. More ATM and rural bank branches should be opened with in reachable distance of the rural people .
4. Bank should be given responsibilities of making people understand about opening account under PMJDY and benefits and facilities provided by government in these scheme.
5. Bank may start a fair taking the rural people regarding the awareness of the banking products.
6. To make banking habits popular rate of interest on deposit should be increased gradually and interest rates on loans should be decreased gradually for Jan Dhan accounts holders.
7. Advertisement on local basis through proper channels should be spread out over the local areas.
8. Govt. should make people aware about financial inclusion and Financial inclusion scheme like PMJDY, benefits of PMJDY by advertising van, meeting of ward officials with people etc.
9. Network speed is very slow in rural area , government should take immediate measures to solve connectivity problem through service provider in rural area.
10. Govt. should keep check on the opened account whether it is active or inactive,If inactive then direct the bank to know the reason and make people continue using it.

Conclusion:

PMJDY has been started with an objective to provide universal access to banking services for all unbanked people through a bank. PMJDY is the national mission which assured socio-economic securities through financial inclusion. Beneficiaries access to different financial services like saving and deposit accounts , credit, insurance, pension and remittance in an affordable cost . PMJDY account is opened with zero balance which have attracted the peoples to connect with bank .but Mahua bazar had limited access to banking services before the implementation of PMJDY . Most of the villagers were dependent on informal sources for

loans and transaction ,which repeatedly led to exploitation and financial securities with the introduced of PMJDY in the village. Significantly changed the scenario.after many positive outcomes were changed in Mahua bazar Village of saharsa district after implantation of PMJDY . People were able to opening zero balance bank accounts enable to access a range of financial services. For ex - saving account, Insurance, pension, etc. The availability of banking services in the village encouraged saving among the villagers leading to financial empowerment and inclusion. And standard of living. Role of PMJDY in bridging the gap between the unbanked population and formal banking services and no. Of female beneficiaries is less than of 55%in total beneficiaries. Major gender gap in banking sector. And people may faces problem due to ATM in rural area. There is low network of ATM and people are not good for how to use ATM . Mostly people are not aware of benefits under PMJDY .So , there is need to aware people about benefits under PMJDY scheme and how to use ATM, etc. Government and bank should try to create financial awareness program among the rural peoples and continuous review mechanism should be adopt by the govt. For the success of the scheme .

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"A Comprehensive Study of the Role Played by Social Protection Programs in the Inclusion of Women in Work-force in India."

Arwa Qutubuddin & Dr. Rashmi Dwivedi

Abstract

India is seen as one of the fastest-growing economies, setting an example of resilience and indomitability for the world, showcasing a positive outlook after the massive global pandemic outbreak. However, the studies show a need for more women's participation in the current workforce. This paper helps to understand the contribution of women in economic productivity and the programs affiliated by the government of India that empower the women population to achieve a balance between their professional and personal commitments. The programs undertaken in this study are – Pradhan Mantri Kaushal Vikas Yojna, National Career Service, and Stand-up India which entail a different impact on the lives of women who are willing to work and contribute to the Indian economy. Using the empirical evidence, the research is completed with the help of trend analysis and comparison. The variables used are ratio of trained individuals, increase in the ratio of work population, number of women entrepreneurs, and disbursement of funds. The results conclude that the social protection programs have effectively created awareness in the population of India at different levels for girl-child education with an increase of 28% enrolment in higher education and empowerment in career progression. The easy loan disbursements of 30 crores gave rise to women entrepreneurs at all life stages and positively impacted society. With a rise in skill development, women can contribute to the organized sector by seeking jobs in the National Career Service, enabling their say in financial decisions such as investments, insurance, and asset creation. This will boost investments and savings at a macro level which act as the drivers for a rise in income

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in the economy. Furthermore, their balance between work and life inspires young women to contribute towards a country's growth.

Keywords: Social schemes, employment, women empowerment.

JEL Code: H00, H5, H55

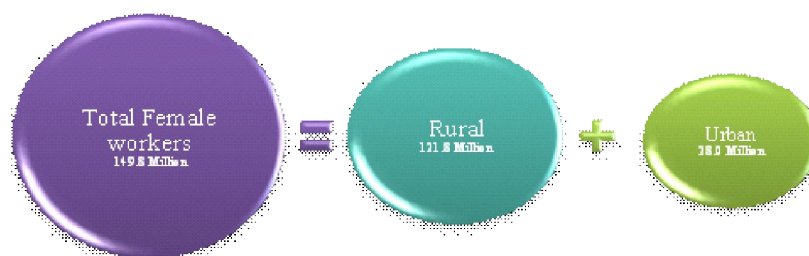
Introduction

Women are a fitting synonym for multi-tasking. They prioritize different aspects of life at different stages and fulfil them to the level of perfection that has always been expected by society. They are an asset to the nation as well as their families at all phases of life. Education and employment are two boons that could empower them and lead them to achieve new heights. Their contribution to a nation's growth is as vital as that of men. Women not only participate in the workforce but also motivate future generations to face any challenges that they will witness in the future.

Gender parity in the formal employment has been achieved only in a few countries. Several barriers still affect women's entry and progression in the formal employment. The barriers constitute consistent stumbling blocks that keep people from the fulfilment of their own economic prosperity and hinder the advancement of the society as a whole. Given the nature of the challenges, different social protection programs have emerged as potential instruments to address them. This evaluation sheds light on the matter concerning their effectiveness, especially by considering their ability to enhance women's economic power and strike a work-life balance. We dive into a critical examination of the existing literature with the goal of throwing more light on whether such programs are indeed the route to women like you and me attaining their full potential, and thus creating a more level playing ground for all.

According to Census (2011), the total female workers in India was 149.8 million with rural workers as 121.8 and urban at 28.0 million, forming an essential part of total work force in the country.

Figure 1: Division of Female workers based on Rural and Urban households.



Source: Compiled by researcher using Census 2011 report.

Some key terms in understanding the labour force are as follows:

- o **Worker Population Ratio (WPR):** The proportion of the working-age population that is employed.
- o **Labour Force Participation Rate (LFPR):** The percentage of the working-age population that is either employed or actively seeking employment.
- o **Unemployment Rate (UR):** The proportion of the labour force that is unemployed and actively seeking employment.

As per the Periodic Labour Force Survey (PLFS) Annual Report 2022-23 released by the GoI, the female participation in the labour force in the rural area amounts to 41.5, and in urban, it is 25.4 which accumulates to be 37.0 of the total workforces.

Table: 1

<i>Employment Indicators for Rural Sector</i>									
	WPR			LFPR			UR		
Years	Male	Female	Total	Male	Female	Total	Male	Female	Total
2017-18	72.0	23.7	48.1	76.4	24.6	50.7	5.7	3.8	5.3
2018-19	72.2	25.5	48.9	76.4	26.4	51.5	5.5	3.5	5.0
2019-20	74.4	32.2	53.3	77.9	33.0	55.5	4.5	2.6	3.9
2020-21	75.1	35.8	55.5	78.1	36.5	57.4	3.8	2.1	3.3
2021-22	75.3	35.8	55.6	78.2	36.6	57.5	3.8	2.1	3.2

(Source: Compiled by researcher using Annual Report, PLFS, 2022-23)

Table: 2

<i>Employment Indicators for Urban Sector</i>									
	WPR			LFPR			UR		
Years	Male	Female	Total	Male	Female	Total	Male	Female	Total
2017-18	69.3	18.2	43.9	74.5	20.4	47.6	6.9	10.8	7.7
2018-19	68.6	18.4	43.9	73.7	20.4	47.5	7.0	9.8	7.6
2019-20	69.9	21.3	45.8	74.6	23.3	49.3	6.4	8.9	6.9
2020-21	70.0	21.2	45.8	74.6	23.2	49.1	6.1	8.6	6.7
2021-22	70.4	21.9	46.6	74.7	23.8	49.7	5.8	7.9	6.3

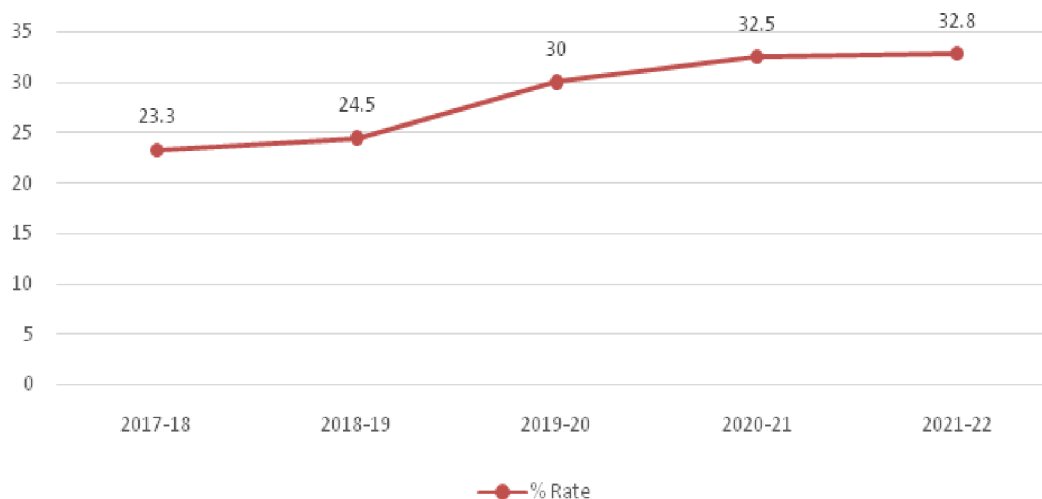
(Source: Compiled by researcher using Annual Report, PLFS, 2022-23)

In a developing country like India which is termed to be the fastest growing economy in the world, the studies by International Labour Organisation (ILO) show that there is a 50.9% gender pay gap with only 19.2% of women in the labour force as compared to 70.1% of men. India is ranked 135 out of 146 countries tailing the neighbouring nations such as Sri Lanka, Bangladesh, and Nepal. (World Economic Forum's Gender Gap Report 2022.)

The COVID-19 pandemic has worsened the situation by disproportionately hitting female-dominated sectors like retail and hospitality, leading to what is known as ‘*Shecession*.’

This situation is concerning as the statistics published by the Centre for Monitoring Indian Economy (CMIE) show the unemployment rate in rural areas with a sharp rise to 9.2% in February 2022, and in urban areas at 7.5%. That means, one out of every four willing-to-work women, aged 15-29 years, are unable to secure paid work.

Figure 2: Female Labour force participation in % (15 years and above, usual status)



(Source: Compiled by researcher using www.statista.com)

As experts from World economic forum suggests, increased participation of women in the Indian economy in both employment and entrepreneurship roles holds the potential to boost the country’s **GDP by \$0.7 trillion by 2025**. Through founding and operating their own enterprises, women entrepreneurs can not only create employment opportunities for other women but also encourage them to join the workforce. As a result of this, major economic growth will be observed.

Thus, to facilitate this goal, the Government of India (GoI) has undertaken social security schemes like PM Kaushal Vikas Yojna, National Career Service, and Stand-up India.

Launched as a flagship program under the Ministry of Skill Development and Entrepreneurship (MSDE) and implemented by the National Skill Development Corporation (NSDC), **Pradhan Mantri Kaushal Vikas Yojana (PMKVY) in 2015**, it imparts skill training to the youth of the country. The scheme aims to provide industry-relevant skill training to one crore (10

million) people by 2022 with 400 different courses in various sectors such as manufacturing, construction, retail, healthcare, and IT. This scheme is open to all individuals from the age of 15 to 45, with fee relaxation to women candidates under CITS/CTS for the session 2023-24. It has 33 NSTIs with 19 exclusively for women and 3 operational extension centers.

While these individuals receive skill training through the above scheme, they get a platform of **National Career Service** for job hunting. This portal is created under the supervision of the Ministry of Labour & Employment with 23,21,560 active employers and 8,46,890 active vacancies. It is a robust platform for job seekers and employers to find the ideal match to their requirements and fill the gap between skilled labour and unemployment.

With the extent of the study on the decline of women's participation in the labour force, a 4M syndrome has been identified (Chandrasekar S, 2021) - Marriage, Maternity and Mobility, and More household income from a spouse. These are the most binding factors for the women workforce to recoil from their jobs. A way to overcome these hurdles is for women to be able to work on their own terms, and deadlines, and make their own commitments. All this is possible only when they dive into the world of entrepreneurship.

This is made possible by the **Stand-Up India scheme** launched in 2015 which provides financial assistance to SC/STs or women entrepreneurs. The campaign aims to encourage people to set up their own businesses and become job creators rather than job seekers. It has been successful in promoting entrepreneurship and job creation in India. As of March 2022, the campaign has supported over 1.3 million entrepreneurs and created over 5 million jobs. The campaign has also helped to increase the number of women entrepreneurs in India.

Objective of the study

Now that we have talked about the schemes and programmes undertaken by the government, we come upon a question, i.e. how efficient these government programmes are in capitulating the barriers for female workforce participation?

This paper aims to study the opportunities brought in to the female population of India who are willing to contribute as labour force.

We aim to identify the efficiency of these schemes over a short period of both pre-pandemic era and post-pandemic eras towards inclusion of female in.

Methodology

The secondary data sources have been used for the comprehensive study of female workforce participation in India. The data is taken from the published annual reports of Ministry of Labour and Employment from 2017-18 to 2022-23, MSDE from 2017-18 to 2022-23, world bank, Statista, World Economic Forum, Press information bureau of India, MoMSME annual report 2021-22, Department of Finance, and MicroSave under Research Scheme NITI Aayog 2021. We take upon a trend analysis method to understand the impact of skill training

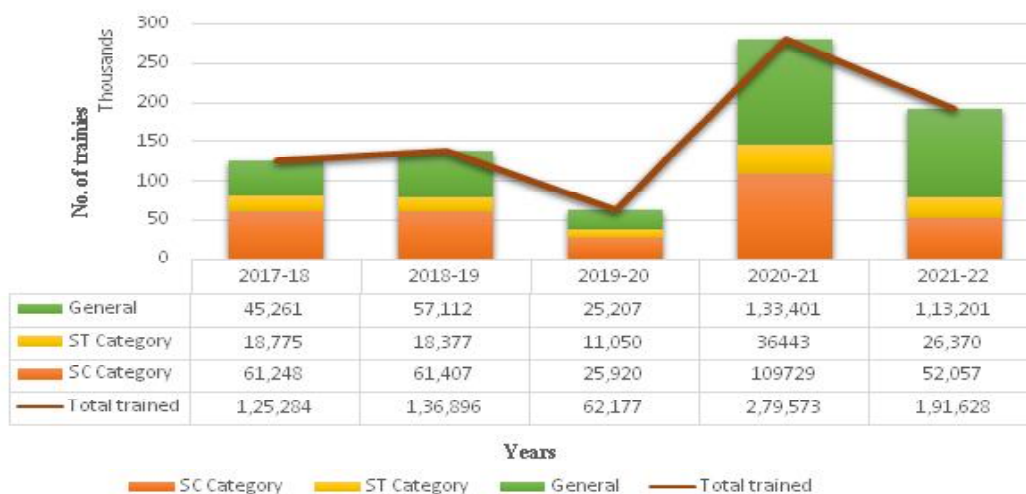
level on workforce participation and compare financial funding to entrepreneurship in Indian states. The data secured for this study expands over a short run period of 5 years from 2017 to 2022 with the COVIDyear2020 as the centre.

The data procured for National career service is taken on quarterly basis starting from second quarter of 2019 to first quarter of 2022. For the Stand-up India scheme, we are using a comparison of top 10 states with data as on 2022. This comparison is facilitated using the number of loan accounts in each state and the percentage of women led MSMEs.

Analysis and Outcomes

Through the trend analysis of the data, we see a rising trend in the number of women being trained under the Prime Minister Kaushal Vikas Yojana (PMKVY) from the year 2017-18 to 2021-22, i.e. a short run period. Under 5 years, we can see a fall in numbers of trainees during the year 2019-20 due the global pandemic. However, there was a rise in the subsequent year.

Figure 3: Women trained under PMKVY from 2017-18 to 2021-22.



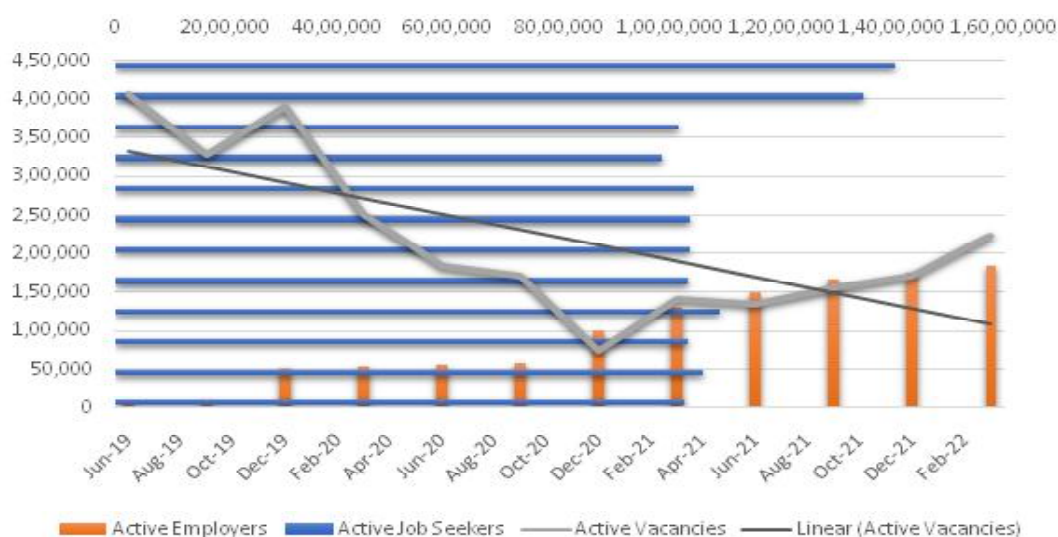
(Source: Compiled by researcher using Annual Reports of MSDE 2017-18 to 2022-23)

Furthermore, it can be said that as the pandemic led to loss of jobs and halted several sources of incomes for Indians, the social security program had covered the trails by providing a skill development training to the people to get back into the job market.

We can also entail with the provided data that with the loss of jobs in the economy, the male dominated households have also seen the importance of earning from both the partners. Thus, it can be noticed that the enrolment of female into training centers have increased in

order to be job ready and have a second source of income in the household to face any future exhaustion like that of COVID in future if any. This is a step into the wider participation of women into the workforce.

Figure 4: quarter-wise national career service (NCS) data.

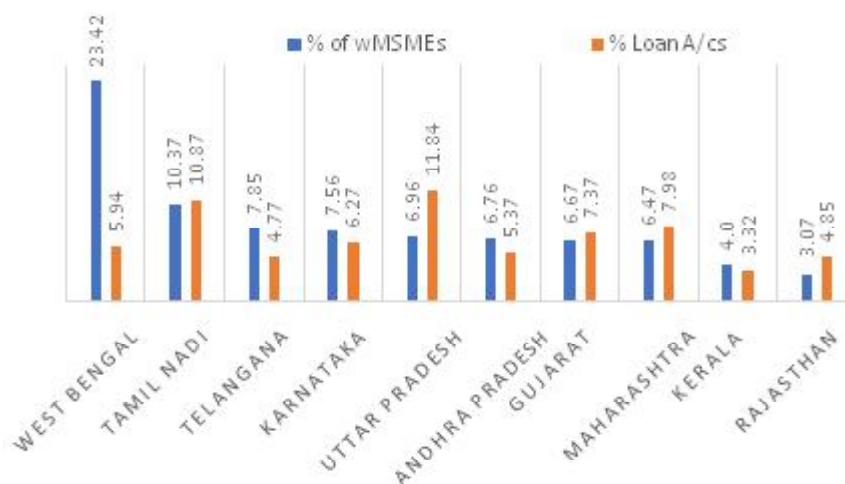


(Source: Compiled by researcher using Annual Reports of MSDE 2017-18 to 2022-23)

There has been a constant rise in the number of active job seekers in the NCS portal launched by Ministry of Labour and Employment from the second quarter of 2019 till the first quarter of 2022, i.e. a short run period. However, there are not enough job opportunities to meet the demand. There is a significant fall in the active vacancies on the portal due to Pandemic followed by the recessionary situation in the country. This shows a falling trend for the job-hunting programme launched by GoI. The rise in Active employers least do not validate the efficiency of the portal as there has been a rise in trained job seekers but a huge fall in the opportunities.

This can be also because of the global recession period which is resulting in major layoffs in different industries all over the world leading to loss of thousands of jobs creating a volume of job seekers in every sector.

Figure 5: comparison of women-led MSME and loan A/cs under stand-up india scheme.



(Source: Compiled by researcher using reports of Department of Finance, MoF.MoMSME annual report 2021-22)

The data collected from the Annual reports of Ministry of MSMEs and the last NSS survey report show a rising number of women led entrepreneurs in the different states of the country shows a relationship between the Stand-Up India loan scheme and the number of Women-led MSMEs across top 10 states of India. The data shows a parity between the number of loan accounts and the number of enterprises in the states. We can see that Uttara Pradesh has the largest number of loan accounts for the entrepreneurship purpose yet it falls to 5th highest state with women-led businesses. Thus, it shows that the Stand-up India is less effective in creating a pathway for the women entrepreneurs.

Furthermore, it is reported by Sonal Jaitly and Lakshmi SruthiThangallapally of MicroSave under the Research Scheme (RSNA - 2021) of NITI Aayog that the women entrepreneurship is not SAFE in India.

‘The *SAFE* stands for Sustainable, Autonomous, Formal, and Employment.’

Around 73% of women enterprises have faced losses under COVID-19 period and 20% of them are estimated to be run by their spouses. There is a lack of decision making and control by women in the business. They structure of 95.6% firms is informal and have an employment generation capacity of around 1.67 making the entrepreneurship program in Indian female population stagnant.

Conclusion and suggestions

Social protection programs have the potential to play a significant role in propelling women's workforce inclusion and achieving work-life balance. Work-life balance is finding the right equilibrium between the personal and professional lives. This can be measured when an individual is equally invested in both these aspects of life. A woman contributes greatly in her personal life and holds the ability to make equal contribution towards the economic prosperity. Her participation in workforce as her share of decision making towards her personal life which will lead to her empowerment.

Policy makers and researchers can use the results of the paper to integrate different policies together, like PMKVY with Stand-up India where the woman recipients of loan are mandated to learn business savvy skills which help the right use of funds. Also, the women entrepreneurs who reach a point of generating employment can make use of NCS portal to post jobs and get a wide range of applicant options. This will provide opportunities for the active job seekers to upgrade their skill quota and apply to various roles. Furthermore, using the government platform will reduce hiring cost to MSMEs who are at infant stages.

Although, the data shows an increase in the workforce participation of women, there is still a need for a robust evaluation methodology to understand the deep-rooted impact of these policies in the lives of the people of India. A thorough audits and awareness programs are necessary to make sure the policies reach its beneficiaries and more of the eligible women can partake its benefits.

There are limitations in the study as there are many other factors that influence the participation of women in the workforce which gives a way to future researchers to explore the depth and carry out their results from a different perspective to facilitate a change in the economic development.

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Impact of Labor Migration on Sustaining Growth with Equity

Dilip Singh

Abstract: *Labour migration plays a dual role in sustaining growth with equity. On one hand, it fills labor shortages, boosts productivity, and fosters innovation, contributing positively to economic growth. On the other hand, it can exacerbate income inequality, strain social cohesion, and lead to brain drain in sending countries. Effective policy responses are essential to maximize the benefits of migration while mitigating its negative impacts, including ensuring migrant rights, promoting social integration, and addressing labour market inequalities.*

(Key words: *ILO, LFPR, PLFS, CWS, WPR, ILLM Unemployment Rate, Migration Rate, social cost, wage pay gap*)

1.Introduction:

Numerous economists acknowledge that migration, in its various forms, stands out as one of the most straightforward and direct strategies available to individuals from economically disadvantaged backgrounds who aim to enhance their living standards. This recognition is grounded in several key principles viz. Income Disparities, Job Opportunities, Economic Mobility, Remittances, Knowledge Transfer, Economic Diversification and conflict avoidance. Migration is seen as a powerful tool for impoverished individuals to break free from economic hardship, seize better opportunities, and enhance their overall quality of life. Economists recognize its potential to contribute to individual and collective economic progress, making it an essential strategy for poverty alleviation and economic development. In this paper we study the impact of labour migration on future generation under four section namely Review of Literature, Research Methodology, Analysis and Discussion and Conclusion in the last section.

Background Case:

As per recent Periodic Labour Force Survey (PLFS)-report Madhya Pradesh's unemployment rate for July-June 2022-23 period is lower at 1.6% as compare to National average 3.2%. However, in MP merely 14.8% of population holds regular or wage employment, which falls significantly below the national average of 20.9%. Majority of the individuals in the State are

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involved in self-employment, which encompasses unpaid household work or operating small business, accounting for 63.8% as compare to the national average of 57.3%. Further, data about the securing jobs in government and semi-government offices in Madhya Pradesh which is having 53 employment registration offices whose annual budget Rs.1647 crore for the financial year 2021-22, and have approx.39lakhs applicants registered on MP Rojgar Portal for jobs in last three years. Out of these 39 lakhs applications only 21 applicant secure the job (during April-2020 to March-2023) in this period. So the cost of each job to the government of Madhya Pradesh is Rs 240 crore (approx.)(Kumar & gupta, 2023).

2. Review of Literature:

An expanding body of research on the influence of employers in labor markets presents compelling evidence of prevalent monopsony power. When the elasticity falls significantly below infinity, it indicates that employers possess the authority to set wages and can remunerate employees at rates below their marginal productivity. Both labor supply elasticity and labor market concentration serve as indicators of labor market influence, but what is the empirical relationship between them? Labor markets characterized by higher concentration or reduced elasticity in labor supply tend to exhibit noticeably lower wage levels. We anticipate that labor market elasticity will be greater in densely populated regions, and the presence of ample job opportunities and workers in these areas fosters competition. To investigate this hypothesis further (as mentioned earlier), we calculate the elasticity of labor supply as a function of population density within commuting zones. Although we observe higher labor supply elasticity in more densely populated commuting zones, it remains below the ideal level associated with perfect competition. This suggests that, despite the low labor market concentration in the most populous areas, the labor supply elasticity also remains low, indicating the presence of a significant degree of monopsony power(AZAR, MARINESCU, & STEINBAUM, 2019).

According to the UN Population Division in 2013, out of the total global population of 232 million international migrants, approximately 16 million were classified as refugees. More recently, nearly 10 million Syrians have been displaced due to the ongoing conflict that began in 2011, as reported by UNHRC in 2013. Two significant ethnic civil conflicts took place in Burundi in 1993 and Rwanda in 1994, resulting in a tragically high number of casualties within just a few months. Between 1993 and 1998, over 1 million people from these two countries sought refuge in western Tanzania. In these instances, violence serves as the primary catalyst for emigration, particularly in the case of forced migration. In contrast, regular migrants are generally expected to experience improved economic prospects when they move.

In these scenarios of forced migration, there is an external, uncontrollable change in the labor supply(RUIZ & SILVA, 2015).

A consensus among many economists exists, recognizing that migration, in various forms, represents one of the most direct strategies available to individuals with limited means, enabling them to enhance their living standards. In fact, the phenomenon of temporary or

circular migration across international borders has been a longstanding characteristic of labor markets, particularly in developing countries, notably in sub-Saharan Africa. Temporary labor migration plays a pivotal role in fostering the accumulation of human capital within the communities of origin over an extended timeframe. To delve into this aspect, we address two empirical considerations:

1. We explore the impact of migration on the growth and developmental outcomes in the communities of origin.
2. We examine differences in migration costs, the influence of exogenous labor migration shocks, and the earnings received by migrants, all of which have long-term implications for educational attainment within these communities.

The short-term effects of labor migration on child enrollment in schools or access to education can have lasting consequences, leading to disparities in the overall human capital within a community over time. Additionally, migration-induced shocks may continue to exert persistent influences on the communities of origin. Households might make distinct choices regarding education even after these shocks have diminished. For instance, families may continue to invest in their children's education and in new generations of children. Even after the conclusion of labor migration, maintaining school enrollment at critical stages could render education more worthwhile. In such cases, this persistence has the potential to generate substantial and lasting impacts of migration on education within the communities sending migrants (Mariotti, 2016).

3. Research Methodology

This study is based on secondary data published in the past research and reports as well as the information available in the dashboard of government of India portals and ILO. The data collected of the number of employers, number of labour migrants, wage gap between migrant and non-migrant, social cost of migration.

4. Periodic Labour Force Survey (PLFS) 2020-21:

On the basis of Periodic Labour Force Survey (PLFS:2020-21), estimates of labour force indicators, viz., Labour Force Participation Rate (LFPR), Worker Population Ratio (WPR), Unemployment Rate (UR), distribution of workers by broad status in employment and industry of work in the Current Weekly Status (CWS) for the urban areas are brought. According to it Migration rate (in per cent) from PLFS 2020-21 all-India category of persons rural, urban, & rural+urban for male 5.9%, 22.5% & 10.7% and for female 48.0%, 47.8%, & 47.9% respectively while for overall migration rate for rural is 26.5%, for urban is 34.9% and all India level is 28.9%.

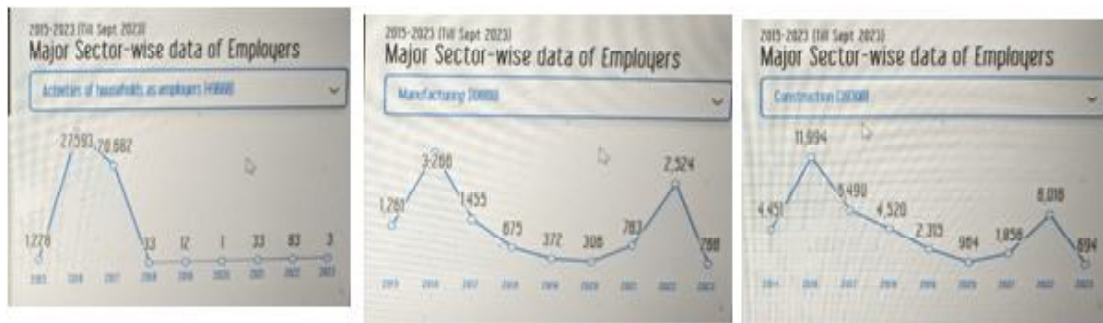
The reasons for migration in terms of percentage in the survey was recorded and found that 22.8% male migrate for the search of employment / better employment while female only 0.6%, similarly 86.6% female migrate due to marriage and male is only 6.2%. Loss of job/

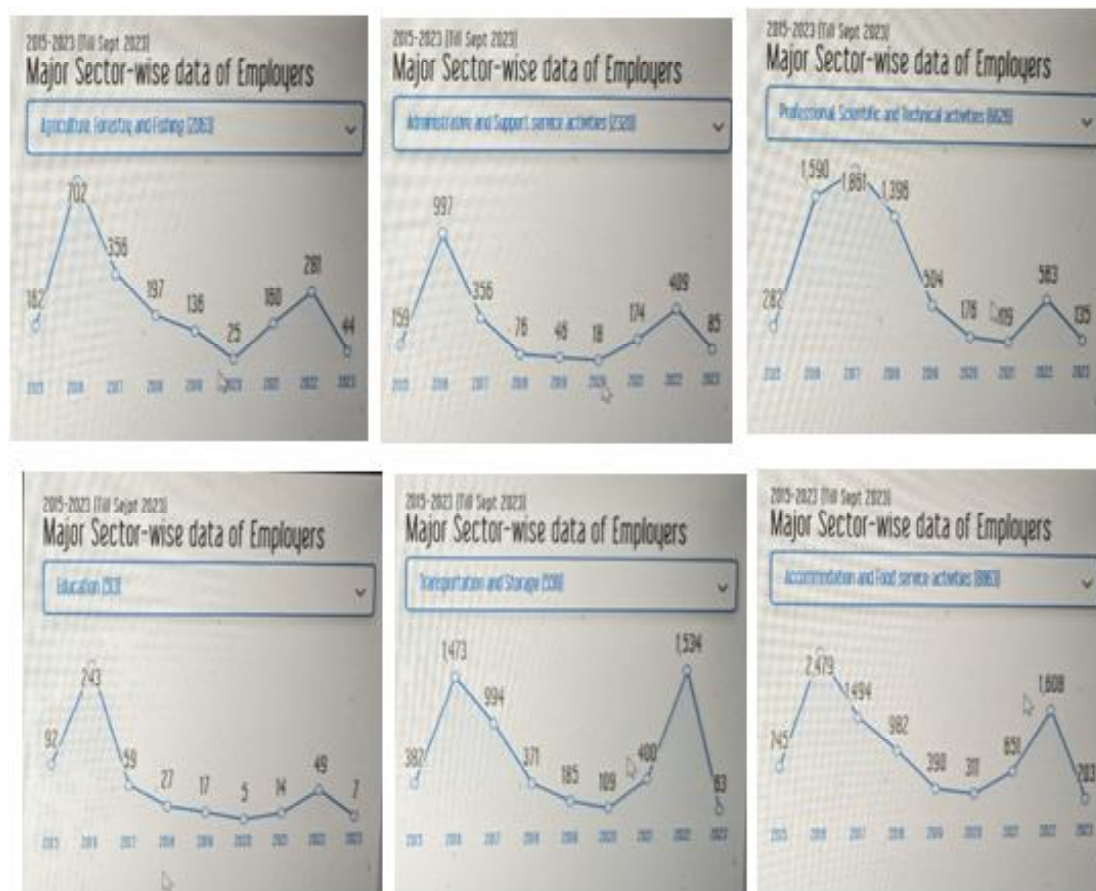
closure of unit / lack of employment opportunities 6.7% in male and 0.4% in female, though 17.5% male and 7.3% female migrated due to migration of parent / earning family member. Least reason for migration is recorded due to refugee, natural disaster, social and political problem like conflict, riots, law & order (Ministry of Statistics and Programme Implementation, 2022).

5. International Level Labour Migration (ILLM):

According to the most recent ILO estimates, there are 164 million migrant workers worldwide, of whom close to half are women. Despite the positive migration experiences of many, migration is frequently associated with abusive practices and these practices different for different people, country, age and gender. Migration often face unequal treatment and no-respect of fundamental right at work and the very basic fundamental right ‘equal pay for equal work’ is frequently violated. The Global wage report 2014/15 of ILO highlighted the existence of significant wage difference, called the migrant pay gap, between migrant workers and non-migrant workers. This gap is high in High Income Countries (HICs) which is 12.6% that means non-migrant earn 12.6% more than the migrant worker for the same work in a mean hourly wage while it was reverse in low-and middle-income group countries (LMICs) wherein pay gap was -7.5%, that means migrants are earning more than the non-migrant. In other words, LMICs are favourable for migrant workers in terms of pay.

According to ILO, Labour force participation rate (%) of youth of 25+ years for the year 2023 in India is 56.3% and unemployment rate is 6.6% among youth 15-64 years including male and female (Male rate 6.9%, female rate 5.5%) (ILO, 2023). This high unemployment rate and large labour force participation disturbed the labour market. As there is no such equilibrium exist in such conditions in the labour market where demand of labour and supply fix the wage at equilibrium level. Normally the wages offered and paid are much less than the equilibrium wage. There are many reason of this apart from surplus labour, one of the major reason is decreasing number of employers in primary sectors and skill mismatch for tertiary sector as it required high skill or there is no scope for digital illiterate person. The below screenshots from the dashboard of Ministry of External Affairs, Government of India, shows a clear declining trends in the number of employers in different sectors.





6. Conclusion

One side high labour force participation (56.3%) in India and other side decreasing number of employers cause a joblessness (e.g. Only 21 jobs out of 39 Lakhs in MP) among the youth which forced them for migration especially in urban wherein 22.5% male migrates and 47.8% female. This push migration of unskilled to skilled worker from nearby state to abroad and from neighbouring countries to remotely located countries. This joblessness has many impacts on them including their late marriages, psychological depression, feeling of part-apart will have huge social cost than the economic benefits, high wage gaps and low social security and other rights which are exclusively available for native citizens. It is time for collective call because deteriorating human capital as well as social capital of future generation may pose serious challenge to sustaining growth with equity.

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Finding Potential and Prospects of Care Economy Including Opportunities for Economic Development as Well as Women Empowerment in Uttar Pradesh

Dr. Vikas Pradhan & Pragati Raj

Abstract

Uttar Pradesh, India's most populous state, holds immense potential for economic growth. However, to harness this potential effectively, it is crucial to explore innovative strategies that prioritize the care economy. This research paper investigates various ways and means in the care economy sector for U.P. to be a one trillion economy. By analysing existing literature, policy frameworks, and case studies, this paper aims to provide actionable insights for policymakers, stakeholders, and practitioners to promote inclusive growth and sustainable development in Uttar Pradesh by expanding care economy. The study focuses on the healthcare sector to represent care economy, specifically the role of women as nurses, due to a recent shortage in their numbers. One contributing factor to this scarcity is the relatively low pay the nurses receive, which in turn fuels the issue of migration within the profession and affect the care labour supply. Observational techniques were utilized to examine the status of women in caring labour economy. Through observation, it has been noted that the number of women engaged in caregiving labour appears high, the value they receive for their labour does not often reflect its importance. The human resources in care sector are notably absent in policymaking and from top-level administrative positions being unorganized sector. This absence underscores the need for nurses to assert their presence in these roles to gain proper recognition and respect. Comprehensive reforms are necessary across all aspects of nursing, including education, training, administration, and research, to uphold the highest standards of practice. Achieving

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desired status and acknowledgment requires up-to-date knowledge, competency, and well-formulated policies and laws for caring labour practice and can develop.

Keywords: Care Economy, Economic Development, Health Care, Nurses, Women Empowerment

Introduction

While Uttar Pradesh has made some strides over the past two decades, it still lags many other Indian states in terms of development. The state faces three main challenges in its development journey: boosting economic opportunities to create more jobs; empowering disadvantaged and marginalized communities to navigate the swiftly evolving landscape; and third, the establishment of a dependable safety net to mitigate vulnerability and assist the underprivileged. Uttar Pradesh is the most populated state in India, accounting for **16.5** percent of the country's overall population with **199.58** million residents as of 2011. The percentage of women in the state's population is around **47.6** percent (**Census, 2011**). Employers in Uttar Pradesh express concerns over the scarcity of skilled manpower, hindering their expansion plans. Simultaneously, there is a notable unemployment rate among educated youth, particularly among women (**ILO, 2017**). In Uttar Pradesh, a significant gender disparity exists in employment and earnings. Only **21** percent of women aged 15–49 were engaged in employment, a stark comparison to the **77** percent employment rate among men in the same age group. **75** percent of working women received monetary compensation, while **13** percent received a combination of cash and non-monetary benefits (**MHRD, 2021**). Alarmingly, **21** percent of employed women reported receiving no pay at all. Furthermore, **88** percent of women in the workforce are engaged in non-farming industries, compared to **59** percent of employed men. The labour force in Uttar Pradesh comprises **82** percent males and a quarter of females aged 15–59. The low female labour force participation rates are typically attributed to a lack of job opportunities and societal constraints limiting women's mobility and job-seeking efforts. While it is a common belief that women have limited involvement in the Indian labour market, recent studies using time-use survey data from the **NSSO** challenge this notion. These studies suggest a higher involvement of women in both System of National Accounts (SNA) and non-SNA activities, providing a more nuanced understanding of women's engagement in work (**Hirway, 2015**). Uttar Pradesh has achieved the milestone of becoming India's second-largest economy, overtaking Tamil Nadu, Gujarat, and West Bengal. This accomplishment marks a significant step towards Chief Minister Yogi Adityanath's ambitious target of reaching the \$1 trillion mark by 2027. This is possible only when the contributions of men and women are equal. For this, there is a need to utilize the potential of women properly and empower them. The care sector is being seen as a new opportunity globally to empower women. Uttar Pradesh is a state with a youthful population, providing numerous opportunities in the field of care work. Much of the caregiving work is typically assigned to women, and this is one reason why women can find empowerment in this field, potentially contributing to the scaling of the GSDP.

Objectives

1. To study the current status of the care economy and opportunities for women in Uttar Pradesh.
2. To find out the potential and prospects of the care economy in Uttar Pradesh.

Research Methodology

The research paper explores the potential of the care economy in Uttar Pradesh for economic development and women's empowerment. It employs a mixed-method approach, including observational techniques, a literature review, and data analysis over ten years. Since it is an emerging sector within the economy and that is too unorganized yet, there is a data deficiency. To comprehend the roles and difficulties that women in healthcare, particularly those who provide care, used observational techniques. Quantitative data analysis was used to assess factors such as the shortage of nurses and gender disparities in the care economy.

Literature Review

In India, care work is seen as less important, and caring labour are often given tasks that are considered unimportant. India's lack of a clear care economy policy hinders universal childcare, dignified employment, pro-family policies, and women's economic empowerment, despite improved access to quality childcare and increased women's labour market participation (Naswa & Sanjay, 2023). Even though more nurses are getting advanced degrees, they are still seen as helpers to doctors rather than respected professionals. Nurses want more respect, but it is hard because society does not value them enough. Low pay, bad working conditions, and not being seen as equals in the healthcare team make many nurses leave for other countries (The Economic Times, 2020). There are not enough nurses worldwide, and in India, there is a big shortage, making the ratio of nurses to people much lower than it should be. Recent data from India shows a deficit of over two million nurses. This results in a nurse-to-population ratio of 1.7 nurses per 1000 people, which is 43 percent below the recommended ratio of 3 nurses per 1000 people (WHO, 2020). In recent years, India has seen a substantial rise in nursing training institutions, boasting around 1,958 institutes with 98,749 seats available for annual admissions in basic nursing programs (Indian Nursing Council, 2020). Despite this growth, there continues to be a shortage of nurses in the country, largely due to migration to Western countries. In 2016 alone, around 33,147 Indian nurses were working overseas (Spetz J., Gates M., and Jones CB., 2014). The Supreme Court ordered private hospitals to pay nurses a minimum of Rs. 20,000 per month and improve working conditions, but implementation has been lacking (The Hindu, 2020). In a country where nurses are often undervalued, the order has not led to significant changes, with many still earning only Rs. 2000–10,000 per month (Sharma & Parihar 2020). Nursing is highly respected in the West, where nurses are valued as equals to doctors and other healthcare professionals. However, in India, it is often stereotyped as a caring role suited only for women. Prestigious institutes

like PGIMER and AIIMS have policies that limit male participation in nursing programs, including an **80:20** recruitment ratio favouring females in AIIMS (Thakre & Patil, 2020; Nair & Healey, 2020; Chhugani & James, 2017). There are currently **420** graduates from the **23** government-run nursing colleges in Uttar Pradesh each year, with **620** graduates anticipated by 2025 (The Hindu, 2023). The state aims to establish **72,000** nursing positions in the government sector to boost admission opportunities for top-tier nursing students in private and public institutes. Currently, only 5 percent of nursing graduates originate from public institutions, with the majority, 95 percent, graduating from unregulated private colleges (DGMEUP, 2023). In CNET 2022, there were **31,000** applicants, but only **26,000** passed the assessment. Among them, **21,000** achieved scores exceeding the 30-percentile threshold. Only **6,700** enrolled, leaving nearly **30** percent of seats vacant, mainly in private colleges. The priority was to attract high-quality students (Kumar, 2023). Private hospitals and nursing homes offer lower salaries compared to the government sector, with salaries ranging from ¹ 3,000 to ¹ 25,000 per month, depending on qualifications, experience, and previous employment history, while newly graduated nurses in Uttar Pradesh earn between ¹ 60,000 and ¹ 65,000 per month (Bose, 2023).

The Care Economy

The Care Economy encompasses sectors like healthcare, wellness, community care, and education, all crucial for supporting current and future populations. With advancements in technology and healthcare, the sector has grown globally, especially during the COVID-19 pandemic. Job opportunities in emerging professions will emerge within the Care Economy, highlighting its pivotal role in the workforce's future. Care work involves direct and indirect activities, with unpaid care work being unpaid work and paid care work including nursing, teaching, and taking care of people. The Care Economy's growth is accelerated by the pandemic and the emergence of new job opportunities in emerging professions. Domestic workers, who help with both direct and indirect care at home, are also part of the care workforce framing a separate sector with service sector that is care economy having high potential & prospects.

Potential and Prospect of Care Economy for Women

The UNDP report emphasizes the importance of care work, both unpaid and paid, for a nation's social well-being and economic prosperity. Women contribute **16.4 billion** hours daily to unpaid care work, highlighting the need for global attention to empower them and promoting care economics for women's advancement and national development. According to the ILO report, with the anticipated rise in global demand for care work by **2030**, driven by demographic shifts and rapid urbanization, investing in the care economy of India could create **11 million** jobs, with women accounting for **32.5 percent** of these positions. In India, particularly in states like Uttar Pradesh, the demand for care labour is rising, indicating new opportunities, especially for women and hence having bright prospects for the economy. The rise in women's workforce,

particularly mothers, presents challenges in balancing childcare responsibilities, necessitating the recruitment of more female caregivers. India's demand for care services has created opportunities for women in sectors like healthcare and childcare. Economic empowerment can be improved by recognizing and utilizing women's innate qualities in compensated caregiving positions. Valuing and compensating for these qualities can foster women's financial autonomy and ensure essential care services. Despite criticism, women are actively promoting equality between men and women. However, caregiving is crucial for nurturing human capabilities and preparing them as human capital for economic growth as well as economic development.

Figure 1: Care Economy as An Economic Pool



Source: Developed By Author

Care Economy and Economic Growth and Development

The connection between the care economy, economic growth, and development in India is closely tied to the nation's **gross domestic product (GDP)**. Given the expected surge in demand for care services and the possibility of generating numerous employment opportunities, especially for women, the care economy stands poised to significantly influence India's GDP. As more individuals enter the workforce due to improved access to childcare and eldercare services, there is a direct contribution to productivity and economic output. According to the **International Trade Union Confederation (ITUC, 2016)**, allocating **2 percent** of GDP to the care economy in seven select countries could result in the creation of over **21 million** jobs. Such investment would aid these nations in addressing the dual challenges posed by aging populations and economic stagnation. Additionally, the care economy generates income

and consumption, further stimulating economic activity. This boost in economic participation can lead to an increase in GDP, reflecting the overall expansion and development of the economy. Therefore, investing in the care economy not only addresses societal needs but also contributes significantly to the growth and development of India's GDP, ensuring a more inclusive and sustainable economic future.

Uttar Pradesh's Care Economy: Assessing Healthcare Workforce

Uttar Pradesh, with over 23 crore people, faces a severe shortage of nurses and midwives, numbering only 1.38 lakh. While the WHO recommends three nurses per 1,000 population, Uttar Pradesh falls short with only 0.6 nurses per 1,000 people. Despite a 1 270 crore allocation from the Union Budget for 27 new nursing colleges, the state struggles with insufficient faculty and doubts about graduate quality. This shortage poses significant challenges to the healthcare system. (The Hindu, 2023).

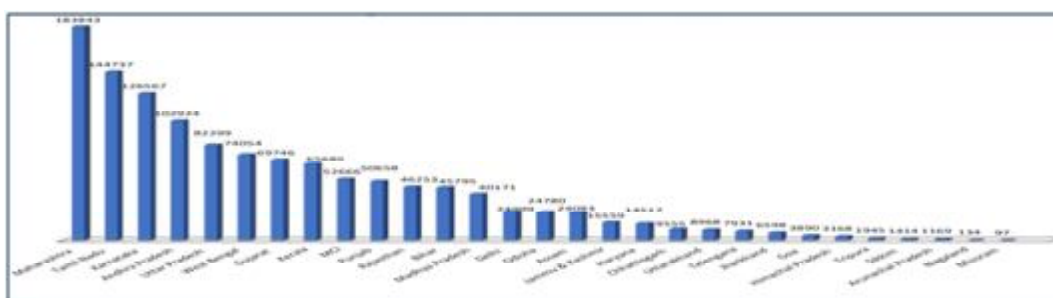
Table 1: Total Registered Doctors Under the IMC Act with State Medical Councils/ Medical Council of India from 2010 To 2019 In Uttar Pradesh.

	Upto 2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Upto 2019
Uttar Pradesh	58168	2081	2247	2253	594	2914	3025	3549	3669	3799	82299
Total in India	789706	31314	35048	40641	36395	43793	48076	48728	53600	54238	1234205

Source: Medical Council of India Report, 2021

Over the past decade, there has been a consistent rise in registered doctors. Starting from 58,168 in 2010, the number steadily increased each year, with 3,799 new registrations in 2019 alone. By the end of 2019, the total count reached 82,299 registered doctors.

Figure2: State Wise Total Doctors



Source: Medical Council of India Report, 2021

According to the census, Uttar Pradesh ranks fifth in terms of the number of doctors, after Maharashtra, Tamil Nadu, Karnataka, and Andhra Pradesh.

Table 2: Total Number of Registered Nurses

	ANM	Registered Nurse and Registered Midwife	Lady Health Visitor
Uttar Pradesh	75671	111860	2763
Total in India	9,34,583	22,72,208	56,842

Source: Bulletin on Rural Health Statistics in India 2019-20, Statistics Division, MoHFW

Uttar Pradesh's healthcare system encompasses a variety of professionals, including 75,671 Auxiliary Nurse Midwives (ANMs), 111,860 Nurses and Midwives with dual registration, and 2,763 Lady Health Visitors (LHVs), predominantly providing for rural communities. These diverse roles contribute significantly to the healthcare system, providing basic healthcare, maternal-child support, and education to women and children. However, observations indicate that this region is still not fully structured or organized.

Table 3: Healthcare Staffing in Rural Primary Health & Subhealth Centres: Government Personnel

	Subcentres		Primary Health Care Centre (PHCs)	
	Male	Female/ ANM	Nursing Staf	Health Workers/ Female/ ANM
Uttar Pradesh	1901	20389	1613	3202
INDIA	53553	183999	29973	28594

Source: Bulletin on Rural Health Statistics in India 2019-20, Statistics Division, MoHFW

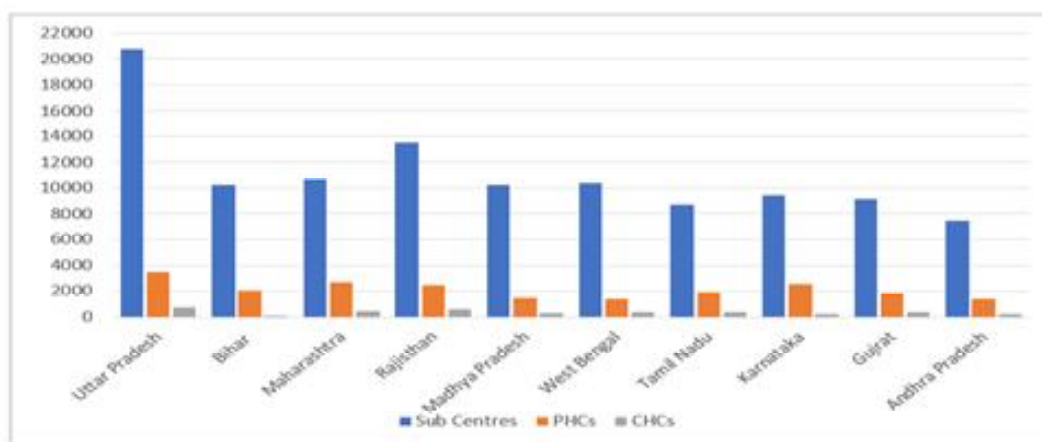
In Uttar Pradesh, there were 1,901 male health workers and 20,389 female health workers or ANMs stationed at sub-HealthCentres, while Primary Health Care Centre (PHCs) in the state employed 1,613 nursing staff and 3,202 female health workers or ANMs. Nationally, India had 53,553 male health workers and 183,999 female health workers or ANMs at sub-HealthCentres, along with 29,973 nursing staff and 28,594 female health workers or ANMs at PHCs. The data reveals gender-specific roles in healthcare personnel distribution, particularly in rural areas, which are crucial for providing primary healthcare services.

Table 4: Operational Sub Centres, Primary Health Centres (PHCs), and Community Health Centres (CHCs) Across Indian States

States	Sub Centres	PHCs	CHCs
Uttar Pradesh	20778	3473	723
Bihar	10280	2027	64
Maharashtra	10649	2675	418
Rajasthan	13530	2477	614
Madhya Pradesh	10226	1476	330
West Bengal	10357	1369	348
Tamil Nadu	8713	1884	400
Karnataka	9435	2534	208
Gujrat	9162	1795	362
Andhra Pradesh	7458	1385	198
India	157921	30813	5649

Source: Rural Health Statistics 2019-20, Statistics Division, MoHFW

Figure 3: Number of Sub Centres, PHCs & CHCs Functioning in Different states in India

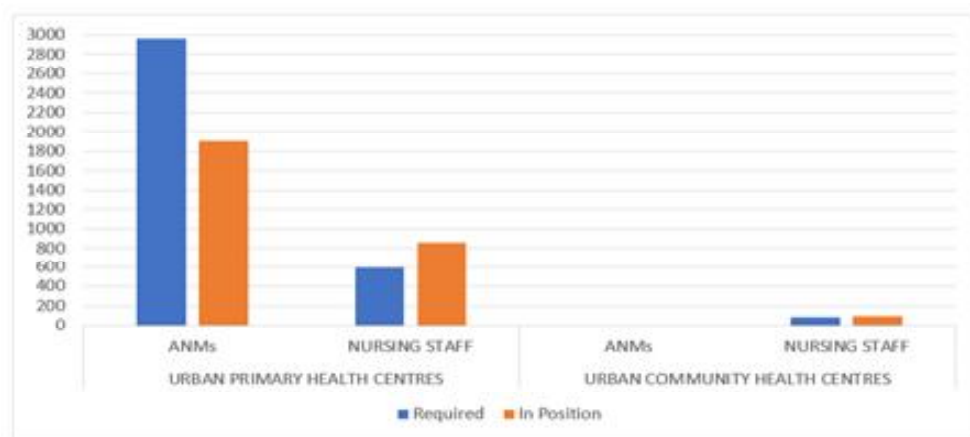


Source: Based on Rural Health Statistics 2019-20, MoHFW

Table 5: Health Manpower In Uttar Pradesh

	Urban Primary Health Centres		Urban Community Health Centres	
	Required	In Position	Required	In Position
ANMs	2965(10.05%)	1906(11.97%)	—	—
Nursing Staff	593(10.05%)	857(10.14%)	84(2.58%)	98(1.67%)

Source: Bulletin on Rural Health Statistics in India 2019-20, Statistics Division, MoHFW

Figure 4: Health Manpower In Uttar Pradesh

Source: Developed by Author according to Rural Health Statistics 2019-20, MoHFW

The table provides information on the staffing status of urban primary health centres (PHCs) and urban community health centres (CHCs) in Uttar Pradesh. In urban PHCs, out of 2,965 required Auxiliary Nurse Midwives (ANMs), 1,906 are in position. Similarly, for nursing staff, out of 593 required, 857 are in position. In urban CHCs, out of 84 required nursing staff, 98 are in position. The figures reveal staffing levels in urban healthcare facilities in Uttar Pradesh, indicating both adequacy and potential shortages.

Findings

1. The data from the Medical Council of India shows a progressive increase in registered doctors in Uttar Pradesh over the past decade, with a cumulative total of 82,299 registered doctors by 2019. According to the population of Uttar Pradesh, this is not sufficient; it indirectly reflects the shortage of care labour.

2. Uttar Pradesh, with a population of 23 crore, is facing a significant shortage of nurses and midwives. The National Health Profile from CBHI shows an average of 1.35 nurses per doctor, indicating a higher number of patients compared to healthcare providers. Only 1.38 lakh nurses and midwives serve the population, exceeding WHO recommendations. Policy lags for care workers are the main cause of the shortage.
3. Uttar Pradesh employs a diverse range of nursing professionals in primary and sub-health centres, including ANMs, registered nurses, registered midwives, and lady health visitors. However, there are disparities between required and in-position staff, indicating potential shortages. Urban primary health centers and community health centers also face staffing challenges, particularly for nursing personnel.
4. The significant disparity between female and male healthcare workers is indicative of gender-specific roles in rural areas.
5. Uttar Pradesh boasts the highest number of operational sub-centers, primary health centers, and community health centers in the country, establishing essential infrastructure for the delivery of healthcare services. After that, nurses in India, including those in Uttar Pradesh, encounter challenges such as low pay, poor working conditions, and a lack of recognition as respected professionals. These factors contribute to nurses seeking opportunities abroad, leading to a shortage of skilled healthcare personnel in the country.
6. The care economy sector in Uttar Pradesh presents opportunities for women to participate and be empowered. By analysing the status of women's participation in the care economy and identifying opportunities in various sub-sectors, the research aims to promote inclusive growth and sustainable development in the state.
7. These findings underscore the importance of addressing the challenges faced by caregivers, particularly women, in Uttar Pradesh's care economy to enhance economic development and empower women in the state.

Recommendations

Based on the findings presented regarding the healthcare workforce and the care economy in Uttar Pradesh, several recommendations can be made to address the challenges and improve the situation:

- Macroeconomic policies, including fiscal, monetary, and trade measures, significantly impact gender disparities in paid employment. To reduce gender disparities, policymakers should invest in the care economy, enhancing women's participation and economic empowerment. This includes improving infrastructure, expanding childcare services, and promoting women's roles in caregiving. Recognizing and valuing women's contributions, offering training opportunities, and establishing clear career pathways are essential components.

- The shortage of nursing professionals in Uttar Pradesh is causing a disproportionate patient-to-provider ratio. To address this, initiatives such as incentivizing healthcare education and offering scholarships for aspiring nurses should be implemented.
- To retain skilled healthcare professionals, investing in infrastructure, resources, and a supportive work environment is crucial. Public investment is needed to generate jobs in healthcare sectors and industries supplying raw materials and intermediate services, resulting in indirect employment effects and amplifying the initial investment's direct impact.
- Healthcare professionals, including nurses and midwives, face challenges like low pay and a lack of recognition. To enhance their status and respect, public awareness campaigns and professional development opportunities should be implemented.
- In Uttar Pradesh, collaboration between governmental organizations, healthcare facilities, non-governmental organizations, and academic institutions should support additional research and policy initiatives to better understand the specific needs and difficulties faced by caregivers, particularly women.

By implementing these recommendations, Uttar Pradesh can work towards addressing healthcare workforce challenges, promoting women's empowerment, and fostering inclusive economic development through the care economy sector.

Conclusion

The care economy has become a significant issue due to changes in social, economic, and political contexts. The Human Development Index (HDI) emphasizes women's empowerment, but understanding the input side is crucial for improving outcomes. In Uttar Pradesh, challenges include shortages of nursing professionals and an imbalanced patient-to-provider ratio. Addressing gender disparities in healthcare delivery is essential for male participation and cultural barriers. Staffing issues in urban primary and community health centers require recruitment and retention strategies. Enhancing infrastructure, providing resources, and offering professional development opportunities are crucial for raising healthcare professionals' status. Policymakers should invest in the care economy to improve women's involvement and economic empowerment. Countries with higher public long-term care expenditures tend to have longer life expectancies. Successful implementation requires collaboration among government bodies, healthcare facilities, NGOs, and academic institutions. Through concerted efforts, Uttar Pradesh's care economy can flourish, fostering both economic development and women's empowerment.

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Financial Inclusion of Women Through Self Help Groups

Prof Mamta Rani Bhatnagar

Abstract

Most women in India, particularly those in villages Do not have an identity separate from their households. The idea of identity involves for domination, As an individual someone within the context of family or household at someone participating within the public community and as a worker in a workplace These These are all dimensions indicate to Woman empowerment

Government and the exercise of rights Drive from individual identity and collective strength. The letter being the capacity to exercise resilience And undertake action as a group when they received as necessary Empowerment is a process to change by which individuals or groups gain power and ability to take control over their lives. It involves access to resources resulting into increased participation in decision making and bargaining power and increase control over benefits resource and on life increased self-confidence, self-esteem, self respect increase wellme.

Indore a reason the timing is change development have yet to reach and the basic economic Needs are yet to be fulfilled. The main Source of employment for women is a labour but they are unable to fulfil all their needs. The hell cell groups or became a hallmark of the rural life to change the condition of the woman. Participation in a self help groups helps in saving some money out of their daily household expenses. Also they can avail the loan With a lower interest rate so the woman doing some other works to earning the money. Generally, self-help groups made by 10 or 20 women for doing Some small work together to earn money. The fundamental aim of the promoting self help group is poverty alleviation and to achieve the empowerment of woman.

Empowerment, Decision power group, activity, banking, gram Panchayat self, helping and the payment of loans.

The Rigvedic culture, according to historians, accorded women the same standing as men. They shared several characteristics with men, including access to education, observation of Brahmacharya, and observation of Upayan. Women wrote Vedic hymns and studied the Vedas. Women had equal access to property ownership and political participation to men.

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Widows had the option of getting remarried, while polygamy and child marriage were still taboo in society.

The status of women began to decline in the later Vedic age, and the fall from grace began with the denial of the right to inherit and property ownership. By the middle ages, women had to bear the brunt of numerous evil and discriminatory institutions and practices, including child marriage, female infanticide, dowry Prada, Jauhar, sats slivery, rape, and prostitution.

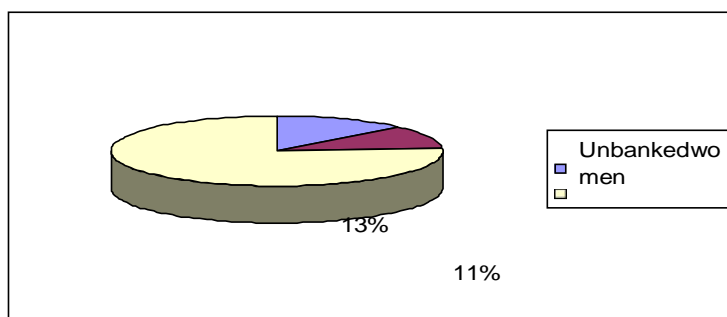
Denied education and by the large, being kept within the four walls of the home until the second half of the 19th century.

Access to capital can frequently mean the difference between a lifetime of economic struggle and economic empowerment. The majority of the 60 crore Indian women still struggle in 2023. A 12% difference in bank account usage is reported in the 2021 Global Findex Report, with many women utilizing their accounts only for direct benefit payments. According to numerous surveys, women make up fewer than 30% of retail borrowers, 14% of all credit that is outstanding, and 32% of people who own life insurance policies in India.

According to a different survey, India has the biggest financial disparity for SMEs run by women of the G20 nations. Additionally, women only possess between 20 and 30 percent of household wealth in India, which is much less than the worldwide average. Additionally, just 4% of all adult adults in India who own money work in agriculture. India introduced the Pradhan Manti Jan Dhan Yojana in 2014 to encourage financial inclusion in every household in the nation. In India, 20% of women still do not have access to a bank account, despite the fact that over 460 million bank accounts have been opened, 67% of them are in rural and semi-urban regions, and 56% of their owners are women.

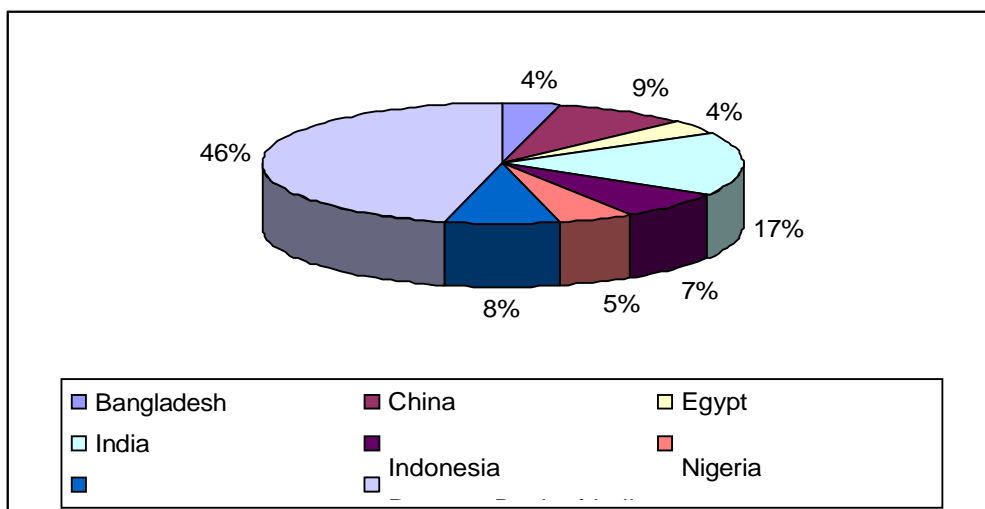
Financial inclusion is known to be an important factor in economic progress and encourage relief. Financial inclusion is recognized as a key development indicator and as a facilitator for at least eight of the 17 Sustainable Development Goals. The outcomes of health, education, and employment are directly improved by having access to bank accounts, loans, insurance, and other financial resources. The World Bank's Global Findex Database compiles information on the availability of financial services worldwide, including payments, saving, and borrowing.

Global % 2021



Adults have no Accounts Global

Index (to 23)



The Findex poll indicates that 13% of the world’s unbanked are women. Adults who lack banking accounts make up more than half of the world’s population; these seven nations include China and India. If you teach one man, you will just educate that one person, but if you educate one woman, the entire nation will be educated, according to Mahatma Gandhi.

According to this perspective, self-help groups seek to increase the power of the nation and the status of women. Because of the collective influence of women, the entire society will change, having an effect on the entire country. A comparable objective of the SHGs is to increase the political, social, and economic empowerment of women. SHGs have significant influence over how well women can lead. Women who are economically independent can take on significant roles in both the household and society. It serves as a gauge of a country’s progress. According to Harney Clinton, women have the majority of the work’s storage capacity. Women were the power banks throughout the Vedic era.

Through her attributes such as self-respect and self- power, the ability to make choices, understanding of equality, and tolerancefor others,this constantfemale empowerment demonstrates the significant transformation in society.

Women’s empowerment is a theoretical idea. It is not a singular idea; it is contrasted with the advancement of the nation’s society and global peace. Women’s empowerment has been acknowledged as a key factorin determining their status. However, SHGs gavewomen a platform to voice their opinions, take part in decision-making, and connect with one another. With the aid of microcredit, they have also participated in income-generating activities, and by earning money in this way, they are developing self-sufficiency.

Serney from Hartford Share University claimsthat there is a significant disparity in the working capacities of men and women, with women having a49% working capacity while males only have a 37% working speed.

The people can receive empowerment, which is a full process. Being able to take action and effect change requires both individual and group empowerment, which is why participation in groups is where most people first starts to gain knowledge and the capacityto do so.

Accordingly, NGO, Serney reports that women'sactive and passive entrepreneurship is the new slept to the growth of the nation at both a domestic andglobal level. Women's contribution to rural family income is 40%.

The people can receive empowerment, which is a full process. Being able to act and effect change requires both individual and group empowerment, which is why participation in groups is where most people first started to gain knowledge and the capacity to do so.

The microfinance practices of these institutions revolve around five basic features—

1. Women are the primary target audience for these institutions. They utilize a group strategy to achieve their goals, which centers on breaking up the population into smaller groups before exposing them to the facility of microfinance.
2. The Bangladeshi MFIs place a high value on collective unity and thoroughness.
3. All of these MFIs need savings as a necessary prerequisite before granting loan.
4. Bangladesh MFI representatives continue to attend the weekly meetings of the groups, where they collect deposits, update passbooks, and even distribute loans.
5. The MFIs'systems and procedures are relatively straight forward and tailored to the needs and capacities of their consumers.

In India, women suffer from a variety of socioeconomic and cultural issues. Despite the fact that women mustbe given more authority in all spheres, economic independence is the most obvious way to do so. Enhancing income-generating options is therefore increasingly seen as a successful strategy for empowering women and raising their status.

In the process of participatory development and women's empowerment, the self-help group model has proven to be the most effective.

India has modified and adopted Bangladesh's model. In the new economy, micro-finance has become a potent tool for reducing poverty and empowering women. In India, Self Help Groups and Credit Management Groups have also started as a result of MFI cooperatives. In India, the SHG movement has becomewidespread. India currently has 12 million SHGs, with 88% of the members being women. On January 31, when Economic Survey-22-23 was released, the Union Finance Minister presented this data to Parliament.

In India, banks are the main provider of microloan services. The concept of women-micro finance was created in 1970 by Haben Bhat, a founding member of SEWA (Self Employed Women's Association) in Ahmedabad. Self-Help Groups modelled after Mahila Mandals were created in Maharashtra, and the Working Women's Forum concept was created in Tamil Nadu.

NABARD began actively promoting Self Help Groups in 1991–1992. However, the SHGs movement was supported by the Reserve Bank of India, much like the revaluation in 1993.

The SHGs model in India differs significantly from other SHGs around the world. In India, there are three different models of how SHGs are linked to financial institutions: (1) Banks that finance SHGs directly; (2) NGOs and other agencies that act as financial intermediaries in the formation of SHGs. In India, the second model is more widely used.

SHGs have a long history in India. It began in 1947 in Maharashtra and was established as a SHG with just 25 passes. Amravati Pune District began formally in 1988, replacing Maharashtra District, and Chitanya was SHG.

In the modern era, SHGs are present in nearly 53 countries, including India. Self-Help Groups can start with 10 to 15 participants. A group of 10 to 15 people can be formed. The group has access to financial resources provided by the government and financial institutions. The members individually are also eligible to apply for credit facilities. Members of the SHG protest the poor's low capacity for saving and their reliance on private sources or moneylenders to cover their expenses for consumption and other urgent social obligations.

In India, many NGOs have been focusing on rural women in an effort to improve their current socioeconomic circumstances and change the relationship between gender and class to the advantage of the weak parties.

SHG has proven to be the most effective approach for empowering women and promoting participatory development. Empowerment on the socioeconomic front has been linked to overall development. In government policy, non-governmental advocacy, and academic research, women's empowerment has taken on a significant role.

The NABARD pilot program in 1992 was widely regarded as a success, and over the past 15 years, a significant increase in the number of SHGs connected to the banking system has been observed.

In the current NFHS-5, only 18% of married women have control over their finances, up from 53% in NFHS- 2 (2015–16), when they had a bank or savings account. Today, women are the ones who make the financial decisions for the family.

In India in 1992–1993, there were only 255 SHGs operating; today, there are 12 million SHGs working to advance the cause of women's emancipation.

Akansha SHGs in UP: a case study.

Akansha Samiti is a renowned NGO that is committed to improving the lives of marginalized and underserved women. Akansha's goals are "to facilitate" the empowerment and capacity building of underserved and marginalized women.

The main office of Akansha Uttar Pradesh is located at Butler Palace Jopling Road in Lucknow, which serves all 75 of the state's districts.

About 110 women and girls make up Akansha Massala Mathari Kendranow, and they are arranged into six Self Help Groups called Durga, Laxmi, Parvati, Saraswati, Ambey, and Santoshi.

The output of these SHGs for the entire year is and 110 women are working. With this Mathari, other products such as Masala, Atta, Minutes, and Fresh Nashta like Dokhla Somosha, Nankeens, Kachauri, and other names more in Fresh Nashta made by women are also very popular in Lucknow, and they are doing all work such as cleaning raw materials and making process, and they are also handling sell outlets by women.

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Anevaluation of impact of SGH on the Social empowerment of women

Dr Punithvathi Pandian & RE swaran

Empowerment to women through Micro-credit Yojan Nov 2002

Akansha self help Group-Lucknow

Jago Rayjajo SelfHelp Group Barabanki

NABARDREPORT- Progress of SHG-Bank linkage in India

Better price discovery calls for robust markets.

NABARD promotes *inter alia* agricultural marketing infrastructure and farmers' access to markets through multiple interventions – warehousing, FPOs, rural haat and mart, exhibitions, refinance, etc.

Taking Rural India >> Forward
www.nabard.org



National Bank for Agriculture and Rural Development | राष्ट्रीय कृषि और ग्रामीण विकास बैंक
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Society For Promotion of Economics T.R.N. 202000996024999 - Registration No. LUC/ 00551/2022-2023

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The Uttar Pradesh-Uttarakhand Economic Association (UPUEA), established in 2005, is a premier society of economists for the promotion of economics in both the states. Professionals of Economics from both academic and non-academic institutions are its active members. The UPUEA organises annual conferences for members that discuss contemporary economic issues of the Indian economy, especially that of Uttar Pradesh and Uttarakhand. Besides, to promote original research in the area of regional sponsorship to research projects undertaken by members on disciplinary or trans-disciplinary economic issues add to the knowledge and facilitate the development of the region. It also supports and encourages the members to organise seminars, symposia, workshops, and training courses for the professionals of Economics.

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