

THE INDIAN ECONOMY

Pathways, Policies, and Prospects

Editors

Dr. Gorakshnath Sanap

Dr. Harshad Jadhav

Dr. Sandeep Abhang

Prarup Publications, Kolhapur

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September 2025

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The Indian Economy: Pathways, Policies and Prospects

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**ECONOMIC REFORMS IN INDIA 1991 ONWARDS:
FACILITATING INDIA'S TRANSFORMATION TO VIKSIT
BHARAT**

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INTRODUCTION:

India today is the 4th largest economy in the world with a GDP of about 4 trillion dollars. However, it was not always in this position. Thirty-four years ago, in 1991, it faced a dire situation. Its foreign exchange reserves had hit rock bottom and it has enough reserves only for three weeks of imports. There was an acute imbalance on her Balance of Payments too. The story of India's journey from that difficult situation in 1991 to the current day situation is fascinating. But more importantly this transformation was made possible due to several reforms that the country undertook. Although during the span of 1991 and today there are many reforms that one can list here, given the constraints of space, five major reforms are discussed below. According to this author, these are seminal reforms which transformed the way the Indian economy functions and delivers to the Indian people.

THE NEW ECONOMIC POLICY OF 1991:

The New Economic Policy (NEP) of 1991 was a major macroeconomic reform cutting across sectors. It was necessitated by the precarious condition which the Indian economy was in prior to adopting it. The growth rate had fallen to 0.8 percent, inflation had increased to 13.6 percent (CPI), the Balance of Payments (BOP) deficit has had increased from Rs. 2,214 crores in 1980-81 to Rs 17,367 crores and foreign exchange reserves were critically low, about 1.8 billion dollars, just enough to cover three weeks of imports. In rupee terms forex reserves had declined from Rs 8151 crores in 1986-87 to Rs 6252 crores in 1989-90. Due to this, India applied to the IMF and

World Bank for a loan. It secured an IMF loan of \$2.2 billion. But it had to pledge large quantities of gold (67tonnes) to secure this loan. Further this loan came with conditionality of stabilization and structural adjustments. To meet these conditions India had to undertake certain reforms which came to known as the NEP or Liberalization, Privatization and Globalization (LPG) reforms of 1991.

These reforms included Liberalization of trade, privatization of Indian industry and globalization of the Indian economy. Liberalization and privatization included policy changes like permitting private sector firms to set up industrial units without the need for procuring a license, increasing the threshold limit of assets for MRTP (Monopolies and Restrictive Trade Practices) companies, opening sectors for the private sector which were earlier reserved for government for e.g. aviation, power, insurance and telecom. In line with these reforms the Cash Reserve Ratio (CRR) and the Statutory Liquidity Ratio (SLR) were gradually reduced to enable banks to enhance lending, the exchange rate was revalued; rupee was devalued to encourage exports. These reforms were an attempt to dismantle the existing license –permit- quota raj system which was prevalent that time. Under globalization, changes like allowing 51 percent Foreign Direct Investment (FDI) in high priority area, encouraging exports by reducing import duties on capital goods and setting up of Specialized Economic Zones (SEZs), Export Processing Zones (EPZ) were made. All these reforms cut across sectors and signaled a major change in the Indian economy.

The results of these reforms were soon visible. Growth rate of GDP increased, averaging to about 6 to 8 percent annually; exports increased resulting in an increase in foreign exchange; FDI increased and the private sector increased leading to increased efficiency in the economy. Over the years consumers had a wide variety of choice in goods. Earlier, i.e pre-NEP, if a person wanted to buy a scooter, he had very limited choice and due to this he had to wait for years after booking to get delivery of his scooter. NEP 1991 changed this and hereafter goods and services were available in plenty, in wide variety and timely too.

GOODS AND SERVICES TAX (GST):

The GST was another seminal reform which India undertook in the post 1991 period. The GST was put forth by the Kelkar Task Force on Implementation of the Fiscal Responsibility and Budget Management (FRBM) Act in July 2004. GST was a tax based on taxing the value added and was meant to include both goods and services. Its objective was to have a tax levied on the value added principle which would cover the entire nation in a unified way. The objective was also to have a single rate of tax to reduce complexity. This was to be a major overhaul of the existing system of indirect taxation prevailing in the economy. In the existing system, there were a plethora of indirect taxes levied by the central and the state governments like service tax, excise duty, value added tax (VAT), entertainment tax, octroi, tax on lotteries etc. This existing system was leading to imbalances in rates in the different states and it was resulting in a cascading effect of tax i.e. “tax on tax” and so an ambitious reform of introducing a uniform indirect tax for the country as a whole was put forth in the form of GST. It was a complex change to bring about, requiring lot of consultations with state governments and so it finally came into effect a good 13 years after it was first proposed. It came into effect from 1st July, 2017.

Under the GST system, tax is charged at various stages of the supply chain from manufacturing to the point of final sale. GST covers a wide range of goods and services, classified into four main tax slabs of 5, 12, 18, and 28 percent. Essential commodities are exempt, while certain products attract an additional cess. The GST has three components: Central GST (CGST), collected by the Central Government on intra-state supplies; State GST (SGST), collected by State Governments on intra-state supplies; and Integrated GST (IGST), levied by the Centre on inter-state and international supplies, with the proceeds shared between the Centre and the States.

It was expected that the GST would bring about a greatly increased indirect tax collection and an expanded tax base. Further, since the GST involves a transparent and technology driven system, every sale is recorded in a unified database making it difficult for businesses to conceal sales and evade taxes. This also leads to a formalization of the economy.

There were some problems while implementing the GST, like, the multiplicity of tax rates created complexities, high compliance cost for small traders who had to file several returns in a year and the changes that were made to the tax rates time and again. However, these can be looked as teething problems and given the diversity of the Indian economy and the fact that this was a major change, these problems are to be expected in the short run. In the short run both objectives of expanding tax base and increasing tax returns were not realized in their entirety. However, after about eight years of this reform the results are more promising. The increase in revenue is noteworthy. In 2024-25 GST collections stood at Rs. 22.08 lakh crores recording a year-on-year increase of 9.4 percent. There has been a reduction of rates too over time benefitting the consumers. It also ensured seamless movement of goods between states without any additional tax burdens at the borders. This saved the travel time enabling timely and quick delivery.

INFLATION TARGETING OR FLEXIBLE INFLATION TARGETING (FIT):

This is another important reform in the Indian economy introduced in 2016, involving the monetary policy. Its aim is to keep inflation under control. Prior to FIT, the Indian economy experienced high and unstable inflation. During this period the mechanism to control inflation was the “multiple indicator” approach under which the focus was on multiple indicators like money supply, exchange rates and credit control rather than inflation alone. Under this there was no clear target given to RBI for inflation control. During 2008-2013, inflation in India, especially food inflation, surged. This led to debates about the need for a more targeted or focused approach towards inflation control.

The FIT policy was introduced in February 2015 by executing an agreement between the Government of India and the Reserve Bank of India. It became effective in June 2016. The inflation target was mandated at 4 percent Consumer Price Index (CPI) with a tolerance band of +/- 2 percent. So, inflation could vary between 2 to 6 percent. Flexible inflation targeting differs from strict inflation targeting because it considers balancing inflation rate and growth rate. To undertake this control, a six-member Monetary Policy Committee

(MPC) was constituted. The MPC is chaired by the Governor of the RBI and the Deputy Governor, one RBI officer and three external members appointed by the Government of India constitute the remaining members.

The impact of this policy was soon visible. The headline CPI inflation which was around 9 to 10 percent between 2008-2013 i.e pre-FIT period reduced considerably to 4 to 5 percent during 2016 - 2023, Inflation volatility also decreased.

THE JAM TRINITY:

The JAM trinity refers to Jan dhan bank accounts, Aadhar card, a biometric based identification and Mobile, the connecting instrument. Each one of these are related to service delivery. The Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched in 2014. This aimed to achieve financial inclusion by ensuring that every household has at least one bank account. This is done by offering zero balance accounts and these accounts are linked to welfare schemes. This creates a direct and secure channel for transferring government benefits to beneficiaries minus the leakages and in a timely manner.

Aadhar is a Universal Identity for targeted delivery and was introduced in 2009 under the Unique Identification Authority of India (UIDAI). Under this a unique 12 digit number is assigned to every resident and this is linked to the biometric and demographic data of the resident. This is used in transferring benefits to the correct beneficiary. It eliminates fraudulent cases and thus reduces the transaction time and ensures correct use of government benefits.

Mobile usage is linked to the above two by creating apps for different government schemes so that beneficiaries can access benefits through their mobiles and do not have to travel to government offices. This ensures that government services and benefits reach the beneficiary directly to wherever he is and he is saved a lot of time and effort. This use of the mobile gained speed with the launch of the Digital India programme in 2015.

The JAM trinity works to deliver benefits directly, easily and without fraud to the intended beneficiaries. The Jan dhan account provides a safe way to receive benefits, the Aadhar verifies the beneficiary and the mobile ensure instant communication and transactions.

The number of Jan dhan accounts has reached 54 crores holding a deposit balance of approximately Rs. 2.39 lakh crores. This has ensured the spread of financial services to scores of men and women who were earlier not connected to it. This leads to formalization of the economy and also an expansion of the market. The main aim of the JAM trinity is to eliminate ineligible beneficiaries or duplicate beneficiaries. Over the years over 10 crore such fake beneficiaries have been removed from the welfare programme databases resulting in saving nearly Rs. 2.75 lakh crores in subsidy payments. JAM has also helped in lifting people out of poverty. Over the past 10 years an estimated 25 crore individuals were lifted out of poverty and the use of JAM has definitely contributed to this.

THE DIGITAL PAYMENT SYSTEMS:

The Real Time Gross Settlement (RTGS) system was introduced in 2004. It is a system to transfer funds in real time, indicating that there is no waiting period. The system operates round the clock. The settlement is done for every individual transaction. This system is primarily for high value payments, a minimum of Rs, 2 lakhs. Next, in 2005 the RBI launched the National Electronic Fund Transfer (NEFT) as a reliable and fast way for people and companies to transfer funds round the clock. NEFT transactions are processed in tranches every half an hour. Both RTGS and NEFT operate with the same processes and objectives but NEFT settlements take place every half an hour whereas RTGS settlements occur instantaneously. RTGS is for high value payments whereas NEFT can be used for smaller payments too.

There are other digital or electronic payment systems like the Electronic Clearing System (ECS) which were introduced in 1990s. These are used for making bulk payments like salaries, dividends and recurring collections like electricity bills or phone bills.

There are other digital payment systems which can be used directly by individuals. Where as RTGS and NEFT have to be routed through banks, other payments can be done directly by individuals. These are launched through the Immediate Payment Service (IMPS). The IMPS is a payment service system managed by the National Payments Corporation of India. The minimum transaction allowed in of Rs. 1 and maximum is Rs, 5 lakhs. It allows two types of direct

transactions: 1. Phone to phone and 2. Phone to account. The Rupay Debit card is a part of this payment system. Then there is the Adhar Enabled Payment System (AEPS). This enables people to access funds in their bank accounts using Adhar card for authentication. This has enabled the spread of financial services to rural and remote areas through banking correspondents. The United Payments Interface (UPI) is a smart phone-based payment system allowing a person to person fund transfer round the clock. The RBI has recently, in 2022, launched a Central Bank Digital Currency. This is an e-rupee and is mostly to be used for cross border transactions and is meant to reduce the use of cash and reduce the costs incurred in printing and managing cash.

All these various types of digital payment systems have revolutionized the speed and ease of transactions. It has enabled transactions to take place round the clock; it has enabled financial inclusion. This helps tremendously in the growth of the economy; it helps to speed up the transactions, reduces dependence on cash and thus saves the expenses of managing cash. Of course, there are costs of maintaining the digital payment infrastructure to enable it to work smoothly. There are problems of cyber attacks and frauds. But on the whole, it is a move towards modernizing the Indian economy and helping it grow and become more efficient.

OTHER REFORMS IN THE POST 1991 PERIOD AND THE WAY FORWARD:

The Indian economy saw many other reforms in the post 1991 period. The reform in the banking sector put forth in 2014, the Indian Bankruptcy Code (IBC) was a reform to tackle the growing problem of Non-Performing Assets (NPAs) of Indian banks. The IBC reform has helped to improve the NPA situation. Other reforms are Production Linked Incentives (PLI) Scheme which was floated in 2015 to enable the Micro Small and Medium Enterprises (MSMEs) to improve their production and efficiency. There are programmes like Skill India, Start Up India and Make in India. All these are aimed at improving the economic output. Skill India aims to skill India's labour force thus enabling an increase in productivity. Start Up India helps entrepreneurs to set up their own businesses. And the Make in India programme is meant to develop our indigenous production.

We see that after the macroeconomic reform of 1991, the pace of reforms in the Indian economy has increased a great deal. Reforms in various sectors of the Indian economy are taking place simultaneously. Reforms like building and modernizing ports, building airports, modernizing railways, increasing roads and highways, improving logistics and several such reforms help the functioning of the Indian economy. They help to increase the reach of the market and increase the speed of transactions.

Despite all these reforms, there are still some crucial areas which need reforms like agriculture and labour markets. Further, how much these reforms and programmes will help the Indian economy to grow will be seen in the times to come. However, one thing seems quite certain. All these reforms have made the Indian economy a very vibrant economy which could quickly recover from the COVID-19 pandemic effect to become the fourth largest economy in the world today. In conclusion one can say that economic reforms in India are a work in progress and we will still see more reforms in the future to enable us to become Viksit Bharat.

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2

**DRIVING INCLUSIVE GROWTH: THE NEXUS OF DIGITAL
ECONOMY, FINANCIAL INCLUSION, AND
SUSTAINABILITY IN INDIA**

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INTRODUCTION:

The digital revolution has fundamentally altered the global economic landscape, with countries leveraging information and communication technologies (ICT) to foster development. India, with its large and diverse population, stands at a critical juncture where digital transformation could bridge socio-economic divides. The concepts of digital economy, financial inclusion, and sustainability are interlinked and vital for India's growth story. This paper explores how these dimensions interact, highlighting the current state, achievements, and future pathways, (Heeks, R., 2020).

THE DIGITAL ECONOMY IN INDIA:

Definition and Components:

The digital economy encompasses economic activities enabled by digital technologies, including the internet, mobile networks, and data analytics, (Bukht, R. & Heeks, R., 2017). In India, this includes e-commerce, digital payments, online services, and digital infrastructure.

Government Initiatives:

India's flagship program, Digital India, launched in 2015, aims to transform the country into a digitally empowered society and knowledge economy. Key components include:

- BharatNet: High-speed internet in rural areas.
- UMANG: Unified platform for government services.
- Aadhaar: Biometric identification for streamlined services, (MeitY, 2019).

Growth and Challenges:

India's digital economy is projected to reach \$1 trillion by 2025, (MeitY, 2019). However, issues like digital literacy, cyber security, and digital divide pose significant barriers. According to the Internet and Mobile Association of India, (IAMAI, 2022), urban internet penetration stands at 69% compared to just 31% in rural India, indicating a pressing need for inclusive infrastructure. In developing countries, financial exclusion predominantly affects individuals from the middle and lower-income segments of society. These populations often lack access to basic banking and financial services, limiting their ability to manage money securely and efficiently. By extending formal financial services, such as savings accounts, credit, insurance, and payment systems, to these underserved groups, individuals are better equipped to manage their finances, build assets, and protect themselves against economic shocks. This financial empowerment plays a crucial role in poverty reduction and contributes significantly to broader developmental objectives. As highlighted by, (Mohsin, M., Naseem, S., Zia-ur-Rehman, M., Baig, S. A., & Salamat, S., 2020), (Chibba, M., 2009), enhancing financial inclusion is not just a strategy for individual well-being, but a necessary condition for achieving the Millennium Development Goals (MDGs), as it enables economic participation, fosters entrepreneurship, and promotes inclusive and sustainable growth.

Across the globe, significant gender disparities exist in the access to and control over financial resources, with these inequalities being particularly pronounced in developing nations. Women in these regions often face systemic barriers that limit their ability to manage finances, secure economic opportunities, and achieve financial independence. These challenges stem from a combination of socio-cultural norms, limited digital literacy, lack of formal identification, and restricted mobility. According to, (Ibtasam, S., et al., 2018), such gender-based financial exclusion not only undermines women's economic empowerment but also hinders broader efforts toward inclusive development and poverty reduction. Addressing these disparities is essential for promoting equitable access to financial systems and ensuring that women can participate fully in economic activities.

FINANCIAL INCLUSION IN INDIA:

Concept and Importance:

Financial inclusion involves ensuring access to affordable and timely financial products and services for all, especially the underprivileged. It plays a pivotal role in poverty alleviation and inclusive growth, (Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. , 2018). Financial inclusion seeks to integrate individuals who are either unbanked or underbanked into the formal financial system. These are people who lack access to basic financial services such as savings accounts, credit facilities, loans, and insurance products. Financially excluded individuals often face significant barriers that prevent them from participating in the economic mainstream, which in turn hampers their ability to build assets, smooth consumption, and invest in education or entrepreneurship.

According to a United Nations survey, approximately three billion people around the world remain outside the reach of formal financial institutions. These individuals do not have access to secure avenues for saving money or obtaining financial support during emergencies, which exacerbates economic inequality and limits opportunities for personal and community development. Bridging this financial gap is crucial for inclusive economic progress, especially in low- and middle-income countries, (Liu, S., et al., 2021).

Digital Financial Services:

The rise of Fin-Tech, UPI (Unified Payments Interface), mobile banking, and e-wallets has revolutionized financial inclusion in India. The Jan Dhan Yojana scheme has opened over 400 million bank accounts since 2014, (Government of India (GOI), 2023). Additionally, mobile money has significantly enhanced the financial reach in remote areas, (Reserve Bank of India (RBI), 2021). The study by, (Desyatnyuk, O., Krysovaty, A., Ptashchenko, O., & Kyrylenko, O., 2025), offers an in-depth examination of financial inclusion, emphasizing its pivotal role in fostering eco-entrepreneurship and enhancing socio-economic progress within the context of an increasingly digital world. It highlights that digital financial inclusion not only facilitates broader participation in formal financial systems but also serves as a catalyst for environmentally responsible entrepreneurial activities.

By leveraging digital tools and platforms, financial inclusion contributes to improving financial literacy among diverse populations, enabling individuals to make informed decisions regarding savings, investments, and credit. This empowerment is especially significant for vulnerable and marginalized groups, such as women, rural communities, and small-scale entrepreneurs, who often face structural barriers to financial access.

Moreover, the availability of digital financial services encourages investment in sustainable ventures by simplifying access to capital, enabling crowdfunding for green initiatives, and supporting microfinance for clean energy and environmentally friendly business models. In this way, financial inclusion becomes a driver of both economic empowerment and sustainable development, aligning with the goals of inclusive growth and environmental stewardship in the digital era.

Barriers to Inclusion:

Despite progress, challenges such as lack of awareness, gender disparity, inadequate digital infrastructure, and cyber risks persist. According to a working paper by the Organisation for Economic Co-operation and Development (OECD), one of the key barriers to achieving widespread financial inclusion is the persistently low level of financial literacy, particularly in developing economies, (Gambetta, N., Azcárate-Llanes, F., Sierra-García, L., & García-Benau, M. A., 2021). Financial literacy encompasses the ability to understand, evaluate, and effectively apply various financial concepts in real-life scenarios. It equips individuals with the knowledge and skills required to navigate complex financial systems, compare available financial products, and make informed decisions regarding savings, investments, credit, and insurance.

Several studies have emphasized that financial literacy is directly linked to the effective utilization of financial services, (Menyelim, C. M., Babajide, A. A., Omankhanlen, A. E., & Ehikioya, B. I., 2021), (Naseem, S., Fu, G. L., Mohsin, M., Rehman, M. Z. U., & Baig, S. A., 2020), (Cohen, M. & Nelson, C., 2011). When individuals possess a sound understanding of financial mechanisms, such as interest rates, budgeting, risk assessment, and investment planning, they are more likely to manage their resources prudently. This ability not only helps them avoid debt traps but also promotes savings and

supports meaningful financial investments, contributing to personal and economic stability.

Conversely, a lack of financial knowledge can have adverse consequences. Financially illiterate individuals are more susceptible to fraud, poor financial decisions, and over-indebtedness, which can lead to long-term financial insecurity and economic exclusion. Therefore, enhancing financial literacy through targeted educational initiatives and community-based outreach programs is vital to fostering inclusive financial ecosystems and empowering citizens to actively participate in economic development.

SUSTAINABILITY AND DIGITALIZATION:

Sustainability Defined:

Sustainability entails meeting current needs without compromising future generations, encompassing economic, social, and environmental dimensions, (United Nations (UN), 2015). A robust and inclusive financial sector is widely recognized as a cornerstone for sustainable economic growth and development across both developed and developing nations. It plays a vital role in ensuring that financial services are not only accessible but also available and usable by all segments of the population, regardless of their income level, geographical location, or gender. This inclusivity encompasses various demographic groups, including those who are already integrated into the banking system (the banked), those with limited access (the underbanked), and those completely outside the formal financial network (the financially excluded).

Financial inclusion acts as an enabler for empowering individuals by providing them with the tools necessary to manage resources, build assets, and safeguard against economic vulnerabilities. It bridges socio-economic gaps and fosters equitable growth by democratizing access to essential financial products such as savings accounts, credit, insurance, and digital payment systems.

Importantly, financial inclusion is directly linked to achieving Sustainable Development Goal 5 (SDG 5), which focuses on achieving gender equality and empowering all women and girls. By extending financial services to women, who are disproportionately excluded from the formal financial system in many regions, financial inclusion enhances their ability to participate in economic activities, gain

independence, and improve their overall quality of life. It supports women in starting businesses, investing in health and education, and contributing more meaningfully to household and national economies. Thus, a gender-responsive approach to financial inclusion not only promotes individual empowerment but also strengthens the social and economic fabric of a nation, (Anakpo, G., Xhate, Z., & Mishi, S., 2023).

Role of ICT in Sustainability:

Digital tools can promote sustainability through smart grids, e-governance, e-waste management, and real-time monitoring of environmental parameters. According to the International Telecommunication Union, (ITU, 2020), ICT-enabled solutions can reduce global carbon emissions by up to 15% by 2030. Digital transformation has significantly reshaped the financial services industry by introducing innovative technologies that have expanded and improved access to financial services. Rapid advancements in areas such as artificial intelligence (AI), the internet, big data analytics, block-chain, and cloud computing have revolutionized the way financial products are developed, delivered, and consumed. These technologies have enabled faster, more efficient, and user-friendly services, breaking down traditional barriers that previously limited access for underserved populations.

For instance, artificial intelligence has enhanced customer service through chat-bots and automated advisory services, while cloud technology has facilitated real-time data processing and storage, making digital banking and mobile financial platforms more scalable and accessible. The proliferation of internet connectivity, even in remote areas, has allowed individuals and businesses to engage with digital financial tools, such as online banking, digital wallets, and peer-to-peer lending platforms, thus fostering greater financial inclusion. As a result, people who were previously excluded from the formal financial system, including low-income groups and rural populations, are now increasingly able to participate in and benefit from the digital economy, (Anakpo, G., Xhate, Z., & Mishi, S., 2023).

The study conducted by, (Vyas, V. & Jain, P. , 2021), investigates how the digital economy and technology adoption influence financial inclusion within the Indian context. A conceptual framework was established and empirically tested using data collected from a survey of 433 educated adult participants. To further assess

the model, second-order structural equation modelling (SEM) was applied, which enabled the researchers to examine the mediating role within the proposed framework. The measurement model demonstrated good model fit indices, indicating robust construct validity and internal consistency. Results from the structural model revealed that the extended Technology Acceptance Model (TAM) exerts a significant mediating effect, fully bridging the relationship between the digital economy and financial inclusion. This suggests that users' acceptance and adoption of technology play a crucial reflective role in advancing financial inclusion through digital economic initiatives.

India's Commitment to SDGs:

India is committed to the 2030 Agenda for Sustainable Development. Digital platforms aid in monitoring and implementing various SDGs, particularly in health, education, and energy, (NITI Aayog, 2021). By enabling broader access to essential financial services, such as savings accounts, credit, insurance, and digital payment platforms, digital financial inclusion can help reduce poverty, promote gender equality, and support economic resilience.

Nevertheless, attaining the SDGs, particularly the goal of eradicating poverty, requires a concerted and collaborative global effort from both developed and developing nations. While many developed countries have witnessed widespread adoption of digital financial services, with usage rates of key financial products and online banking among youth populations exceeding 90%, (OECD, 2020), the scenario in less developed regions is markedly different.

Vulnerable and marginalized populations, such as rural communities, low-income households, the elderly, and those with limited digital literacy, often face multiple barriers to accessing and effectively using digital financial tools. These barriers include lack of infrastructure, limited smartphone or internet penetration, distrust in digital systems, and insufficient awareness about financial products. Such disparities hinder the equitable distribution of the benefits of digital finance and may significantly delay the realization of SDG targets by 2030.

INTERSECTIONS AND SYNERGIES:

Digital Economy and Financial Inclusion:

Digital platforms lower transaction costs and expand access to credit, insurance, and savings. Aadhaar-enabled Payment Systems

(AePS) and UPI have democratized financial services, (National Payments Corporation of India (NPCI), 2023). The research study by, (Sudiantini, D., Rizky, P. P., & Hazarika, A., 2023), puts light on digital economic ecosystem. This study adopts a qualitative research methodology, employing an extensive literature review approach to assess strategies for national economic recovery in the post-crisis period. The primary emphasis is placed on the role of start-up enterprises and individuals who actively engage with digital financial platforms. By analysing relevant academic and institutional sources, the research investigates how a well-structured digital economic ecosystem, strengthened by comprehensive financial inclusion, can serve as a catalyst for accelerating national economic revival.

The findings reveal that enhancing digital connectivity and expanding access to inclusive financial services play a pivotal role in revitalizing the economy, especially in the wake of disruptions caused by global economic uncertainties or public health crises. A digitally empowered population, including entrepreneurs and consumers, contributes significantly to sustaining market demand and business continuity.

Furthermore, the study underscores the critical need for developing integrated, multi-stakeholder strategies that support micro, small, and medium enterprises (MSMEs). These strategies should focus on improving access to digital credit, offering capacity-building programs, and creating policy environments conducive to innovation and growth. By facilitating greater financial inclusion, through tools such as mobile banking, e-wallets, and digital lending platforms, governments and financial institutions can empower previously underserved communities and businesses, thus creating a more resilient and equitable economic structure.

Financial Inclusion and Sustainability:

Inclusive finance empowers marginalized communities, enabling sustainable livelihoods. Microfinance and digital credit support green entrepreneurship and women-led enterprises, (GSMA, 2021). According to leading global development organizations such as the United Nations Development Programme (UNDP), the Bill and Melinda Gates Foundation, the G20, and the World Bank, achieving comprehensive financial inclusion across all segments of the population is essential for fostering sustainable economic growth and

eradicating poverty. These institutions emphasize that financial inclusion is particularly critical in developing nations, where large portions of the population remain underserved or entirely excluded from formal financial systems. Integrating these excluded groups into the financial mainstream is viewed as a fundamental step toward achieving inclusive development and long-term socio-economic stability, (Valencia, D. C., Calabuig, C., Villa, E., & Betancur, F., 2021), (Bongomin, G. O. C., Munene, J. C., Ntayi, J. M., & Malinga, C. A., 2018).

Digital Economy and Sustainability:

Digital innovation drives energy efficiency, reduces paper use, and promotes circular economy models. However, energy use by data centres and e-waste are concerns, (Greenpeace, 2022). When implemented ethically, inclusively, and within a robust regulatory framework, digital financial inclusion serves as a powerful catalyst for socio-economic development and accelerates progress toward achieving the Sustainable Development Goals (SDGs). By enabling broader access to essential financial services, such as savings accounts, credit, insurance, and digital payment platforms, digital financial inclusion can help reduce poverty, promote gender equality, and support economic resilience.

Nevertheless, attaining the SDGs, particularly the goal of eradicating poverty, requires a concerted and collaborative global effort from both developed and developing nations. While many developed countries have witnessed widespread adoption of digital financial services, with usage rates of key financial products and online banking among youth populations exceeding 90%, (OECD, 2020), the scenario in less developed regions is markedly different.

Vulnerable and marginalized populations, such as rural communities, low-income households, the elderly, and those with limited digital literacy, often face multiple barriers to accessing and effectively using digital financial tools. These barriers include lack of infrastructure, limited smartphone or internet penetration, distrust in digital systems, and insufficient awareness about financial products. Such disparities hinder the equitable distribution of the benefits of digital finance and may significantly delay the realization of SDG targets by 2030.

Therefore, for digital financial inclusion to truly support sustainable development, it must be inclusive of the most disadvantaged groups. This entails not only improving technological access and digital literacy but also tailoring financial products to the needs and capabilities of underserved communities. Only through such holistic and inclusive strategies can the promise of digital financial inclusion be fully realized as a driver of global sustainable development.

CASE STUDY:

UPI and Financial Access:

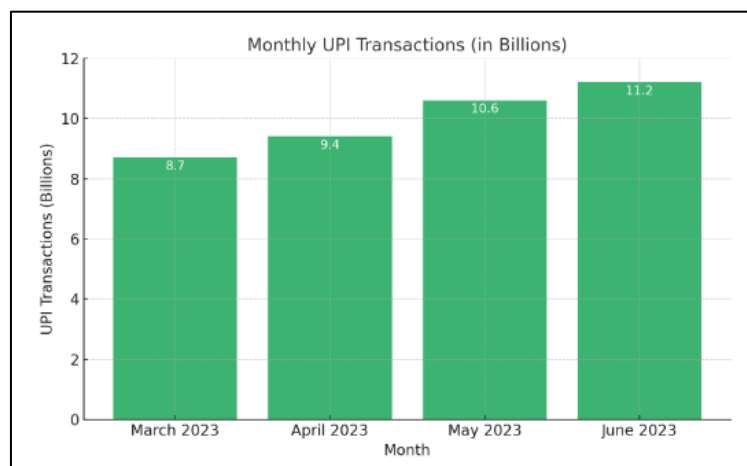
The UPI system, which processed over 11 billion transactions in June 2023 alone, (National Payments Corporation of India (NPCI), 2023), exemplifies scalable digital infrastructure driving financial access.

Table 1: UPI Transaction Volume (March–June 2023)

Month	Transactions (Billion)
March	9.5
April	10.2
May	10.8
June	11.2

Source: (National Payments Corporation of India (NPCI), 2023).

Figure 1: Monthly UPI Transactions (March–June 2023)



Source: (National Payments Corporation of India (NPCI), 2023).

The chart highlights the steady rise in UPI transactions, reaching 11.2 billion in June 2023, indicating the growing adoption of digital payments in India, (National Payments Corporation of India (NPCI), 2023).

Digital Agriculture:

Agri-tech platforms like eNAM and Kisan Suvidha provide real-time data, market access, and financial services to farmers, enhancing productivity and sustainability, (Food and Agriculture Organization (FAO), 2021).

Fin-Tech for Women Empowerment:

Startups like Mahila Money offer digital credit and financial education tailored to women, addressing gender gaps in financial inclusion, (UN Women, 2022).

Policy Recommendations:

- Invest in digital literacy and cybersecurity awareness.
- Promote public-private partnerships to enhance digital infrastructure.
- Encourage green ICT practices and responsible e-waste management.
- Ensure gender-inclusive digital financial policies.
- Monitor and evaluate digital initiatives aligned with SDGs.

CONCLUSION:

India's journey toward a digitally empowered and financially inclusive society, aligned with sustainability goals, is well underway. However, to fully harness the potential of digital technologies, a multi-stakeholder approach emphasizing inclusivity, resilience, and ecological responsibility is essential.

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3

**THE IMPACT OF POST-PANDEMIC DEVELOPMENTS IN
RBI'S MONETARY POLICY ON INFLATION AND
ECONOMIC GROWTH OF THE COUNTRY
(BETWEEN APRIL 2023 TO AUGUST 2025)**

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INTRODUCTION:

As we all know, the COVID-19 pandemic shocked most of the world economy. The Reserve Bank of India (A central Bank of the country) employed a selected monetary policy tool to maintain financial stability of the Indian Economy. on May 5, 2023, after more than three years into the pandemic, the WHO Emergency Committee on COVID-19 advised the Director-General, who approved the advice, that because the pandemic was now well established and persistent, it no longer met the criteria of a Public Health Emergency of International Concern (PHEIC).

As the critical time of the pandemic passed and the economy started to get to recovery phase, the central bank of the country i.e RBI also changed its monetary policy stance from accommodation to neutral for maintaining balance between inflation and economic growth of the country. This research paper examines that history, emphasizes recurring trends and structural changes in the RBI's toolset, and explores their consequences for the Indian macroeconomic situation such as price stability and economic growth.

OBJECTIVES OF THE STUDY:

- 1) To examine trends in RBI monetary policy rates since post pandemic.
- 2) To analyses impact of changes in Monetary policy rates on inflation
- 3) To Investigate how monetary policy rate changes affect economic growth of the country.

RESEARCH METHODOLOGY:

This is a qualitative policy analysis article based on an analysis of RBI press releases, Monetary Policy Committee (MPC) statements, government press notes, and credible literature published between 2023 and mid-2025.

TIMELINE OF RBI'S MONETARY POLICY:

(Apr 2023 – Dec 2024):

- **April 2023:** on 6th April, 2025 Monetary policy committee pauses repo rate at 6.50% and Reverse repo rate at 3.35% along with stance as withdrawal of accommodation with the objective of maintaining inflation under target range with supporting economic growth.
- **Aug 2023:** On 10 August, 2023 RBI imposed a temporary Incremental CRR (I-CRR) by 10% on incremental Net Demand and Time Liabilities to absorb excess liquidity with the banking sector.
- **2024:** The MPC of RBI's kept the repo rate at 6.50% and reverse repo rate at 3.35% throughout all its meetings. However monetary policy stance transferred from withdrawal of accommodation to neutral by Oct 2024.

(Feb – June 2025):

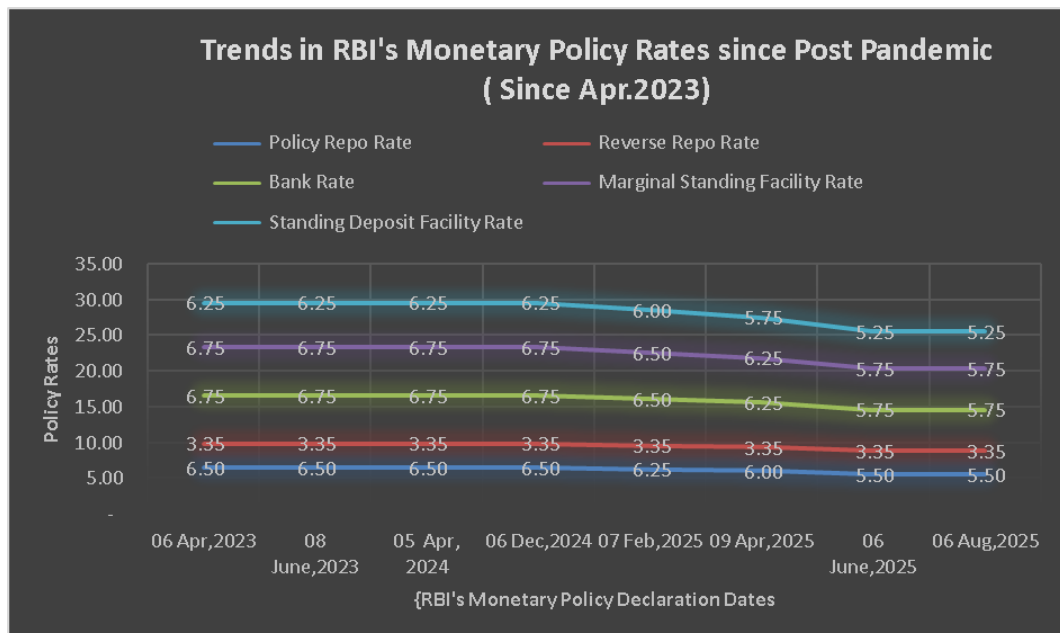
- **Feb 2025:** On 6th Feb, 2025 Monetary policy committee of RBI reduces repo rate from 6.50% to 6.25% along with reduction in Marginal standing facility rate from 6.75% to 6.50 %, Bank Rate from 6.75% to 6.50% and Standing Deposit Facility from 6.25% to 6.00% due to low inflation rate and emerging growth concerns.
- **Apr 2025:** On 9th April, 2025, the second monetary policy committee of RBI reduces repo rate from 6.25% to 6.00% (25 Basis) due to reduction in inflation along with Marginal Standing facility rate, Bank rate and Standing Deposit facility rate reduced by the same basis. (25 Basis).
- **June 2025:** On 6th June, 2025, Monetary policy committee of RBI, consecutively reduces repo rate from 6.00% to 5.50% (50 Basis) due to reduction in inflation after sufficient monsoon rainfall all over country along with Marginal Standing facility rate, Bank rate and Standing Deposit facility rate by reduce by 25 basis.

MAJOR POLICY TRENDS AND INSTRUMENTS:

Trends in RBI's Monetary Policy Rates Since Post Pandemic
(Since Apr.2023)

Effective Date	Policy Repo Rate	Reverse Repo Rate	Bank Rate	Marginal Standing Facility Rate	Standing Deposit Facility Rate
06 Apr,2023	6.50	3.35	6.75	6.75	6.25
08 June,2023	6.50	3.35	6.75	6.75	6.25
05 Apr, 2024	6.50	3.35	6.75	6.75	6.25
06 Dec,2024	6.50	3.35	6.75	6.75	6.25
07 Feb,2025	6.25	3.35	6.50	6.50	6.00
09 Apr,2025	6.00	3.35	6.25	6.25	5.75
06 June,2025	5.50	3.35	5.75	5.75	5.25
06 Aug,2025	5.50	3.35	5.75	5.75	5.25

Source: <https://data.rbi.org.in>



Source: <https://data.rbi.org.in>

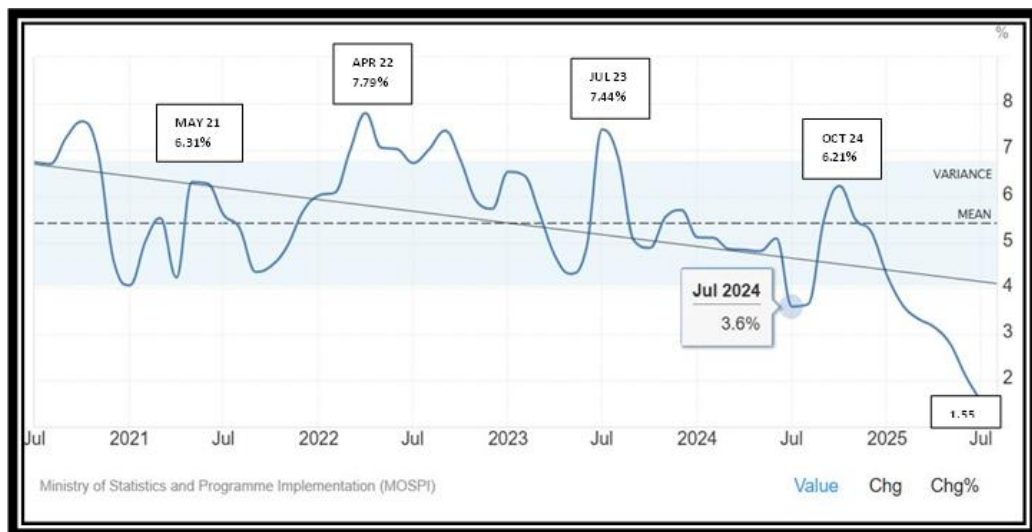
MACROECONOMIC EFFECTS OF POST-PANDEMIC DEVELOPMENTS IN RBI'S MONETARY POLICY:

A) Inflation:

The accommodation stand of Monetary policy Committee of RBI pushed inflation upward to 6.31% in May 2021 as higher market demand compared to low supply due to global commodity shocks, subsequent Monetary policy committee of RBI accepted tightening stand which tried to reduce core inflation within the inflation targeting framework over 2023–2024, though there was continued fluctuation in food and commodity prices.

During the last quarter of financial year 2023-24, there was a moderate rate of inflation around 5%, promoted to keep constant repo rate at 6.50% with a restrictive stance that helped prevent further rising inflation in the last quarter of 2024..

Inflation based on Consumer price Index eased to 1.55% in July 2025 reaching multi-year lows providing space for the easing pivot. Food and fuel components contributed significantly to the downshift with education and healthcare services showing low inflation.



Source: *tradingeconomics.com/ Ministry of Statistics and Programme Implementation*

B) Growth and Financial Conditions:

RBI's tightening stand in 2022-23 tightened various economics variables such as investment, production saving, employment etc which prompted RBI to maintain balance between containing inflation and supporting economic growth. Accommodative policy and market support lowered sovereign yields, eased funding conditions for banks

and non bank financial intermediaries, and supported credit growth recovery.

Growth and real activity as per the timeline:

- In the financial year 2023–24 Indian economy saw strong real growth (7% to 8% range) amid capex momentum and services strength.
- In the financial year 2024–25 real GDP of the Indian economy was 6.5% due to manufacturing softened earlier in the year.
- Bank credit & transmission: Early 2025 cuts transmitted faster to new deposit rates than lending rates. Corporate borrowing costs fell quicker in money markets and for top-rated banks.

CONCLUSION:

The RBI's post-pandemic policy development showed rational flexibility, moving from accommodation to targeted market support and ultimately adjusted easing as macroeconomic conditions altered. The central bank's increased tools and better communication have assisted in managing inflation without hampering economic growth of the country. This study observed that RBI kept a constant policy repo rate with “withdrawal of accommodation” stance between the April 2023 and December 2024 period, helping to control inflation amid food-price shocks. It also observed that since February 2025 RBI started a sequence of reduction in repo rate (up to August 2025) supporting economic growth of the country.

LIMITATIONS:

This research paper is entirely based on secondary data, collected from official websites of RBI, NSO etc.

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4

**KRISHI VIGYAN KENDRA, NARAYANGAON: A PATHWAY
TO AGRICULTURAL DEVELOPMENT IN NORTH PUNE
DISTRICT**

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INTRODUCTION:

Agriculture is one of the most ancient and fundamental professions in human history. Even in today's technology-driven era, its significance remains undiminished. Approximately two-thirds of the world's population depends directly or indirectly on agriculture. In India, agriculture is not just a means of livelihood but serves as the backbone of the national economy. Therefore, for the holistic development of the nation, the empowerment of the agricultural sector is imperative (Wavare et al., 2024). Traditional agricultural practices alone are no longer sufficient to meet the challenges posed by changing climates, market competition, and growing population demands. A scientific approach is necessary for agricultural development - modern seed varieties, effective pest and disease management, efficient use of land and water resources, mechanization, and proper storage and processing systems are essential. Likewise, quality animal husbandry is vital for enhanced milk, egg, and meat production (Jadhav et al., 2025).

Disseminating agricultural education and research to farmers has thus become the need of the hour. With this objective, the Krishi Vigyan Kendra (KVK), Narayangaon was established, which has emerged as a pivotal link for agricultural development in North Pune District. This research paper critically examines the functioning of KVK Narayangaon and highlights its positive impact on agricultural advancement in the region (Tanaji Salve and Jadhav, 2015).

OBJECTIVES OF THE RESEARCH PAPER:

The research paper titled “Krishi Vigyan Kendra, Narayangaon: A Pathway to Agricultural Development in North Pune District” aims to:

1. Study the background and objectives behind the establishment of Krishi Vigyan Kendras in India.
2. Analyze the structure, operational methods, and working area of the KVK at Narayangaon.
3. Assess the role and impact of KVK Narayangaon on agricultural development in North Pune District.

RESEARCH METHODOLOGY:

This research is based on secondary sources. Key resources used include:

- Annual reports, project documents, and statistical data from KVK Narayangaon.
- Agricultural reference books, research papers, journals, weeklies, and newspapers.
- Government and private agricultural websites.
- Comparative study of published literature related to the subject.

The collected data has been critically analyzed to draw conclusions. The presentation is objective, aligned with local needs, and focused on farmer-oriented initiatives.

KRISHI VIGYAN KENDRAS: CONCEPT, ESTABLISHMENT, AND FUNCTIONS:

Background:

During the 1950s and 60s, when India was grappling with food shortages, there was a pressing need to boost agricultural research. Post-1960s, although Indian agricultural scientists succeeded in increasing production through research, the new technologies were not effectively reaching the farmers. Consequently, based on the recommendations of the Dr. Mohan Singh Mehta Committee in 1974, the concept of Krishi Vigyan Kendras (KVKs) was introduced (Dagde & Jadhav, 2024).

Establishment and History:

In response to the recommendations of the Second Education Commission (1964–65), there arose a recognized need to provide

vocational agricultural training to rural youth. With the collaboration of the Ministry of Education, the Planning Commission, and the Indian Council of Agricultural Research (ICAR), the first KVK was established in 1974 in Puducherry under the Tamil Nadu Agricultural University (Jadhav, 2020).

Core Functions:

Under ICAR's guidance, KVKs have been assigned the following responsibilities:

1. Conduct on-farm trials to identify location-specific sustainable farming technologies.
2. Organize frontline demonstrations to showcase the impact of proven technologies.
3. Provide technical training and skill enhancement to farmers and extension officers.
4. Conduct short- and long-term vocational training programs for rural youth.

Organizational Structure and Working Style:

All KVKs function under the ICAR and are managed by regional project directors. In Maharashtra and Andhra Pradesh, oversight is conducted from Hyderabad. Each center is led by a Programme Coordinator, assisted by subject-matter specialists in areas like agronomy, animal husbandry, home science, pest management, etc (Pawar, 2023).

The operational area typically covers either the entire district or 5–6 talukas. Out of this, 4–5 villages are adopted for intensive intervention, where detailed village-level surveys are conducted and scientific action plans are prepared and approved by the Scientific Advisory Committee (SAC) (Rathod et al., 2024).

Scientific Advisory Committee (SAC):

Every KVK has a SAC comprising representatives from agricultural universities, farmer bodies, extension agencies, banks, All India Radio, and Door darshan. The SAC provides guidance on activities and suggests improvements as required (Bhave et al., 2022).

Need for Scientific Innovations in Agriculture:

Enhanced agricultural output now requires upgrades in traditional practices—improved crop varieties, pest control methods, water conservation, mechanization, harvesting, processing, storage, and transportation methods. Scientific animal husbandry is also

essential for dairy, egg, and meat production. All efforts are location-specific and geared toward practical agricultural needs, with KVKs playing a key role in technology dissemination (Bhave & Pawar, 2022).

ZONAL DISTRIBUTION OF KVKs IN INDIA (ATARI ZONES):

India’s KVK system is categorized into 11 ATARI zones to ensure region-specific agricultural technology dissemination.

Zone No. (ATARI)	States/UTs	No. of KVKs
Zone I – Ludhiana	Punjab (22), Uttarakhand (13), HP (13), J&K (20), Ladakh (4)	72
Zone II – Jodhpur	Rajasthan (47), Haryana (18), Delhi (1)	66
Zone III – Kanpur	Uttar Pradesh (89)	89
Zone IV – Patna	Bihar (44), Jharkhand (24)	68
Zone V – Kolkata	WB (23), Odisha (33), Andaman & Nicobar (3)	59
Zone VI – Guwahati	Assam (26), Arunachal (17), Sikkim (4)	47
Zone VII – Umiam	Manipur (9), Meghalaya (7), Mizoram (8), Nagaland (11), Tripura (8)	43
Zone VIII – Pune	Maharashtra (50), Gujarat (30), Goa (2)	82
Zone IX – Jabalpur	MP (54), Chhattisgarh (28)	82
Zone X – Hyderabad	TN (32), AP (24), Telangana (16), Puducherry (3)	75
Zone XI – Bengaluru	Karnataka (33), Kerala (14), Lakshadweep (1)	48
Total	—	731

(Source - Wikipedia Indian Council of Agricultural Research)

KRISHI VIGYAN KENDRA, NARAYANGAON (PUNE): AN OVERVIEW OF KEY INITIATIVES:

1) Gramonnati Mandal, Narayangaon (Established in 1944):

Influenced by the ideology of Mahatma Gandhi, the late Guruvar Rajaram Parshuram Sabnis established the Gramonnati Mandal at Narayangaon in 1944 with the objective of spreading education in rural areas. Gramonnati Mandal has emerged as a

leading institution dedicated to rural education and development. It offers a wide range of technical, agricultural, industrial, and educational programs and courses aimed at empowering students. With a committed faculty and a strong academic framework, the institution continues to contribute meaningfully to the future of rural India. The Mandal currently operates under the guidance of Krushiratna Aniltatya Meher (Pawar & Wavare, 2022).

2) Establishment of Krishi Vigyan Kendra, Narayangaon:

In 2010, the Indian Council of Agricultural Research (ICAR), New Delhi, approved the establishment of a Krishi Vigyan Kendra at Narayangaon under the aegis of Gramonnati Mandal, which was recognized for its contributions to agriculture and education in Pune district. KVK is a multi-functional institution of the Government of India focused on agricultural technology dissemination, research, and extension. This center serves the northern Pune district, including the talukas of Junnar, Ambegaon, Khed, Maval, Mulshi, and Shirur (Wavare & Pawar, 2022).

3) Key Initiatives and Outreach Activities of KVK:

KVK Narayangaon has initiated and implemented a multitude of farmer-centric programs and services:

Training and Awareness Programs: KVK reaches approximately 90,000 to 100,000 farmers annually through agricultural training programs, field days, group discussions, scientist-farmer interactions, Kisan Goshtis, and Agricultural Technology Weeks (Kamat & Pawar, 2024).

Outreach and Impact: Over the past 13 years, more than 550,000 farmers across Pune and North Maharashtra have benefited from KVK's programs, fostering sustainable agricultural practices.

Government-Sponsored Schemes: KVK has successfully implemented several government schemes, such as Garib Kalyan Sammelan, PM Kisan Nidhi distribution, Swachh Bharat Abhiyan, Soil Health Card Campaign, and National Women Farmers Day.

Participatory Farmer Activities: The KVK has organized farmer rallies, agricultural exhibitions, workshops, and agricultural schools, reaching over 500,000 beneficiaries.

4) Scientific and Technological Facilities:

KVK Narayangaon provides critical scientific and technical support to farmers, aiming to enhance productivity and profitability.

Laboratory Services: Soil and water testing services are provided with Soil Health Cards. Over the past four years, 19,400 soil and 550 water samples have been analyzed.

Agricultural Inputs: Supplies include organic compost, vermicompost, urea briquettes, Azolla, and hydroponics units.

Nurseries and Processing Units: The center maintains nurseries for vegetables and fruit plants and supports food processing units for products such as soy paneer.

5) National and International Projects:

International Potato Seed Project (2014): In collaboration with the International Potato Center, Lima (Peru), this project promotes potato seed production in non-traditional regions.

CCKN-IA Project (2015): To address climate change impacts on agriculture, a Climate Change Knowledge Network in Indian Agriculture was established in collaboration with the German and Indian governments.

International Training for Scientists (2016): Prof. Santosh Sahane from KVK was selected for training on "Integrated Pest Management and Food Safety" at Wageningen University, Netherlands.

6) Agri-Clinic and Agri-Business Course (MANAGE, Hyderabad, 2016):

KVK received approval to conduct a two-month course focused on agripreneurship for agricultural graduates. Of the 540 trainees, 324 initiated agri-related enterprises.

7) Other Notable Projects:

- **Soil Health Card Project (Indian Postal Service, 2018):** Involved soil sample collection, analysis, and dissemination of soil health cards.
- **Beekeeping Project – ‘MadhuShakti’ (2019):** In collaboration with B+ (Delhi), 500 women farmers were trained, and 100 were provided beehives, enabling self-employment under the ‘MadhuShakti Honey’ brand.
- **MoU with MAGNET (2023):** KVK was selected as a Centre of Excellence under MAGNET for promoting Good Agricultural Practices and chemical-free farming.
- **MoU with Amazon (2023):** Promotes awareness and adoption of residue-free farming among farmers.

- **GI Tag for ‘Shivneri Hapus’ Mango (2022):** KVK successfully facilitated Geographical Indication (GI) registration for Alphonso mangoes from Junnar and Ambegaon.
- **International Year of Millets (2023):** Established millet demonstration plots and organized exhibitions involving 30 women entrepreneurs; distributed 1000 nutrition kits.
- **Grape King Festival (2022):** Organized to promote sustainable marketing for grape producers in collaboration with the Maharashtra Agricultural Department and local bodies.
- **Two-Star Rating for Vasundhara Nursery (2024):** Awarded by National Horticulture Board, Gurugram, Haryana.
- **NFSM and Oilseed Missions:** Demonstrations on pulses and oilseeds (soybean, summer groundnut) benefiting over 1,500 farmers across 630 hectares.
- **Soil Health Campaign:** With a permanent soil testing lab, the center analyzed 19,400 soil and 550 water samples, advising on crop-specific nutrient management.
- **ARYA Project (Youth Employment):** 35 five-day training programs on topics like nursery management, vermicomposting, goat rearing, and vegetable processing were conducted, with 90 trainees starting their own businesses.
- **Nutrition Gardens:** Over 2,500 women developed kitchen gardens for dietary improvement, after attending KVK training sessions.
- **Natural Farming:** 800 farmers have been trained over two years in natural farming methods under Dr. Punjabrao Deshmukh Natural Farming Campaign.
- **Urea Briquette Application:** Promoting this technology has led to a 20% increase in rice yields.
- **Vasundhara Hi-tech Nursery:** Supplies approximately 12,000–13,000 fruit plant saplings annually.
- **Use of Agri-Drones:** For crop monitoring, pest control, and fertilizer/pesticide application, reducing costs and improving productivity.
- **Automated Weather-Based Information Systems:** Provide real-time weather and crop condition data for informed decision-making.
- **Specific Technologies Used by KVK: Agri Drones:** IOTech, AgriBot ,

- **Weather Stations:** IMD, Sky Mate ,**IoT Sensors:** Jio Krishi Weather Stations ,
- **Smart Irrigation:** Automatic systems by Jain Irrigation.
- **Drone Technology for Agriculture (2023):** ICAR provided drones to five KVKs in Maharashtra for crop spraying and monitoring, including Narayangaon.
- **Global Agriculture Festival (2017–present):** An annual technology exhibition on 80 acres, with 300+ national and international participants, 100+ crop demos, and 400,000+ farmer visitors.
- **Future Collaboration with ‘Baap Company’:** Upcoming AI-driven initiatives include:
 - **KVK Narayangaon App** for farmer training
 - **Farm produce marketplace & transport-sharing**
 - **Farminglytics:** Demand-supply analytics for crops like onion and tomato
 - **AI-based Agri-Advisory, Weed Management, Soil Moisture Sensors**
 - **MOU Brand:** Real-time cattle health monitoring system

KRISHI VIGYAN KENDRA, NARAYANGAON: A PATHWAY TO AGRICULTURAL DEVELOPMENT IN NORTHERN PUNE DISTRICT:

India is an agrarian country, and the economic and social development of rural India is predominantly dependent on the progress of the agricultural sector. The northern region of Pune district—comprising talukas such as Junnar, Ambegaon, Khed, Maval, Mulshi, and Shirur—is characterized by geographic, environmental, and social diversity, where traditional farming practices continue to play a significant role.

Against this backdrop, the Krishi Vigyan Kendra (KVK), Narayangaon was established in 2010 through the initiative of Gramonnati Mandal and under the guidance of the Indian Council of Agricultural Research (ICAR). Since its inception, KVK Narayangaon has emerged as a crucial node for rural agricultural development in the region.

This KVK operates under ATARI Pune, Zone VIII of ICAR and is committed to disseminating advanced agricultural technologies to

farmers, promoting science-based farming, and facilitating research and training for sustainable and eco-friendly agricultural practices.

The establishment of KVK Narayangaon is rooted in the extensive educational and rural service legacy of Gramonnati Mandal, currently led by Krishiratna Aniltatya Meher, a visionary and passionate advocate of agriculture. Nestled in the foothills of the Sahyadri ranges, the village of Narayangaon is not only geographically strategic but also a fertile ground for agricultural innovation.

Over the past decade, the KVK has become a pillar of rural agricultural transformation, aligning cutting-edge technology and scientific research with the practical needs of farmers. Its approach is centered on the holistic development of farmers, aiming to equip them with relevant knowledge, confidence, and tools.

Each year, through a variety of training programs, the KVK reaches thousands of farmers. Initiatives such as Krishi Din (Agriculture Day), study tours, scientist-farmer interactions, and Kisan Melas (Farmer fairs) have significantly contributed to building farmers' confidence in adopting modern agricultural technologies. In the past few years alone, the KVK has reached over 550,000 farmers, showcasing the effectiveness and outreach of its programs.

KVK Narayangaon does not limit its role to technical training. It actively promotes Agriculture-related enterprises, Women empowerment, Entrepreneurship among youth, and Climate-smart advisory services. Programs focusing on beekeeping, nutrition gardens, Natural farming, drone technology, IoT-enabled climate information systems, and Good Agricultural Practices (GAP) have collectively made agriculture in the region more sustainable, smart, and environmentally sound.

On an international scale, KVK Narayangaon has participated in impactful projects, including potato seed production in collaboration with the International Potato Center, Peru, and the Climate Change Knowledge Network in Indian Agriculture (CCKN-IA) supported by the German and Indian governments. Additionally, its Soil Health Project in partnership with the Indian Postal Department reflects its multidimensional outreach and credibility.

The KVK has signed MoUs with prominent organizations such as MAGNET and Amazon to promote chemical-free farming practices and to create market linkages. The 'MadhuShakti' beekeeping project

for women farmers and the Shivneri Hapus Mango brand—which achieved Geographical Indication (GI) status—have not only boosted the rural economy but also brought national and international recognition to local produce.

Noteworthy initiatives such as the Global Agriculture Festival, the Grape King Festival, and the observance of the International Year of Millets (2023) have not only disseminated agricultural knowledge but also instilled renewed confidence among farmers. Moreover, youth-focused programs like the ARYA project and Agri-Business Courses have sparked interest in agripreneurship among rural youth.

CONCLUSION:

Krishi Vigyan Kendra, Narayangaon has become a pivotal center for rural development in Northern Pune District. By harmonizing modern science and technology with local needs, it has emerged as a model agricultural service institution. Through innovative, farmer-centric programs and a commitment to sustainable development, the KVK continues to positively transform rural livelihoods. It stands as an inspiration and a replicable model for agricultural advancement across rural India.

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DIGITAL PATHWAYS TO INCLUSIVE FINANCE IN INDIA

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INTRODUCTION:

The rapid evolution of India's digital economy has transformed the nation's financial landscape, enabling unprecedented access to banking, payments, and credit. Government-led initiatives such as Aadhaar, Pradhan Mantri Jan Dhan Yojana (PMJDY), and BharatNet, combined with innovations like Unified Payments Interface (UPI) and Aadhaar Enabled Payment System (AEPS), have significantly advanced financial inclusion. Mobile banking and digital payments have reduced transaction costs, enhanced transparency, and empowered millions of unbanked and underbanked citizens to participate in the formal economy.

According to NPCI, UPI accounted for over 83% of digital transaction volumes in FY 2024- 25, reflecting deep market penetration across diverse demographics. Financial account penetration in India has surged from 35% in 2011 to nearly 89% in 2025, underscoring the transformative impact of digital infrastructure.

However, the benefits of this digital revolution are unevenly distributed. Persistent challenges- including low digital literacy (only 25% in rural households), rising cybersecurity threats, and infrastructural constraints in rural areas- risk excluding vulnerable populations. Addressing these gaps through targeted policies, public-private partnerships, and robust digital education programs is critical. This study examines opportunities, challenges, and policy imperatives to ensure that India's digital economy evolves into an inclusive, secure, and sustainable financial ecosystem.

OBJECTIVES:

1. To examine the role of digital infrastructure in expanding financial inclusion in India.

2. To evaluate government and private sector initiatives in promoting digital finance.
3. To identify barriers and propose policy recommendations.

RESEARCH METHODOLOGY:

The study adopts a **descriptive-analytical research design** based on secondary data to evaluate the role of India's digital economy in promoting financial inclusion. Statistical indicators on UPI transactions, mobile banking adoption, financial penetration, and rural connectivity are analysed to trace growth patterns and assess inclusion outcomes. Content and comparative analysis are employed to examine policy initiatives, identify challenges such as digital literacy gaps, cybersecurity threats, and infrastructural constraints, and draw global parallels. The methodology thus combines qualitative policy assessment with quantitative trend analysis to propose evidence-based recommendations for inclusive digital finance.

LITERATURE REVIEW:

The digital economy has emerged as a transformative force for financial inclusion worldwide. Globally, digital financial services have reduced transaction costs, improved accessibility, and enhanced economic participation. Kenya's *M-Pesa* is a widely cited example, enabling millions of unbanked individuals to access banking services through mobile technology. In China, platforms like *Alipay* and *WeChat Pay* have deeply integrated digital payments into everyday life, fostering both urban and rural inclusion. In India, digital infrastructure and targeted initiatives have significantly advanced financial inclusion. The *Aadhaar* biometric identity system, *Pradhan Mantri Jan Dhan Yojana (PMJDY)*, and the *Digital India* campaign have collectively expanded access to formal banking. FinTech innovations such as *Paytm*, *PhonePe*, *Google Pay*, and *BharatPe* have further accelerated adoption by offering user-friendly payment solutions. Regulatory and infrastructural support from the Reserve Bank of India (RBI) and the National Payments Corporation of India (NPCI)- through systems like Unified Payments Interface (UPI), Bharat Interface for Money (BHIM), and Aadhaar Enabled Payment System (AEPS)- have streamlined real-time, low-cost transactions. Despite progress, significant gaps remain. Adoption in remote and rural areas is

hindered by inadequate internet connectivity, low digital literacy, and resistance to change. Cybersecurity risks, including fraud and data breaches, also pose barriers to trust in digital systems. Bridging these gaps requires integrated efforts involving infrastructure development, awareness campaigns, and robust security measures. Overall, existing literature underscores that while India's digital economy holds strong potential to drive inclusive growth, sustained policy innovation and capacity building are essential to achieve universal financial inclusion.

GROWTH TRENDS: DIGITAL PAYMENTS, MOBILE BANKING ADOPTION, UPI TRANSACTION VOLUMES:

India's digital payments ecosystem has witnessed an extraordinary expansion in recent years. In FY 2024- 25, total digital payment transactions surged by approximately 35% in volume, reaching 2,219 billion, and experienced a 17.9% increase in value to ₹2,862 lakh crore ([ETCFO.com](#)[ETBFSI.com](#) & [Business Today](#)). Within this, the Unified Payments Interface (UPI) was the dominant driver- accounting for 83.7% of digital transaction volume, with 185.8 billion transactions worth ₹261 lakh crore ([ETCFO.com](#)).

Monthly, UPI remains robust: May 2025 recorded 18.68 billion transactions valued at ₹25.14 trillion- an increase from April ([ETBFSI.com](#)). In July 2025, UPI processed an all-time high of 1,947 crore (19.47 billion) transactions, totalling ₹25.1 lakh crore- a 35% YoY jump in volume and 22% rise in value [The Times of India](#).

Looking ahead, projections point to continued momentum: PwC anticipates UPI transactions ballooning from FY 2023- 24's 131 billion to 439 billion by FY 2028- 29, comprising over 90% of retail digital payments ([The Economic Times](#)).

Mobile banking- driven by widespread smartphone adoption- is also surging. In the second half of 2024, mobile banking transactions jumped 41% to 88.5 billion, with transaction value rising 30% to ₹197.7 trillion ([Outlook Money](#)). As of January 2025, mobile payments hit a record 15,878 million (15.878 billion) transactions, marking continued upward momentum ([CEIC Data](#)). Notably, 85.5% of Indian households now own a smartphone, and 99.5% of youth use UPI for transactions ([The Economic Times](#)).

India's digital financial revolution—led by exponential growth in UPI and burgeoning mobile banking usage- is consolidating inclusive access across demographics and geographies.

IMPACT ASSESSMENT:

1. Increased Access to Banking for the Unbanked:

The introduction of India Stack- including Aadhaar, PMJDY, and digital public infrastructure- has dramatically expanded banking access. In just one year after its launch, PMJDY enabled 166 million new bank account openings, reaching nearly 384 million by 2019 ([IMF](#)). Overall, India's financial account penetration soared from around 35% in 2011 to 89% by 2025 ([Financial Times](#)). These developments significantly narrowed the financial inclusion gap, bringing formal banking services to vast underserved populations.

2. Reduced Transaction Costs:

Digital payments in India have become significantly faster, more cost-effective, and efficient. A World Bank panel study across 90 economies found that each percentage point increase in digital payments corresponded to a 0.10 percentage point rise in GDP per capita and 0.04 percentage point increase in total factor productivity ([Reserve Bank of India](#)). Additionally, digital payments have facilitated better access to credit and decreased the share of informal employment by 0.06 percentage point. These improvements reflect the broader economic benefits, such as consumption smoothing and enhanced productivity, associated with lower-cost financial services ([Reserve Bank of India](#)).

3. Rise in Microfinance and Digital Lending:

Microfinance in India is on a strong growth trajectory, with the sector expanding at a 17% compound annual growth rate (CAGR) between FY2020 and FY2024- more than double the pace of overall GDP growth ([Reddit](#)). The Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) has played a pivotal role in fostering access to collateral-free credit. By December 2024, the initiative had backed over 10 million (1 crore) loan guarantees, covering ₹5.2 lakh crore in credit, with 45% of beneficiaries being first-time borrowers. Furthermore, partnerships with fintech and AI integration have accelerated approvals and widened reach.

Table No.1: Impact Assessment Statistics:

Sr. No.	Impact Area	Key Findings
1.	Banking Access for Unbanked	PMJDY added ~384 million accounts by 2019; financial inclusion rose to 89%
2.	Transaction Cost Reduction	Digital payments boosted GDP per capita (+0.10 pp) and productivity (+0.04 pp)
3.	Microfinance & Digital Lending	MFI up 17% CAGR (2020–24); CGTMSE backed ₹5.2 lakh crore; 45% first-time borrowers

Overall, India’s digital transformation has not only enabled widespread access to financial services but also fuelled economic efficiency and inclusive credit access. These shifts underscore the critical role of digital infrastructure and policy innovation in driving financial inclusion.

CHALLENGES:

1. Digital Literacy Gap:

India exhibits a significant digital literacy divide, particularly between urban and rural populations. Only 38% of households are digitally literate- defined as having at least one individual capable of using a computer and the internet- dropping to just 25% in rural areas, while urban households are at 61% ([Ideas for India](#)). Individual computer literacy rates further underscore the disparity: just 24.7% of individuals aged 15 and above were computer-literate in 2020–21, with only 18.1% in rural regions compared to 39.6% in urban areas ([The Hindu](#)). Furthermore, access-related inequalities persist: only 14.9% of rural families have internet access, compared to 42% of urban households, and just 4.4% of rural households own a computer (versus 23.4% in urban ones). Targeted government interventions like PMGDISHA have certified 47.8 million rural citizens as digitally literate under initiatives such as Common Service Centres (CSCs). Despite such efforts, the digital literacy gap remains a formidable barrier to inclusive participation in the digital economy.

2. Cybersecurity Risks and Fraud:

As digital transactions proliferate, India faces rising cybersecurity threats. High-value cyber fraud cases in FY 2024 surged

more than four-fold, leading to financial losses of approximately ₹177 crore (~\$20 million), with cases exceeding ₹100,000 rising from 6,699 to 29,082 ([Reuters](#)). In Gujarat alone, between 2020-21 and 2025, 23,784 cyber frauds were reported- about 13 frauds per day, with total losses amounting to ₹17 crore; recoveries were limited to just 19% of those losses ([The Times of India](#)). Particularly vulnerable are the elderly: in Andhra Pradesh, older citizens constitute 10% of cybercrime victims, with notable cases like a 64-year-old losing ₹5.25 crore in an investment fraud scheme ([The Times of India](#)). In response, Google has announced a safety charter to mitigate UPI-related cybercrime losses pegged at ₹20,000 crore in 2025, leveraging AI technology for fraud detection ([The Times of India](#)). However, significant systemic vulnerabilities remain, emphasizing the need for robust security infrastructure, regulatory mechanisms, and public digital literacy.

3. Infrastructural Constraints in Rural Areas (Internet Connectivity):

While connectivity has expanded in rural India, infrastructural disparities still hamper digital inclusion. As of March 2024, 95.15% of India's villages had 3G/4G connectivity, accounting for approximately 6.12 lakh out of 6.44 lakh villages ([ETTelecom.com](#)). India's total internet subscribers grew from 251.6 million in 2014 to 954.4 million in 2024, with 398.35 million users in rural areas, contributing to a sustained CAGR of around 14.3% ([ETTelecom.com & Press Information Bureau](#)). Yet, penetration disparities persist: rural internet penetration stands at 41.7%, compared to 110% in urban areas.

To bridge the gap, the National Broadband Mission 2.0 (2025-30) aims to extend optical fiber connectivity to 2.7 lakh villages (up from ~50,000 currently), increase rural internet subscribers per 100 population from 45 to 60 by 2030, and improve download speeds to a minimum of 100 Mbps. The BharatNet initiative has prepared 2.13 lakh Gram Panchayats for fiber optical services, aiming to cover remaining villages through home fiber connections ([Press Information Bureau](#)). Yet logistical and awareness challenges- especially in remote and economically disadvantaged areas- continue to hinder meaningful digital access.

Table No.2: Key Challenges Statistics

Sr. No.	Challenge	Key Data Highlights
1.	Digital Literacy Gap	38% households digitally literate (25% rural, 61% urban); 18.1% computer literate in rural areas
2.	Cybersecurity Risks & Fraud	Fourfold rise in high-value cases in FY 2024; ₹177 crore losses; elderly = 10% of victims in Andhra Pradesh
3.	Rural Connectivity Constraints	95% villages with 3G/4G; rural penetration 41.7% vs urban 110%; NBM 2.0 targets 2.7 lakh villages fiberized

These challenges- digital literacy, cyber threats, and infrastructural inadequacies- must be addressed systematically through targeted policy interventions to ensure that the digital economy promotes equitable financial inclusion. Let me know if you'd like to include visual charts or further comparative analysis with other countries.

CONCLUSION:

India's journey toward a digitally driven financial ecosystem reflects remarkable progress, with transformative initiatives such as Aadhaar, PMJDY, UPI, and BharatNet reshaping access to banking and payments. The surge in UPI transactions, the rapid adoption of mobile banking, and the expansion of microfinance and digital lending have collectively bridged significant gaps in financial inclusion, enabling millions of previously unbanked citizens to participate in the formal economy. Reduced transaction costs and improved credit access underscore the broader economic potential of digital finance in fostering inclusive growth.

However, the research highlights that the digital economy's benefits remain unevenly distributed. Persistent challenges- digital literacy deficits, cybersecurity vulnerabilities, and infrastructural constraints in rural areas- continue to hinder full-scale adoption. Statistical evidence underscores stark urban- rural divides in connectivity, skills, and trust in digital platforms. Without targeted

interventions, these disparities risk perpetuating exclusion, particularly among marginalized populations.

The path forward demands a multi-pronged policy approach: scaling digital literacy programs like PMGDISHA, fortifying cybersecurity frameworks, fostering public-private partnerships for last-mile connectivity, incentivizing small merchant adoption, and integrating FinTech innovations with social welfare schemes. Such measures will not only deepen financial penetration but also strengthen resilience against systemic risks.

In essence, India stands at a pivotal juncture- its digital economy has the momentum to achieve near-universal financial inclusion, provided that policy imperatives align with ground realities. A coordinated effort between government, industry, and civil society can ensure that digital finance evolves into a truly inclusive, secure, and growth-oriented ecosystem.

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6

**CHALLENGES IN MONETARY POLICY IMPLEMENTATION
IN INDIA**

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INTRODUCTION:

Monetary policy, a fundamental tool of macroeconomic management, is used by the Reserve Bank of India (RBI) to influence the economy through control over money supply, interest rates, and inflation. Since liberalisation in the 1990s, India's monetary policy framework has evolved significantly from direct instruments like statutory liquidity ratios to a market-based and inflation-targeted system (Kamat & Pawar, 2024).

Despite these improvements, the effective implementation of monetary policy in India continues to face several structural and operational challenges. These challenges include a complex dual mandate of controlling inflation while promoting growth, fiscal dominance that dilutes the independence of monetary decisions, ineffective transmission of policy rates, external shocks such as oil price volatility and global geopolitical tensions, difficulty in managing capital flows, and increasing levels of household and corporate debt. This research paper explores these challenges in depth and evaluates their impact on the RBI's ability to implement effective monetary policy (Rathod et al., 2024).

Monetary policy serves as a critical tool for any nation's central bank to maintain economic stability, control inflation, manage liquidity, and promote sustainable growth. In India, the Reserve Bank of India (RBI) is entrusted with the responsibility of formulating and implementing monetary policy. While the objectives of India's monetary policy, namely price stability, economic growth, exchange rate stability, and financial stability, are clearly defined, their effective realisation often encounters several complex challenges. India's vast and diverse economy presents unique structural and cyclical issues

that complicate the transmission and impact of monetary policy decisions. From inflation driven by supply-side shocks, such as food and fuel price volatility, to limitations in financial market depth and access, the RBI frequently grapples with constraints that blunt the effectiveness of its policy tools. Furthermore, fiscal dominance, where government borrowing and spending patterns influence monetary decisions, often restricts the autonomy and manoeuvrability of the central bank (Jadhav, 2020).

Global economic uncertainties, currency fluctuations, and capital flow volatility also pose significant external challenges. The increasing integration of India with the global economy makes it vulnerable to international developments, such as oil price shocks or changes in the monetary stance of advanced economies like the United States. These external factors complicate domestic monetary policy calibration, especially in a rapidly changing economic environment. On the domestic front, uneven monetary transmission, due in part to inefficiencies in the banking sector, non-performing assets (NPAs), and rigidities in interest rate pass-through mechanisms, hinders the timely and effective implementation of monetary policy (Jadhav et al., 2025).

Additionally, the presence of a large informal sector, low financial literacy, and limited access to formal banking services in rural areas further dilute the transmission of monetary signals across the economy. The Monetary Policy Committee (MPC), established in 2016, has enhanced transparency and accountability in policy-making. However, balancing the multiple objectives of monetary policy in a developing economy like India remains a formidable task. The RBI must continuously adapt to shifting macroeconomic dynamics, policy trade-offs, and emerging financial technologies, all while ensuring coordination with fiscal authorities (Dagde & Jadhav, 2024).

This research paper explores the key challenges faced by the Reserve Bank of India in implementing monetary policy, delving into structural, institutional, and external constraints. It also examines the evolving nature of these challenges in the context of India's ongoing economic transformation.

IMPORTANCE OF MONETARY POLICY IMPLEMENTATION:

Monetary policy plays a pivotal role in achieving macroeconomic stability and sustainable development. The effectiveness of monetary policy directly influences

- Inflation control helps ensure price stability, which is critical for maintaining purchasing power and financial confidence.
- Economic growth: by controlling the cost of borrowing and liquidity in the economy, monetary policy supports investments and consumption.
- Financial stability prevents overheating of the economy and credit bubbles.
- Employment generation: a balanced policy approach can stimulate job creation by fostering growth.
- External balance helps in managing exchange rates and stabilising foreign capital flows.

Given the interconnected nature of the modern global economy, implementing monetary policy efficiently is not only important but essential for India to remain resilient amid internal and external shocks (Tanaji Salve and Jadhav, 2015).

OBJECTIVES OF THE STUDY:

The primary objective of this research is to analyse the contemporary challenges faced by the Reserve Bank of India in implementing its monetary policy. The specific goals are

1. To understand the structure and framework of monetary policy in India.
2. To examine the dual mandate of the RBI – price stability and growth – and its complexities.
3. To assess the impact of global factors such as capital flows and oil prices.
4. To recommend strategies to enhance the effectiveness of monetary policy in India.

KEY CHALLENGES IN MONETARY POLICY IMPLEMENTATION:

1. Dual Mandate: Inflation vs. Growth:

The RBI has been entrusted with a dual mandate of maintaining price stability while also ensuring economic growth. These two goals can often be conflicting. For instance,

- High interest rates may control inflation but discourage investment and reduce GDP growth.
- Low interest rates may stimulate growth but risk increasing inflation and asset bubbles.

Post-2016, India formally adopted Flexible Inflation Targeting (FIT) with a target of 4% CPI inflation \pm 2%. However, in times of economic slowdown (during COVID-19 or global recessions), the RBI faces pressure to prioritise growth, even if inflation remains above target.

2. Fiscal Dominance:

Fiscal dominance occurs when the central bank's decisions are overly influenced by the government's borrowing needs. In India

- The government's high fiscal deficits often require support from the RBI through bond purchases.
- Excessive borrowing by the government may crowd out private investment.
- Inflationary pressures arise when deficits are monetised or when excessive liquidity is injected to support government financing.

3. Transmission of Policy Rates:

The transmission mechanism refers to how quickly and effectively changes in the repo rate (the policy rate) are passed on to borrowers by commercial banks.

- High levels of non-performing assets (NPAs) in banks.
- Banks' dependence on deposits rather than market borrowings.
- Small saving schemes offer higher returns, limiting banks' ability to lower deposit rates.
- Credit market inefficiencies and rigid interest rate structures.

4. External Shocks (Oil Prices, Geopolitical Tensions):

India is heavily dependent on imported crude oil, and volatility in global oil prices significantly affects inflation and the current account.

- U.S. Federal Reserve policy shifts
- Global financial crises
- Wars and sanctions in Russia-Ukraine
- Currency fluctuations and capital flight

Such shocks often force the RBI to change its policy stance abruptly, even when domestic indicators are stable.

5. Managing Capital Flows:

India's growing integration with the global financial system has led to increased capital inflows and outflows. Managing these flows while maintaining monetary stability is a difficult task.

- Sudden surges of capital inflows leading to rupee appreciation.
- Flight of capital due to global risk aversion, leading to rupee depreciation and forex reserve depletion.
- Volatility in foreign institutional investments (FIIs) and debt markets.
- Sterilisation using OMOs
- Intervention in forex markets
- Liberalisation/restriction of ECBs and FDI

6. Rising Household and Corporate Debt:

The rising debt levels of households and corporates limit the effectiveness of monetary policy.

- Over-indebted households may not increase spending even when rates are cut.
- Corporates with high leverage may avoid new investments.
- Credit growth may be restrained even with an accommodative policy stance.
- Households borrowed more due to income losses.
- MSMEs faced debt stress despite RBI credit support.

To improve policy effectiveness, the following are needed:

- Strengthened coordination between monetary and fiscal policy.
- Continued financial sector reforms.
- Better inflation forecasting and risk assessment.
- Enhanced communication and transparency by the RBI.

The successful implementation of monetary policy is not solely the RBI's task; it requires support from the government, financial institutions, and external stakeholders to ensure macroeconomic stability and inclusive growth in India.

CONCLUSION:

India's monetary policy framework has evolved significantly over the decades, especially since the introduction of inflation targeting and the establishment of the Monetary Policy Committee (MPC). However, the challenges to effective implementation remain multifaceted and persistent. From balancing inflation and growth to

managing capital flows, combating fiscal dominance, and dealing with weak transmission mechanisms, the RBI operates in a complex and dynamic environment. The credibility and effectiveness of the central bank are contingent upon not just internal reforms but also close coordination with fiscal authorities and a robust financial ecosystem. In the face of globalisation and emerging economic challenges like climate risks and digital currency adoption, India's monetary policy needs to stay agile, transparent, and forward-looking (Bhave & Pawar, 2022).

This research paper examined the key challenges in the implementation of monetary policy in India, with a focus on six main areas. RBI must strike a delicate balance between controlling inflation and promoting growth. Persistent fiscal deficits reduce monetary policy autonomy. Weak banking sector health and structural rigidities dilute the effect of policy rates. Global events like oil price spikes and geopolitical tensions complicate domestic monetary strategies. Managing sudden inflows/outflows without destabilising currency and liquidity is difficult. High household and corporate debt reduce credit uptake and policy effectiveness.

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7

**REGIONAL DISPARITIES AND BALANCED ECONOMIC
DEVELOPMENT: CHALLENGES, POLICIES, AND
PATHWAYS**

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INTRODUCTION:

Regional disparities have emerged as a major challenge in the pursuit of inclusive and sustainable economic development, particularly in large and heterogeneous countries like India. These disparities refer to the unequal distribution of income, employment opportunities, industrial development, infrastructure, and access to social services across different regions (Myrdal, 1957; Sen, 1992). While some regions have witnessed rapid economic progress, others remain economically stagnant and socially marginalized, resulting in an unbalanced development landscape (Jadhav et al., 2025).

Balanced economic development, therefore, becomes essential to ensure that growth is not concentrated in a few urban or industrial hubs but reaches all sections of society and all parts of the country. It entails policies and strategies aimed at reducing inter-regional inequalities and promoting equitable access to resources, infrastructure, and opportunities (Planning Commission, 2008; NITI Aayog, 2020).

The persistence of regional imbalances can lead to several negative outcomes such as social unrest, migration pressures, political instability, and underutilization of human and natural resources (Dholakia, 2003). Hence, addressing regional disparities is not only a matter of economic efficiency but also of social justice and national cohesion.

This chapter critically examines the concept, dimensions, and determinants of regional disparities. Its further analyses policy responses and developmental strategies aimed at achieving balanced economic development, with special reference to the Indian context.

DEFINITIONS:

Regional Disparities:

1. "Regional disparity refers to the imbalances in the levels of development between different regions of a country, often arising due to historical, geographical, economic, and policy-related factors." *Myrdal, G. (1957). Economic Theory and Underdeveloped Regions.*
2. "Differences in economic performance across regions are a natural outcome of spatial heterogeneity, but persistent and widening disparities can threaten national integration and social equity." *Planning Commission of India (2008). Eleventh Five-Year Plan.*

Balanced Economic Development:

1. "Balanced development implies a geographically even pattern of growth in which backward regions are brought up to the level of more advanced regions, and economic benefits are widely shared." - *United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, 2001).*
2. "Balanced regional development seeks to reduce the economic gaps between the developed and underdeveloped regions, aiming for spatially inclusive and sustainable growth." - *NITI Aayog (2020). Strategy for New India @75.*

Importance of Addressing Regional Inequalities in a Developing Country like India:

In a large, diverse, and rapidly developing nation like India, regional inequalities pose a major challenge to achieving inclusive and sustainable growth. These disparities, visible in income levels, industrialization, literacy, health outcomes, and infrastructure, limit the participation of vast segments of the population in the national development process (Planning Commission, 2008). Bridging the development gap between prosperous and backward regions promotes inclusive growth, ensures social justice, and aligns with India's constitutional vision of equity (Sen, 1999). Reducing such imbalances prevents the concentration of economic benefits in a few states or urban hubs, thereby enabling a more equitable distribution of resources, opportunities, and welfare gains across all regions (Tanaji Salve and Jadhav, 2015).

Addressing regional inequalities is also vital for reducing distress-driven migration, easing urban overcrowding, and preventing the emergence of socio-political unrest often rooted in regional deprivation (Myrdal, 1957; Kundu & Sarangi, 2007). Balanced regional development facilitates optimal utilization of untapped human and natural resources in underdeveloped areas, contributing to higher national productivity and diversified economic growth (NITI Aayog, 2020). Moreover, it strengthens national integration, enhances political stability, and supports India's commitment to the Sustainable Development Goals - particularly those targeting poverty reduction, quality education, decent work, and reduced inequalities. Thus, narrowing regional gaps is not only an economic necessity but also a moral, social, and political imperative for a harmonious and prosperous India (Dagde & Jadhav, 2024).

OBJECTIVES:

The primary objectives of this chapter are:

1. To conceptualize the meaning and nature of regional disparities and balanced economic development in the context of a developing economy like India.
2. To assess the socio-economic and political consequences of uneven regional development.
3. To review existing policies, strategies, and institutional mechanisms aimed at achieving balanced regional growth.
4. To suggest policy recommendations and strategic interventions for reducing regional disparities and promoting inclusive development.

SCOPE:

This chapter focuses on the problem of regional imbalances in economic and social development within India, while also drawing selective global comparisons to contextualize the issue. The analysis covers:

- **Spatial coverage:** Both inter-state and intra-state disparities, with emphasis on rural-urban divides and regional backwardness in India.

- **Sectoral coverage:** Economic, social, and infrastructural dimensions of development, including income, employment, education, health, and physical connectivity.
- **Temporal scope:** References to historical patterns, post-independence trends, and contemporary developments under recent economic reforms and policy initiatives.
- **Analytical scope:** Integration of theoretical perspectives, empirical data, case studies, and policy analysis to provide a holistic understanding of the subject.

The chapter adopts a multidisciplinary approach, drawing insights from economics, geography, sociology, and public policy. While the primary emphasis is on the Indian context, international experiences are included where relevant to offer comparative lessons and best practices.

DIMENSIONS AND INDICATORS OF REGIONAL DISPARITIES:

Regional disparities can be assessed through multiple dimensions economic, social, and infrastructural each reflecting different aspects of development. Economic dimensions include variations in per capita income, employment opportunities, productivity, and levels of industrialization, often measured through Gross State Domestic Product (GSDP), sectoral output, and poverty ratios. Social dimensions capture differences in literacy rates, school enrolment, health outcomes, life expectancy, and access to basic services such as drinking water and sanitation, typically assessed using indicators like the Human Development Index (HDI) and Infant Mortality Rate (IMR). Infrastructural dimensions involve disparities in transport networks, electricity supply, digital connectivity, and market access, often measured through road density, electrification rates, and internet penetration. Composite indices combining these indicators—such as the Multidimensional Poverty Index (MPI) or regional development indices—provide a holistic picture of inter- and intra-regional inequalities (Planning Commission, 2008; UNDP, 2020). Together, these measures enable policymakers to identify backward regions, prioritize interventions, and track progress toward balanced economic development (Jadhav, 2020).

Table I: Dimensions and Indicators of Regional Disparities

Dimension	Key Indicators	Description / Measurement
Economic	<ul style="list-style-type: none"> • Per Capita Income (PCI) • Gross State Domestic Product (GSDP) per capita • Poverty Ratio • Employment/Unemployment Rate • Industrial Output 	Measures income levels, economic productivity, and availability of livelihood opportunities; data from National Statistical Office (NSO) and RBI.
Social	<ul style="list-style-type: none"> • Literacy Rate • Gross Enrolment Ratio (GER) • Infant Mortality Rate (IMR) • Life Expectancy • Gender Development Index (GDI) 	Captures human capital development, quality of life, and social equity; data from Census of India, NFHS, and UNDP.
Infrastructural	<ul style="list-style-type: none"> • Road Density • Rail Connectivity • Electrification Rate • Internet and Mobile Penetration • Access to Safe Drinking Water 	Reflects availability and quality of basic physical infrastructure essential for economic activities and living standards; data from Ministry of Road Transport, Ministry of Power, and TRAI.
Human Development	<ul style="list-style-type: none"> • Human Development Index (HDI) • Multidimensional Poverty Index (MPI) 	Composite measures integrating economic, health, and education outcomes to assess overall human well-being.
Sectoral Structure	<ul style="list-style-type: none"> • Share of Agriculture, Industry, and Services in GSDP 	Highlights structural differences in economic activity and sectoral dependence across regions.

Source: Compiled from Planning Commission (2008), NITI Aayog (2020), UNDP (2020), Census of India, and Ministry of Statistics and Programme Implementation (MoSPI).

REGIONAL IMBALANCE IN INDIA:

In the table II latest data on Gross State Domestic Product (GSDP) and Per Capita Net State Domestic Product (NSDP) clearly highlights the wide economic gap between India's forward and backward states. Forward states such as Maharashtra, Tamil Nadu, Gujarat, and Karnataka record exceptionally high GSDP values, reflecting their large industrial base, strong service sector, and diversified economic structure. For instance, Maharashtra has a GSDP of approximately ₹38.8 lakh crore, while Tamil Nadu and Gujarat stand at ₹26.5 lakh crore and ₹25.3 lakh crore respectively. This robust economic output translates into higher per capita incomes - Kerala and Haryana, for example, record per capita incomes above ₹2,60,000, well above the national average (Rathod et al., 2024).

In contrast, backward states such as Bihar, Uttar Pradesh, Jharkhand, and Madhya Pradesh show significantly lower GSDP and per capita income figures. Bihar, with a GSDP of ₹8.2 lakh crore, has one of the lowest per capita incomes in India at ₹71,800—less than one-third of Kerala's level. Similarly, Uttar Pradesh, despite having the largest population, reports a per capita income of only ₹1,23,000, indicating low productivity and a heavy dependence on agriculture. These gaps are the outcome of structural issues such as uneven industrialization, weak infrastructure, and differences in natural resource endowments (Kamat & Pawar, 2024).

This disparity not only affects individual prosperity but also hampers balanced economic development at the national level. The forward states enjoy better infrastructure, investment inflows, and job opportunities, attracting more skilled workers and capital, which further widens the development gap. The backward states, on the other hand, remain trapped in a cycle of low productivity, inadequate investment, and limited access to modern technology. Therefore, bridging these regional disparities is critical for achieving inclusive and sustainable growth in India (Wavare & Pawar, 2022).

Table II: Regional Imbalance in India – GSDP (2024-25), Per Capita NSDP (2023–24), and Forward/Backward Classification

State / Union Territory	GSDP (₹ Lakh Crore) (FY 2024–25)	Per Capita NSDP (₹) (FY 2023–24)	Classification
Maharashtra	42.67	2,77,603	Forward
Tamil Nadu	30.97	3,15,220	Forward
Karnataka	28.13	3,32,926	Forward
Gujarat	27.99	2,97,722	Forward
Uttar Pradesh	26.63	1,04,126	Backward
West Bengal	18.76	1,54,119	Middle
Rajasthan	17.13	1,67,964	Middle
Andhra Pradesh	15.81	2,42,479	Middle
Telangana	15.26	3,56,564	Forward
Madhya Pradesh	15.12	1,42,565	Backward
Kerala	12.31	2,81,001	Forward
Haryana	12.19	3,25,759	Forward
Delhi (UT)	—	4,61,910	Forward
Bihar	—	68,828	Backward

Source: *Ministry of Statistics & Programme Implementation*

CAUSES OF REGIONAL DISPARITIES:

Regional disparities arise from a complex interplay of historical, geographical, economic, and policy-related factors. Historically, colonial policies and post-independence industrial location decisions led to the concentration of industries and infrastructure in select regions, leaving others relatively underdeveloped (Pawar & Wavare, 2022).

Geographical factors such as uneven natural resource distribution, climate variations, and remoteness from markets influence economic potential and accessibility. Economically, disparities are fuelled by unequal investment patterns, lack of diversification, and low productivity in backward regions. Policy-related causes include fiscal imbalances, inadequate decentralization,

and biases in public expenditure that favour already developed areas (Myrdal, 1957; Dholakia, 2003). Weak institutional capacity, poor governance, and social inequalities such as caste, tribal marginalization, and gender disparities further hinder development. In the era of globalization, regions with better infrastructure, skilled labour, and connectivity have attracted more private investment, widening the gap between advanced and lagging regions (NITI Aayog, 2020).

POLICIES AND APPROACHES TO BALANCED DEVELOPMENT:

Balanced regional development requires a mix of policy interventions, institutional reforms, and targeted investments aimed at reducing inter- and intra-regional inequalities. In India, approaches have included fiscal transfers through Finance Commission recommendations, special category status for backward states, and centrally sponsored schemes like the Backward Regions Grant Fund (BRGF) to channel resources toward lagging areas. Infrastructure-led growth has been promoted through initiatives such as the Pradhan Mantri Gram Sadak Yojana (PMGSY) for rural connectivity, industrial corridors, and special economic zones in less developed regions (Pawar, 2023).

Human capital development has been supported via investments in education, healthcare, and skill development, while decentralized planning under the Panchayati Raj system encourages region-specific strategies. The NITI Aayog's vision emphasizes cooperative federalism, data-driven monitoring, and public-private partnerships to bridge gaps. Internationally inspired models, such as growth pole strategies, cluster-based development, and digital inclusion, are also being integrated into India's development framework to ensure spatially equitable and sustainable growth (Planning Commission, 2008; NITI Aayog, 2020).

ROLE OF INSTITUTIONS AND STAKEHOLDERS:

Achieving balanced regional development is a collaborative process that involves the coordinated efforts of multiple institutions and stakeholders at national, state, and local levels. The central government plays a pivotal role in policy formulation, fiscal transfers, and nationwide infrastructure projects, while state governments are

responsible for tailoring development strategies to local needs and ensuring efficient resource allocation. Local self-governments under the Panchayati Raj system and urban municipal bodies are instrumental in implementing region-specific initiatives and fostering community participation. Public sector institutions contribute through targeted welfare schemes and infrastructure development, whereas the private sector drives investment, job creation, and innovation in both industrial and service sectors. Civil society organizations and NGOs act as catalysts for social mobilization, capacity building, and advocacy, particularly in marginalized areas. Academic and research institutions support evidence-based policymaking, while international agencies provide technical assistance, funding, and global best practices. Effective collaboration among these stakeholders ensures that development efforts are inclusive, sustainable, and responsive to the diverse needs of different regions (NITI Aayog, 2020; UNDP, 2020).

EMERGING TRENDS AND TECHNOLOGICAL INTERVENTIONS:

Recent years have witnessed the growing use of technology-driven approaches to address regional disparities and promote balanced economic development. Digital connectivity initiatives such as *Digital India*, expansion of broadband networks, and mobile penetration have opened new avenues for e-governance, online education, telemedicine, and digital payments, enabling remote and backward regions to access services once limited to urban centres. The rise of renewable energy projects, particularly solar and wind farms, has provided sustainable power solutions in energy-deficient areas. Geographic Information Systems (GIS) and satellite mapping are increasingly used for regional planning, infrastructure prioritization, and disaster management. Start-up ecosystems and rural innovation hubs are fostering entrepreneurship beyond metropolitan cities, while e-commerce platforms are integrating rural producers into national and global markets. Emerging trends also include the use of artificial intelligence for resource allocation, blockchain for transparent governance, and climate-resilient infrastructure to ensure long-term sustainability. These technological interventions, when combined with inclusive policies, have the potential to significantly narrow the development gap between advanced and lagging regions (NITI Aayog, 2020; World Bank, 2021).

STRATEGIES FOR FUTURE BALANCED DEVELOPMENT:

Ensuring balanced economic development in a country as diverse as India requires a multi-pronged strategy that combines inclusive planning, targeted investments, and institutional strengthening. The focus should be on bridging infrastructure gaps, enhancing human capital, and promoting sustainable livelihoods, while ensuring that economic growth benefits reach the most disadvantaged regions and communities. A forward-looking approach must integrate technological innovation, community participation, and environmentally responsible practices into development planning. Strengthening cooperative federalism, ensuring equitable fiscal transfers, and fostering public-private partnerships will be crucial for effective and region-specific interventions (Planning Commission, 2008; NITI Aayog, 2020).

KEY STRATEGIES:

- **Inclusive Regional Planning:** Adopt bottom-up planning models that incorporate local needs and resources into state and national development strategies.
- **Infrastructure Development:** Prioritize transport, energy, and digital connectivity projects in backward regions to improve accessibility and attract investment.
- **Human Capital Enhancement:** Expand quality education, vocational training, and healthcare facilities to build a skilled and healthy workforce.
- **Decentralized Governance:** Empower Panchayati Raj institutions and urban local bodies for localized decision-making and better resource allocation.
- **Balanced Industrial Growth:** Establish industrial clusters, Agro-processing units, and start-up hubs in lagging regions to create employment opportunities.
- **Technological Integration:** Leverage digital platforms, GIS, AI, and renewable energy for efficient service delivery and sustainable growth.
- **Sustainable Development Practices:** Promote climate-resilient agriculture, eco-tourism, and green infrastructure to balance economic growth with environmental conservation.

- **Equitable Fiscal Transfers:** Ensure need-based allocation of central and state funds to bridge resource gaps across regions.
- **Public-Private Partnerships (PPP):** Encourage collaborative investment models for infrastructure, skill development, and innovation projects.
- **Monitoring and Evaluation:** Use data-driven tools to track progress, identify bottlenecks, and refine policies in real time.

CONCLUSION:

Achieving balanced regional development is essential for fostering inclusive growth, reducing inequalities, and ensuring sustainable socio-economic progress across all areas. While disparities often arise due to historical, geographical, economic, and policy-driven factors, a coordinated approach involving effective policies, proactive institutions, technological innovations, and active stakeholder participation can bridge these gaps. By integrating infrastructure development, human capital enhancement, and environmentally sustainable practices, regions can harness their unique strengths while contributing to national prosperity. Balanced development is not merely an economic necessity, it is a pathway to social harmony, equitable opportunities, and long-term resilience.

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8

**WOMEN EMPOWERMENT AND INDIA'S ECONOMIC
FUTURE: PATHWAYS, POLICIES, AND PROSPECTS**

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INTRODUCTION:

Empowerment is not a one-time achievement but a continuous, dynamic process rooted in the ideals of equality, liberalization, and freedom. It is essentially about expanding people's ability to make choices and transforming those choices into desired outcomes. The empowerment of women, in particular, is a multi-step process (World Bank, 2001). At the outset, it requires a change in consciousness—women must first recognize their ability to alter their destiny, which is the most crucial step in any transformative journey. The second dimension involves gaining access to and control over valuable resources—material, social, and human—without which agency cannot be fully exercised. The third essential step is collective action, where women unite to confront institutionalized injustices and actively seek redressal. Importantly, empowerment cannot be understood in a monolithic sense, as women are not a homogenous group. Differences in caste, class, ethnicity, religion, and race introduce further complexities that must be acknowledged while addressing injustice (Kabeer, 2001).

Historically, women in India enjoyed high status and reverence. The Vedas and Upanishads elevated women to the rank of a goddess, attributing to them knowledge, wisdom, and dignity. The Manusmriti, despite its patriarchal undertones, described women as precious and deserving of respect by father, husband, brother, and son at different stages of life. However, the post-Vedic period brought significant setbacks. The practices of polygamy, rigid patriarchy, and denial of rights curtailed women's freedoms. Over time, traditional barriers

eroded women's dignity, and their status suffered a decline even after the Mauryan period. Yet, history also offers examples of women who rose above these structures—Razia Sultan, Rani Lakshmibai, Ahilyabai Holkar, and Savitribai Phule, among others—who demonstrated that women could unite, resist, and emerge as formidable leaders in political, social, and educational spheres.

The nationalist movement provided another critical turning point. Mahatma Gandhi emphasized that true Swaraj could never be achieved without the elevation of women. During the Salt Satyagraha, around 17,000 ordinary women from across the nation participated, showing a remarkable awakening of consciousness. Similarly, the 1931 Karachi Session of the Indian National Congress endorsed women's right to political equality. Reformers like Raja Ram Mohan Roy, Ishwar Chandra Vidyasagar, and Keshab Chandra Sen campaigned against harmful practices such as sati, child marriage, and restrictions on widow remarriage. Annie Besant's leadership during 1911–18 and the rise of the Women's Indian Association (WIA) symbolized organized efforts to enhance women's social and political position. The gradual recognition of women's rights also translated into tangible gains—by 1926, Indian women exercised the right to vote in certain provincial elections, while leaders like Dr. Muthulakshmi Reddy set new precedents in legislative participation. However, these developments highlighted a paradox: while women's theoretical status improved, their practical rights and freedoms often remained curtailed (Khanday et al., 2015).

The dawn of Independence and the adoption of the Indian Constitution in 1950 marked a landmark shift. The Constitution enshrined equality as a foundational principle and guaranteed political rights to all citizens, regardless of gender. Leaders such as Begum Aizaz Rasul, in parliamentary debates, emphasized the significance of granting equal status and opportunities to women. With universal adult suffrage introduced through Article 326, Indian women were assured of political equality from the very beginning—an achievement that many Western nations realized only after long struggles. The Fundamental Rights provisions further safeguarded against discrimination, while Directive Principles encouraged the state to ensure social and economic justice. This marked the beginning of a new era in women's empowerment, one that directly challenged

entrenched socio-cultural hierarchies and laid the groundwork for women's political and economic participation.

At the global level, women's empowerment has increasingly been recognized as both a human rights imperative and a developmental priority. The United Nations, through its landmark conventions such as the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW, 1979), set a normative framework to advance gender equality worldwide. More recently, the adoption of the **Sustainable Development Goals (SDGs) in 2015** gave women's empowerment a central place in the global development agenda, with **SDG-5 dedicated to achieving gender equality and empowering all women and girls**. This goal emphasizes eliminating violence, ensuring equal access to education, healthcare, decent work, and participation in decision-making at all levels.

India's efforts resonate within this broader international discourse. India's progress is not only crucial for national development but also significant for global indicators, as the country is home to nearly one-sixth of the world's women. The interplay of local struggles, national policies, and global commitments thus situates women's empowerment as a multidimensional and evolving process—one that requires sustained action across time, space, and institutions.

Thus, from ancient reverence to medieval decline, from colonial struggles to constitutional guarantees, and from national reforms to global commitments, the story of women's empowerment reflects resilience, resistance, and renewal. Yet, as history shows, empowerment has never been a linear journey. It has always involved negotiation with structures of power, persistent struggles for recognition, and collective assertion for justice. In this evolving process, each phase—whether reformist, nationalist, constitutional, or global—contributed to shaping the pathways of empowerment that continue to influence contemporary India.

PATHWAYS: WOMEN'S ROLE IN INDIA'S ECONOMIC DEVELOPMENT:

Women have historically contributed to India's economy, from agriculture and handicrafts in traditional societies to services and entrepreneurship in contemporary contexts. However, their contribution has often remained invisible, undervalued, and

undercompensated. Recent surveys highlight that while women constitute nearly 41.7% of India's population, their labor force participation rate remains below 25 percent (ILO, 2022). This underrepresentation reflects structural barriers, social norms, and systemic exclusions.

1. Agriculture and Informal Economy:

In India, Agriculture employs about 80 per cent of rural women. Empowering and mainstreaming rural women workforce in agriculture can bring a paradigm shift towards economic growth. The workforce participation rate for rural females is significantly higher at 41.8 per cent against urban women participation rate of 35.31 percent (MoSPI, 2017). Women represent over 40 per cent of India's agricultural workforce, yet own less than 13 per cent of agricultural land (FAO, 2021). Their unpaid labor in farming and household production contributes significantly to food security but remains excluded from national accounts.

2. Education and Skill Development:

The steady rise in female literacy rates—from 53.7% in 2001 to 71.5% in 2021 (NFHS-5)—marks an important milestone in India's social development. This upward trajectory has created opportunities for women to participate more actively in education-driven pathways. Notably, the All India Survey on Higher Education (AISHE, 2022) reports that women now account for nearly 49% of total enrolment in higher education, a significant step towards bridging gender gaps in access. Women are increasingly visible in professional domains such as law, medicine, and management. However, a closer look reveals persistent challenges: women remain underrepresented in STEM (Science, Technology, Engineering, and Mathematics) fields, which are often associated with higher wages and global mobility. According to UNESCO (2023), women constitute only 28% of the STEM workforce in India, reflecting both structural barriers and deep-rooted cultural stereotypes.

Skill mismatches also continue to constrain opportunities. While government schemes like Skill India Mission and Pradhan Mantri Kaushal Vikas Yojana (PMKVY) aim to enhance employability, women's participation in formal skilling programs remains uneven, often concentrated in traditional domains such as tailoring, beauty, and caregiving. This limits their upward mobility in knowledge-

intensive or technology-driven sectors. Initiatives like the STEM for Girls program by IBM India and Atal Innovation Mission's focus on girl innovators attempt to break these barriers by fostering digital literacy and innovation at the school level.

Case studies illustrate both achievements and challenges. For instance, Sudha Murthy's role in Infosys Foundation demonstrates how education and philanthropy can empower women by funding scholarships and skill development projects. Another example is Kiran Mazumdar-Shaw, founder of Biocon, who, despite the male-dominated biotech sector, built India's leading biopharmaceutical company, proving that women with access to education and training can redefine industries. Similarly, regional initiatives like Kudumbashree in Kerala combine literacy with entrepreneurial training, showing how education and collective organization enhance women's economic resilience.

3. Digital Economy:

The rise of the digital economy has created unprecedented opportunities for women entrepreneurs, especially in e-commerce, gig platforms, and fintech ecosystems. The Digital India initiative, coupled with UPI-based financial inclusion, has enabled women to access banking services, credit, and online marketplaces at a much larger scale. According to a report by NASSCOM (2023), women now constitute nearly 14% of total entrepreneurs in India, and a significant proportion of these operate through digital platforms.

Startups run by women exemplify how technology can redefine empowerment. Falguni Nayar, founder of Nykaa, transformed India's beauty and lifestyle retail sector into a digital-first marketplace, making Nykaa one of the few profitable unicorns led by a woman entrepreneur. Similarly, Suchi Mukherjee's Limeroad, an e-commerce platform, provided women artisans and homemakers with access to national markets, thereby integrating them into the digital economy. In fintech, Upasana Taku's MobiKwik illustrates how women entrepreneurs are breaking barriers in digital payments and financial technology—sectors previously dominated by men.

The gig economy has also emerged as a new site of empowerment. Platforms like UrbanClap (now Urban Company) have created avenues for women to monetize skills in beauty, wellness, and home services, providing both flexibility and income. Meanwhile, rural

women are being empowered through digital self-help groups (SHGs) under the DAY-NRLM, where mobile apps facilitate microfinance, e-commerce, and digital record-keeping. An inspiring example is the “Haathi Chaap” initiative in Madhya Pradesh, where rural women use digital platforms to market eco-friendly stationery, blending sustainability with empowerment.

Despite these successes, the digital gender divide remains a pressing concern. The GSMA (2022) reports that Indian women are 23% less likely than men to own a smartphone and 28% less likely to use mobile internet, particularly in rural areas. This gap restricts women from fully leveraging digital opportunities. Moreover, online harassment and cyber insecurity often discourage women from participating actively in digital spaces. Nevertheless, the digital economy has proven to be a powerful equalizer where access is ensured. With the rise of women-led unicorns, grassroots digital entrepreneurship, and policy pushes for digital literacy, India is gradually witnessing how technology can dismantle structural barriers and open new frontiers of empowerment.

POLICIES: GOVERNMENT AND INSTITUTIONAL INTERVENTIONS:

The Indian state has consistently articulated women’s empowerment as a developmental priority, recognizing it as a precondition for inclusive growth and social justice. Constitutional provisions such as Articles 14, 15, and 16 guarantee equality before the law, prohibit discrimination on the grounds of gender, and safeguard equal access to opportunities. Legislative measures such as the Sexual Harassment of Women at Workplace Act (2013) and the Maternity Benefit (Amendment) Act (2017) have reinforced these commitments by strengthening workplace protections and expanding entitlements. Over time, a robust ecosystem of Centrally Sponsored Schemes (CSS) and flagship programs has emerged to address the multifaceted dimensions of women’s empowerment—economic, educational, health-related, and social. Together, these interventions attempt to bridge structural gaps while aligning with India’s global commitments under SDG-5: Gender Equality.

Among the landmark schemes, Beti Bachao Beti Padhao (2015) has been pivotal in addressing declining child sex ratios and promoting the survival, protection, and education of the girl child.

Similarly, the Mahila Shakti Kendra (2017) sought to empower rural women through community engagement and skill development, though its implementation has now been merged under Mission Shakti (2022) to ensure convergence across schemes. The Stand-Up India Scheme (2016) has facilitated entrepreneurial ventures by extending loans of ₹10 lakh–₹1 crore, of which nearly 84% of loans have gone to women borrowers (2024), signaling a structural breakthrough in women's access to credit. Schemes like the Support to Training and Employment Programme (STEP) and the National Skill Development Mission (2015) have emphasized vocational training, thereby addressing the employability gap for marginalized women.

In the domain of economic and labor force participation, interventions such as the Pradhan Mantri Mudra Yojana (PMMY, 2015) and Deendayal Antyodaya Yojana–National Rural Livelihoods Mission (DAY-NRLM, 2011) have been particularly impactful. PMMY, by sanctioning collateral-free loans, enabled micro-enterprises led by women, with over 68% of loans availed by women entrepreneurs (2024). Meanwhile, DAY-NRLM has mobilized more than 10 crore rural women into Self-Help Groups (SHGs), enhancing their financial independence, collective bargaining power, and social capital. Complementary initiatives like the Working Women Hostel Scheme (1972, expanded 2019), the National Creche Scheme, and the Credit Guarantee Fund Scheme for MSEs have addressed structural constraints by providing safe accommodation, childcare facilities, and de-risked lending support.

In the sphere of education and skilling, Samagra Shiksha Abhiyan (2018) has attempted to reduce gender disparities in schooling by focusing on gender-sensitive infrastructure, scholarships, and training for teachers. The integration of digital skilling initiatives under the Skill India Digital Portal (2023) and Mission Shakti's Samarthya Sub-Scheme reflects a growing emphasis on future-ready competencies for women. However, despite improved enrollment ratios and reduced dropout rates, persistent gaps remain in STEM participation and digital inclusion, especially in rural areas.

Health, nutrition, and well-being constitute another core policy area. Schemes like the Pradhan Mantri Matru Vandana Yojana (2017), POSHAN Abhiyaan (2018), and Mission Indradhanush (2014) have collectively improved maternal care, immunization coverage, and

nutritional outcomes. For example, PMMVY provides conditional cash transfers to pregnant and lactating mothers, leading to a rise in institutional deliveries, while POSHAN Abhiyaan has employed real-time digital monitoring to address malnutrition. Yet, gaps remain—coverage under PMMVY is still limited to the first child, and service delivery in remote areas faces serious challenges.

In terms of social empowerment, flagship schemes such as the Pradhan Mantri Ujjwala Yojana (2016) and Pradhan Mantri Awas Yojana (2015) have significantly improved women's quality of life. The Ujjwala Yojana, by distributing LPG connections to below-poverty-line households, has reduced drudgery and health hazards from biomass fuels. The Awas Yojana, which mandates joint or female ownership of subsidized housing, has enhanced women's asset ownership, thereby strengthening their long-term social security and bargaining position within households. Similarly, the Hub for Empowerment of Women (2022) under Mission Shakti has sought to integrate fragmented service delivery into a single-window access platform.

However, one of the most critical areas—freedom from violence—shows the slowest progress despite multiple schemes. The One Stop Centre Scheme (2015), SWADHAR Greh (2001), Sambal Sub-Scheme (2022), and the Ujjawala Scheme (2007) have created networks of support, rehabilitation, and protection for women survivors of violence and trafficking. Yet, the Impact Effectiveness Index (IEI) analysis reveals stagnation in this domain, with persistent issues of underreporting, limited rural reach, and weak enforcement mechanisms. The IEI score of 0.00 for freedom from violence indicates that structural gaps remain unresolved, underscoring the need for urgent reforms in implementation, digital grievance platforms, and inter-agency coordination.

Overall, the policy ecosystem reveals mixed outcomes. Domains such as economic participation, education, and health show measurable improvements, reflected in increased female labor force participation, enrollment, and health-seeking behaviors. Yet, challenges of underfunding, awareness gaps, and weak last-mile delivery constrain the full potential of these interventions. Analytical indices from recent evaluations suggest that while Decision-Making, Education & Skilling, and Health each achieved an IEI score of 0.33 (moderate impact), Social Empowerment and Economic Participation

remain partial successes, and Freedom from Violence continues to be the weakest area of intervention.

Thus, while the Government of India has developed a comprehensive architecture of schemes and policies, the challenge ahead lies not in designing new interventions but in strengthening them. Thus, while the Government of India has created a comprehensive system of schemes and policies, the real challenge now is not in creating new interventions but in strengthening convergence, improving monitoring frameworks, tackling regional disparities, and promoting community-level ownership. Without closing these implementation gaps, the constitutional promise of equality and empowerment for all women will remain only partly fulfilled. Convergence, enhancing monitoring frameworks, addressing regional disparities, and ensuring community-level ownership. Without bridging these implementation gaps, the constitutional promise of equality and empowerment for all women will remain only partially realized.

PROSPECTS: WOMEN EMPOWERMENT AND THE FUTURE OF INDIAN ECONOMY:

The prospects of women empowerment in India are deeply tied to its economic future. Greater female labor participation can unlock a 'gender dividend' alongside the demographic dividend. Estimates suggest that if India were to achieve gender parity in labor force participation, its GDP could grow by an additional \$700 billion by 2025 (MGI, 2015).

The future lies in leveraging opportunities in the digital economy, green jobs, and entrepreneurship. Women-led startups are increasingly visible in fintech, edtech, and social enterprises. Moreover, gender-responsive budgeting and women's leadership in governance will be crucial for inclusive growth.

The Indian Economy: Pathways, Policies and Prospects

Thematic Area	Key Schemes	Key Outcomes	Remaining Gaps	IEI Score
Decision-Making Capabilities	Mahila Shakti Kendra (2017), Stand-Up India (2016), STEP (1986)	Increased grassroots awareness, participation in Gram Sabhas, and women-led MSMEs	Low digital literacy, weak post-loan mentoring, outdated course modules	0.33
Economic Participation	PM Mudra Yojana (2015), DAY-NRLM (2011), PMKVY (2015), Working Women Hostel Scheme, Credit Guarantee for MSEs	68% Mudra loans to women; 10+ crore mobilized into SHGs; women-friendly training modules	Mismatch in training vs job markets; poor awareness in rural belts; weak post-credit mentoring	0.25
Education & Skilling	Samagra Shiksha Abhiyan (2018), Beti Bachao Beti Padhao (2015), NSDM (2015), Mission Shakti (2022), NRLM Skilling	Higher girl enrollment, reduced dropout, Skill India Digital portal access	STEM underrepresentation; rural digital divide; low fund utilization in BBBP	0.33
Health & Nutrition	PM Matru Vandana Yojana (2017), POSHAN Abhiyaan (2018), Mission Indradhanush (2014), Scheme for Adolescent Girls (2010)	Rise in institutional deliveries, improved immunization and nutrition outcomes	DBT delays; limited coverage for second child; poor Anganwadi training	0.33
Social Empowerment	Hub for Empowerment of Women (2022), PM Ujjwala Yojana (2016), PM Awas Yojana (2015)	70% PMAY houses in women's name; improved access to LPG, health benefits	Low LPG refill affordability; land tenure disputes; limited tribal outreach	0.20
Freedom from Violence	One Stop Centre (2015), SWADHAR Greh (2001), Sambal (2022), Ujjawala Scheme (2007)	730+ OSCs functional, improved survivor support systems	Underutilized OSCs; poor rural reach; weak reintegration and digital grievance systems	0.00

CASE STUDIES AND EMPIRICAL INSIGHTS:

Reservations and Proxy Leadership:

Maharashtra was among the first states to implement 50% reservation for women in Panchayati Raj Institutions and Urban Local Bodies. This reform has increased women's representation beyond the national average. Yet, studies and field evidence highlight the persistence of proxy leadership, where elected women are overshadowed by male relatives or community elites. At the same time, many women leaders have demonstrated transformative agency—initiating sanitation projects, improving water access, and advancing gender-responsive budgets when backed by capacity-building and SHG linkages.

Self-Help Groups under DAY-NRLM:

As of 2025, the Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) has mobilized over 10 crore rural women into more than 90 lakh SHGs. These collectives have enhanced financial inclusion, access to credit, and social capital (World Bank, 2022). Evaluations show rising incomes and confidence, but also uneven performance: limited market integration, digital gaps, and weak value-chain linkages restrict many SHGs from scaling beyond subsistence. Stronger convergence with MSME and digital platforms is needed.

Community-based models: Kudumbashree and Lijjat Papad:

Kerala's **Kudumbashree Mission** demonstrates how integrating microfinance, livelihood promotion, and governance participation can generate sustained empowerment. Similarly, the **Lijjat Papad cooperative** has provided thousands of women with income and ownership opportunities, showing how cooperative models build dignity and bargaining power. Both highlight that empowerment requires more than credit—it depends on institutional support, training, and market access.

Fact, fiction, and Political Fervour:

Government quotas and schemes are often celebrated as empowerment milestones, but their outcomes are mixed. While representation and program enrolments have expanded, real transformation is constrained by patriarchal norms, intra-household inequalities, and weak institutional support. As noted in recent scholarship (Dhanke, 2024; Shrivastav, 2023), empowerment policies

succeed when backed by accountability, inclusivity, and recognition of women's unpaid contributions.

The Care Economy Constraint:

Time-use surveys show Indian women spend nearly 6–7 hours daily on unpaid domestic and care work—one of the highest globally (MOSPI, 2019; ILO, 2022). This “time poverty” limits their participation in the labour market, training, and political roles. Without investment in public childcare, eldercare, and redistribution of domestic work, most empowerment schemes will struggle to deliver long-term outcomes.

Synthesis:

These cases suggest four key lessons:

1. **Quotas expand numbers but not always agency**—support structures are essential.
2. **SHGs achieve scale but need market linkages** to move beyond subsistence.
3. **Community models succeed when institutionalized**, as in Kudumbashree and Lijjat.
4. **Unpaid care remains the structural brake** on women's empowerment and must be addressed.

CONCLUSION AND WAY FORWARD:

Women empowerment in India stands at a critical juncture. While constitutional guarantees, policy strides, and grassroots mobilizations have improved women's visibility in education, politics, and markets, systemic barriers such as patriarchal norms, gendered labour divisions, and regional inequalities continue to hinder full inclusion. Empowerment must be understood as both a moral imperative and a developmental necessity, directly linked to inclusive and sustainable growth.

Recent study underscores that unpaid care work remains the single most binding constraint. Tripathi, Zhai, and Azhar (2024) show that Indian women spend nearly **three hours more per day on caregiving than men**, and each additional hour lowers their labour force participation by almost **20 percentage points**. Dev and Sahay (2025) further model that formalising part-time work and equalising care responsibilities could raise female participation by six percentage points. These findings highlight that care redistribution and flexible

employment are not peripheral issues but central to economic empowerment.

At the same time, digital access and institutional support will shape future outcomes. Research on digital divides reveals that women, particularly in rural and tribal communities, face unequal access to devices, connectivity, and online safety. Expanding digital literacy, affordable internet, and inclusive e-governance platforms is essential to ensure women benefit from India's transition to a knowledge and technology-driven economy. Programs such as Kudumbashree and SHG networks show how collective institutions, when linked to markets and governance, can shift gender norms and provide scalable models of empowerment.

The way forward demands a multipronged approach: invest in public childcare and eldercare, formalise flexible work arrangements with protections, bridge the digital divide, and mainstream empowerment into every economic policy. Crucially, empowerment must move beyond numbers and enrolments to substantive agency, decision-making power, and recognition of unpaid contributions. Only by placing women at the center of India's economic imagination can the country unlock its demographic dividend and build an equitable, resilient future.

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**A REVIEW OF ARTIFICIAL INTELLIGENCE IN THE
DEVELOPMENT OF THE BANKING SECTOR IN INDIA**

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INTRODUCTION:

In recent years, Artificial Intelligence (AI) has emerged as a transformative force across various industries, and the banking sector in India is no exception. With the growing need for digital transformation, efficiency, and customer-centric services, AI is playing an important role in reshaping the operational and strategic dimensions of Indian banks. From chatbots and fraud detection systems to credit risk assessment and personalized financial services, AI is enabling banks to enhance service quality, reduce costs, and improve decision-making (Tanaji Salve and Jadhav, 2015).

As India continues to witness rapid digitization and increasing fintech integration, the adoption of AI technologies is accelerating. Public and private sector banks alike are leveraging AI to stay competitive, ensure regulatory compliance, and deliver innovative solutions. This paper explores the multifaceted role of AI in the Indian banking ecosystem, highlighting key applications, benefits, challenges, and the future outlook of AI-driven banking (Jadhav et al., 2025).

The Indian banking industry, a cornerstone of the country's economy, is rapidly evolving with digital transformation. Artificial Intelligence (AI), with its ability to mimic human intelligence and perform tasks like data analysis, learning, and decision-making, is playing a pivotal role in reshaping banking services (Dagde & Jadhav, 2024).

OBJECTIVES OF THE STUDY:

1. To examine the key areas where AI is applied in Indian banking.

2. To evaluate the impact of AI on operational efficiency and customer satisfaction.
3. To identify challenges in AI adoption and future prospects.

APPLICATIONS OF AI IN INDIAN BANKING:

1) AI-Powered Chatbots and Virtual Assistants:

Banks like HDFC and ICICI use AI-powered bots to assist customers 24/7, reducing the burden on human staff and improving response time. Personalized financial services in the Indian banking sector after AI implementation involve customization of products and services- considering customer preferences (individual), behaviors, and needs. AI enables banks to analyze data, predict behaviors, offer tailored solutions, enhance customer experiences, and improve efficiency in operations (Jadhav, 2020).

AI technology is extensively used for various purposes such as data retrieval, market analytics, customer service, credit scoring, and process automation, leading to improved client experiences and enhanced efficiency in the sector. AI has revolutionized traditional services in the domain of banking, allowing for more customized and efficient financial services. The services offered are also tailoring services to individual customers- customized to reflect individual preferences, financial needs and goals, and behaviour patterns. AI technologies enable banks to offer personalized recommendations, customized investment strategies, targeted marketing offers, and tailored customer service experiences. AI in banking allows for a more efficient and effective delivery of financial services that meet the unique requirements of each customer. After AI is integrated in the banking sector of a developing nation such as India, the overarching goals of personalized financial services are to improve client financial outcomes overall, raise engagement, and improve customer satisfaction (Rathod et al., 2024).

2) Fraud Detection and Risk Management:

Artificial intelligence and its implementation by banks have significantly helped them to reduce frauds and minimize them. AI models which run on supervised and unsupervised learning algorithms have helped banks in aiding customer verification, prevention of unauthorized activity, handling risk analysis, limiting money laundering problems, and increasing precision and accuracy.

The statistical analysis also shows a significant link between AI implementation and Banking sector variables related to risk control and safety. AI has also assisted banks in prudent fraud detection and risk management by using technologies- ML (machine learning), deep learning, and predictive analytics (Pawar, 2023).

Additionally, AI enables automation of tasks, enhances customer service through chatbots and robots, provides personalized services through big data analytics, and predicts financial crises using statistical models. It has also helped banks in fraud detection and risk management by providing excellent encryption, tracking suspicious activities efficiently, assisting customers in selecting loan amounts, recognizing suspicious data patterns, and predicting future behaviors in fraud management (Bhave & Pawar, 2022).

3) Credit Scoring and Loan Processing:

AI assesses creditworthiness by analyzing not only traditional data but also alternative sources like social media behavior, enhancing financial inclusion.

4) Back-Office Automation:

AI has helped in the automation- of processes and operations- in the domain of banking by enabling tasks ranging from currency counting and managing financial services to engaging customers, from asset management to risk management and from customer service to data analysis to be automated, leading to increased efficiency and accuracy in banking operations. In the banking sector, it has aided in the automation of procedures including credit decisions, quantitative analysis, marketing, economic risk management, and software development. It increases productivity and efficiency and aids software engineers (human) at different phases in the development cycle (Wavare & Pawar, 2022).

AI helps banks secure operations and safeguard sensitive data by giving them information on fraud detection, cyber-attacks, and data breaches. AI is instrumental in banking procedures, streamlining operations, cutting expenses, and offering clients individualized services. AI has also aided in the automation of processes and operations in the banking industry by enabling the automation of report creation, data retrieval, and business process activities through AI embedded software and RPA (Robotic Process Automation) technologies. Specific examples like ICICI Bank showcase the

successful implementation of RPA to manage tasks and improve efficiency. With by introducing customer service automation, personalized services, AI-powered robots for self-service, reducing reliance on physical processes like cheque books, improving productivity through monitoring trends, and enabling back-end process automation. AI streamlines tasks like document verification, compliance checks, and data entry, improving accuracy and efficiency (Kamat & Pawar, 2024).

BENEFITS OF AI IN INDIAN BANKING:

- **Enhanced Customer Experience:** Faster query resolution and personalized services.
- **Cost Reduction:** Automation cuts operational costs.
- **Improved Decision-Making:** AI helps in real-time data analysis.
- **Increased Security:** AI enhances cyber security and fraud prevention.

CHALLENGES IN AI ADOPTION:

- **Data Privacy Concerns:** Handling sensitive financial data raises privacy issues.
- **Infrastructure Gap:** Not all banks have the resources for AI deployment.
- **Skill Shortage:** Lack of trained personnel in AI and machine learning.
- **Regulatory Compliance:** Keeping AI systems compliant with evolving regulations.

GOVERNMENT AND RBI INITIATIVES:

- **Digital India Mission:** Promotes AI in financial services.
- **RBI's Regulatory Sandbox:** Allows banks to test AI innovations in a controlled environment.
- **AI Task Forces:** NITI Aayog's recommendations promote AI development across sectors, including banking.

CONCLUSION:

Artificial Intelligence is redefining the Indian banking landscape by making services smarter, faster, and more efficient. AI will enable more advanced open banking ecosystems, facilitating secure data

sharing between banks and third-party providers. This should add innovation and insights on customer data more holistically than it is today, where a person's financial data is split across several organizations. Banks and financial institutions can now provide more personalized services, having gained a fuller picture of customer's financial lives. The success of AI in banking ultimately depends on people. Despite its numerous advantages, challenges like data privacy, ethical concerns, and regulatory compliance must be addressed for responsible AI adoption. While challenges persist, with continued investment, regulatory support, and innovation, AI will become definitely an integral part of India's banking in future.

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10

**REGIONAL DISPARITIES AND BALANCED ECONOMIC
DEVELOPMENT**

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INTRODUCTION:

Regional economic policies play a significant role in recognizing that they are fundamental in addressing economic disparities across various regions within a nation. A region is a defined geographic area characterized by certain shared traits or factors, which may include physical, cultural, economic, political, or social dimensions. It can be as small as a neighborhood or as large as a country or continent. The central idea is that this area is differentiated from others by a unifying feature, whether it is natural, historical, or economic (Rathod et al., 2024).

POLICY FRAMEWORK:

The formulation of regional economic policy represents a systematic approach aimed at addressing regional disparities and promoting balanced development. It begins with identifying regions that require intervention, based on an assessment of their economic, social, and demographic conditions. This is followed by the collection and analysis of data related to income levels, employment rates, poverty, infrastructure, and other relevant indicators to understand the depth and nature of disparities. Once the issues are clearly defined, specific goals are set, such as increasing regional GDP, reducing unemployment, or enhancing health and education outcomes. Based on these goals, targeted policies are designed, focusing on key areas like industrial development, infrastructure enhancement, and social welfare. Finally, consultation with stakeholders—including local governments, businesses, and citizens—

is conducted to gather feedback and ensure that the policies are practical, inclusive, and responsive to regional needs (Jadhav, 2020).

The Implementation of regional economic policy consists of a range of strategic actions aimed at alleviating disparities and fostering inclusive growth. A key element is the provision of financial support in the form of subsidies, grants, and loans to businesses operating in underdeveloped regions to stimulate economic activity. Tax incentives, such as reductions or exemptions, are also offered to attract investment and promote industrial development in less developed areas. Infrastructure development is crucial, with significant investments made in roads, electricity, water supply, and telecommunications to enhance connectivity and living standards. Additionally, the promotion of entrepreneurship and skill development programs helps to cultivate local innovation and job creation. Long-term regional planning ensures that development efforts are guided by clear strategic goals, while capacity building focuses on training local government bodies and businesses to effectively implement and manage policies, ensuring sustainable and impactful development (Dagde & Jadhav, 2024).

Regional economic policies are essential for advancing balanced development; however, they often face several constraints that can limit their effectiveness. A key challenge is the scarcity of resources, as limited financial and administrative capacity may restrict the scale and scope of policy implementation. Political challenges also emerge, with resistance from powerful regions or local elites who may view such policies as a threat to their interests. Additionally, geographical barriers—such as remote landscapes or severe climates—can complicate or increase the costs of development efforts in certain areas. Coordination issues among different levels of government and across sectors often lead to inefficiencies or overlaps in policy execution. Bureaucratic processes may further result in significant delays in the implementation of regional development initiatives. Moreover, despite good intentions, some policies may produce unintended consequences, including environmental degradation, heightened inequality, or the displacement of local communities, ultimately undermining their long-term sustainability and inclusiveness (Jadhav et al., 2025).

REGIONAL DISPARITIES AND BALANCED ECONOMIC DEVELOPMENT:

Regional economic policies play an important role in diminishing disparities by addressing the uneven economic development that exists among various regions. These policies aim to encourage balanced growth, ensuring that no region is left behind in the development process. A significant focus is placed on improving infrastructure—such as roads, education, and healthcare—in underdeveloped areas to enhance both accessibility and the quality of services provided. Additionally, these policies foster job creation through industrialization, investment, and entrepreneurship, particularly in regions that are economically lagging. By targeting disparities in income, employment, healthcare, and education, regional economic strategies ultimately seek to improve the overall quality of life and promote inclusive national development (Tanaji Salve and Jadhav, 2015).

Regional inequalities refer to the disproportionate distribution of opportunities, infrastructure, resources, and income across different geographic locations within a country. These imbalances often present themselves as significant variations in economic development, employment rates, quality of life, and access to crucial services such as healthcare and education. The presence of socioeconomic inequalities can lead to persistent challenges, as some regions advance and thrive swiftly, while others remain underdeveloped or stagnant (Pawar & Wavare, 2022).

To tackle these disparities, balanced economic development promotes inclusive growth that justly benefits every region. The importance of policies and initiatives that encourage investment in underdeveloped areas, improve infrastructure and connectivity, and create opportunities for regional businesses and communities is highlighted. In addition to bolstering national economic stability, balanced development fosters social cohesion and continuous progress by addressing regional inequalities. The overall development of a nation in a world that is becoming more interconnected hinges on balanced regional development. By allowing all regions to take part in and gain from economic growth, it works to reduce urban-rural disparities, relieve migration pressures, and enhance national unity (Wavare & Pawar, 2022).

1. Reasons for Regional Disparities:

- **Factors related to history:** Previous governmental decisions, the legacy of colonialism, and the uneven distribution of early industrialization are all elements that often contribute to regional disparities.
- **Location-related factors:** The economic advancement of specific areas is hindered by natural barriers such as deserts or mountains.
- **The financial system:** Regions that depend significantly on traditional industries or agriculture may not achieve the same level of development as those that are more focused on services or industrial activities.
- **People Resources:** In general, regions with higher levels of skills, health, and education tend to experience faster growth compared to those with lower levels.
- **Gaining Capital:** Developmental disparities arise from unequal access to capital and investment.
- **Government Regulations:** Discriminatory or poorly conceived policies may exacerbate regional disparities by disproportionately allocating resources to more developed areas.
- **Migration:** Talent and labor frequently move from less developed areas to more developed ones, exacerbating the disparity. Regions forfeit their human capital, hindering local progress.

2. Basic Tools for Regional Disparities:

- **Income Levels:** The variations in per capita income and wages across different regions.
- **Employment Rate:** The differences in job availability and unemployment rates between various regions.
- **Infrastructure Access:** Access to roads, electricity, water, healthcare, and education is not the same across regions.
- **Industrial Development:** The level of industrialization and economic diversification varies among regions.
- **Poverty Rates:** Certain regions experience higher poverty levels compared to others.
- **Human Development Index (HDI):** There are differences in health, education, and living standards across regions.

SCOPE AND TRENDS OF REGIONAL DISPARITIES:

Regional disparities signify the imbalanced distribution of economic, social, and infrastructural advancement among different geographical locations within a country. This situation is a worldwide occurrence, influencing both developing and developed nations, yet the specifics, reasons, and implications of these disparities often change depending on the country and region (Pawar, 2023).

1. Scope of Regional Disparities:

The scope of regional disparities is broad and multi-faceted, encompassing several key sectors:

- **Economic Disparities:** Differences in income levels, employment rates, industrial output, and investment across regions. Urban areas often serve as economic centers, attracting industries and skilled labor, while rural and remote regions tend to remain underdeveloped.
- **Social Disparities:** in health outcomes, literacy, access to education, social services, and living standards. Marginalized communities, especially in rural or tribal areas, may experience systemic disadvantages.
- **Infrastructure Gaps:** Unequal access to transportation, electricity, clean water, digital connectivity, and healthcare facilities. Urban centers generally benefit from better infrastructure investment compared to peripheral regions.
- **Technological and Digital Divide:** Regions with access to high-speed internet, modern technologies, and skilled human resources progress more quickly. Other areas find it challenging to integrate into the digital and knowledge-based economy.
- **Administrative and Governance Inequality:** Centralized policy-making may favor certain regions. Regions with weaker local governance or political influence may receive less support for development.

2. Global Dimensions and Regional Variations:

- **In developing nations, the disparity is frequently observed between urban and rural locales:** Urban areas generally boast better infrastructure, employment opportunities, healthcare services, and educational facilities. Conversely, rural regions often suffer from a lack of essential services and experience elevated levels of poverty, illiteracy, and underemployment.

- **In developed countries, the differences appear in various forms:** The divide may be seen between high-tech, innovation-centric cities and older, declining industrial regions. For instance, the distinction between Silicon Valley and the Rust Belt in the United States or the contrast between Southern and Northern Italy.
- **Emerging markets like Brazil, India, and China frequently encounter both types of inequalities:** Swift economic advancement has been concentrated in specific areas, resulting in significant disparities between modern urban hubs and traditional or rural communities.

Countries vary greatly in the degree and patterns of regional disparities, which arise from intricate interactions between social, economic, and topographical factors. The divide between urban and rural areas is often evident in developing countries, where urban regions typically have better infrastructure, job opportunities, healthcare, and education, while rural areas lag. In contrast, industrialized nations may experience disparities between high-tech and traditional economic sectors, as well as between vibrant metropolitan areas and outlying or deteriorating industrial districts. The trends in regional disparities have evolved. Through targeted regional development plans, infrastructure investments, and decentralization initiatives, many countries have made progress in closing these disparities. However, the factors of increased urbanization, technological advancement, and globalization have often led to a widening of inequities. These elements frequently concentrate opportunity and growth in areas that are already developed, leaving others further behind. As regions with greater access to technology and skilled workers continue to advance while others struggle to keep up, the emergence of digital economies and capital-intensive industries has also contributed to regional imbalances. Consequently, governments around the world continue to face a significant challenge in addressing regional inequities, which necessitates consistent, inclusive, and flexible approaches (Bhave et al., 2022).

PROS AND CONS OF REGIONAL DISPARITIES:

1. Pros of Regional Disparities:

- **Planning for Specific Regional Development:** Government initiatives that give priority to development and investment in underdeveloped or lagging areas. The Western Development Strategy of China or the Aspirational Districts Program of India are two examples.
- **Infrastructure Investments:** Constructing energy networks, digital infrastructure, roads, and rail in underprivileged areas to increase economic integration and connection.
- **Dispersal and Local Self-Sufficiency:** Delegating authority and resources to local governments guarantees that development satisfies local demands and enhances responsiveness.
- **Better Social Services:** In impoverished areas, the expansion of social welfare, health, and education initiatives has contributed to closing some disparities.

2. Cons of Regional Disparities:

- **Urbanization and Mega-City Growth:** The swift expansion of urban areas has resulted in a significant accumulation of wealth, services, and infrastructure within a limited number of urban hubs. Consequently, this phenomenon has siphoned off resources and talent from smaller towns and rural areas.
- **Technological Advancements:** The emergence of the digital economy and automation tends to favor regions that boast a workforce with high skills, research facilities, and robust technology infrastructure. Conversely, areas that lack these critical assets find themselves marginalized in the evolving economy.
- **Globalization:** Open markets and international trade provide advantages to regions that are integrated into global supply chains. In contrast, regions that depend on traditional, local economies face challenges in maintaining competitiveness.
- **Capital-Intensive Industries:** Contemporary industries necessitate substantial capital investments and a skilled labor force, which are often only available in more developed regions. This situation perpetuates the supremacy of advanced areas while sidelining those that are less developed.

EFFECTS ON POLICY AND ADMINISTRATION:

- 1. Comprehensive Commitment:** Reaching regional equity cannot be achieved through temporary fixes or isolated projects. It requires a sustained strategy backed by both institutional and political resolve. Policy frameworks must be established with a multi-decade perspective to reduce interruptions caused by changing political leadership and ensure continuity across different administrations. To sustain development initiatives over time, this involves setting measurable long-term objectives, implementing systems for regular monitoring and evaluation, and enhancing local institutional capacity.
- 2. Models of Inclusive Development:** Development policies should intentionally aim to mitigate regional disparities rather than exacerbate them. This requires a focus on uplifting impoverished, isolated, and marginalized areas instead of merely increasing economic growth in already prosperous regions. Targeted investments in physical infrastructure, healthcare, education, and employment opportunities in these sectors should be included in any comprehensive strategy. Additionally, the unique sociocultural dynamics of disadvantaged groups must be recognized and supported by inclusive models to enable their active participation in and benefits from development processes.
- 3. Context-specific and adaptable strategies:** The specific needs of numerous regions are frequently disregarded by uniform policy frameworks, particularly in a nation with substantial geographic, economic, and cultural diversity. To create and implement context-specific policies, policymaking must be adaptable and decentralized. Local organizations and governments must have the capability to tailor solutions to fit local opportunities, challenges, and resources. This involves adjusting strategies for urban as opposed to rural areas, coastal versus inland regions, and factoring in local environmental and demographic attributes.
- 4. Government-Private Partnerships (PPPs):** To foster balanced regional development, it is essential to have active collaboration among the governmental sector, private enterprises, and civil society organizations. PPPs can introduce management efficiencies, innovative technologies, and financial resources that the public sector would otherwise lack. By providing tax

incentives, infrastructure support, and risk-sharing agreements, governments can stimulate private investment in underdeveloped areas. Non-governmental organizations (NGOs) and community-based organizations exemplify civil society, which plays a crucial role in ensuring that development initiatives are inclusive, participatory, and responsive to the needs of the local community.

MEASURES TO DIMINISH REGIONAL INEQUALITIES:

- 1. SEZs, or Special Economic Zones:** A strategic approach to foster regional development has been the creation of Special Economic Zones in economically disadvantaged regions. SEZs attract both domestic and international investment by offering tax incentives, simplified regulatory frameworks, and robust infrastructure. These zones serve as catalysts for growth, stimulating economic activity in surrounding areas, generating employment opportunities, and promoting industrialization. However, for SEZs to successfully address disparities, they must be integrated into broader regional development strategies and ensure that local communities benefit from the opportunities they create.
- 2. Grants and Loans with Subsidies:** Governments often provide subsidized loans, financial aid, and incentives to encourage the growth of industries and small businesses in less developed regions. To reduce the expenses associated with operating in high-risk areas, they offer credit guarantees, lower interest rates on loans, and funding for startups. These programs promote entrepreneurship, generate employment opportunities, and enhance private sector participation in local development by improving access to capital.
- 3. Infrastructure Establishment:** The deficiency of proper infrastructure is a major obstacle to advancement in numerous areas. To integrate remote regions into the broader economy, targeted investments in energy supply (including electricity and renewable energy projects), digital connectivity, and transportation networks (such as roads, railroads, and public transportation) are essential. Building infrastructure lowers logistical costs, attracts investment, and enhances the quality of life for residents. Moreover, it is vital for improving access to markets, healthcare, and education.

4. Acquiring Skills and Learning: Human capital is essential for sustainable development. Both governmental and non-governmental organizations undertake initiatives aimed at enhancing the quality of elementary, secondary, and postsecondary education in disadvantaged regions. To equip local communities with employable skills that align with the economic needs of the area, vocational training centers, skill development programs, and collaborations between industry and academia are established. Furthermore, enhancing access to education fosters long-term social mobility and disrupts cycles of poverty.

CONCLUDING REMARKS:

Regional economic policies serve as essential instruments in achieving fair and sustainable national development. By tackling the underlying causes of regional inequalities—such as historical neglect, geographical limitations, unequal access to financial resources, and gaps in human development—these policies strive to guarantee that every region, irrespective of its initial conditions, has the chance to prosper and contribute to the national economy. The structure of regional policy encompasses a thorough process: identifying underprivileged areas, establishing development objectives, crafting inclusive strategies, and ensuring effective execution through collaboration among government entities, the private sector, and civil society. Mechanisms such as infrastructure enhancement, Special Economic Zones (SEZs), skill development programs, and subsidized financing are vital for transforming underdeveloped regions into productive economic participants. Nevertheless, despite sincere efforts, obstacles such as limited resources, political opposition, coordination issues, and unintended adverse effects continue to hinder progress. Consequently, policies must be flexible, long-term, and tailored to specific contexts, concentrating not only on economic metrics but also on enhancing the social fabric of marginalized communities. The increasing influence of globalization, digital economies, and technological advancements underscores the necessity for adaptive policy measures that can avert the further marginalization of already disadvantaged regions. Fostering inclusive development through targeted investments, capacity-building, and local empowerment is essential for diminishing inequality and

promoting national unity. Ultimately, regional economic policies transcend mere economic adjustments—they embody social justice, opportunity, and the creation of a more equitable and resilient nation. Ensuring that development permeates all areas of a country not only bolsters its economy but also enhances its social cohesion, political stability, and long-term sustainability in a swiftly evolving landscape.

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11

**CHALLENGES AND CONTEMPORARY ISSUES FOR THE
EXTERNAL SECTOR: FOREIGN TRADE, BALANCE OF
PAYMENTS & EXCHANGE RATE POLICY IN INDIA**

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INTRODUCTION:

Over the past decade, the external sector - comprising trade in goods and services, capital flows, remittances, and exchange rate dynamics - has played an increasingly pivotal role in India's macroeconomic management. As India seeks to balance growth aspirations with external stability, it must navigate structural vulnerabilities (e.g. trade deficits, energy dependence), evolving global trade tensions, and shifts in capital flows. This chapter assesses those vulnerabilities through current data and policy evaluation as of mid-2025 (Tanaji Salve and Jadhav, 2015).

FOREIGN TRADE DYNAMICS:

1. Merchandise and Services Exports and Imports:

India's total exports (merchandise + services) in FY 2024–25 surged by 5.5 % to USD 820.93 billion, up from USD 778.13 billion in FY 2023–24. While merchandise exports accounted for roughly USD 450 billion and services exports for about USD 323 billion in prior years, services exports have become increasingly dominant: rising from 33 % of total exports in FY 2014–15 to 46 % in FY 2025–26 (Jadhav et al., 2025).

Despite export growth, India continues to sustain a structural merchandise trade deficit. In Q4 FY 2024–25, the merchandise trade deficit widened to USD 59.5 billion, up from USD 52 billion in Q4 FY 2023–24. Yet the surge in services receipts and remittances helped cushion the external position (Dagde & Jadhav, 2024).

**Table 1: India's External Sector Summary
(FY 2024–25 Q4 and Annual)**

Indicator	Q4 FY 2024–25	Full FY 2024–25
Merchandise trade deficit	USD 59.5 billion	—
Services receipts (exports)	USD 53.3 billion	—
Remittances (personal transfers)	USD 33.9 billion	—
Current Account Balance	+USD 13.5 billion (1.3 % of GDP)	–USD 23.3 billion (– 0.6 % of GDP)

Note: Services receipts and remittances refer to Q4 only; full-year figures aggregate accordingly.

Source: RBI (Q4 BoP report)

2. Major Trading Partners:

The composition of trade partners adds nuance to the trade narrative. India's largest trade balance figures in FY 2024–25 (combined merchandise and services) were as follows:

- Top partner (unnamed in source): Trade balance +USD 45 billion
- Next key partner: –USD 85.1 billion
- Others: Balanced or moderate surpluses/deficits

India's trade-to-GDP ratio is roughly 45% and its services exports are heavily weighted toward IT and business services (BPO, software). Remittances remain a significant and stable flow (Jadhav, 2020).

BALANCE OF PAYMENTS (BOP): STRUCTURE AND TRENDS:

1. Current Account Dynamics:

As noted, India posted a current account surplus of USD 13.5 billion (1.3% of GDP) in Q4 FY 2024–25, reversing earlier deficits and improving on the FY 2023–24 deficit of USD 26 billion (0.7% of GDP) (Rathod et al., 2024).

Key drivers include:

- Net services receipts: up from USD 42.7 billion to USD 53.3 billion YoY
- Remittances: from USD 31.3 billion to USD 33.9 billion
- Merchandise deficit: widening, yet offset by the surpluses in invisibles

Full-year current account deficit improved to USD 23.3 billion (–0.6 % of GDP), down from USD 26 billion (–0.7 % of GDP)

2. Financial and Capital Account:

Financial flows in Q4 FY 2024–25 showed strains:

- FDI inflows: USD 0.4 billion, sharply down from USD 2.3 billion in Q4 FY 2023–24
- FPI (portfolio flows): net outflow of USD 5.9 billion, reversing inflow a year earlier

Despite these pressures, capital inflows earlier in FY 2024–25 helped build foreign exchange reserves. As of 20 June 2025, forex reserves stood at USD 697.9 billion, covering more than 11 months of imports and approximately 90 % of external debt. The external debt position, while at a record high of around USD 682 billion as of June 2024, remains moderate at 18.8–19.4 % of GDP, and comfortably covered by reserves (Kamat & Pawar, 2024).

EXCHANGE RATE POLICY AND CHALLENGES:

1. Policy Framework: FEMA and RBI Practice:

The Foreign Exchange Management Act (FEMA) of 1999 provides the legal framework for current and capital account transactions; it permits current account flows unless prohibited and restricts capital account flows unless explicitly allowed. This underpins RBI's approach to managing capital flows and remittances. Consistent with IMF advice, RBI uses exchange rate flexibility as the first line of defence. The rupee depreciated about 4 % between November 2024 and February 2025, roughly tracking the dollar's gains, and interventions are limited to stabilization periods (Wavare & Pawar, 2022).

2. External Pressures and Currency Volatility:

In mid-2025, rising geopolitical and trade tensions have exerted downward pressure on the rupee:

- U.S. tariffs of 25 % on key Indian exports (apparel, electronics, jewellery, seafood, pharmaceuticals) have threatened export growth and created volatility.
- RBI has continued monetary neutrality—key policy rate at 5.50 %—keeping inflation under control (2.1 % in June) and GDP growth projection at 6.5 %.

STRUCTURAL CHALLENGES AND POLICY RECOMMENDATIONS:

1. Trade Policy and Reform Agenda:

India continues to balance export competitiveness with import protectionism:

- While trade policy has reactionary protectionist elements, especially for sensitive goods, there are also reform-oriented moves to liberalize intermediate goods imports and FDI thresholds.
- The IMF (July 2025) advises easing import curbs, liberalizing FDI, maintaining exchange rate flexibility, and improving the business environment
- The OECD (June 2025) recommends trade facilitation, customs simplification, tariff reduction, logistics upgrade, and smoother regulation to boost external integration.

2. External Shocks and Resilience:

External shocks such as tariff escalation, tightening global liquidity, and structural deficits highlight the importance of robust policy frameworks. India's high reserve adequacy, moderate external debt, and strong services/remittance inflows are stabilizing factors. Yet, declining FDI and FPI in Q4 FY2024–25 underscores vulnerability to capital outflows. The IMF further emphasizes that greater exchange rate flexibility enhances shock absorption while limiting direct intervention (Pawar, 2023).

3. Reform Momentum and the “Big Bang” Analogy:

Triggered by external pressures like U.S. tariffs, India appears poised to revisit trade reforms reminiscent of its 1991 liberalization—perhaps a “big bang” moment to fast-track bilateral trade agreements and internal deregulation. Negotiations with the U.S., EU, UK, and regional partners (e.g., Australia) are accelerating.

CONCLUSION:

India's external sector today stands at a crossroads:

- **Strengths:** Robust services exports and remittances, record forex reserves, moderate external debt, and a flexible exchange rate policy framework.
- **Challenges:** Structural merchandise trade deficits, export exposure to protectionism, volatile capital flows, and exchange rate pressures amid global uncertainty.

To sustain external sector stability, India must recalibrate trade and investment openness, deepen structural reforms, and remain vigilant and flexible in its exchange rate policy. A renewed commitment to liberalizing trade, coupled with modernization of logistics and regulatory systems, can support durable growth and global integration.

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**ECONOMIC REFORMS SINCE 1991: AN OVERVIEW AND
PERSPECTIVE ON ECONOMIC REFORMS UP TO 2025
AND FUTURE DIRECTIONS**

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INTRODUCTION:

In 1991, India faced a severe economic crisis. Foreign exchange reserves were barely sufficient to cover a few days of imports, while trade deficits and fiscal deficits were rising. To overcome this crisis, then Prime Minister P. V. Narasimha Rao and Finance Minister Dr. Manmohan Singh introduced the New Economic Policy, which incorporated the key concepts of Liberalisation, Privatisation, and Globalisation (LPG). Alongside these, reforms were implemented in banking and taxation, liberalisation of the financial sector, and relaxation of restrictions on foreign investment. This research paper reviews the economic reforms undertaken during the period 1991–2025, analyses their positive and negative impacts, and examines the current scenario along with future directions.

OBJECTIVES:

1. To conduct a comparative study of the economic situation before and after 1991.
2. To explain the key components of the LPG policies.
3. To study banking and tax reforms.
4. To examine the positive and negative impacts of reform policies.
5. To determine future directions based on the current scenario.

BACKGROUND:

Before and after 1991, India faced a challenging economic situation. In the early 1990s, the industrial sector witnessed a sharp decline, largely because it was predominantly under public sector control. With secure government jobs and no competition, industrial productivity declined (Tanaji Salve and Jadhav, 2015).

At the same time, India's foreign exchange reserves had almost depleted, leading to a Balance of Payments crisis. Government expenditure was high while revenue was low, which increased the fiscal deficit. The current account deficit exceeded 3% of GDP (Dagde & Jadhav, 2024).

During this period, due to insufficient resources within the country, foreign exchange reserves fell drastically—to only USD 2.2 billion—which was sufficient to cover just a few weeks of imports. Another crisis emerged in the form of a sharp rise in inflation (16.33%). The prevailing situation was further aggravated by the Gulf War, which caused a significant increase in oil prices (Jadhav et al., 2025).

In these circumstances, the Government of India borrowed nearly USD 7 billion from the International Monetary Fund and the World Bank. As a result, it was decided to immediately implement the New Economic Policy in 1991. This policy included measures such as the devaluation of the Indian rupee to boost exports and opening up various sectors to Foreign Direct Investment (Jadhav, 2020).

India was heavily dependent on imports, while export levels remained low, leading to a further depletion of foreign exchange reserves. To address this crisis, then Prime Minister P. V. Narasimha Rao and Finance Minister Dr. Manmohan Singh implemented the New Economic Policy, which incorporated Liberalization, Privatization, and Globalization. This policy framework, laid down by Prime Minister Rao and Finance Minister Singh, is also referred to as the “Singh–Rao Model” (Rathod et al., 2024).

LIBERALIZATION:

The industrial licensing system was abolished. Restrictions on foreign investment were relaxed, and import duties were reduced. The “License Raj” system was dismantled, and limitations on foreign investments were eased. Changes were introduced in industrial and trade policies. Government regulations were made more flexible, making it easier for industries to obtain licenses (Kamat & Pawar, 2024).

PRIVATIZATION:

The government reduced its stake in public sector enterprises, opening them up to private companies. By disinvesting or entering into partnerships in public sector undertakings, the government aimed to reduce its monopoly in various sectors (Wavare & Pawar, 2022).

GLOBALIZATION:

Foreign investment was encouraged, and import restrictions were reduced, thereby opening the Indian economy to the global market. International trade agreements were signed, import duties and quotas were lowered, and efforts were made to promote multinational companies in India (Pawar, 2023).

Review of the Economic Reforms of 1991

Sector/Area	Reform Implemented	Outcome
Industrial Policy	Abolition of License reduced control over industries	Greater freedom for private enterprises
Foreign Trade	Reduction in import duties;	export promotion Increase in global trade participation
Financial Sector	Reforms Banking sector reforms;	regulation of stock markets Improved investment environment
Foreign Investment	FDI Liberalization of FDI in multiple sectors Growth in technology transfer	capital inflows

FINANCIAL SECTOR REFORMS:

Banking Reforms (Narasimham Committee):

In 1991, to make the Indian banking sector more competitive and efficient, the Narasimham Committee was established under the chairmanship of M. Narasimham. The committee made several

important recommendations aimed at reducing government interference and granting greater autonomy to banks.

Changes in Lending Policy: Banks were given the freedom to provide loans based on their own professional assessment of creditworthiness.

Capital Adequacy Ratio: In line with global standards, banks were required to maintain adequate capital based on their risk-weighted assets, ensuring a safer and more stable banking system.

Licensing of new banks: Licenses were issued to private sector banks, thereby increasing competition for public sector banks. Capital Market Reforms (Establishment of SEBI)

During the 1980s, the Indian capital market witnessed several malpractices and irregularities, which eroded investors' confidence in the market. To address this issue, the Securities and Exchange Board of India (SEBI) was established.

SEBI was set up in 1988 as a non-statutory body, but in 1992, the SEBI Act was passed, granting it statutory and regulatory powers.

Objectives: The primary objectives of SEBI are to protect the interests of investors, regulate the capital market, and promote its orderly development.

Control over Malpractices: SEBI introduced several stringent regulations to curb fraudulent practices in the stock market, thereby improving transparency and restoring investor confidence.

CHANGES IN MONETARY AND FISCAL POLICIES:

Tax Reforms:

To make India's tax system simpler, more efficient, and more transparent, the Tax Reforms Committee was established in 1991 under the chairmanship of Raja Chelliah.

Direct Taxes: The committee recommended reducing the rates of personal income tax and corporate tax.

Indirect Taxes: Import duties were reduced, making it easier for domestic industries to procure raw materials.

Service Tax: The committee recommended the introduction of service tax (implemented from 1994–95), providing the government with a new source of revenue.

These reforms gave India a new direction after 1991 and laid the foundation for the country's economic growth.

Since the tax reforms initiated by the 1991 economic liberalization, the Government of India has now presented the New Income Tax Bill, 2025 as a culmination of continuous reforms.

The Income Tax Act of 1961, implemented in 1962, had undergone more than 4,000 amendments over the decades. Due to its excessive accumulation of provisions, complex language, and additional clauses, the law had become cumbersome and difficult to read. Therefore, as part of India's movement toward tax simplification, the government introduced the New Income Tax Bill, 2025, which was passed on August 12, 2025.

This new legislation, approved by Parliament in August 2025, will come into effect from April 1, 2026.

From simplification to greater transparency, the bill incorporates several beneficial measures. The government, through this bill, has not only aimed to reduce unnecessary taxes and make tax compliance easier but has also focused on digitalization. With this, advanced technology-enabled systems will be used to curb malpractices and ensure a more efficient tax administration.

Important Economic Policies after 1991

Year	Policy	Objective
2005	Aatmanirbhar Bharat Abhiyan	To increase domestic production
2014	Digital Technology	To increase digital transactions
2016	Green Hydrogen Mission	To produce clean energy
2017	Make in India 2.0	To expand the manufacturing sector
2023	Artificial Intelligence (AI)	Automated tasks, innovation

FUTURE DIRECTION:

- 1. Expansion of the Digital Economy:** The spread of digital payments, e-commerce, and cloud-based services will increase productivity and transparency.

- 2. Green and Sustainable Development:** Renewable energy, clean transportation, and environmentally friendly industries will be promoted to reduce carbon emissions.
- 3. Rural and Agricultural Reforms:** Increasing rural income through smart farming, irrigation improvements, and direct market access. Establishing self-help groups will open new avenues for production.
- 4. Investment in Skill Development, Vocational Education, and Research & Development:** This will enhance both natural and human resources.
- 5. Growth in International Trade:** Promoting MSMEs, startups, and high-tech industries to increase global competitiveness. Creating a strong position in the global market through new trade agreements, including '**Make in India**' and '**Atmanirbhar Bharat**'.
- 6. Inclusive Economic Policies:** Reducing poverty, providing employment opportunities for all, economically empowering women, and offering economic and social security to vulnerable and underprivileged sections of society.

In this way, the **New Economic Policy (NEP) of 1991** has proven to be extremely important as a guide for India's economic path in the current situation.

SOCIAL INCLUSION:

Social inclusion is about providing equal opportunities and facilities to every individual in society, regardless of their caste, religion, gender, age, or economic status. No one should be left behind in areas like education, healthcare, social security, rights, or the decision-making process.

Examples: Scholarships for girls' education, special facilities for people with disabilities, and development schemes for minorities all reflect social inclusion.

FINANCIAL INCLUSION:

Financial inclusion means involving everyone in the economic system (banking, investment, employment, business), ensuring equal access to financial resources for all. It gives the poor and disadvantaged classes opportunities to increase their income and build wealth.

Examples: The **Pradhan Mantri Jan Dhan Yojana**, microfinance, and skill development programs for the rural and urban poor demonstrate financial inclusion.

INCLUSIVE GROWTH:

Inclusive growth means that economic growth is not limited to just an increase in GDP but that its benefits reach all sections of society. It creates social justice and equal opportunities for everyone alongside economic progress.

Examples: Development programs that provide widespread access to infrastructure, education, healthcare, skill development, and employment generation demonstrate this inclusiveness.

CONCLUSION:

- LPG reforms helped India enter the global economy.
- Banking and tax reforms support the financial structure, but social inequality and rural development issues persist.
- Growth in digital and financial inclusion is underway, but there is a need for strategic reforms and investment in the manufacturing sector.
- Export-oriented policies are being implemented to boost the manufacturing sector.
- Agricultural reforms and skill development are essential for growth in the rural economy.
- Digital financial inclusion is being achieved through innovations in the banking sector.
- Tax system reforms are enhancing financial inclusion.
- Environmentally friendly and sustainable economic policies are being adopted.

RECOMMENDATIONS:

- Tax incentives to boost industrial and agricultural production.
- Investment in infrastructure and education in rural areas.
- Credit support and digital skills training for the MSME (Micro, Small & Medium Enterprises) sector.
- Implementation of environmentally friendly industrial policies and the concept of a green economy.

- Increased investment in the healthcare sector.

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**INFLATION EXPECTATIONS, MONETARY POLICY AND
THE ROLE OF RBI**

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INTRODUCTION:

As of August 2025, India's headline consumer price index (CPI) inflation stood at approximately 2.07% year-over-year. Though this rate falls within the RBI's prescribed target range of 2%–6%, it masks persistent volatility, especially in food, fuel, and supply-side driven components arising from geopolitical uncertainty, climate shocks, global commodity disruptions, and supply chain breakdowns.

These inflationary challenges arrive at a critical juncture. India has set an ambitious goal of becoming a US\$5-trillion economy by 2027 and entering its Amrit Kaal, a period envisioned as one of rapid socio-economic transformation. Under these aspirations, growth and employment are paramount. An increase in domestic income powered by India's demographic dividend leads to an expansion of domestic demand, which creates fresh inflation risks that need to be kept in check through monetary policy.

The primary objective of monetary policy is to maintain price stability while keeping in mind the objective of growth (RBI Act, 1934; Finance Act, 2016). Thus, the Reserve Bank of India (RBI) faces the mammoth challenge of taming inflation and fostering growth through monetary policy (Shrivastav, 2024).

Since its inception, the RBI has served various functions bestowed upon it along with undertaking monetary policy actions. The monetary policy framework has undergone a sea change over the decades: from credit planning and monetary targeting to inflation

targeting and, more recently, flexible inflation targeting (FIT). Each phase reflects the changing priorities of India's evolving economy.

HISTORICAL BACKGROUND OF MONETARY POLICY:

The evolution of monetary policy in India reflects the country's economic transformations. The RBI, established in 1935 under the RBI Act, was originally tasked with maintaining monetary stability and regulating credit (Das, 2020). In the early decades post-independence, monetary policy was synchronised with the Five-Year Plans, with a strong developmental focus. Bank nationalisation in 1969 reinforced credit planning as the instrument for channeling funds to priority sectors.

During the 1980s, the fiscal dominance of the state and monetisation of deficits eroded monetary discipline, leading to the adoption of a monetary targeting framework based on the Chakravarty Committee's recommendations. However, financial liberalisation and structural reforms of the 1990s exposed the limitations of monetary targeting, prompting the RBI to adopt the Multiple Indicators Approach in 1998 (Patra, 2017). This approach used a wide array of variables—money, credit, exchange rate, capital flows, inflation, and output to guide policy. While flexible, it lacked a clear nominal anchor.

The macroeconomic instability of 2012–2013, marked by persistently high inflation and external vulnerabilities, prompted a major reassessment. The Urjit Patel Committee (2014) recommended a shift to inflation targeting with CPI as the nominal anchor.

In 2015, the Government of India and RBI signed the Monetary Policy Framework Agreement, and in 2016, the amended RBI Act gave statutory backing to flexible inflation targeting (RBI, 2016). The FIT framework set the inflation target at 4%, with a tolerance band of $\pm 2\%$, and established a six-member Monetary Policy Committee (MPC) to determine the repo rate (RBI, 2016).

FLEXIBLE INFLATION TARGETING:

RBI formally adopted flexible inflation targeting (FIT) in June 2016 to make price stability, defined as target CPI inflation, the primary objective of monetary policy.

Flexible inflation targeting is an approach to monetary policy that aims to balance maintaining price stability, typically through a

target inflation rate, and supporting economic growth. Flexible inflation targeting allows the Reserve Bank of India (RBI) to consider other macroeconomic objectives, such as supporting employment and fostering sustainable economic growth, alongside price stability, which is in consonance with the government's objective of fastening economic growth. This circumvents, to some extent, the situation where output is sacrificed massively due to disinflation. Since 2016, India has survived multiple economic crises, including rising oil prices, a supply chain breakdown due to the pandemic, and unfavorable weather conditions, adversely affecting agricultural produce.

The FIT framework marked a paradigm shift in India's monetary policy by explicitly prioritising price stability while considering growth. Between 2016 and 2019, inflation was largely aligned with the target, demonstrating the framework's success (RBI, 2025). However, extraordinary events such as the COVID-19 pandemic and the Russia-Ukraine war tested the limits of the system. Supply-side disruptions pushed inflation above the upper tolerance band for several quarters (Shrivastav M. K, et. al 2025)

The RBI responded by balancing growth-supportive measures with the need to contain inflationary pressures. The then RBI governor, Dr. Shashikant Das emphasised that monetary policy had to remain flexible, shifting focus to growth during the pandemic while reverting to disinflationary policies during the war-induced commodity shocks.

The credibility of FIT has been enhanced by greater transparency: MPC minutes, voting patterns, inflation forecasts, and the semi-annual Monetary Policy Report have made policy decisions more predictable (Mathur & Sengupta, 2020). Dissent within the MPC reflects diversity of thought, contributing to robust policymaking (RBI, 2025b). Despite criticisms that inflation targeting can impose output costs, empirical evidence indicates that it has anchored inflation expectations and improved macroeconomic stability (Anand et al., 2012).

Despite these, over the last few years, it can be said that inflation targeting has not been suitable for India due to the unique challenges faced by its economy, such as the significant role of the agricultural sector in generating inflation and the limited effectiveness

of monetary policy tools in addressing supply-side inflation. These unique challenges further amplify the role which RBI can play through monetary policy.

MULTIPLE ROLES OF RBI:

The RBI's role extends far beyond inflation control. It manages liquidity through instruments such as the repo rate, reverse repo rate, cash reserve ratio (CRR), statutory liquidity ratio (SLR), and open market operations (RBI, 2025). It also intervenes in the foreign exchange market to manage volatility and safeguard external stability. During crises, the RBI has acted as a lender of last resort, providing targeted liquidity facilities to stressed sectors (Das, 2023).

Under the FIT framework, RBI has had to balance growth and inflation objectives.

For instance, during the pandemic, the MPC kept interest rates accommodative despite inflationary pressures, recognising the need to protect growth (RBI, 2025b).

In contrast, during the commodity price surges of 2022–23, the RBI tightened policy aggressively to anchor inflation expectations. This reflects the flexibility and judgment embedded in the FIT framework (Das, 2024).

CONTEMPORARY CHALLENGES AND THE NEW ROLE OF RBI-ANCHORING INFLATION EXPECTATIONS:

India's monetary policy now faces multiple structural and cyclical challenges.

Climate change-induced supply shocks, energy price volatility, and global fragmentation of trade and capital flows threaten to destabilise inflation dynamics (RBI, 2025b).

Domestically, the outsized role of food inflation complicates monetary policy transmission. The debate on whether headline inflation or core inflation should guide policy remains active (Mishkin, 2007; Das, 2024).

Equally important will be fiscal-monetary coordination to manage supply-side pressures, as demonstrated during the pandemic (Das, 2024). Several economists have long debated the role of expectations in managing inflation (Sethi 2025)

Inflation expectations constitute a central pillar of monetary policy, as they influence the behavior of households, firms, and markets in price and wage setting. When expectations are firmly anchored, economic agents anticipate that inflation will remain close to the target over the medium term, which reduces the likelihood of wage–price spirals, lowers the persistence of inflation, and enhances the effectiveness of interest rate adjustments. In this sense, anchoring expectations is as much about credibility and communication as it is about policy instruments.

The Reserve Bank of India (RBI) has undertaken several initiatives to strengthen the anchoring of expectations under the flexible inflation targeting framework. Empirical evidence since the adoption of this framework in 2016 indicates that inflation volatility has declined and expectations have become more stable, even in the face of external shocks. Recent studies by the RBI highlight that households' inflation expectations, though often elevated, have shown signs of moderation when actual inflation trends closer to the target. Importantly, demographic variations exist: older individuals, self-employed workers, and daily wage earners tend to expect higher inflation than younger or salaried groups, reflecting differing sensitivities to price movements.

Anchoring expectations has also been supported by improvements in policy communication. The publication of Monetary Policy Committee minutes, inflation forecasts, and semi-annual reports has enhanced transparency, while forward guidance during the pandemic helped reassure markets and households of the RBI's commitment to stability. The launch of a discussion paper in 2025 to review the inflation targeting framework ahead of the statutory review due in 2026 further demonstrates the RBI's intent to reinforce credibility by engaging with stakeholders. These measures collectively signal to the public that the monetary authority remains responsive, flexible, and committed to aligning future inflation with the target.

Anchoring inflation expectations also has an important indirect role in moderating supply-side factors. By influencing expectations of future prices, the RBI can reduce inflationary mark-ups and speculative behavior in commodities, thereby complementing fiscal measures in addressing supply shocks. This emphasis on

expectations represents a significant evolution from the RBI's traditional focus on liquidity and credit management, highlighting a more forward-looking and anticipatory role for monetary policy in India.

Through credibility, transparency, and consistent action, the RBI strengthens the foundation of monetary policy. This anchoring reduces uncertainty, fosters confidence among economic participants, and ensures that the objectives of price stability and growth remain complementary rather than conflicting.

CONCLUSION:

The Reserve Bank of India has traversed a long journey from credit planning and monetary targeting to the adoption of flexible inflation targeting.

While price stability remains the cornerstone of monetary policy, the RBI must continue to support growth, maintain financial stability, and adapt to evolving domestic and global shocks. The FIT framework has provided India with credibility, transparency, and flexibility, enabling it to weather crises such as the pandemic and geopolitical conflicts.

If India is to achieve the \$5 trillion mark and move on an upward path of growth sustainably, then, apart from flexible inflation targeting, other policy initiatives to combat supply-side inflation like farm bills (to reduce the cascading of prices from farmer to buyer), fiscal prudence, managing the rising non-performing assets, etc have to be undertaken. Mere anchoring of inflationary expectations through monetary policy actions will not be conducive to economic growth in the long run.

Reserve Bank of India will have to assume an even greater role in navigating the country's developmental aspirations. As India pursues its ambitious growth trajectory, the design and conduct of monetary policy will remain central to reconciling the objectives of stability and expansion. In this endeavor, the RBI stands not merely as a regulator but as a steward of economic transformation, ensuring that inflation is contained, growth is nurtured, and India's long-term progress is secured.

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**INFRASTRUCTURE DEVELOPMENT AND PUBLIC-
PRIVATE PARTNERSHIP (PPP)**

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INTRODUCTION:

Infrastructure plays a vital role in the growth and development of a country. Roads, power supply, water systems, hospitals, and other facilities are essential for economic progress. However, building and maintaining such large-scale infrastructure requires massive financial resources, technical knowledge, and efficient management - challenges that governments often struggle to meet alone. To address this gap, India adopted the Public-Private Partnership (PPP) model. PPP allows the public sector (government) and private companies to collaborate in designing, financing, building, and operating infrastructure projects. The government offers policy support and regulation, while private entities contribute capital investment, advanced technologies, and managerial expertise.

HISTORY AND BACKGROUND:

A. Pre-1991: The Controlled Era:

Before economic liberalization, India's infrastructure development was almost entirely managed by the public sector. The government held tight control over all major sectors, with limited room for private involvement. Consequently, PPP projects were virtually non-existent.

B. 1991–2000: The Beginning of Reforms:

With the economic reforms of 1991, India opened its doors to private investment across several sectors, including power, telecommunications, and ports. PPP models such as Build-Operate-Transfer (BOT) and Build-Own-Operate (BOO) were introduced. Key milestones included the establishment of the National Highways Authority of India (1995) and the Electricity Act (1998).

C. 2000–2010: Formalization and Growth:

This period saw a rapid push for private participation through institutional support:

- Viability Gap Funding (2004) to support financially unviable but socially important projects
- Model Concession Agreements (MCAs) to standardize PPP contracts
- PPP Appraisal Committee (2006) to evaluate large-scale projects

Sectors such as highways, ports, airports, and even health and education began adopting the PPP model.

D. 2010–2015: Expansion and Setbacks:

India emerged as one of the largest PPP markets globally, with substantial involvement in road and urban development. State governments also took active roles. However, several issues emerged:

- Land acquisition delays
- Financial stress among private firms
- Poor risk allocation
- Cost and time overruns

E. 2015–Present: Reforms and Modern Approaches:

In response to challenges, new models were introduced:

- Hybrid Annuity Model (HAM): Balanced risk between government and private players
- Infrastructure Investment Trusts (InvITs) and REITs: To attract institutional and foreign investment
- PPPs expanded into areas such as smart cities, digital infrastructure, and logistics, supported by initiatives like:
 - National Infrastructure Pipeline (2019–2025)
 - PM Gati Shakti Yojana (2021)

OBJECTIVES OF PPP:

The primary objectives of implementing PPPs in India are:

1. To Accelerate Infrastructure Development:

India faces a significant gap in infrastructures such as roads, railways, ports, airports, water supply, and urban services. PPPs help bridge this gap by bringing in private sector participation, which leads to quicker project initiation and faster implementation. The private sector typically works with tighter timelines and modern project management

techniques, helping to complete projects more efficiently compared to traditional public-sector processes (Tanaji Salve and Jadhav, 2015).

2. To Attract Private Investment and Innovation:

Public resources alone are often not sufficient to fund all necessary infrastructure projects. PPP allows governments to leverage private capital, thereby easing the financial burden on the public budget. At the same time, private firms introduce innovation in design, construction, technology, and service delivery—something that is often limited in purely government-run projects. This innovation helps enhance project quality and sustainability (Jadhav et al., 2025).

3. To Ensure Efficient Operation and Maintenance:

PPPs are not just about construction—they also involve the long-term operation and maintenance (O&M) of infrastructure. Private players are held accountable for service levels through performance-based contracts. This creates an incentive for maintaining assets efficiently, as poor performance may lead to penalties or loss of payment. As a result, the quality of public services improves, and assets have a longer lifecycle (Dagde & Jadhav, 2024).

4. To Reduce the Burden on Public Finances:

With increasing demands on public funds for welfare, healthcare, and education, the government cannot always allocate large amounts for infrastructure development. PPPs allow the government to share costs and spread financial obligations over a longer period (e.g., through annuity payments). This enables the public sector to focus its limited resources on other essential areas while still ensuring infrastructure growth (Jadhav, 2020).

5. To Deliver Better Services to the Public in a Cost-Effective Manner:

One of the core goals of PPP is to improve the quality, reliability, and reach of services provided to the public. Because private companies operate under competitive and profit-driven conditions, they are incentivized to minimize costs and maximize output—while meeting service standards. This combination often results in higher value for money, ensuring that taxpayers receive better infrastructure and services at reasonable costs (Rathod et al., 2024).

MERITS OF PPP:

PPP models offer several advantages:

1. Faster Project Execution Due to Private Sector Efficiency:

Private companies often work under strict deadlines, have streamlined decision-making processes, and use advanced tools for planning and implementation. These factors contribute to quicker project execution compared to the public sector, which may be slowed down by bureaucracy and procedural delays. PPPs help speed up the delivery of critical infrastructure like highways, airports, and power plants (Pawar, 2023).

2. Access to Advanced Technology and Modern Project Management:

Private firms typically bring with them the latest technologies and global best practices in project management. This includes the use of cutting-edge construction techniques, digital tools for monitoring progress, and efficient resource management systems. These advancements lead to improved infrastructure quality and reduced long-term maintenance costs (Bhave et al., 2022).

3. Reduced Government Financial Load, as Private Capital Supplements Public Spending:

Infrastructure projects require significant investment, which can strain government finances. PPPs ease this burden by attracting private sector funding. In some models, the private partner invests a major portion of the capital and recovers it through user charges or government payments over time. This allows the government to conserve public funds for other social needs like health and education (Pawar & Wavare, 2022).

4. Better Service Quality, Supported by Performance-Linked Contracts:

In PPP projects, private partners are often paid based on the quality of service they deliver (e.g., road condition, water pressure, electricity uptime). These **performance-based contracts** ensure accountability and create strong incentives for the private party to maintain high service standards. The result is better infrastructure services for citizens (Wavare & Pawar, 2022).

5. Innovation and Accountability, Driven by Competition and Contracts:

Competition in the private sector encourages companies to develop creative solutions, reduce costs, and improve efficiency. In a PPP model, clearly defined contractual terms ensure that each party is responsible for their roles. This accountability, combined with market-driven innovation, results in more effective and responsive infrastructure solutions.

DEMERITS OF PPP:

Despite its strengths, PPP also faces several drawbacks:

1. Land Acquisition and Regulatory Delays Can Hamper Progress:

One of the biggest challenges in PPP projects is acquiring land, especially for highways, power plants, or industrial zones. Delays arise due to complex legal procedures, opposition from local communities, or disputes over compensation. Additionally, obtaining environmental and statutory clearances often takes a long time. These issues delay project timelines and increase costs (Kamat & Pawar, 2024).

2. Revenue Risk: Some Projects Do Not Generate Expected Returns:

In many PPP models, the private partner earns revenue through user fees (like tolls or service charges). If the actual usage of the service falls short of projections—due to low traffic, poor demand, or economic downturns—the revenue generated may be insufficient to recover the investment. This revenue risk can discourage private participation or lead to project failure.

3. Financial Stress on Private Players During Economic Downturns:

Economic slowdowns, inflation, or rising interest rates can negatively affect the financial health of private developers. If their cash flow is disrupted, they may be unable to meet contractual obligations or secure further funding, which can lead to stalled projects or incomplete work. This also increases the risk for banks and other lenders involved in the project.

4. Unbalanced Risk-Sharing: Poorly Structured Contracts Often Put Too Much Risk on One Party:

A successful PPP requires fair sharing of risks between the public and private sectors. However, in some cases, contracts are poorly

designed—placing excessive risk (e.g., construction delays, revenue loss, regulatory changes) on the private party. This makes the project financially unviable and may lead to early exits or disputes.

5. Long Legal Disputes Due to Contract Ambiguities or Defaults:

When project terms are not clearly defined or if one party fails to meet its obligations, legal disputes can arise. These often drag on for years, delaying project completion and increasing costs. Ambiguous contract language, unclear roles, or failure to outline dispute resolution mechanisms contribute to these legal challenges, affecting overall investor confidence in PPPs.

EXAMPLES OF PPP PROJECTS IN INDIA:

India has implemented PPPs across various sectors:

1. Roads: National Highways under BOT and HAM Models:

India has developed thousands of kilometres of highways under Public-Private Partnership, especially through two major models:

- BOT (Build-Operate-Transfer): The private company finances, constructs, and operates the road for a fixed period (e.g., 20–30 years), during which it collects tolls from users to recover its investment. After the concession period, the road is transferred back to the government.
- HAM (Hybrid Annuity Model): This is a newer model where the government contributes up to 40% of the project cost during construction, while the rest is invested by the private developer. Instead of collecting tolls, the private party receives fixed annuity payments from the government along with performance incentives.

These models have enabled rapid expansion of highways, such as the Delhi-Meerut Expressway and Mumbai-Pune Expressway, improving connectivity and reducing travel time.

2. Airports: Delhi, Mumbai, Bengaluru – Developed and Operated by Private Firms:

Major Indian airports have been modernized and operated successfully through PPPs. For instance:

- Delhi and Mumbai airports were redeveloped under the Joint Venture Model, where private firms (like GMR and GVK) partnered with the Airports Authority of India.

- These airports have seen world-class upgrades in infrastructure, terminals, and passenger services due to private sector expertise and efficiency.
- Bengaluru International Airport is another successful PPP, managed by a private consortium led by Fairfax India and Siemens.

These partnerships have transformed Indian airports into global-standard hubs while relieving the government from the entire financial burden.

3. Ports: JNPT and Others with Private Cargo Terminals:

India's port sector has benefited from PPP models through the development of cargo terminals operated by private firms at public ports like:

- Jawaharlal Nehru Port Trust (JNPT): Multiple terminals at JNPT are operated under PPP with private players like DP World.
- These terminals handle containerized cargo efficiently, using modern equipment and technologies brought in by private operators.
- The PPP model in ports has improved cargo handling capacity, turnaround times, and overall competitiveness of Indian ports in global trade.

4. Urban Services: Water Supply and Solid Waste Management in Cities Like Nagpur:

Urban local bodies across India have used PPP to improve service delivery in areas like water and sanitation:

- Nagpur became the first Indian city to implement a 24x7 water supply project through PPP with a French company, Veolia.
- Solid waste management in cities like Hyderabad, Pune, and Indore has also been successfully handled by private firms under PPP arrangements.
- These initiatives have led to better service coverage, timely waste collection, and more efficient water management, often with better customer service.

5. Education & Healthcare: Setting Up Schools, Hospitals under PPP in States Like Rajasthan and Gujarat:

Several Indian states have launched PPP-based social infrastructure projects to improve access to essential services:

- In Rajasthan, the government has partnered with private schools to provide free or subsidized education to students in underserved areas.

- Gujarat and Karnataka have implemented PPPs to build and operate hospitals and diagnostic centers, expanding access to quality healthcare.
- In these models, the private sector builds and runs the facilities, while the government pays for services or subsidizes them for the public.

Such partnerships ensure better service standards, reduce government investment needs, and promote innovation in public service delivery.

FUTURE OUTLOOK OF PPP IN INDIA:

India's future growth depends significantly on robust infrastructure. The government plans to continue leveraging PPPs to meet its ambitious infrastructure goals:

- Continued funding under the National Infrastructure Pipeline (₹100 lakh crore)
- Increased use of digital PPPs in smart cities and e-governance
- Transparent bidding processes and improved contractual frameworks
- Stronger dispute resolution mechanisms to reduce project delays
- Encouraging global investment through regulatory clarity and financial instruments like Inv ITs

CONCLUSION:

The PPP model has transformed how infrastructure is developed in India. From being a government-centric domain, the space has now opened to private innovation and efficiency. While the journey has not been without hurdles—such as delays, financial risks, and contractual issues—continuous reforms have improved the system. PPP continues to be a powerful tool for national development, combining public accountability with private efficiency. Going forward, stronger policies, better risk sharing, and effective governance will be key to realizing the full potential of public-private partnerships in India.

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CLIMATE CHANGE AND INDIA'S GREEN ECONOMY
AGENDA

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INTRODUCTION:

Climate change has emerged as one of the defining global challenges of the 21st century. The Intergovernmental Panel on Climate Change (IPCC) has repeatedly warned of irreversible environmental damage if urgent mitigation and adaptation measures are not adopted (IPCC, 2023). For a rapidly developing nation such as India, the climate crisis presents a paradox: while the country must pursue economic development to alleviate poverty and raise living standards, it must simultaneously transition to a low-carbon and resource-efficient development (Pawar, 2023).

India's green economy agenda seeks to reconcile this dual imperative. Defined by the United Nations Environment Programme (UNEP) as an economy "that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities," the green economy offers a transformative framework for sustainable growth (UNEP, 2011). This chapter critically examines India's vulnerability to climate change, the architecture of its green economy policies, the mechanisms supporting this transition, and the structural challenges that persist.

CLIMATE CHANGE IMPACTS ON INDIA:

India, with its vast geographic diversity and socio-economic complexities, is acutely vulnerable to the impacts of climate change. Spanning the Himalayan glaciers in the north, arid deserts in the west, fertile river basins in the east, and a densely populated coastline stretching over 7,500 kilometers, the country experiences a wide range of climate-related stressors. The consequences of global warming are already visible across sectors, ecosystems, and

communities, posing significant risks to human development, economic stability, and ecological integrity (Jadhav et al., 2025).

1. Physical and Ecological Impacts:

India ranks among the most climate-vulnerable countries globally, largely due to its diverse geography, socio-economic inequality, and dependence on natural resources. Key climate-related impacts include:

- **Rising Temperatures and Heat waves:** India is experiencing a significant rise in mean annual temperatures, with projections indicating an increase of 1.5°C to 2°C by mid-century under moderate emissions scenarios. According to the India Meteorological Department (IMD, 2022), recent decades have witnessed an alarming increase in both the frequency and duration of heat waves, particularly in northern and central India. Cities such as Delhi, Nagpur, and Ahmedabad have recorded temperatures above 45°C during peak summer months, resulting in severe health crises, especially among vulnerable populations such as the elderly, urban poor, and outdoor workers. Heatwaves also affect labor productivity, increase electricity demand for cooling, and put pressure on healthcare systems. The urban heat island effect further magnifies the intensity of heat in rapidly growing cities, where concrete surfaces and lack of green spaces reduce natural cooling (Pawar & Wavare, 2022).
- **Monsoon Variability and Hydrological Stress:** The Indian monsoon, which accounts for nearly 70% of the country's annual rainfall, has become increasingly unpredictable. Climate change has disrupted monsoon patterns, causing both excessive rainfall and prolonged dry spells. This volatility has led to a rise in extreme weather events: flash floods in states like Uttarakhand, Himachal Pradesh, and Kerala; and severe droughts in regions such as Marathwada, Vidarbha, and Bundelkhand (Wavare & Pawar, 2022).

Flood events have become more intense and destructive, overwhelming drainage systems, damaging infrastructure, and displacing communities. Simultaneously, drought-prone regions are experiencing chronic water shortages, affecting drinking water access, agriculture, and livestock. The compounded impact of

floods and droughts contributes to resource conflicts and economic instability in affected regions (Kamat & Pawar, 2024).

In the Himalayas, climate-induced glacial retreat is one of the most alarming indicators of ecological change. The Hindu Kush Himalaya region, often referred to as the “Third Pole,” is warming at twice the global average rate. Glaciers feeding major rivers such as the Ganga, Yamuna, and Brahmaputra are melting rapidly, posing long-term threats to water security for millions downstream. The formation of unstable glacial lakes and the increasing risk of glacial lake outburst floods (GLOFs) endanger lives, ecosystems, and infrastructure in high-altitude regions (Wester et al., 2019).

- **Sea-Level Rise and Coastal Erosion:** India’s coastline—home to over 170 million people and major economic centers like Mumbai, Chennai, and Kolkata—is highly vulnerable to the impacts of sea-level rise and coastal hazards. Studies by the National Centre for Coastal Research (NCCR) indicate that approximately 33% of India’s coastline is already experiencing erosion, with the situation expected to worsen due to rising sea levels and intensified cyclonic activity (Wavare et al., 2024).

Low-lying deltaic regions such as the Sundarbans, which serve as both biodiversity hotspots and cultural landscapes, are particularly at risk. Rising seas lead to the intrusion of saltwater into freshwater aquifers and agricultural lands, threatening food security and livelihoods. Coastal wetlands, mangroves, and coral reefs—natural barriers that protect against storm surges—are also being degraded due to warming seas, acidification, and anthropogenic pressures.

The increasing frequency and severity of tropical cyclones in the Bay of Bengal and Arabian Sea, fueled by warming ocean temperatures, have led to widespread destruction of infrastructure, loss of life, and large-scale displacement. The coastal vulnerability is further compounded by unregulated urban development, inadequate disaster preparedness, and the degradation of natural buffers.

- **Biodiversity Loss and Ecosystem Degradation:** India is one of the world’s 17 megadiverse countries, yet its ecosystems are under severe threat from climate change. Shifting climate zones, habitat

fragmentation, and altered rainfall and temperature patterns are impacting forest ecosystems, wetlands, grasslands, and marine habitats. Changes in phenology—such as flowering times, breeding cycles, and migration patterns—are already being observed among plant and animal species.

Endangered species such as the Bengal tiger, snow leopard, and Great Indian bustard face shrinking habitats due to rising temperatures and ecosystem changes. Coral bleaching events in the Lakshadweep and Andaman & Nicobar Islands, caused by warming sea temperatures, have significantly damaged marine biodiversity. Similarly, forest ecosystems, especially in the Western Ghats and northeastern India, are losing their ecological balance due to changes in precipitation and temperature regimes.

Ecosystem degradation not only leads to biodiversity loss but also weakens the vital ecosystem services on which millions of people depend—such as pollination, water purification, soil fertility, and climate regulation.

2. Socio-Economic Consequences:

The impacts of climate change in India extend beyond environmental degradation and manifest deeply within the socio-economic fabric of the country. As a developing economy with high levels of poverty, dependence on climate-sensitive sectors, and a large informal workforce, India is particularly susceptible to the cascading social and economic consequences of climate disruptions. These consequences exacerbate existing inequalities, strain public resources, and undermine progress toward inclusive and sustainable development (Jadhav, 2020).

- **Agricultural Impacts and Food Insecurity:** Over half of India's workforce depends on climate-sensitive agriculture. Crop yields for wheat, rice, and pulses are projected to decline, affecting food security (ICAR, 2021). Agriculture, which employs more than half of India's workforce, is highly sensitive to climate variability. Rising temperatures, altered rainfall patterns, and increased incidence of extreme weather events have already begun to impact crop yields. Heat stress and water scarcity reduce productivity of key staples like rice, wheat, and pulses, while shifts in pest and disease patterns further threaten food systems. Marginal and smallholder farmers, who constitute the majority, face increased vulnerability

due to low adaptive capacity and limited access to insurance and climate-resilient technologies.

- **Public Health Risks:** Climate-sensitive diseases (e.g., malaria, dengue) are spreading due to shifting ecological zones. Heat stress and respiratory illnesses are rising in urban centres. Climate change has direct and indirect implications for human health in India. Rising temperatures contribute to heat-related illnesses and mortality. Changes in temperature and precipitation patterns facilitate the spread of vector-borne diseases such as malaria, dengue, and chikungunya. Air pollution—aggravated by climate factors—leads to respiratory and cardiovascular diseases. Waterborne illnesses, malnutrition from declining agricultural productivity, and mental health challenges due to climate-induced displacement are also on the rise (Dagde & Jadhav, 2024).
- **Migration and Livelihood Disruption:** Extreme weather events are displacing populations and exacerbating rural-urban migration pressures. The economic cost of climate change to India is substantial and rising. According to the RBI and various global studies, climate-related shocks could shave off 2–4% of India's GDP annually by mid-century. Sectors such as agriculture, fisheries, tourism, and informal labor are especially at risk. Migration due to climate-related livelihood loss—particularly from coastal and drought-prone regions—could lead to increased urban poverty and social tensions.
- **Water Scarcity and Resource Stress:** Climate change is aggravating India's water crisis by altering the distribution and timing of rainfall and accelerating the depletion of surface and groundwater sources. The erratic monsoon has led to both flooding and drought within the same year in different regions. Declining groundwater tables in agricultural belts such as Punjab and Haryana, and drying rivers in peninsular India, are causing water stress in both rural and urban areas.

Competing demands for water among domestic, agricultural, and industrial users are intensifying inter-state conflicts, such as those witnessed in the Cauvery and Krishna river basins. Climate-induced water scarcity is also contributing to migration from drought-prone regions and sparking localized conflicts over water access and rights.

- **Displacement and Migration:** Climate-induced displacement is an emerging humanitarian concern in India. Sea-level rise, riverbank erosion, cyclones, floods, and droughts are leading to the displacement of communities in both rural and urban areas. For example, the Sundarbans region in West Bengal is witnessing slow-onset displacement due to saline intrusion and land loss, while frequent floods in Bihar and Assam have forced thousands to leave their homes.

Migrants—many of whom are pushed into urban informal settlements—often face precarious living conditions, lack of legal recognition, and exclusion from public services. Climate-induced migration may also contribute to increased pressure on urban infrastructure, social tensions, and competition for jobs in already stressed labor markets.

- **Economic Losses and Productivity Decline:** The economic cost of climate change in India is projected to be substantial. According to estimates by the Reserve Bank of India (RBI) and international agencies, climate-related shocks could reduce India's GDP by 2–4% annually by mid-century if no adaptation measures are implemented. Extreme weather events damage infrastructure, disrupt supply chains, and reduce industrial output.

Heat waves and poor air quality reduce worker productivity, particularly in sectors such as construction, agriculture, and manufacturing, where outdoor labour is prevalent. The informal sector, which employs over 90% of India's workforce, is especially vulnerable, as workers often lack social protection, health insurance, and climate-resilient livelihoods.

- **Inequality and Social Vulnerability:** Climate change exacerbates existing socio-economic inequalities, disproportionately affecting women, children, the elderly, indigenous communities, and other marginalized groups. Women in rural areas often bear the brunt of climate impacts due to their roles in food production, water collection, and caregiving. Their access to land, credit, education, and decision-making remains limited, reducing their ability to adapt.

In tribal and forest-dependent communities, changes in forest ecosystems disrupt traditional livelihoods and cultural practices. Urban slum dwellers are exposed to heightened risks

from heat, water scarcity, and floods, often without access to resilient infrastructure or basic services.

THE ARCHITECTURE OF INDIA'S GREEN ECONOMY:

India's transition towards a green economy is a critical pathway to reconcile its developmental ambitions with the imperatives of climate action and environmental sustainability. The architecture of India's green economy is built on an integrated framework encompassing policy initiatives, institutional mechanisms, sectoral strategies, and financial instruments designed to promote low-carbon growth, resource efficiency, and inclusive development. This chapter explores the key components and enabling factors shaping India's green economy agenda.

1. Policy and Institutional Framework:

India has established a robust policy framework to guide its green economy transition. At the core is the commitment to the Nationally Determined Contributions (NDCs) under the Paris Agreement, aiming to reduce the emissions intensity of GDP by 45% by 2030 from 2005 levels and achieve 500 GW of non-fossil fuel-based energy capacity.

Complementing this are national policies such as:

- **National Action Plan on Climate Change (NAPCC):** Launched in 2008, the NAPCC identifies eight core missions targeting renewable energy, energy efficiency, sustainable agriculture, water conservation, and other priority areas.
- **Energy Conservation Act (2001):** Establishes standards and promotes energy efficiency in industries, buildings, and appliances.
- **National Electric Mobility Mission:** Promoting electric vehicles to reduce reliance on fossil fuels.
- **National Biodiversity Action Plan:** Supporting ecosystem conservation and restoration.
- **Renewable Energy Transformation:** India's National Electricity Plan (2023) targets 500 GW of non-fossil fuel capacity by 2030. Key initiatives include:
- **International Solar Alliance (ISA):** A multilateral platform led by India to mobilize global solar deployment.

- **Green Hydrogen Mission (2023):** Envisions India as a global hub for green hydrogen production.
- **Production Linked Incentive (PLI) Schemes:** Promote domestic manufacturing of solar PV modules and battery storage technologies.
- **Sustainable Urbanization:** Programs like the Smart Cities Mission and AMRUT aim to integrate sustainability into urban infrastructure through green buildings, energy efficiency, and public transportation. The National Electric Mobility Mission Plan (NEMMP) and FAME-II support electric vehicle adoption.
- **Climate-Resilient Agriculture:** The National Mission for Sustainable Agriculture (NMSA) promotes micro-irrigation, organic farming, and climate-resilient crop varieties. Traditional knowledge systems and community-based adaptation are increasingly integrated into policy design. Agriculture in India is both a vital economic sector and one of the most vulnerable to the impacts of climate change. With over half of the population dependent on agriculture for livelihood and food security, building climate resilience in this sector is critical to sustaining rural economies and ensuring national food security. Climate-resilient agriculture (CRA) refers to a set of adaptive practices, technologies, and policies designed to reduce vulnerability, enhance productivity, and maintain ecosystem health under changing climate conditions.

Institutionally, various ministries and agencies—such as the Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of New and Renewable Energy (MNRE), and Bureau of Energy Efficiency (BEE)—play pivotal roles in implementation and coordination.

2. Sectorial Strategies for Sustainable Growth:

India's green economy architecture is characterized by targeted interventions across key sectors:

- **Renewable Energy:** India has rapidly expanded solar, wind, small hydro, and bioenergy capacities. The country is among the world leaders in solar capacity addition, supported by large-scale solar parks, incentives for rooftop solar, and international partnerships.
- **Energy Efficiency:** Programs like the Perform, Achieve and Trade (PAT) scheme incentivize industries to reduce energy consumption,

while the Energy Conservation Building Code (ECBC) sets efficiency benchmarks for new construction.

- **Sustainable Agriculture:** Emphasizing climate-resilient practices, water-efficient irrigation (micro-irrigation), organic farming, and soil health management to boost productivity while minimizing environmental footprints.
- **Waste Management and Circular Economy:** Efforts focus on improving municipal solid waste management, promoting recycling and reuse, and reducing plastic pollution, aligned with the Swachh Bharat Mission and Plastic Waste Management Rules.
- **Sustainable Transport:** Promoting electric mobility, enhancing public transportation infrastructure, and encouraging non-motorized transport to reduce urban air pollution and greenhouse gas emissions.
- **Forests and Biodiversity Conservation:** Expanding afforestation programs, protecting critical ecosystems, and integrating ecosystem services valuation into economic planning.

3. Climate Commitments and Legal Frameworks:

India's climate policy is anchored in its Nationally Determined Contributions (NDCs) under the Paris Agreement. The updated NDCs (2022) include:

- 45% reduction in emissions intensity of GDP by 2030 (compared to 2005).
- 50% cumulative electricity generation from non-fossil fuel sources.
- Creation of an additional carbon sink through afforestation.

4. National Missions and State-Level Action:

The National Action Plan on Climate Change (NAPCC) comprises eight sectoral missions, including the National Solar Mission, National Water Mission, and National Mission on Strategic Knowledge for Climate Change. Complementing these, State Action Plans on Climate Change (SAPCCs) localize climate adaptation and mitigation strategies.

GREEN FINANCING AND INNOVATION:

India has launched sovereign green bonds to fund renewable energy, biodiversity, and pollution control projects. The Reserve Bank of India (RBI) has established a Sustainable Finance Group, and regulatory support for Environmental, Social, and Governance (ESG)

disclosures is growing. Financing remains a cornerstone of India's green economy. The government leverages a combination of domestic resources, international climate finance, and private sector investments. Key financing mechanisms include:

- **Green Bonds:** Issued by banks, corporations, and the government to fund renewable energy, clean transportation, and environmental infrastructure projects.
- **Climate Funds:** India accesses multilateral funds such as the Green Climate Fund (GCF) and the Global Environment Facility (GEF) to support adaptation and mitigation projects.
- **Public-Private Partnerships (PPPs):** These partnerships enable scaling up renewable energy projects, waste management systems, and smart grid technologies.
- **Subsidies and Incentives:** Supportive fiscal policies like accelerated depreciation on renewable energy assets and tax exemptions incentivize clean technology adoption.
- **Innovative Financial Instruments:** Including blended finance, green microfinance, and results-based financing to channel capital towards small and medium enterprises and vulnerable communities.

OPPORTUNITIES AND CHALLENGES:

India's pursuit of a green economy presents significant opportunities for sustainable growth, innovation, and social upliftment. However, the transition is also fraught with complex challenges that must be navigated carefully to ensure equitable and effective outcomes. This section explores the key opportunities and challenges shaping India's green economy trajectory.

1.Opportunities:

This section explores the key opportunities as below: -

- **Employment Generation:** The renewable energy sector alone could create over 3 million jobs by 2030 (IRENA, 2022). The green economy offers vast potential for economic expansion and employment generation. Renewable energy sectors such as solar, wind, and biomass are labor-intensive and have already created millions of jobs in manufacturing, installation, operation, and maintenance. The International Renewable Energy Agency (IRENA) estimates that India could generate over 3 million green jobs by 2030 through scaling up renewable energy alone.

Beyond energy, sectors like sustainable agriculture, waste management, water conservation, and green transport are poised to create additional employment opportunities, particularly for rural and semi-urban populations. Green industries also stimulate new markets for clean technologies, services, and innovation, thereby enhancing India's competitiveness in the global economy (Rathod et al., 2024).

- **Energy Security and Climate Resilience:** Reducing dependence on imported fossil fuels enhances India's energy security and stabilizes energy prices. Expanding renewable energy capacity also diversifies the energy mix, improving grid reliability and resilience. Sustainable water and land management practices help buffer the impacts of climate change, safeguarding agricultural productivity and reducing vulnerability to droughts and floods.
- **Environmental and Health Benefits:** Transitioning to a green economy reduces greenhouse gas emissions and air pollution, which have severe health implications. Improved air quality leads to lower incidences of respiratory and cardiovascular diseases, reducing healthcare costs and improving quality of life. Enhanced ecosystem conservation promotes biodiversity, soil fertility, and water purification, ensuring the long-term sustainability of natural resources.
- **Social Inclusion and Poverty Alleviation:** Green economy initiatives can empower marginalized communities by providing access to clean energy, sustainable livelihoods, and improved infrastructure. For example, decentralized renewable energy systems enable rural electrification and support productive uses such as agro-processing. Skill development programs linked to green jobs can enhance employability and income for youth and women, contributing to poverty reduction and social equity (Tanaji Salve and Jadhav, 2015).

2. Challenges:

This section explores the key challenges as below:

- **Financing and Investment Gaps:** Despite growing interest, there remains a significant shortfall in financing for green projects, particularly in sectors requiring upfront capital investments like renewable energy infrastructure and climate-resilient agriculture. Mobilizing private investment, improving access to credit for small enterprises, and leveraging international climate finance are

essential but remain challenging due to perceived risks, regulatory uncertainties, and limited financial innovation.

- **Institutional and Regulatory Constraints:** Fragmented governance, overlapping jurisdictions, and slow bureaucratic processes can delay project approvals and implementation. Effective coordination among multiple ministries, state governments, and local bodies is required to align policies and streamline regulations. Capacity constraints within institutions and lack of technical expertise further hamper efficient execution of green initiatives.
- **Technological and Infrastructure Barriers:** Scaling up clean technologies demands sustained investments in research, development, and deployment. Grid integration of variable renewable energy sources requires modernization of electricity infrastructure, smart grids, and storage solutions. In rural areas, infrastructure deficits—such as poor road connectivity and limited access to markets—constrain the adoption of sustainable practices.
- **Social and Equity Concerns:** Ensuring that the benefits of the green economy reach vulnerable and marginalized populations is a key challenge. Without inclusive policies, the green transition risks exacerbating inequalities, displacing communities dependent on fossil fuel industries or unsustainable resource use. Social acceptance and community participation are critical for the success of projects such as large-scale renewable installations or afforestation programs.
- **Climate and Environmental Risks:** The green economy must also address the risks posed by climate change itself, which can disrupt green investments through extreme weather, resource scarcity, and ecosystem degradation. Adaptive strategies need to be integrated into planning to enhance resilience and minimize losses.
- **Institutional Fragmentation:** Overlapping mandates among ministries and weak enforcement capacities hinder policy coherence.
- **Financing Gaps:** Estimated climate finance needs exceed \$170 billion annually through 2030, yet public and private flows fall short (CEEW, 2023).

- **Just Transition:** Phasing out coal, which still supports 70% of power generation, must be managed to protect worker rights and community welfare.

CONCLUSION:

India's green economy agenda represents a paradigm shift from extractive growth models to an inclusive and sustainable development trajectory. The transition, while complex, offers India the opportunity to redefine development in terms that are equitable, resilient, and globally responsible.

Success will require deep structural reforms, strong institutions, global partnerships, and a commitment to climate justice. As one of the world's largest economies and a critical actor in global climate diplomacy, India's green transformation will significantly shape the global climate future.

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DIGITAL ECONOMY AND FINANCIAL INCLUSION

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INTRODUCTION:

The Indian economy's journey over the last decade has been shaped by technological advancements, policy reforms, and the integration of digital tools into everyday economic activities. Financial inclusion, once considered a socio-economic challenge, is now being addressed through digital channels, bringing millions into the formal banking ecosystem. This transformation has been accelerated by government-led initiatives such as Digital India, Aadhaar, and Jan Dhan Yojana, as well as fintech innovations. The aim of this chapter is to provide an in-depth exploration of the digital economy's growth, the mechanisms through which it promotes financial inclusion, and the challenges that must be overcome to ensure equitable benefits (Tanaji Salve and Jadhav, 2015).

NEED OF THE STUDY:

The convergence of the digital economy and financial inclusion is one of the most transformative forces shaping India's economic future. While previous research has addressed these domains separately, there is a pressing need for an integrated perspective that explores their interdependence, real-world impact, and potential for driving inclusive growth. Understanding this synergy is vital for policymakers, financial institutions, technology providers, and development practitioners. By providing a comprehensive analysis, this study aims to bridge knowledge gaps and contribute to building an inclusive, technology-driven economic framework for India.

METHODOLOGY:

This chapter adopts a secondary research methodology, drawing upon:

- Government reports and policy documents.
- Statistical data from the National Payments Corporation of India (NPCI), Reserve Bank of India (RBI) Bulletins, and World Bank’s Global Findex Database.
- Case study analysis, focusing on rural Maharashtra’s digital microfinance initiatives.

Quantitative data such as UPI transaction volumes and PMJDY account growth have been presented in both tabular and graphical formats.

DIGITAL ECONOMY: CONCEPT AND GROWTH IN INDIA:

The digital economy encompasses all economic activities facilitated through digital computing technologies. In India, this transformation has been particularly profound, driven by affordable mobile data plans, government-supported digital infrastructure, and a surge in fintech innovation. Components such as e-commerce, digital payments, online banking, and blockchain-based solutions are integral to its expansion. India’s digital economy is not just an economic enabler—it is a social equalizer that bridges geographic and social gaps (Jadhav et al., 2025).

Table 1: Growth of UPI Transactions in India (2018–2023)

Year	Transactions (in Lakh)	Value (in Lakh Crore)
2018	0.92	1.5
2019	5.35	8.8
2020	12.52	21.3
2021	38.74	71.5
2022	74.05	125.9
2023	100	160.0

Source: National Payments Corporation of India (NPCI), 2023

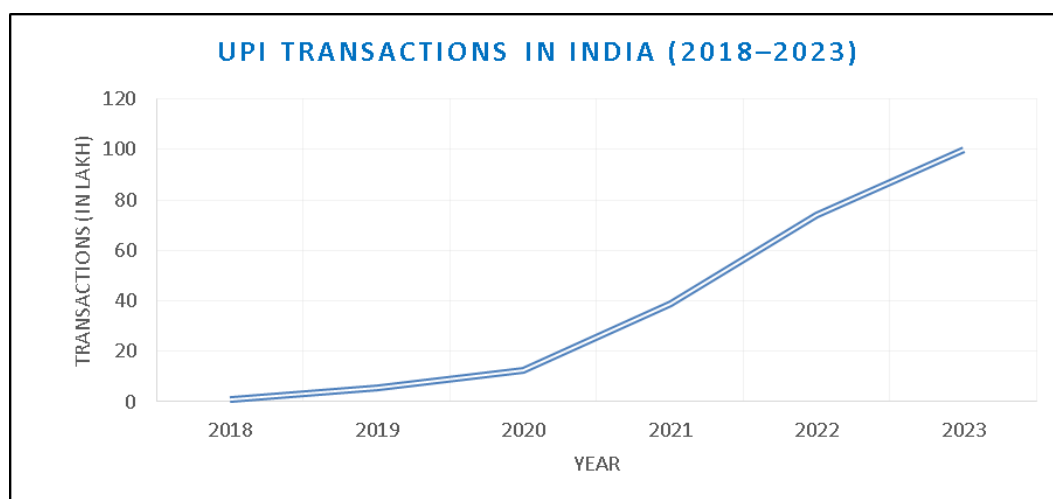


Figure 2

Figure 1: The period from 2018 to 2023 marks the digital payment revolution in India, driven by UPI's simplicity, interoperability, and government-backed digital initiatives. The exponential growth in both volume and value indicates not only adoption by urban, tech-savvy users but also deep penetration into semi-urban and rural markets. The trend suggests UPI will continue to dominate the payment landscape, influencing financial inclusion, transparency, and economic formalization (Dagde & Jadhav, 2024).

FINANCIAL INCLUSION: CONCEPT, IMPORTANCE, AND EVOLUTION:

Financial inclusion is the provision of affordable financial products and services—such as savings accounts, loans, insurance, and remittance facilities—to all individuals and businesses, regardless of their income or location. In India, financial exclusion was historically caused by limited physical banking infrastructure, stringent documentation requirements, and high service costs. The introduction of the Pradhan Mantri Jan Dhan Yojana (PMJDY) in 2014 marked a turning point, opening millions of zero-balance accounts and linking them to Aadhaar and mobile numbers. This 'JAM trinity'—Jan Dhan, Aadhaar, and Mobile has become the backbone of India's financial inclusion strategy (Jadhav, 2020).

The importance of financial inclusion lies in its ability to:

- Reduce poverty by providing credit for productive activities.
- Empower women through financial independence.

- Support small businesses by offering affordable working capital.
- Improve government benefit delivery via direct transfers, eliminating leakages.

Digital platforms have enabled rural populations to conduct transactions, access credit, and save securely without having to travel long distances. As of 2023, PMJDY has facilitated the opening of nearly 49 crore bank accounts, a milestone in bridging the financial divide (Rathod et al., 2024).

Table 2: Growth of PMJDY Accounts (2015–2023)

Year	Total Accounts (in crores)
2015	17.9
2017	28.2
2019	35.5
2021	42.0
2022	45.4
2023	48.7

Source: Ministry of Finance, PMJDY Progress Report, 2023

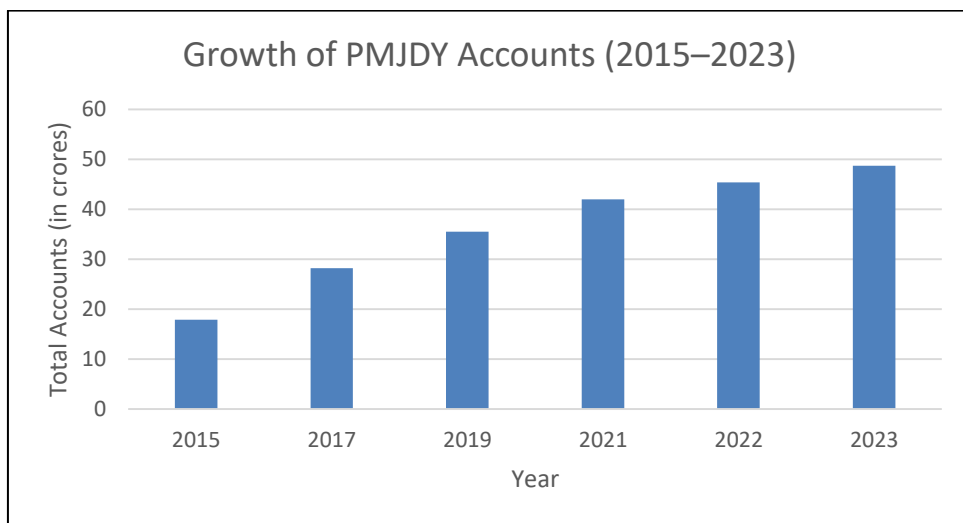


Figure 2

Figure 2: The data in Table 2 reflects a steady and consistent rise in the total number of accounts opened under the Pradhan Mantri Jan Dhan Yojana (PMJDY) from 2015 to 2023. In 2015, just over 17.9 crore accounts were operational. By 2017, this number had surged to 28.2 crores, reflecting the scheme’s rapid penetration in its early years. The growth continued at a healthy pace, reaching 35.5 crores in 2019, driven by ongoing government outreach, increased financial

literacy, and the integration of Aadhaar-based KYC processes (Bhave et al., 2022).

Between 2019 and 2021, the scheme saw a jump from 35.5 crores to 42 crores, signifying the role of direct benefit transfers (DBTs), subsidy payments, and welfare schemes—particularly during the COVID-19 pandemic—in boosting account openings. Post-2021, while growth remained positive, the rate of increase began to stabilize, with total accounts reaching 45.4 crores in 2022 and 48.7 crores in 2023. This plateauing trend suggests that the scheme is approaching saturation, with most households having at least one account (Pawar & Wavare, 2022).

Conclusion:

The PMJDY has been a transformative initiative in promoting financial inclusion, as evidenced by the near-tripling of accounts in less than a decade. While the pace of account growth has moderated in recent years, the focus now should shift toward ensuring account usage, reducing dormancy, and providing access to a broader range of financial services.

CASE STUDY: DIGITAL MICROFINANCE EMPOWERING WOMEN IN RURAL MAHARASHTRA:

In rural Maharashtra, the integration of microfinance with mobile platforms has revolutionized women's access to credit. The '*Mahila Money*' initiative enables instant loan disbursement and repayment tracking through mobile apps. Women in self-help groups have reported reduced dependency on informal moneylenders, higher income stability, and greater decision-making power in household finances. (Source: Field survey reports by NITI Aayog, 2022)

CHALLENGES AND LIMITATIONS:

Despite commendable progress, significant barriers remain in achieving universal digital financial inclusion:

- a. **Digital Divide:** Rural areas often face poor internet connectivity and lower smartphone penetration.
- b. **Low Digital Literacy:** Many users, especially from older and less-educated demographics, struggle to navigate digital platforms safely.

- c. **Cybersecurity Threats:** Phishing scams, identity theft, and data breaches have eroded trust in digital systems.
- d. **Infrastructure Constraints:** Unstable electricity supply and insufficient network coverage limit adoption in remote areas.
- e. **Regulatory Gaps:** The pace of fintech innovation frequently outstrips the capacity of regulators, creating oversight challenges.

Addressing these limitations requires targeted interventions in infrastructure, education, and cybersecurity, supported by collaboration between government, private sector, and civil society.

POLICY RECOMMENDATIONS:

- a. Enhance rural broadband connectivity through public-private partnerships.
- b. Conduct targeted digital literacy programs for women and marginalized groups.
- c. Strengthen cybersecurity measures and establish strict data protection laws.
- d. Encourage micro fintech startups to develop solutions for low-income users.

CONCLUSION:

The synergy between the digital economy and financial inclusion has redefined India's development pathway. Policy support, infrastructure investment, and technological innovation have enabled millions to access the formal financial system. However, to sustain this momentum, addressing the digital divide and security concerns is critical for the coming decade.

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**INDIA @ 2047: OPPORTUNITIES ON THE ROAD TO
(AND BEYOND) A \$5-TRILLION ECONOMY**

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INTRODUCTION:

India's "Viksit Bharat 2047" ambition—reaching developed-nation status around the 100th year of Independence—rests on accelerating growth, deepening inclusion, and building resilience. The near-term economic milestone is a \$5-trillion GDP, a level that is now within striking distance if India sustains high-single-digit nominal growth and 6–7% real growth. According to the IMF's April 2025 World Economic Outlook, India's nominal GDP is projected at about \$4.2 trillion in 2025, up from ~\$3.4 trillion in 2022, keeping India the world's fifth-largest economy.

Below is a data-rich, sector-wise map of the opportunities that can propel India to \$5 trillion and set the stage for the 2047 vision.

DIGITAL RAILROADS → PRODUCTIVITY EVERYWHERE:

Why it matters: India's Digital Public Infrastructure (DPI)—Aadhaar, UPI, and ONDC—compresses transaction costs and pulls MSMEs and households into the formal economy.

UPI scale: In July 2025, UPI processed 19.47 billion payments worth ₹25.08 trillion, with 684 live banks—illustrating world-scale, low-cost payments rails that spill into credit, commerce, and insurance.

Opportunity playbook (2025–2030): Embed credit rails (AA/OCEN) for MSME working capital; expand cross-border UPI corridors to lift remittances and tourism receipts.

Use DPI data trails to de-risk lending to women-owned micro-enterprises; target double-digit annual growth in formal MSME credit.

MANUFACTURING UPSHIFT (PLI + CHINA+1):

Why it matters: A durable \$5T economy needs a broader manufacturing base—electronics, EVs, renewables, pharma, food processing, chemicals.

PLI traction: By Aug 2024, PLI had catalyzed ₹1.46 lakh crore in realized investments, ₹12.5 lakh crore in production/sales, and ~9.5 lakh jobs.

Independent summaries place the total PLI budget around \$33B across 14 sectors, with hundreds of approvals—showing depth and multi-year commitment.

Opportunity playbook:

Sharpen PLI 2.0 toward deep supply chains (tools, dies, components) and scale electronics/semis, batteries, green hydrogen, specialty chemicals.

Align skilling with factory automation and quality systems; aim for “Factory India” to add 1–1.5 pp to real GDP growth through 2030.

INFRASTRUCTURE SUPER-CYCLE & LOGISTICS EFFICIENCY:

Why it matters: Cutting logistics costs is equivalent to a multi-year tax cut for exporters and domestic supply chains.

Public capex: The Union Budget kept infrastructure capex at a record ₹11.11 trillion (~3.4% of GDP) in FY25, sustaining the multi-year build-out.

NIP baseline: The National Infrastructure Pipeline originally envisaged ₹111 lakh crore (FY20–25) to crowd in private capital.

Logistics cost target: Policy aims to bring logistics costs down toward ~8–10% of GDP (from teen levels cited in earlier surveys).

Opportunity playbook:

Use Gati Shakti for port-rail-road last-mile fixes; digitize multimodal manifests; fast-track decongestion of top 30 freight nodes. Expand long-tenor infrastructure finance and InvITs; standardize PPP risk-sharing to crowd in pension/insurance money.

ENERGY TRANSITION AT SCALE:

Why it matters: Reliable, low-carbon power underpins manufacturing, services exports, and climate resilience.

Capacity: India’s total power capacity stood at ~475 GW as of Mar 31, 2025, with ~79% of Q1 2025 additions coming from renewables.

Renewables momentum: H1-2025 saw a record ~22 GW renewable addition (~18.4 GW solar; 3.5 GW wind).

Installed solar: Cumulative ~119 GW solar (end-July 2025), plus pumped storage emerging for firming.

Reality check: Coal still supplies a large share of electricity, and new coal capacity is planned for grid reliability even as RE soars—so transition will be additive before it's substitutive.

Opportunity playbook:

Fast-track transmission (green corridors), storage (pumped + BESS), and time-of-day tariffs; localize PV modules, inverters, and electrolyzers via PLI.

SERVICES EXPORTS 2.0 (BEYOND IT):

Why it matters: Services surplus cushions merchandise deficits and scales high-productivity jobs.

Record total exports: \$824.9B in FY25 (goods + services), with services at ~\$383–388B and a surplus near \$189B.

Opportunity playbook:

Move from traditional IT to global capability centers (GCCs) in AI, cybersecurity, chip design, fintech, climate tech; leverage DPI/UPI for payments & SaaS exports.

Ease work-visa reciprocity via FTAs; build “Tech-Services SEZ 2.0” with flexible labor/housing norms.

URBANIZATION, HOUSING & CONSTRUCTION FLYWHEEL:

Why it matters: India's urban population share (~35–37%) will rise steadily—cities drive productivity, real estate, and formal jobs.

World Bank and UN datasets show steady urbanization (growth ~2–2.5% p.a. recently). Planning for heat/flood risks is now macro-critical.

Opportunity playbook:

Transit-oriented development; rental housing and dorms near industrial clusters; green codes and heat action plans; municipal bond markets for utilities.

DEMOGRAPHY, SKILLS & WOMEN'S WORKFORCE:

Why it matters: A large working-age cohort is an asset only if participation and productivity rise—especially for women.

Demography: Median age is still under 30; India remains comparatively young.

Labour force: PLFS shows female LFPR in CWS terms up from ~21% (2017–18) to ~35.6% (2023–24); urban female LFPR inches up too, but quality of jobs is the next frontier.

Opportunity playbook:

Triple down on care economy (crèches, hostels, safe transport); apprenticeship tax credits; rapid skilling in electronics, green tech, construction, healthcare.

Target formal, salaried roles for women via procurement preferences and compliance-light hiring for MSMEs.

AGRICULTURE TO VALUE-ADDED FOOD SYSTEMS:

Why it matters: 40%+ of workers still rely on agriculture; productivity and value chains can lift incomes and curb food inflation volatility.

Opportunity playbook:

Food processing clusters, cold-chain, and e-NAM 2.0; climate-smart irrigation; export branding in rice, spices, marine, organics; farmer-producer organizations (FPOs) with logistics/finance rails.

TOURISM, HEALTHCARE & EDUCATION EXPORTS:

Why it matters: These are labor-intensive and forex-earning.

Opportunity playbook:

Tourism: e-visa expansion, destination infrastructure, and global marketing for heritage, eco-tourism, and medical tourism.

Healthcare/Edu: Scale medical value travel, nursing education pipelines, and international campuses under GIFT/HEFA frameworks.

TRADE POLICY & FTAs:

Why it matters: Preferential access and standards harmonization can unlock both merchandise and services exports.

Opportunity playbook:

Conclude high-quality FTAs with clear rules-of-origin; mutual recognition for services; green-goods tariff rationalization; use the NLP logistics push to hit faster export turnarounds.

RISKS TO MONITOR (AND MITIGATE):

- 1. Jobs & real wages:** Capex must convert to private-sector hiring—especially formal jobs for youth and women. PLFS trends are improving but quality gaps remain.
- 2. Energy trilemma:** Keep grids reliable and affordable while decarbonizing; manage coal-region transitions humanely.
- 3. Climate shocks:** Heat/flood resilience for cities, farms, and factories is now macro-relevant.
- 4. External demand:** Services are resilient, but goods exports are cycle-sensitive; diversify markets and move up the value chain.

THE NUMBERS: QUICK REFERENCE (2024–2025):

- Nominal GDP (2025, IMF): ~\$4.2T.
- Total exports (FY25): \$824.9B (services ≈ \$383–388B; strong surplus).
- UPI (Jul 2025): 19.47B txns; ₹25.08T value; 684 banks.
- Power capacity (Mar 31, 2025): ~475 GW; ~79% of Q1-2025 additions were RE.
- Renewables build (H1-2025): ~22 GW—highest ever half-year addition.
- Female LFPR: Up to ~35.6% (2023–24, CWS); urban female LFPR edging up.
- Logistics cost target: 8–10% of GDP (policy aim), down from higher historical estimates.
- What Gets India to \$5T—And Sets Up 2047
- Sustain 6–7% real growth with disinflationary supply-side reforms (land, power, logistics, and compliance lightness).
- Convert public capex into private investment by de-risking PPPs and expanding long-tenor domestic savings into infra/REITs/InvITs.
- Deepen manufacturing ecosystems (components to capital goods), while doubling down on services exports 2.0 (GCCs, fintech/UIP rails, AI).
- Green the growth: transmission + storage + domestic RE manufacturing; adaptive urban planning for heat and floods.

- Unlock women’s economic engine via care infra, safety, and flexible work norms—this is the single biggest boost to labour supply and household incomes.

Bottom line:

With macro stability, reform continuity, and an execution focus on logistics, manufacturing depth, city-building, and women’s workforce participation, India can cross \$5 trillion in the near term and compound toward the 2047 vision—a high-income, resilient, and inclusive economy built on both digital and physical infrastructure.

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**RURAL MARKETING OF AGRICULTURE-BASED
PRODUCTS: CHALLENGES AND REMEDIES**

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INTRODUCTION:

Rural marketing of agriculture-based products is the set of activities that move farm output grains, fruits, vegetables, and dairy from producers in villages to final consumers. It covers aggregation, transport, storage, processing and packaging, and sale in wholesale and retail markets. Because most Indian farmers depend on selling their produce for income, the efficiency of this marketing system directly affects their livelihoods. In many developing regions, including India, the agricultural marketing system faces structural gaps (Jadhav et al., 2025).

Studies repeatedly show a large gap between the prices, farmers receive and the prices consumers pay. For staple vegetables such as tomatoes, onions, and potatoes, analyses indicate that farmers often receive only about one-third of the retail price, while intermediaries and retailers capture the rest. By contrast, in more organized supply chains especially dairy cooperatives farmers may receive close to 70 percent of the consumer price. These differences suggest that market structure, the number of intermediaries, and the quality of infrastructure strongly influence farmer incomes and consumer prices. Recognizing this, the Government of India and researchers have promoted reforms to improve agricultural marketing. Key measures include building a “national market” through electronic linkages of mandis, enabling direct farmer-to-buyer transactions, and strengthening farmer producer organizations and cooperatives. Maharashtra has been an early mover on several of these steps, including private market yards, direct marketing, and e-trading, and

has been ranked highly for farmer-friendly marketing reforms (Tanaji Salve and Jadhav, 2015).

This paper examines the main problems that affect rural marketing of farm produce and discusses practical solutions. The focus is on India, with examples from Maharashtra and a case study of the onion market. The discussion draws on government reports, academic research, and institutional analyses. Improving agricultural marketing is both an economic and social priority: better marketing can raise farm incomes, reduce post-harvest losses, and support food security and rural development.

PROBLEMS:

The main problems are:

- **Fragmented markets and dominance of intermediaries**
- **Inadequate infrastructure**
- **Regulatory restrictions (APMC market system)**
- **Information irregularity**

RESEARCH METHODOLOGY:

1. Research Design:

This study adopts a descriptive and analytical research design to examine the structural, institutional, and policy-related factors influencing rural marketing of agriculture-based products in India, with a special focus on Maharashtra. The design allows for a systematic presentation of challenges, strategies, and case evidence to draw meaningful conclusions and recommendations.

2. Objectives of the Study:

1. To identify key challenges in the rural marketing of agricultural products.
2. To analyze existing government policies, reforms, and institutional interventions aimed at improving market efficiency.
3. To assess the role of infrastructure, technology, and collective farmer organizations in enhancing farmer incomes.
4. To present an integrated case study on the onion market crisis in Maharashtra.
5. To recommend strategies for sustainable and equitable agricultural marketing.

3. Data Sources:

A. Secondary Data:

Government Reports & Policy Documents:

- NITI Aayog policy briefs Points. Reserve Bank of India (RBI)
- Ministry of Agriculture and Farmers' Welfare publications. Press Information Bureau releases on e-NAM, FPO schemes, and market reforms.
- State government policy documents from Maharashtra (APMC reforms, cold storage schemes).
- Sector-specific studies on onion, tomato, and dairy value chains.

Industry & Media Sources:

- Reports from agricultural trade bodies and NGOs. Economic Times, Nature, and other sectoral analysis portals for market trends and pricing data.

4. Research Tools and Techniques:

Content Analysis: Reviewing and synthesizing qualitative information from reports, policy notes, and scholarly articles. Comparative Analysis: Examining differences in farmer share, infrastructure, and outcomes across traditional and organized marketing models.

Case Study Method: Detailed examination of the 2024-25 onion marketing crisis in Maharashtra to illustrate systemic weaknesses and effective involvements.

Data Interpretation: Using descriptive statistics (percentages, price spreads, loss estimates) to quantify the magnitude of challenges and outcomes of interventions.

5. Scope of the Study:

Geographical Scope: India with special reference to Maharashtra, focusing on key horticultural crops (onions, tomatoes, potatoes) and successful cooperative models

Time Frame: Post-2016 (launch of e-NAM) to 2025, with emphasis on post-COVID agricultural marketing dynamics.

Thematic Scope: Infrastructure gaps, policy reforms, market liberalization, collective marketing, price stabilization, and digital integration.

6. Limitations of the Study:

The Confidence on secondary data may limit the availability of real-time market insights. Regional focus on Maharashtra may not

fully represent challenges in other Indian states. Price and production statistics are subject to revisions by official agencies.

7. Data Analysis Plan:

Classify challenges into thematic categories: structural, institutional, informational, and value-chain-related. Map policy interventions to specific challenges and evaluate outcomes using case-based evidence. Identify gaps between policy intent and on-ground implementation. Derive actionable recommendations based on the synthesis of literature and case study findings.

CHALLENGES IN RURAL AGRICULTURAL MARKETING:

Rural and agricultural marketing in India faces many structural and logistical problems. The main challenges are:

1. Fragmented Markets and Many Mediators:

Small farmers usually sell in local mandis where several intermediaries take a cut. Because the supply chain is long, farmers often get only about one-third of the final retail price. Limited competition and the dominance of commission agents and wholesalers weaken farmers' bargaining power. Since farmers are rarely linked directly to consumers, they remain stuck in a low-income cycle (Dagde & Jadhav, 2024).

2. Inadequate Infrastructure (Storage and Transport):

Many regions lack warehouses, cold storage, and reliable rural roads. Perishable goods are damaged or spoiled during movement. Post-harvest losses are significant commonly reported at around 6–15% for fruits and 5–12% for vegetables. Without storage or cold chain, farmers must sell immediately after harvest, when prices are lowest. Gluts during peak season lead to distress sales (Jadhav, 2020).

3. Regulatory Constraints (APMC Mandis):

APMCs were created to protect farmers, but over time many became restrictive. In several states, rules limited sales to licensed traders inside mandis, which fostered local monopolies, high fees and commissions, and under-investment in market facilities. Although model reforms allow direct sales and private markets, adoption has been uneven. Bureaucratic hurdles and resistance from vested interests have slowed change, leaving farmers with few alternative channels (Rathod et al., 2024).

4. Information Irregularity:

Farmers often lack real-time information on prices and demand beyond their local market. This leads to poor decisions such as growing last year's "high-price" crop and creating a glut. The digital divide persists, and many smallholders do not fully use price portals or advisory apps. Bridging this gap through simple, accessible technology is essential to help farmers plan production and time their sales (Pawar, 2023).

5. Small Farm Size and Weak Collective Capacity:

Most Indian farmers are smallholders (often under 2 hectares). Individual volumes are too low to negotiate good terms or access distant buyers. Aggregation across many farmers is costly without strong organizations. In areas without active farmer producer organizations (FPOs) or cooperatives, farmers face high per-unit marketing costs and low returns (Bhave et al., 2022).

6. Price Volatility and Limited Risk Management:

Prices of perishables swing widely. A bumper harvest can trigger a price crash; crop failure can push prices up, but affected farmers do not benefit. MSP covers only some staples and is not effective for most horticultural crops. With limited storage, credit, insurance, or hedging options, smallholders are forced to sell at unremunerative prices, often barely covering harvest and transport costs (Bhave & Pawar, 2022).

7. Low Processing and Value Addition:

Most produce is sold raw. Limited village-level processing and packaging prevent farmers from accessing higher-value markets. Without local facilities (e.g., tomato paste units, milk chilling and processing), produce cannot be stored or upgraded to meet urban/export standards. As a result, farmers lose potential income and are pushed into distress sales (Pawar & Wavare, 2022).

STRATEGIES AND SOLUTIONS FOR IMPROVING RURAL MARKETING:

To address the complex problems in agricultural marketing, a multi-pronged strategy is required. Policymakers, researchers, and farmer groups have proposed and begun implementing several measures. Key strategies include:

1. Market Infrastructure Development:

Improving basic marketing infrastructure roads, storage, and market facilities is essential. Better rural roads and transport links help farmers reach markets quickly and attract more buyers to villages. Investment in warehouses and cold storages near production areas lets farmers store produce instead of selling immediately at low post-harvest prices. Under the Mission for Integrated Development of Horticulture, the government supports cold storage units, refrigerated vans, and modernization of wholesale markets in major producing areas. In Nashik new cold storages and packhouses are being set up so produce can be stored during gluts and sold later to stabilize prices. Upgraded market yards with grading, sorting, and packaging help maintain quality and secure better prices. Rural Hats are being upgraded into Gramin Agricultural Markets with sheds, weighing scales, and links to electronic platforms, giving farmers a decent local place to sell. These upgrades reduce losses and raise marketing efficiency (Wavare & Pawar, 2022).

2. Policy Reforms and Liberalization of Markets:

Easing the dominance of traditional mandis and opening alternate channels is crucial. Many states have amended Acts to permit sales outside mandis, allow private market yards and direct purchase centers, enable free inter-state movement, and reduce market fees. The goal is a competitive environment where processors, retailers, and exporters can buy directly from farmers, shortening the chain. In 2020, the central government enacted laws aimed at “One Nation, One Market,” promoting contract farming and private markets; while withdrawn, the core objective remains: farmers should be free to choose whom, where, and how to sell. NITI Aayog has urged special treatment for fruits and vegetables being perishable, they should move quickly without red tape. Some states, such as Maharashtra, have enabled direct sales, private mandis, and removed APMC fees on fruits and vegetables (Kamat & Pawar, 2024).

3. Electronic National Agriculture Market (e-NAM):

Launched in 2016, e-NAM links APMC mandis on a single online trading platform. By February 2024, 1,389 mandis in 23 states were integrated, with over 1.77 crore farmers and 2.5 lakh traders registered. Farmers can see prices across mandis and sell

through electronic auctions, promoting transparent price discovery. Online payments reduce delays and risk pib.gov.in. By end-2023, trades worth over ₹3.19 lakh crore had been facilitated pib.gov.in. e-NAM is integrating FPOs so they can list produce for members. As assaying and logistics improve, selling across regions becomes easier, breaking geographic barriers and reducing local middlemen's influence.

4. Farmer Producer Organizations and Cooperatives:

The FPOs and cooperatives help smallholders gain scale and bargaining power. The national program to form 10,000 FPOs recognizes that collective marketing attracts larger buyers, improves price realization, and lowers input costs through bulk purchasing. Evidence shows FPO members often achieve better prices and narrower price spreads than individual sellers nature.com. India's dairy cooperatives (e.g., Amul) demonstrate how collective marketing can return 70–80% of the consumer price to farmers. Similar models are expanding in fruits and vegetables. In Maharashtra, groups like Mahagrapes assist exports; turmeric and pomegranate FPOs link farmers directly to large buyers. FPOs also support branding and value addition. Training and credit support are vital so FPOs can act as a “large farmer” on behalf of many small ones.

5. Direct Marketing Initiatives (Farmers' Markets):

The States have created channels for farmers to sell directly to consumers Apni Mandi (Punjab), Rythu Bazars (Andhra Pradesh/Telangana), Uzhavar Sandhai (Tamil Nadu), and Kisan Haats in cities. Producers sell without commission agents, so consumers pay slightly less while farmers earn more than in wholesale markets. Studies on Rythu Bazars report higher farmer incomes and timely cash payments, helping reduce debts sripublication.com kuey.net. Although retailing capacity is limited, these models suit peri-urban farmers and seasonal gluts. Newer variants include FPO-run mobile vans and online farm-to-door services. Contract farming is another direct route: farmers agree pre-season quantities and prices with buyers (e.g., chips, ketchup, breweries), gaining assured markets and technical support, and often a minimum price cuts-ccier.org.

6. Price Support and Stabilization Measures:

Government intervention can shield farmers from extreme price swings. MSP provides a floor for selected crops; for others, schemes like the Market Intervention Scheme (MIS) and the Price Stabilization Fund are used. In 2024, when onion prices collapsed in Maharashtra, agencies like NAFED bought onions at an intervention price to create buffers. A Price Differential Payment (PDP) paid farmers the gap when market prices fell below the benchmark.

7. Improving Market Information and Intelligence:

Closing the information gap is cost-effective. Government portals (e.g., Agmarknet), e-NAM, SMS alerts, and agri-tech platforms provide daily prices, bids from multiple traders, and logistics coordination. FPOs and cooperatives are hiring marketing professionals to analyze trends and advise on crops and timing. Transparent, open price data empowers farmers, narrows the farm-retail spread, and supports data-driven decisions.

8. Local Value Addition and Processing:

Rural processing boosts returns and reduces waste. Cleaning, grading, and consumer-pack formats can earn premiums; processing (jams, spice powders, pasteurized milk, dehydration, freezing) extends shelf life and opens urban/export markets.

CASE STUDY: ONION MARKETING CRISIS IN MAHARASHTRA:

Maharashtra especially Nashik produces a large share of India's onions. Onion marketing is highly volatile. In 2024/25, farmers expanded sown area sharply (about a 46% rise in Maharashtra) after good prices the previous year, leading to a bumper harvest. By June 2025, wholesale prices had fallen by more than 33% year-on-year. Many farmers could not cover production and transport costs and faced heavy losses. Some reduced next-season planting or left onions unharvested. The episode revealed familiar weaknesses: oversupply without price-risk tools, inadequate storage, and dependence on intermediaries.

GOVERNMENT RESPONSE IN 2025:

Buffer procurement via the Price Stabilization Fund:

NAFED and NCCF procured onions in Maharashtra to build buffer stocks. For the rabi 2025 harvest, the target was 300,000 metric tons, with over 100,000 tons bought quickly. Buying at a fair support price removed part of the surplus and put a floor under market prices.

Price Differential Payment:

If farmers sold below the announced support/intervention price, the government paid the difference directly to their bank accounts. This acted like an MSP-style safety net without requiring full physical procurement.

Export-policy relief:

To absorb excess supply, the 20% export duty was removed in April 2025, improving price competitiveness abroad and encouraging exports. Officials also facilitated export deals with neighboring countries.

Longer-term protection under review:

Options under discussion included permanent MSP-like support for onions or treating severe price crashes as insurable events under PMFBY, requiring center–state coordination (global-agriculture.com).

Infrastructure expansion:

Support was announced for modern cold storages in major onion belts, reefer transport, and upgraded market yards (global-agriculture.com). Proper curing and ventilated storage can extend shelf life for months, letting farmers stagger sales. Processing (e.g., onion flakes/powder) was also encouraged to utilize surplus.

FINDINGS:

Low Farmer Share in Consumer Price:

In traditional supply chains for perishable crops (e.g., tomatoes, onions, potatoes), farmers often receive only about **one-third of the retail price**, while organized models like dairy cooperatives return **70–80%** to farmers.

Structural and Logistical Gaps Reduce Incomes:

Multiple intermediaries, fragmented markets, inadequate storage & transport, and restrictive APMC rules result in high post-harvest losses (5–15%) and distress sales during peak harvest.

Policy Reforms and Digital Platforms Show Promise:

Initiatives like **e-NAM**, market liberalization, and direct farmer-to-consumer channels improve price transparency and bargaining power, though adoption is uneven across states.

Collective Models Improve Bargaining Power:

FPOs and cooperatives help smallholders aggregate produce, reduce costs, and secure better prices. Evidence from dairy, grape, turmeric, and pomegranate sectors shows higher farmer incomes where collectives are active.

Onion Case Study Demonstrates Integrated Crisis Response:

In Maharashtra (2024–25), coordinated measures buffer procurement, Price Differential Payment (PDP), export duty removal, and cold storage investment helped stabilize prices after a glut.

Value Addition Remains Untapped Potential:

Limited rural-level processing and packaging prevent access to higher-value markets.

Information Access is a Critical Gap:

Many farmers lack real-time market data, leading to poor crop planning and selling decisions. Digital tools and market intelligence systems can significantly improve decision-making.

Outcomes and lessons:

Within months, wholesale prices moved back toward normal ranges, avoiding ruinous lows. Direct procurement and PDP payments cushioned farmer losses, while buffer stocks can later be released to prevent consumer price spikes. The case highlights the need for agile, coordinated policy: trade measures domestic support, and infrastructure (storage and processing) must work together. Similar integrated responses can help manage gluts in other crops such as tomatoes or address arrears in sugarcane.

Literature Review:

Rural marketing of agriculture products in India faces structural gaps, though policy and technology offer opportunities. Fragmented markets, weak competition, poor infrastructure, and high post-harvest losses reduce farmers' share of consumer prices. APMC rules often limit competition, but reforms, private markets, and contract farming aim to improve returns. Better rural roads, storage, and cold chains can reduce waste. e-NAM enhances price transparency but needs strong logistics and digital skills. The

Maharashtra onion case highlights the need for coordinated risk management.

CONCLUSION:

Agricultural marketing is an important but weak part of the farm-to-consumer chain, especially in developing countries. Farmers face poor infrastructure, many middlemen, restrictive laws, and lack of information, which reduce their share of the final price. These problems lower incomes and cause rural distress, migration, and food inflation. Improving rural marketing is essential for reducing poverty, ensuring sustainable farming, and achieving food security. Positive changes include market reforms, better rural infrastructure, and farmers joining cooperatives and FPOs for stronger bargaining. Digital platforms like e-NAM increase transparency and fair pricing. Value addition through processing, direct sales, and contract farming is growing. Priorities include more storage, cold chains, and processing units, reforms in all states, stronger FPOs, and better use of technology for prices, demand, and logistics. Support like insurance, futures markets, and cooperatives is vital. A fair marketing system benefits farmer, consumers, and the economy.

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**AGRICULTURAL TRANSFORMATION AND ITS IMPACT
ON THE RURAL ECONOMY OF MAHARASHTRA: A CASE
STUDY APPROACH**

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INTRODUCTION:

Maharashtra's rural economy has evolved along multiple, sometimes contrasting, trajectories: sugarcane co-operatives in the western belt, cotton in Vidarbha, drought-prone mixed farming in Marathwada, and globally competitive horticulture clusters in Nashik and adjoining districts. In macro terms, the sectoral composition of state income highlights the structural shift. As per the *Economic Survey of Maharashtra 2024–25*, the share of Agriculture & allied activities in nominal GSVA stands at 11.2% (services 63.8%; industry 25.0%), with agriculture registering robust real growth variability across recent years. During 2023–24, horticulture cropped area was 21.74 lakh ha (production 326.88 lakh MT), irrigation potential created up to June 2023 was 56.33 lakh ha, and the actually irrigated area in 2023–24 (provisional) was 39.27 lakh ha; average operational landholding (2021–22 provisional) is 1.23 ha. These stylized facts frame the transformation challenge: a large rural workforce depends on a sector whose value-added share is comparatively small, and whose performance is mediated by water, markets, and institutions.

Concurrently, state initiatives and market reforms have altered incentives and infrastructure. Maharashtra has extended concessional electricity for lift-irrigation schemes (to 2027), and the national e-NAM platform has expanded digital market connectivity, including key onion markets in Nashik district. Horticulture expansion and export-oriented clusters (e.g., grapes, pomegranate) have strengthened

high-value chains, yet price and climate shocks persist-especially for onions in Lasalgaon, India's largest onion wholesale hub.

Against this context, we adopt a case-study lens to identify mechanisms through which transformation translates into livelihood outcomes, focusing on water governance, collective organization, and market integration.

CONCEPTUALIZING “AGRICULTURAL TRANSFORMATION”:

We define agricultural transformation as the interconnected processes that (a) raise land and labor productivity through technology (seeds, irrigation, agronomy, mechanization), (b) diversify into higher-value output (horticulture, livestock, processing), (c) build collective and contractual institutions (FPOs/co-ops, input-credit linkages), and (d) integrate with markets via quality, logistics, and information systems (APMC reforms, e-NAM, exports). Transformation is not linear; it is mediated by climate risk, factor endowments, and policy regimes. In Maharashtra, the binding constraint is often water-hence the salience of watershed and micro-irrigation solutions-while market access and credible intermediation shape price realization and risk.

RESEARCH DESIGN AND METHODS:

We utilize a qualitative multiple-case design to derive analytical generalizations. Cases were selected to span: (1) community governance and water (Hiware Bazar); (2) collective commercialization and export logistics (Sahyadri FPC); (3) price discovery and volatility in a staple cash crop (Lasalgaon onion market); and (4) statewide irrigation and conservation policies (Jalyukt Shivar and micro-irrigation scale-up). Evidence triangulates state economic surveys, audit reports, research briefs, and credible media/industry documentation.

MAHARASHTRA'S AGRARIAN BASELINE:

Recent state statistics underscore structural change alongside persistent constraints. Agriculture's nominal GSVA share (11.2% in 2023–24) is modest relative to services; horticulture is extensive (over 21 lakh ha), reflecting diversification; irrigation potential and actual utilization indicate substantial investment needs and operational

gaps; and average holdings remain small (1.23 ha) with implications for adoption and scale economies. Crop-specific triennial yields (2021–22 to 2023–24) show Maharashtra trailing the all-India average in cereals but competitive in pulses and sugarcane, consistent with agro-climatic and input regimes.

At the national level, micro-irrigation coverage remains around 7–8% of net sown area; Maharashtra is among the leading states in drip adoption and has experienced notable cropping shifts over the 2005–06 to 2015–16 decade—declines in jowar and bajra, growth in sugarcane, soybean, and cotton—mirroring water-price-market interactions.

CASE STUDIES:

1. Hiware Bazar (Ahmednagar): Watershed and Groundwater Governance Led by the Community:

Hiware Bazar is a paradigmatic example of watershed management integrated with social regulation of groundwater. Starting from the 1990s in Adarsh Gaon Yojana, the gram sabha, under the initiative of local leadership, prohibited bore wells for irrigation, transitioned towards demand side water regulations (dug well only), conducted contour trenching, afforestation, and nalla bunding, and gave preference to low water crops with pro rata regulation of irrigation turns. Assessments record increased dry season water levels compared to the pre 1990s baseline, back-migration, and a movement towards more value activities (including livestock), with zero distress effects reported over the long term. The main finding is that social norms, enforceable norms, and environmental investments can internalize groundwater externalities and stabilize rural incomes in hard rock Deccan basalt environments. Mechanism: Collective enforcement reduced the "race to the bottom" in wells, allowing for stable irrigation gains among numerous smallholders. The village proved that collective action can replace inadequate formal regulation of numerous small groundwater extractors.

2. Sahyadri Farmers Producer Company (Nashik): Collective Scale, Quality, and Exports:

Sahyadri Farms, a farmer-owned venture from Nashik, demonstrates institutional change beyond production: aggregation,

pack houses, quality assurance, cold chain, processing, and multi market access.

Independent disclosure ratings mention 18,000+ farmer relationships and access to ~29,000–31,000 acres; the company has long been one of India's largest grape exporters. Company disclosures and media reports reflect a ₹1,000+ crore turnover in FY 2022–23 and leading market position in India's table grape exports, highlighting the way that standardized contracts and logistics have translated fragmented supply into stable export footprints. Mechanism: The FPC professionalizes post harvest loss-lowering coordination, cash flow smoothing through guaranteed procurement cycles, and agro/fiscal food safety standards diffusion. For smallholders, involvement can de risk market access and increase price realization through brand, compliance and scale.

3. Lasalgaon Onion APMC (Nashik): Price Discovery, Volatility, and Digital Integration:

Lasalgaon is widely recognized as India's largest onion wholesale market, and its price signals often diffuse nationwide. Price movements in 2025 again showed the sensitivity of arrivals and demand to rainfall and seasonal supply shifts; e.g., rainfall-induced disruptions and arrival dips triggered short-term price spikes, while subsequent supply rebounds and demand cycles (e.g., Shravan) pulled prices down. Meanwhile, Maharashtra's onion markets—including Lasalgaon and Pimpalgaon—have been integrated with digital platforms over time, as e-NAM has expanded nationwide. The case underscores both the efficiency gains from transparent auctions and the persistent exposure of smallholders to intra-seasonal volatility.

Mechanism: Improved discovery via APMCs/e-NAM can lower information asymmetry, but volatility rooted in weather, storage behavior, and inter-state supply arbitrage continues to transmit risk back to producers without complementary buffer-stock and insurance instruments.

4. State Programmes for Water Security: Jalyukt Shivar, Micro Irrigation, and Lift Irrigation Relief:

Maharashtra's Jalyukt Shivar Abhiyan tried large-scale water conservation to make villages "drought free." The Comptroller and Auditor General (CAG) compliance audit, however, raised implementation-related concerns (weak monitoring and transparency)

and modest effects on groundwater levels and water neutrality in the audit period-yielding lessons in design, data integrity, and maintenance. Concurrently, drip adoption and micro irrigation policy (Per Drop More Crop) in Maharashtra have developed compared to most states with proof that drip/sprinkler saves water and enhances yield across crops. Still more recently, the state promoted concessional electricity for lift irrigation schemes until 2027 in order to preserve irrigation command reliability and farmer liquidity. Mechanism: When applied faithfully, micro irrigation and focused energy assistance reduce effective water and energy intensity per unit production, particularly in water stressed tracts, while big conservation campaigns demand greater transparency, hydrological targeting, and asset maintenance.

CROSS CASE SYNTHESIS: HOW TRANSFORMATION TRANSLATES INTO RURAL OUTCOMES:

From Hiware Bazar's social norms to Sahyadri's horticulture logistics, water availability and efficiency underpin durable gains. Maharashtra's irrigation potential-56.33 lakh ha created versus 39.27 lakh ha actually irrigated in 2023-24-exposes the implementation gap; pairing conservation structures with micro irrigation, energy pricing, and agronomy support is essential for sustained productivity. Sahyadri's experience shows that FPOs can move beyond aggregation to quality management (GlobalG.A.P., residue testing), assaying, and flow-through logistics-enabling smallholders to participate in export markets and processed food chains. Independent assessments and rating reports document the breadth of farmer linkages and the salience of logistics/processing assets in maintaining market access. Lasalgaon's price swings demonstrate the limits of market access in isolation. Without counter-cyclical procurement (buffering), storage finance, or income insurance, price transparency does not equate to income stability. Digital integration (e-NAM) improves contestability and quality-based trade but needs complementary risk instruments to stabilize farm incomes.

Even as agriculture's GSVA share is ~11%, its livelihood footprint remains substantial in many districts. Official submissions have highlighted that a high share of the workforce in poorer regions

remains in agriculture, much of it rain-fed; closing this productivity and resilience gap is central to balanced regional development.

Recent IMD assessments and regional reportage point to rainfall variability across districts and recurrent drought/flood episodes, especially in Marathwada, with implications for sowing risks, re-sowing, and yield stability. Scaling micro-irrigation, drought-resilient varieties, and watershed maintenance, alongside district-level vulnerability planning, is pivotal.

QUANTITATIVE ILLUSTRATIONS (STATE INDICATORS):

- **Horticulture scale: 21.74 lakh ha** under horticulture with 326.88 lakh MT output in 2023–24 (final advance estimates).
- **Irrigation: 56.33 lakh ha** potential created (major/medium/minor) up to June 2023; 39.27 lakh ha irrigated in 2023–24 (prov.).
- **Sectoral composition:** 2023–24 nominal GSVA shares- Agriculture & allied 11.2%, Industry 25.0%, Services 63.8%.
- **Micro-irrigation adoption & crop shifts:** Maharashtra is among states with comparatively high drip coverage; over 2005–06 to 2015–16, area shares moved away from coarse cereals toward soybean, cotton, and sugarcane, consistent with relative profitability and irrigation efficiency.
- **Credit flows:** During 2024–25 up to September, crop loans of ₹40,778 crore and agri-term loans of ₹68,722 crore were disbursed; priority-sector plan assigns 24.4% to agriculture.

POLICY IMPLICATIONS:

1. **Target water-productivity, not just area expansion.** Prioritize micro-irrigation (drip/sprinkler) in sugarcane, grapes, banana, and vegetables; link subsidies to verifiable water savings and yield benchmarks; couple with energy pricing and service contracts for maintenance.
2. **Deepen institutional capacity of FPOs.** Move beyond aggregation to quality labs, traceability, and export compliance; earmark concessional logistics finance for pack-houses, ripening, and reefer links; use rating-based instruments that reward professional governance.

3. **Stabilize incomes in volatile crops.** For onions, develop predictable buffer procurement, warehouse-receipt finance, and calibrated trade policy to damp extreme intra-seasonal swings; integrate e-NAM with certified assaying and standardized storage receipts in key mandis.
4. **Repair and maintain watershed assets.** Align Jalyukt Shivar-type programs with hydrological targeting, transparency (geo-tagging, before/after aquifer data), and post-construction maintenance financing to ensure lasting groundwater impact.
5. **Region-specific resilience compacts.** In Marathwada and parts of Vidarbha, pair climate advisories (IMD district bulletins) with resilient seed systems, contingent crop insurance, and public works on in-situ moisture, while supporting allied sectors (dairy, small ruminants) as income stabilizers.
6. **Lift-irrigation and energy policy.** Concessional energy helps near-term viability; medium-term efficiency requires smart-metering pilots, solar pumping where viable, and incentives for off-peak pumping aligned with storage and distribution.

CONCLUSION:

Agricultural transformation in Maharashtra is not a singular pathway but a mosaic of water governance, institutional collectivization, and market integration. The Hiware Bazar case shows how community rules can sustainably expand production possibilities under hard-rock aquifers; Sahyadri illustrates how collective scale and professionalism can unlock premium markets; Lasalgaon demonstrates both the strengths and limits of price discovery without income stabilization; and statewide programs reveal the importance of credible implementation and monitoring. Delivering inclusive rural prosperity requires a twin focus on efficiency (water, logistics, quality) and resilience (climate-smart systems, risk pooling), with tailored strategies for rain-fed regions where vulnerabilities remain acute.

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**EVOLUTION OF THE INDIAN ECONOMY: FROM
PLANNING TO LIBERALIZATION**

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INTRODUCTION:

The Indian economy, from its independence in 1947 to the era of liberalization in 1991, faced numerous challenges and underwent significant structural transformations. The period was marked by ambitious Five-Year Plans, the nationalization of major banks, the dominance of a state-led development model, and rigid regulatory systems, popularly termed the "License-Permit-Quota Raj." The economy grew slowly during these decades—so much so that the term "Hindu Rate of Growth" was coined to describe India's low and stagnant economic growth (Tanaji Salve and Jadhav, 2015).

India remained one of the most over-regulated and closed economies in the world during the first three decades after independence. Planning aimed at self-reliance and equity, but bureaucratic controls often hampered innovation, private investment, and efficiency (Dagde & Jadhav, 2024).

A major turning point came in 1991, when India faced a severe balance of payments crisis. This led to the adoption of market-oriented economic reforms, shifting India from a state-controlled to a liberalised economy—an event widely regarded as a watershed moment in India's economic history (Jadhav et al., 2025).

At the time of independence, India inherited a stagnant, exploited, and underdeveloped economy from British rule. The economy was overwhelmingly agrarian, with most of the population dependent on low-productivity agriculture. Industrial development was weak, infrastructure was poorly developed, and key indicators reflected widespread backwardness. For example, in 1950, the average Indian had only 1.8 years of formal education. The literacy rate was abysmally low, and basic amenities were lacking for large sections of

the population. The Planning Commission was set up in 1950 with the Prime Minister as its chairperson. The era of Five-year plans had begun, and it continued until the 12th five-year plan, which was from 2012-2017, and afterwards it was replaced by the NITI Aayog (Jadhav, 2020).

OBJECTIVES OF INDIAN PLANNING:

A plan should have some clear goals, and to achieve those goals, it requires appropriate policies. At the time of independence in 1947, India faced a multitude of economic and social challenges. Nearly 70% of the population depended on agriculture, which was characterised by low productivity, outdated techniques, and land inequality. The industrial sector was weak, and the private sector lacked the capacity and resources to undertake the scale of investment needed for national development. Against this backdrop, the Indian leadership—particularly Jawaharlal Nehru—envisioned a strong role for the state in directing economic development (Rathod et al., 2024).

Nehru was deeply influenced by socialist principles and drew considerable inspiration from the Soviet Union's model of centralised economic planning, which had successfully transformed an agrarian society into an industrial superpower within a few decades. The Soviet strategy, with its emphasis on heavy industries, state ownership, and five-year planning, resonated with Nehru's belief in state-led industrialisation as the engine of economic growth and national self-reliance. While India did not adopt communism, it embraced a democratic socialist approach, aiming to combine state planning with democratic institutions and civil liberties (Pawar, 2023).

To implement this vision, the Planning Commission was established in 1950, and India launched its First Five-Year Plan in 1951. This marked the beginning of systematic and centralised planning in the country. The primary objective of this planning process was accelerated economic growth, but it also had other equally important goals: modernisation of the economy, achieving self-reliance, and promoting social justice (Bhave et al., 2022).

Economic Growth: A steady increase in the Gross Domestic Product (GDP) is a good indicator of Economic Growth. A rapid increase in national income and per capita income was essential to lift millions out of poverty and build the economic strength of the country.

Planning aimed to mobilise resources and allocate them efficiently to productive sectors (Bhave & Pawar, 2022).

Modernisation: Modernisation does not refer only to the use of new technology, but also means a change in the social outlook. India sought to modernise its economy through the development of science and technology, the adoption of mechanised production, improvement in education and skills, and the development of infrastructure such as roads, railways, power, and irrigation (Pawar & Wavare, 2022).

Self-Reliance: India had a strong desire to reduce dependence on foreign aid, imports, and technology. Planning encouraged domestic production, especially through import-substitution industrialisation, and laid the foundation for an independent industrial base. The first seven five-year plans gave importance to self-reliance (Wavare & Pawar, 2022).

Equity: Planning was also seen as a means to achieve equitable distribution of wealth and resources, uplift the marginalised sections of society, and reduce economic and social disparities between regions and communities. To guide its planning efforts, India adopted specific economic models. The Harrod-Domar model was used in the First Five-Year Plan, focusing on the relationship between investment, savings, and growth. In the Second Five-Year Plan, India followed the Nehru-Mahalanobis model, which placed emphasis on the growth of heavy industries and capital goods. These models reflected the vision of building a self-sufficient, industrialised, and equitable economy through planned development. While these plans and models did not achieve all intended outcomes, they laid the institutional and industrial foundation of the Indian economy and reflected a clear vision of planned economic transformation. The commitment to planning continued through the subsequent decades, although challenges such as inefficiency, bureaucracy, and growing fiscal deficits later demanded a shift toward liberalisation (Kamat & Pawar, 2024).

PHASES OF ECONOMIC PLANNING:

India adopted centralized economic planning in 1951, inspired by the USSR model. The Planning Commission was set up in 1950, and the Five-Year Plans became the roadmap for India's economic policy.

First Five-Year Plan (1951-56): The first five-year plan was launched in 1951. It was primarily based on the Harrod-Domar Model, which played a key role in shaping the plan's strategy, especially with an emphasis on investment and Capital formation. The first five-year plan was successful, as the target growth rate was 2.1% but the actual growth rate was 3.6%

Second Five-Year Plan (1956-61): The second five-year plan was based on the Nehru-Mahalanobis Model. It marked a strategic shift from agriculture to industrialization. The plan focused on rapid industrialisation and basic Industries. This plan was moderately successful, as the target growth rate was 4.5% and the actual growth rate achieved was 4.3%.

Third Five-Year Plan (1961-66): The aim was to make India self-reliant and self-generating. Agriculture was given top priority to support exports and industry. The plan failed, the target growth rate was 5.6% and the actual growth rate was 2.8% and this failure was due to Chinese aggression (1962), Indo-Pak war (1965), and severe drought (1965-66).

Annual Plans (1966-69): During these plans, a new agricultural strategy was implemented, such as widespread distribution of High-Yielding Variety seeds, extensive use of fertilisers.

Fourth Five-Year Plan (1969-74): The twin objective of the fourth five-year plan was "Growth with Stability" and "Progressive achievement of self-reliance". The plan mainly focused on the growth rate of agriculture. The plan failed as the Target growth rate was 5.7% and the actual growth rate was 3.3%.

Fifth Five-Year Plan (1974-79): The two main objectives of this plan were "Removal of Poverty"(Garibi Hatao) and "Attainment of self-reliance". The plan focused on poverty alleviation and employment generation. The target growth rate was 4.4% and the actual growth rate was 4.8%. Success in agriculture and employment, but issues of inflation and fiscal deficits remained.

Rolling Plan (1978-80): Sixth Five-Year Plan (1980-85): The plan was focused on an increase in national income, modernization of technology, and ensuring a continuous decrease in poverty and unemployment. The plan was successful as it achieved a growth rate of 5.7% against the target of 5.2%.

Seventh Five-Year Plan (1985-90): It aimed at accelerating food grain production, increasing employment opportunities, and raising production with a focus on 'Food, Work and Productivity'. The plan was very successful as the economy recorded 6% growth rate against the targeted 5%.

The Eighth Five-Year Plan (1992-1997) was delayed by two years due to political instability and an economic crisis. It was during this period that significant fiscal and economic reforms, including liberalization, privatization, and globalization, were introduced following the 1991 economic reforms. The plan highlighted the early impact of these reforms and proved to be successful, achieving a growth rate of 6.8% against the targeted 5.6%. The Ninth Five-Year Plan (1997-2002) focused on the theme of "Growth with Social Justice and Equality," aiming to ensure equitable distribution of the benefits of development. However, it underperformed, achieving a growth rate of 5.4% against the target of 6.5%. The Tenth Five-Year Plan (2002-2007) introduced the concept of 'monitorable targets' to enhance accountability and performance in governance and development. The Eleventh Plan (2007-2012) was framed with the objective of "Towards Faster and More Inclusive Growth," emphasizing the need to ensure that economic growth reached all sections of society. The Twelfth and final Five-Year Plan (2012-2017) focused on "Faster, Sustainable, and More Inclusive Growth," incorporating concerns of environmental sustainability, social equity, and balanced development. With the end of this plan, India transitioned from centralized five-year planning to a more flexible and long-term strategy under the NITI Aayog.

KEY CHALLENGES DURING THE PLANNING ERA:

Low rate of Economic Growth: One of the most persistent challenges of the planning era was low economic growth, often referred to as the "Hindu Rate of Growth," a term coined by economist Raj Krishna. The Indian economy grew at an average of around 3.5%.

Inefficient Public Sector: According to the Late Prime Minister Jawaharlal Nehru, the Public sector was referred to as "Temples of Modern India". The public sector was given a central role in India's economic development during the planning era. Many of the Public sector undertakings suffered from inefficiency and underperformance.

License Raj: It was a major structural obstacle to India's economic development during the planning era. Continuous Industrial policies resulted in a highly centralized system of controls. Government regulated investment, production, and trade through licenses, permits, and quotas. It was referred to as the License-Permit-Quota System (also called License Raj)

Poverty and Inequality: Despite decades of planning, poverty remained widespread. One of the main objectives of the Fifth Five-Year Plan was the removal of poverty. Despite plans focusing on social justice, inequality persisted. The benefits of growth did not trickle down effectively.

Weak Private Sector: Through the Industrial Licensing system, there was a barrier to entry. Limited access to credit, licenses, and expansion of businesses, hence the private sector was discouraged through controls and restrictions.

The evolution of the Indian economy from planning to liberalization reflects a significant journey of transformation. India started five-year plans in 1951, which laid the foundation for further economic development of the Indian economy. India adopted centralised planning, which primarily focused on the development of heavy industries and self-reliance. The five-year plan laid the foundation for industrialization, infrastructure development, and poverty alleviation. The green revolution refers to a period of the 1960s and 1970s when India introduced modern agricultural techniques to increase food production and attain self-reliance. But at the same time, the economy was held back due to a low economic growth rate, a weak private sector, excessive regulations, an inefficient public sector, population explosion, etc. The per capita economic growth for 1950-80 was merely 1.7%. For 1960-80, India's growth rate of output per worker at 1.3% per year was the lowest in the world except for sub-Saharan Africa. In the 1980s, the pro-business orientation of the government, which focused on raising the profitability of established industrial and commercial establishments, easing restrictions on capacity expansions for incumbents, and reducing corporate taxes, resulted in economic growth, which halted the Hindu growth rate. Economic liberalization of 1991 was a watershed event for the Indian economy because it marked a transition from a highly overregulated and closed economy to a market-oriented and globally integrated

economy. The post-reform period of 1991 led to integration with the rest of the world, which created new opportunities for growth and efficiency, laying the groundwork for India's emergence as a major developing economy.

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TAXATION REFORMS IN INDIA: FROM VAT TO GST

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INTRODUCTION:

Why India Changed Its Tax System:

Taxes are very important for any government because they help fund public services and development projects. In India, indirect taxes (taxes on goods and services) have always been a major source of government income. In 2005, India introduced VAT to replace the old and confusing sales tax system that was different in every state (Tanaji Salve and Jadhav, 2015).

But VAT had many problems. There were still cases where taxes were charged on top of other taxes, and each state had different rules. This made business difficult, especially for companies working in multiple states. So, in 2017, India introduced GST - a completely new tax system designed to solve these problems (Jadhav et al., 2025).

GST was meant to create one single market across India, stop the problem of multiple taxes, and make it easier for businesses to follow tax rules. This paper explains how India moved from VAT to GST, what benefits and problems came with this change, and how it affected the Indian economy (Dagde & Jadhav, 2024).

THE VAT PERIOD: HOW IT WORKED AND WHAT PROBLEMS IT HAD:

1. What Was VAT?

VAT was introduced in India in 2005 to replace the complicated sales tax systems that were different in each state. VAT was a tax charged at every stage when goods were made and sold. The main idea was that businesses could get credit for taxes they had already paid on their purchases, which would reduce the total tax burden (Jadhav, 2020).

2. Problems with VAT:

Even though VAT was better than the old system, it had several big problems:

- **Different Rules in Each State:** Each state had its own VAT rules and tax rates. This made it very difficult for businesses that wanted to sell their products in multiple states.
- **Tax on Tax Problem:** While VAT reduced some cases of charging tax on tax, it still happened. For example, services were not covered by VAT, so when businesses bought services, they couldn't get tax credit for them.
- **Complicated Rules for Multi-State Businesses:** Companies working in several states had to follow different rules in each state, which was time-consuming and expensive.
- **Limited Tax Credits:** Businesses could only get tax credits within the same state. They couldn't get credits for central government taxes or taxes paid in other states.
- **Services Were Separate:** VAT only covered goods. Services had a separate tax system run by the central government. This created problems for businesses that dealt with both goods and services.
- **Tax Cheating:** Some businesses found ways to cheat the system by creating fake bills to claim tax credits they didn't deserve, or by not reporting all their sales properly.

These problems showed that India needed a better, more unified tax system, which led to the creation of GST (Rathod et al., 2024).

GST ARRIVES: A COMPLETE CHANGE:

1. What Is GST?

GST started on July 1, 2017. It's a comprehensive tax that replaced many different taxes including VAT, service tax, excise duty, and others. GST has three parts:

- CGST (Central GST) - collected by the central government
- SGST (State GST) - collected by state governments
- IGST (Integrated GST) - for sales between different states

2. What GST Was Meant to Do:

GST had four main goals:

- **Create One National Market:** Make the same tax rules apply everywhere in India so businesses can operate easily across states.

- **Stop Multiple Taxation:** Allow businesses to get full credit for all taxes they pay, so there's no tax charged on top of tax.
- **Make Tax Filing Easier:** Create one online system (called GSTN) where all businesses can register and file their tax returns.
- **Increase Government Income:** Bring more businesses into the tax system and reduce tax cheating to increase government revenue.

3.Key Features of GST:

- **Different Tax Rates:** GST has 5 different tax rates (0%, 5%, 12%, 18%, and 28%) depending on whether items are essential goods or luxury items.
- **Full Tax Credits:** Businesses can get credit for all taxes they pay on their purchases, which reduces their overall tax burden.
- **Online System:** Everything is done through an online platform called GSTN, which makes the process more transparent and efficient.
- **Tax Where Goods Are Used:** Taxes go to the state where goods are consumed, not where they are produced.

HOW GST AFFECTED THE ECONOMY:

1. Good Effects:

- **Better Trade Between States:** GST removed tax barriers between states, making it easier and cheaper for businesses to sell across India.
- **Lower Costs:** The tax credit system reduced the cost of goods and services, benefiting both businesses and consumers.
- **Less Tax Cheating:** The online system made it harder for businesses to cheat on taxes and increased transparency.
- **More Government Revenue:** Tax collections improved significantly. GST collections regularly cross ₹1.5 lakh crore per month.
- **Easier Business Operations:** Companies could restructure their operations to be more efficient without worrying about different tax rules in different states.

2. Problems and Challenges:

- **Technical Issues:** When GST started, the online system had many problems, making it difficult for businesses to file returns and pay taxes.
- **Hard for Small Businesses:** Small and medium businesses found GST compliance more difficult and expensive than the old system.
- **Too Many Tax Rates:** Having 5 different tax rates made the system complicated, which was opposite to the goal of making things simple.
- **Business Disruption:** Many businesses, especially small ones, struggled to adapt to the new system, which temporarily slowed economic growth.
- **Learning Curve:** It took time for businesses and tax officials to fully understand and implement the new system properly.

VAT VS GST: A SIMPLE COMPARISON:

What We Compare	VAT	GST
What It Covers	Only goods	Both goods and services
Rules	Different in each state	Same rules across India
Tax Credits	Only within the same state	Available everywhere
Filing Process	Different for each state	One online system for all
Multiple Taxation	Some cases still existed	Completely eliminated
Ease for Business	Simpler but limited	More complete but initially complex

GST solved most of VAT's problems by creating one unified system across India. However, VAT was simpler for small businesses to understand and follow, while GST was more complex initially.

PROBLEMS DURING GST IMPLEMENTATION:

Moving to GST wasn't easy. There were several challenges:

- **Website Problems:** The GST website often crashed or didn't work properly, causing problems for businesses trying to file returns.

- **Lack of Knowledge:** Many businesses, especially in rural areas, didn't understand the new system and needed training.
- **Changing Tax Rates:** The government kept changing tax rates, which confused businesses and customers.
- **Impact on Small Businesses:** Many small businesses that operated informally found it difficult to adapt to GST's formal requirements.

To solve these problems, the government made the system simpler for small businesses, conducted training programs, and regularly held meetings to address concerns.

FUTURE IMPROVEMENTS:

The GST system continues to improve. Some planned changes include:

- **Fewer Tax Rates:** Moving to just one or two tax rates to make things simpler.
- **Include More Sectors:** Bringing petrol, diesel, and real estate fully under GST.
- **Better Technology:** Improving the online system to work better and faster.
- **Help Small Businesses:** Making rules easier for small businesses while ensuring they pay their fair share of taxes.

These changes will make GST even better and help India's economy grow stronger.

GST's IMPACT ON DIFFERENT SECTORS OF THE ECONOMY:

1. Manufacturing Sector:

GST brought major changes to India's manufacturing industry. Before GST, manufacturers faced many problems:

- **Old Problems:** Companies had to pay different taxes in different states. They also couldn't get full credit for taxes paid on raw materials and services. This made their products more expensive.
- **GST Benefits:** Now manufacturers can get complete tax credits for everything they buy - raw materials, machinery, and services. This has reduced their costs by 2-4% on average. Companies like Tata Motors and Mahindra reported savings of crores of rupees in the first year of GST.

- **Supply Chain Changes:** Many companies restructured their supply chains. Earlier, they had to set up warehouses in every state to avoid high taxes. Now they can have fewer, bigger warehouses, which saves money and makes distribution more efficient.

2. Service Sector:

The service sector, which includes IT, banking, telecommunications, and consulting, saw mixed results:

- **Positive Changes:** Services are now fully integrated with goods under one tax system. IT companies like Infosys and TCS can now get tax credits for all their purchases, including office supplies and equipment.
- **New Challenges:** Service providers now have to deal with more complex compliance requirements. They need to understand different tax rates for different services and file more detailed returns.
- **Export Benefits:** Service exporters got relief as GST made it easier to claim refunds for taxes paid on inputs used in export services.

3. Retail and E-commerce:

The retail sector experienced significant changes:

- **E-commerce Revolution:** Online platforms like Amazon and Flipkart had to completely change their operations. They now collect tax at source for sellers on their platforms, making them tax collectors.
- **Small Retailers Impact:** Many small shopkeepers initially struggled with GST compliance. However, those with turnover below ₹40 lakh got exemption, and those below ₹1.5 crore could use a simpler composition scheme.
- **Organized vs Unorganized:** GST pushed more businesses to become organized and formal. This helped larger organized retailers compete better with unorganized players.

4. Transportation and Logistics:

This sector benefited greatly from GST:

- **Faster Movement:** Removal of interstate checkpoints reduced transportation time by 20-30%. Trucks no longer wait for hours at state borders.

- **Cost Reduction:** Transportation costs decreased by 10-15% due to faster movement and elimination of multiple state taxes.
- **Technology Adoption:** The sector adopted more technology for tracking and documentation to comply with GST e-way bill requirements.

STATE-WISE IMPACT OF GST IMPLEMENTATION:

1. Producer States vs Consumer States:

GST changed how tax revenue is distributed among states:

- **Producer States:** States like Gujarat, Tamil Nadu, and Maharashtra, which produce more goods, initially saw some revenue loss because GST is consumption-based.
- **Consumer States:** States like Bihar, West Bengal, and UP, which consume more than they produce, gained revenue as GST taxes go to the state where goods are consumed.
- **Compensation Mechanism:** The central government provided compensation to states for revenue losses during the first five years of GST implementation.

2. Revenue Impact on Different States:

- **Winners:** States with large populations and high consumption like Uttar Pradesh, Maharashtra, and Karnataka saw revenue increases.
- **Adjusters:** Manufacturing states had to adjust their economic strategies. They started focusing more on attracting service industries and increasing local consumption.
- **Rural vs Urban:** Urban areas with higher consumption generated more GST revenue, leading to discussions about better distribution of funds to rural areas.

CHALLENGES THAT STILL REMAIN:

1. Ongoing Issues:

- **Complex Rate Structure:** Despite simplification efforts, multiple tax rates still create confusion for businesses and consumers.
- **Compliance Burden:** Small businesses still find GST compliance challenging and expensive compared to the old system.
- **Technology Issues:** While improved, the GSTN system still faces occasional technical problems during peak filing periods.

- **Refund Delays:** Some exporters and businesses still face delays in getting GST refunds, affecting their cash flow.

2. Sector-Specific Challenges:

- **Real Estate:** The sector is partially under GST, creating complications for developers and buyers.
- **Petroleum Products:** Crude oil, petrol, and diesel are still outside GST, preventing complete integration.
- **Financial Services:** Banks and insurance companies face unique compliance challenges due to the nature of their business.

CONCLUSION:

The change from VAT to GST was one of the biggest improvements in India's tax system. While VAT was a good start, GST created a much better system by unifying the market, eliminating multiple taxation, and improving tax collection through technology. Even though there were problems initially, GST has helped integrate India's economy, increased government revenue, and made business operations more efficient. With continued improvements like simpler tax rates and better technology, GST will become even more effective. As India works toward becoming a stronger economy that can compete globally, GST remains a key part of this vision. It supports India's goal of becoming self-reliant while building an economy that can participate successfully in global trade.

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**INDIA'S POVERTY: HIGHEST AND LOWEST MPI
REGIONS**

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INTRODUCTION:

Poverty in India is a complex, multidimensional phenomenon that cannot be measured solely by income or consumption expenditure. The Multidimensional Poverty Index (MPI), developed by UNDP and the Oxford Poverty and Human Development Initiative (OPHI), captures multiple indicators, including health, education, and living standards. In India, MPI provides a more accurate reflection of deprivation across states, districts, and communities. This paper explores the regions with the highest and lowest MPI values, analyzing the socio-economic, cultural, and policy-driven factors that contribute to these variations.

HIGHEST MPI REGIONS IN INDIA:

According to the National Family Health Survey (NFHS-5) and the Global Multidimensional Poverty Index 2023, states such as Bihar, Jharkhand, and Uttar Pradesh record the highest MPI values. In Bihar, over half of the population experiences multidimensional poverty, with deprivations in nutrition, child mortality, years of schooling, sanitation, and access to clean drinking water. Jharkhand, similarly, faces challenges in maternal health, illiteracy, and inadequate infrastructure, especially in rural and tribal regions. Uttar Pradesh shows stark disparities, where urban centers like Lucknow and Noida demonstrate better indicators, but rural districts remain severely deprived. These regions reflect the intersection of structural inequality, low literacy levels, high fertility rates, and limited employment opportunities.

LOWEST MPI REGIONS IN INDIA:

On the other end of the spectrum, states such as Kerala, Goa, and Punjab report the lowest MPI levels. Kerala's success is attributed to its high literacy rates, robust healthcare infrastructure, and effective social welfare policies. Goa, with a relatively small population, demonstrates strong human development indicators, including universal access to clean water, high school enrollment rates, and a strong tourism-driven economy. Punjab, while facing issues like farmer indebtedness, still fares well in MPI indicators due to better agricultural productivity, rural infrastructure, and access to healthcare. These examples highlight how policy priorities, governance, and investment in human capital play a vital role in reducing multidimensional poverty.

COMPARATIVE ANALYSIS:

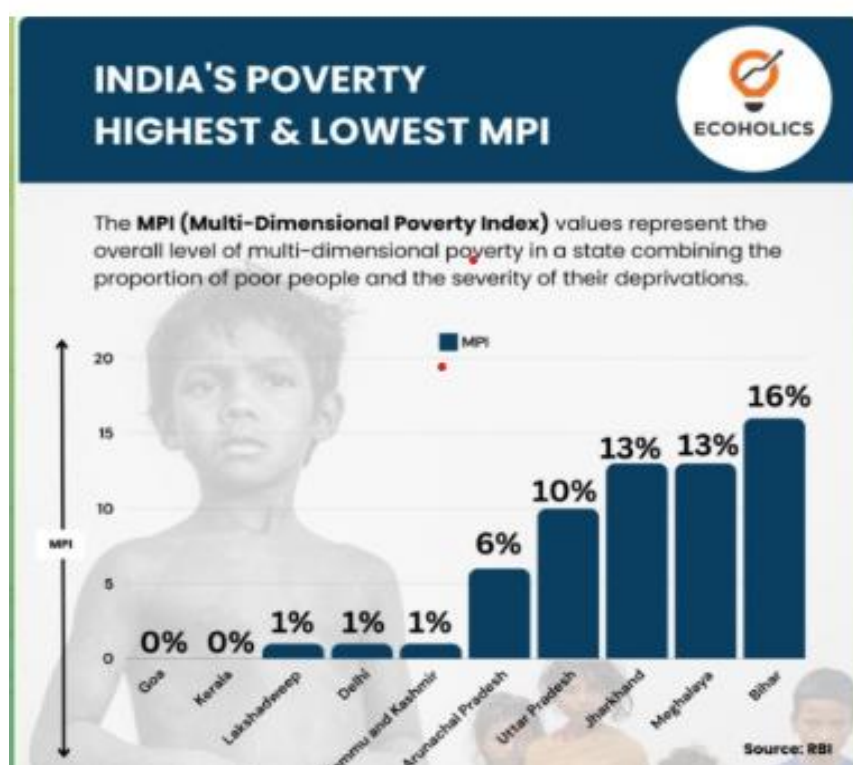


Figure 1: Highest and Lowest MPI States in India (Source: RBI, Ecoholics)

The figure above, sourced from the Reserve Bank of India (RBI) and Ecoholics, provides a comparative view of the highest and lowest MPI states in India. It reinforces the textual findings of this paper by showing stark contrasts. Goa and Kerala record 0% MPI, indicating

near elimination of multidimensional poverty, while Bihar (16%), Jharkhand (13%), and Meghalaya (13%) continue to struggle with significant poverty levels.

The disparity between high and low MPI regions underscores the uneven pace of development across India. Southern and western states, with stronger emphasis on education, healthcare, and gender equality, show rapid poverty reduction. In contrast, states in the Hindi heartland and eastern belt remain trapped in cycles of deprivation, largely due to weak governance, limited industrialization, and cultural barriers. Urban-rural divides also deepen the problem, as rural households often lack access to electricity, sanitation, and quality education.

GOVERNMENT INTERVENTIONS:

India has introduced several poverty alleviation programs, including the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), National Rural Health Mission (NRHM), Pradhan Mantri Awas Yojana (PMAY), and Jal Jeevan Mission. While these schemes have improved living standards in some regions, implementation gaps and corruption continue to hinder progress in the poorest states. Kerala and Goa demonstrate how effective governance and localized strategies can accelerate poverty reduction, providing valuable lessons for lagging regions.

CONCLUSION:

The analysis of India's MPI reveals a sharp contrast between states such as Bihar and Kerala, illustrating the uneven distribution of poverty across the country. Addressing multidimensional poverty requires not only economic growth but also investment in education, healthcare, gender empowerment, and infrastructure. State-specific interventions, coupled with strong governance, are essential to ensure inclusive growth and achieve the Sustainable Development Goals (SDGs). India's future development depends on bridging these disparities and ensuring that the benefits of progress reach its most vulnerable populations.

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**INDIAN CAPITAL MARKET REFORMS SINCE 1991: AN
OVERVIEW**

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INTRODUCTION:

The Indian Capital Market refers to the market for long-term funds for investment purposes. The capital market is the source of funds for corporate, governments and provides opportunities to savers to park their long-term savings. The Indian Capital Market comprises of two segments- the primary and secondary markets. Financial markets are typically defined by having transparent pricing, basic regulations on trading, costs and fees and market forces determining the prices of securities that trade. Indian capital market is exposed to tremendous reforms in the last decade. The reforms are triggered by changes in policy by union government and the same is accepted and stimulated by introduction of new financial products by stock exchanges, better legal frame work by the regulator and active participation by depository participants, share brokers, domestic as well as foreign investors. The Indian Capital market provides the financial backbone for business entities. Indian capital market has undergone tremendous changes after the establishment of Securities and Exchange Board of India (SEBI) in 1992. A number of measures are taken by SEBI, Ministry of Finance, RBI and other regulators to make Indian Capital market a dependable platform for Foreign Institutional Investor (FIIs), Domestic Institutional Investors (DIS), High Net worth Individuals (HNIS) and Detail Investors. Introduction of new products also helped in inviting potential investors (foreign as well as domestic) to Indian Capital market (Jadhav et al., 2025).

The term "market" is sometimes used for what are more strictly exchanges, organizations that facilitate the trade in financial securities, e.g., a stock exchange or exchange in Finance, Financial

Markets facilitate:

1. The raising of capital (in the Capital Markets)
2. The transfer of risk (in the Derivatives Markets)
3. The transfer of liquidity (in the Money Markets)
4. International trade (in the Currency Markets)

OBJECTIVES:

The present study undertakes the following objectives:

1. To study the Indian Capital Market reforms in India since 1991.
2. To study the impact of capital market reforms in India.
3. To know the Factors Responsible for Growth and Development of capital market
4. To suggest Members for future the growth of capital Market in India.

METHODOLOGY:

The present study is descriptive in nature for secondary data. The study uses secondary data, which are collected from Union Budgets, Government of India, SEBI website, and from various journals, magazine etc.

REFORMS IN INDIAN CAPITAL MARKET SINCE 1991:

The Indian Capital Market in India has seen a large number of changes over the last few years, particularly after 1991 and SEBI continues to move towards more efficient market. All the measures introduced since July 1991 aims to improve the productivity and efficiency of the system. SEBI as well as other agencies looks for professional standards, functional strength backed by corporate right, ethical behavior and a comprehensive and total approach to business from the part of stock brokers. All these measures will ultimately make Indian industry competitive in the international market (Tanaji Salve and Jadhav, 2015).

1. Establishment of SEBI: The Securities and Exchange board of India (SEBI) was set up in 1988 and was legalized in 1992. The primary function of SEBI has regulated the activities of the merchant banks, to control the operations of mutual funds, to work as a promoter of stock exchange activities and to act as a regulatory authority of new issue activities of companies. The SEBI was set up

with the fundamental objective, “to protect the interest of investors in the securities market and for matters connected therewith or incidental there to” (Dagde & Jadhav, 2024).

2. Establishment of Creditors Rating Agencies: Three creditors rating agencies viz The Credit Rating information services of India Limited (CRISIL-1988), the Investment Information and Credit Rating Agency of India Limited (ICRA-1991) and Credit Analysis and Research Limited (CARE) were set up in order to assess the financial health of different financial institutions and agencies related to the stock market activities. It is a guide for the investors also in evaluating the risk of their investments (Jadhav, 2020).

3. Increasing of Merchant Banking Activities: Many Indian and Foreign commercial banks have set up their Merchant Banking divisions in the last few years. These divisions provide financial services such as underwriting facilities, issue organizing, consultancy services, etc. It has proved as a helping hand to factors related to the capital market (Rathod et al., 2024).

4. Candid Performance of Indian Economy: In the last few years, Indian Economy is growing at a good. It has attracted a huge inflow of Foreign Institutional Investments (FII). The massive entry of FIIs in the Indian capital market has given good appreciation for the Indian Investors in recent times. Similarly, many new companies are emerging on the horizon of the Indian Capital market to raise capital for their experience (Pawar, 2023).

5. Rising Electronic Transactions: Due to technological development in the last few years, the physical transaction with more paperwork is reduced. Now Paperless transactions are increasing at a rapid rate. It saves money, time and energy of investors. Thus, it has made investing safer and hassle free (Bhave et al., 2022).

6. Growing Mutual Fund Industry: The growing of mutual funds in India has certainly helped the capital market to grow. Public sector banks, foreign banks, financial institutions and joint mutual funds between The Indian and Foreign firms have launched and many new funds. A big diversification in terms of schemes, maturity, etc has taken place in mutual funds in India. It has given a wide choice for the common investors to enter the capital market (Bhave & Pawar, 2022).

7. Growing Stock Exchanges: The Number of various Stock Exchanges in India is increasing. Initially the BSE was the main Exchange, but now after the setting up of the NSE and the OTCE, stock exchanges have spread across the country. Recently a new inter-connected Stock Exchange has joined the existing stock exchanges (Pawar & Wavare, 2022).

8. Depository Services: The Depository act of 1996 removed the problems arising from physical share certificates. The transfer of physical shares involved huge transaction cost, delays, reduced liquidity, etc. The Act established Depositors i.e. institutions that dematerialize shares. These institutions convert the shares into electronic form. Examples are NSDL and CDSL (Pawar & Wavare, 2022).

9. Rolling Settlement: T +N Rolling settlement was introduced in the stock exchange. T= Trading day, N= Number of days after the trading days. All shares were compulsory moved to rolling settlement from December 2001. All exchanges were moved to the same settlement days. T+ 5, T+3 and T+2 were the settlements adopted. T+ 1 mode was introduced in 2004 (Wavare & Pawar, 2022).

RECENT DEVELOPMENTS IN INDIAN CAPITAL MARKET:

The Indian capital market has witnessed major reforms in the decade of 1990s and thereafter. It is on the verge of the growth.

1. Investor's Protection: Under the purview of the SEBI the Central Government of India has set up the Investors Education and Protection Fund (IEPF) in 2001. It works in educating and guiding investors. It tries to protect the interest of the small investors from frauds and malpractices in the capital market (Kamat & Pawar, 2024).

2. Growth of Derivative Transactions: Since June 2000, the NSE has introduced the derivatives trading in the equities. In November 2001 it also introduced the future and options transactions. These innovative products have given variety for the investment leading to the expansion of the capital market.

3. Insurance Sector Reforms: Indian insurance sector has also witnessed massive reforms in last few years. The Insurance Regulatory and Development Authority (IRDA) was set up in 2000. It paved the entry of the private insurance firms in India. As many insurance companies invest their money in the capital market, it has expanded.

4. Commodity Trading: Along with the trading of ordinary securities, the trading in commodities is also recently encouraged. The Multi Commodity Exchange (MCX) is set up. The volume of such transactions is growing at a splendid rate.

5. IPO Grading: SEBI has made it compulsory for companies coming out with IPOs of equity shares to get their IPOs graded by at least one credit rating agency registered with SEBI from May 1, 2007. This measure is intended to provide the investor with an informed and objective opinion expressed by a professional rating agency after analyzing factors like business and financial prospects, management quality and corporate governance practices etc.

6. Migration of Mutual Funds from commission-based system to free based system: SEBI has stipulated that since August 2009 no entry load shall be there for any mutual fund scheme and the upfront commission to distributors will be paid by the investor directly based on his assessment of various factors including the services, rendered by the distributor. In order to have parity among all classes of unit holders, SEBI has mandated that no distinction among unit holders should be made based on the amount of subscription while charging exit loads of the exit load charged to the investor, a maximum of one percent of the redemption proceeds shall be maintained.

7. Margin Trading: Margin is day trading without actual possession of stock. The trader can make a buy /sell order in the morning and square off the transaction in the evening before the end of the trading day. The trader will gain /lose based on the price fluctuations of that particular stock on that trading day. The trader needs to block only 20-25% of the value of the stock for availing this facility.

INTERNET BANKING:

Trading on stock exchanges is allowed through internet, investors can place orders with registered stock brokers through internet. This enables the stock brokers to execute the orders at a greater pace.

1. Rolling Settlement: Rolling settlement is an important measure to enhance the efficiency and integrity of the securities market. Under rolling settlement all trades executed on a trading day (T) are settled after certain days (N). This is called T + N rolling settlement. Since April 1, 2002 trades are settled under T + 3 rolling settlement. In

April 2003, the trading cycle has been reduced to T + 2 days. The shortening of trading cycle has reduced undue speculation on stock markets.

2. The Clearing Corporation Of India Limited (CCIL): The CCIL was registered in 2001, under the Companies Act, 1956 with the State Bank of India as the Chief Promoter. The CCIL clears all transactions in government securities and repos and also Rupee / US \$ forex spot and forward deals All trades in government securities below Rs. 20 crores would be mandatorily settled through CCIL, while those above Rs. 20 crores would have the option for settlement through the RBI or CCIL.

FUTURE REFORMS:

The future of Indian Capital Market is expected to have a steady and long -term growth potential. A few reforms are also in the pipeline under the consideration of the new government. The rules regarding External Commercial Borrowings (ECBs) are expected to be liberalized. Now there is confusion regarding the taxation rules on the income earned abroad by an Indian MNC and industry is expecting a clear favorable policy decision regarding this and outward remittance limit is also expected to be increased mobile trading and internet-based trading is expected to increase in the coming years. The Low Transaction cost and technology is expected to play a major role in the coming years

REBOUND IN INDIAN CAPITAL MARKET:

The factors that are responsible for rebound phenomenon in Indian Capital Market are as follows:

- Active FII buying.
- Active IIP (Indian Institutional Investor) buying.
- Favorable sovereign rating by leading credit rating agencies like S&P, Moody's, etc.
- Favorable monsoons fuelling adequate demand for goods and services in the economy.
- Favorable political conditions.
- Strong foreign exchange reserve position.
- Strong fundamentals of basic and other industrial segments such as steel, FMCGs etc.

- Forecasts of better prospects in future.
- Active participation of retail investors with renewed vigor.

SUGGESTIONS:

- Managing Investment of growing balances for which development of financial and capital market and greater attention to corporate governance will be necessary.
- Achieving transparency and accountability.
- Giving higher priority to fiduciary responsibility.
- Reducing administrative costs, and investment management fees and charges.

CONCLUSION:

The Indian Capital market is playing its important role in the development of Indian economy. The Indian capital market suffered bruises in the last part of the nineties owing to the manipulative trade practices of unscrupulous brokers and other participants, it has been witnessing fine times in the recent past, thanks to many favorable conditions contributing to it. During the last few years, there has been increasing awareness of investment opportunities among the public. Business newspaper and financial journals (The Economic Times, The Financial Express Business India, and Money etc) have made the people aware of new long- term investment opportunities in the security market. This has helped in building up the confidence of the public. The small investors who were not interested to buy securities from the market are now showing preference in favour of shares and debentures. This created more demand for short term and long- term funds. FIs banks and stock market enable the entrepreneurs to raise the required funds. This has led to the growth of Indian Capital market in India.

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**INDIA'S ECONOMIC TRAJECTORY: A TEN-YEAR
SECTORIAL ANALYSIS (FY 2015 – FY 2025)**

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INTRODUCTION:

1. Macroeconomic and Sectorial Composition:

India's real GDP growth accelerated significantly in the post-pandemic period, reaching 8.2% in FY2023–24. On the supply side, Gross Value Added (GVA) grew by 7.2%. This robust growth was anchored by the services sector, which remained the dominant contributor to economic output. A key development was the strong rebound of the industrial sector in FY24, which provided a powerful second engine of growth (Tanaji Salve and Jadhav, 2015).

Over the decade, a clear directional shift in sectoral shares has been observed. The share of agriculture in GVA has eased, while the services sector has deepened its contribution. The industrial sector's share has recovered, driven by a renewed focus on capital expenditure (capex) and supportive policies like the Production-Linked Incentive (PLI) scheme and a massive infrastructure push (Jadhav et al., 2025).

This structural shift is crucial for future growth. The World Bank's 2024 India Country Economic Memorandum (CEM) highlights that a higher share of manufacturing employment and a lower share of agriculture GVA are correlated with faster income convergence across states. This provides a strong rationale for India's ongoing policy push toward industry and skills development (Dagde & Jadhav, 2024).

2. Labor Market and Employment Structure:

The labor market has shown signs of positive change, with a broad rise in both the Labor Force Participation Rate (LFPR) and the Worker Participation Rate (WPR) since 2017–18. Notably, there has been a significant increase in female labor force participation by

2022–23, as per Periodic Labour Force Survey (PLFS) data (Jadhav, 2020).

Despite these positive trends, agriculture continues to be the largest employer. While its share has slightly declined from a post-COVID peak, it still accounted for approximately 45–46% of the workforce between 2020 and 2023 (on a usual status basis). This highlights a slow but persistent diversification into non-farm sectors and underscores the need to address the productivity gap in agriculture (Rathod et al., 2024).

3. Agriculture & Allied Activities:

Agriculture has proven to be a source of resilience, providing stability through the COVID-19 pandemic and various weather shocks. Over the past ten years, policy has shifted toward critical areas such as irrigation, direct income support through PM-KISAN, promotion of Farmer Producer Organizations (FPOs), and strengthening value chains like food processing. However, a significant challenge remains: agriculture's high employment share is disproportionate to its GVA share. This productivity gap underscores the critical need to expand allied activities like dairy and fisheries and to promote the food processing industry to create more value and employment (Kamat & Pawar, 2024).

4. Industry & Manufacturing:

The industrial sector experienced a remarkable turnaround. FY2023–24 saw a 9.5% growth in industrial GVA (at constant prices), pushing the sector's output to approximately 25% above its pre-COVID (FY2020) levels. This strong performance was fuelled by a combination of increased credit off-take and a major public capex drive. A key policy success has been the Production-Linked Incentive (PLI) schemes, which were introduced in 2020. These schemes have catalysed growth in sectors like electronics, pharmaceuticals, and automobiles. A tangible outcome is the steep rise in electronics and mobile exports, which have emerged as a significant component of India's export basket since FY2023–25. High-frequency indicators like the Manufacturing PMI, which has largely stayed above 50, and an upward-trending Index of Industrial Production (IIP) confirm the positive momentum in the manufacturing sector (Wavare & Pawar, 2022).

5. Services:

The services sector has consistently served as the growth anchor for the Indian economy. Its dynamism is evident across various sub-sectors, including IT-BPM, finance, trade, logistics, healthcare, education, and tourism (Pawar & Wavare, 2022).

Services exports hit new record highs in FY2024–25, powering the overall export performance. A late-2024 NITI Aayog working paper identified sub-sectors with high potential for GVA, exports, and employment, providing a strategic roadmap for prioritizing modern, tradable services (Bhave & Pawar, 2022).

6. Digital Economy & Fintech:

The digital transformation of the Indian economy has been monumental, primarily driven by the Unified Payments Interface (UPI). The NPCI's live dashboard shows a "step-change" from initial adoption to ubiquity. Monthly UPI transactions reached nearly 19.5 billion in July 2025, with a total value of ₹25.08 lakh crore. This has transitioned from a person-to-person (P2P) tool to a widely accepted person-to-merchant (P2M) payment rail. Policy support, such as the zero-MDR (Merchant Discount Rate) incentives for small-ticket BHIM-UPI P2M payments, has been instrumental in deepening merchant acceptance, fostering MSME formalization, and enabling e-commerce.

7. External Sector: Exports, Imports & Mix:

India's total exports (goods and services) have shown a steady decadal climb, reaching a new record of approximately ~\$825 billion in FY2024–25 (provisional). This was achieved despite a weak global goods demand, thanks to the strong momentum in services exports. In FY2024–25, provisional data show goods exports at around \$437 billion and services exports at \$384–388 billion. The merchandise trade deficit widened due to volatility in oil and gold prices. The export basket has also shifted, with electronics, pharmaceuticals, engineering goods, and agricultural products gaining a larger share (Pawar, 2023).

8. Infrastructure & Energy:

India's push for renewable energy has been significant. According to the Ministry of New and Renewable Energy (MNRE), cumulative renewable energy capacity (including large hydro) exceeded 220 GW by March 2025, representing nearly a three-fold

increase since 2014. Solar and wind capacity reached approximately 119 GW and 52 GW, respectively, as of July 2025.

However, the power mix still relies heavily on coal to meet peak demand and ensure grid reliability, as was evident during the heatwave in May–June 2024. The medium-term strategy focuses on scaling up renewable energy with storage solutions and transmission infrastructure to gradually reduce the share of coal in the energy mix by 2030. Public capex in roads, railways, and ports has also been a key enabler for industry and construction, improving logistical efficiency (Bhave et al., 2022).

9. Financial Sector:

The financial sector has undergone a period of significant balance-sheet repair. Bank asset quality has improved dramatically, reaching multi-year lows by FY2024–25. This has enabled banks to extend stronger credit growth to both large industries and Micro, Small, and Medium Enterprises (MSMEs).

10. Prices, Demand & Fiscal Signals:

Inflation has moderated, with headline CPI averaging 5.4% in FY2023–24—a notable decrease from 6.7% in FY2022–23. While food price volatility remains a key risk, various high-frequency indicators such as GST collections, e-way bills, and power demand corroborate a broad demand uptrend through FY2024–25.

KEY CROSS-SECTOR TAKEAWAYS (2015–2025):

- **Services-led, Industry-rising:** The economy is now driven by a powerful combination of a consistent services sector and a resurgent industrial sector, supported by public capex and PLI.
- **Gradual Labour Rebalancing:** While agriculture still employs a large share of the workforce, a slow shift into non-farm sectors is underway. The priority is to transition workers into higher-productivity jobs in construction, manufacturing, and modern services.
- **Digital Rails Now Mainstream:** UPI has become a foundational digital public good, supporting retail payments and enabling the formalization of MSMEs.
- **Broadening Export Mix:** Despite global challenges, India's exports set new records, driven by strong services exports and a growing share of high-value goods like electronics and pharmaceuticals.

- **Green Build-out, Brown Backbone:** The rapid expansion of renewable energy capacity is a major achievement, but reliance on coal for grid stability during peak demand periods highlights the next frontier: integrating storage and transmission to build a truly green and reliable power system.

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ECONOMIC REFORMS IN INDIA POST- 1991

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INTRODUCTION:

From its independence in 1947 until 1991, India's economic policy was guided by a set of principles that favoured state control and central planning. This approach, heavily influenced by Fabian socialism and the Soviet model, sought to achieve self-reliance and prevent economic domination by foreign powers. The result was a heavily regulated and inward-looking economy, derisively termed the 'Licence Raj', which ultimately proved to be an impediment to sustainable growth and prosperity. The culmination of decades of slow growth, structural inefficiencies, and unsustainable fiscal policies came in 1991, when the country was confronted with an acute balance of payments crisis. This event served as a watershed moment, compelling the government to undertake a series of radical, market-oriented reforms.

This chapter provides a comprehensive and critical overview of these post-1991 economic reforms. It begins by detailing the economic legacy and structural flaws of the pre-reform era. Next, it examines the specific causes of the 1991 crisis, highlighting both the immediate triggers and the underlying systemic issues. The chapter then provides a detailed breakdown of the policy changes introduced under the New Economic Policy, focusing on the core principles of Liberalization, Privatization, and Globalization. A critical assessment of the reforms' impacts then follows, analysing their effects on macroeconomic stability, sectoral performance, and social development. Finally, the chapter discusses the subsequent evolution of the reform process, addressing the "second-generation" reforms and the contemporary challenges facing the Indian economy.

THE ECONOMIC LEGACY: INDIA'S PRE-REFORM PARADIGM (1947–1991):

India's economic policy in the four decades following independence was a deliberate attempt to chart a unique path of development, distinct from both Western capitalism and rigid communism. This approach was rooted in a strong belief in central planning and state control as the primary drivers of growth and equitable development.

Ideological Foundations and State Control:

Successive governments, from 1947 to 1991, adopted protectionist economic policies that were heavily influenced by the Soviet model. This paradigm, known as dirigisme, was intended to foster a self-reliant economy by insulating it from foreign competition. Central to this model was the Planning Commission, a body that centrally administered the economy through a series of Five-Year Plans, similar to those in the Soviet Union. The state was assigned a commanding role in industrial development, particularly in core sectors, as outlined in the Industrial Policy Resolutions of 1948 and 1956. This was viewed as essential for correcting regional imbalances and creating employment opportunities in a predominantly agrarian economy with a weak industrial base.

The 'Licence Raj': A System of Extensive Regulation:

The most prominent feature of this era was the 'Licence Raj', a term coined to describe the system of extensive government control and regulation. Under this system, private businesses were required to obtain licenses from a multitude of government agencies- up to 80, in some cases- in order to operate, expand, or diversify their production. Legislation such as the Industrial Development Regulation Act of 1951 and the Industrial Policy Resolution of 1956 extended this control, designating certain industries for exclusive state control or majority state ownership. This complex web of bureaucratic hurdles and controls was originally intended to protect Indian industry and promote self-reliance, but it had the perverse effect of stifling competition and innovation. The system benefited large, established corporations that could navigate the bureaucracy, making it difficult for new or small businesses to compete and fostering widespread corruption and patronage networks.

Economic Performance: The 'Hindu Rate of Growth':

The dirigiste model resulted in a stagnant economic performance that became a source of national frustration. For the first three decades after independence, India's average GDP growth rate was a mere 3.5%, a figure so low it was mockingly dubbed the 'Hindu rate of growth'. This rate was a fraction of the growth achieved by the 'Asian tigers' during the same period. Furthermore, India's share of global trade plummeted from 2.2% at independence to just 0.45% by 1985.

This slow, inward-looking economic model made India an unimportant global player, seen primarily as an aid recipient rather than a potential economic power. The policies, ironically implemented in the name of the poor, led to a near doubling of the number of poor people as the population grew while the economy stagnated. The protectionist policies, which were supposed to foster a strong domestic industry, had the unintended consequence of creating a sclerotic and uncompetitive economy. The Licence Raj restricted new entrants and even penalized existing firms for exceeding their licensed capacity. With a lack of both domestic and international competition, producers had no incentive to innovate, reduce costs, or improve quality, which ultimately resulted in the slow growth and economic stagnation that plagued the nation for decades.

THE WATERSHED MOMENT: CAUSES OF THE 1991 CRISIS:

The economic crisis of 1991 was not an isolated event but rather the inevitable consequence of decades of flawed, unsustainable policies. It was a crisis that had both immediate triggers and deep-seated structural roots.

Immediate Triggers: The Balance of Payments Crisis:

The most acute symptom of the crisis was a severe balance of payments deficit, which left India with foreign exchange reserves that were nearly depleted and could cover imports for only a couple of weeks. This precarious situation forced the government to take drastic measures, including a sharp two-step devaluation of the rupee on July 1 and July 3, 1991, which resulted in a depreciation of 9% and then another 23% against the US dollar. The severity of the crisis was underscored by the government's need to secure an emergency loan of \$2.2 billion from the International Monetary Fund (IMF) and the World

Bank by pledging 67 tons of its gold reserves as collateral. A portion of this gold had to be airlifted to banks in London and Switzerland under great secrecy.

Underlying Structural Weaknesses:

The crisis was a culmination of several structural issues. The government was running a massive fiscal deficit, a problem that had been worsening since 1985. This 'twin deficit' problem, with a trade deficit alongside a large fiscal deficit, made the economy highly vulnerable. In the second half of the 1980s, India's external debt nearly doubled, jumping from around \$35 billion in 1984-85 to \$69 billion by 1990-91. The poor performance of public sector undertakings, which were originally intended to be engines of growth, had instead become a substantial financial burden on the government.

The economic growth observed in the 1980s was not a sign of a healthy economy but was based on unsustainable fiscal profligacy and external borrowing. This growth, averaging 5.5% in the 1980s, was often cited as a counter-argument to the necessity of the 1991 reforms. However, this perspective overlooks a crucial distinction: the 1980s growth was fragile and fuelled by a 'spending spree' and a build-up of external debt that culminated in the 1991 crisis. The more systematic and fundamental reforms of the 1990s, in sharp contrast, led to a more durable and sustainable growth, which was accompanied by a remarkable external stability.

External Shocks as a Catalyst:

While the internal problems made the crisis inevitable, external factors served as the immediate triggers. The First Gulf War in 1991, following Iraq's invasion of Kuwait, caused a significant spike in world oil prices. This dramatically increased India's oil import bill and simultaneously led to a drop in remittances from Indian expatriates in the Gulf region. These shocks, compounded by slow global growth and rising political uncertainty at home, led to a loss of confidence among foreign investors and a subsequent capital flight, which compounded the external sector problem.

THE NEW ECONOMIC POLICY OF 1991: A PARADIGM SHIFT:

In response to the unprecedented economic crisis, the government of Prime Minister P.V. Narasimha Rao and Finance

Minister Dr. Manmohan Singh launched the New Economic Policy (NEP) in 1991. This marked a fundamental shift in India's economic philosophy, moving away from a closed, centrally planned model toward a more liberal, market-oriented one. The reforms were structured around three core pillars, commonly referred to as the LPG model: Liberalization, Privatization, and Globalization.

The Three Pillars of Reform (LPG):

- **Liberalization:** This involved the removal of restrictive government controls and regulations to unshackle economic activity and foster competition. The primary goal was to encourage private sector participation and attract foreign investment by simplifying the complex bureaucratic landscape of the Licence Raj.
- **Privatization:** This process entailed transferring the ownership and management of public sector enterprises (PSUs) from the government to private entities. The objective was to enhance efficiency, reduce the fiscal burden on the state, and foster a more competitive market environment.
- **Globalization:** This pillar focused on integrating the Indian economy with the global one. The measures aimed to increase India's participation in international trade and commerce by opening up avenues for foreign investment and technology transfer.

Policy Reforms: A Detailed Breakdown:

The NEP was a comprehensive set of reforms that targeted various sectors of the economy:

- **Industrial Sector Reforms:** The most significant change was the abolition of industrial licensing for most sectors, effectively ending the Licence Raj. This freed businesses from the need for government approval to expand capacity or diversify products. The number of industries exclusively reserved for the public sector was drastically reduced from 17 to just 3 (defense, atomic energy, and railways).
- **Trade and External Sector Reforms:** To address the balance of payments crisis, the government devalued the rupee by 18-20% in two stages. The reforms also included a phased reduction of India's historically high peak tariffs, which were over 300% in 1991. Import licensing and quantitative restrictions (QRs) were largely removed, and the government shifted toward a price-based

trade system.

- **Financial Sector Reforms:** The government deregulated interest rates, reduced the statutory liquidity ratio (SLR) and cash reserve ratio (CRR), and permitted the entry of new private sector banks. The Securities and Exchange Board of India (SEBI) was legislatively empowered to regulate the capital markets.
- **Public Sector Reforms:** The government initiated a disinvestment program, selling minority stakes in loss-making PSUs to raise resources and promote accountability. In some cases, a strategic sale transferring full control was adopted, such as the sale of Modern Foods.
- **Foreign Investment Reforms:** To attract foreign capital and technology, the government raised FDI equity caps to 51% in a wide range of high- priority industries, and a system of automatic approval was introduced. The Foreign Exchange Regulation Act (FERA) was amended to reduce restrictions on foreign firms.

The reforms were not a radical, ideological revolution but a pragmatic and crisis-driven response. Unlike the ‘shock therapy’ models adopted by some other countries, India’s approach was a gradual and controlled liberalization, often referred to as the ‘Delhi consensuses’. This step by step implementation, for example, the gradual reduction of tariffs and the phased liberalization of the rupee, was adopted to avoid major economic shocks. This pragmatic path, while successful in averting immediate collapse, also meant that certain politically sensitive reforms, particularly in the labour and agriculture sectors, were more gradual and incomplete.

A CRITICAL ASSESSMENT OF THE IMPACTS OF THE REFORMS:

The economic reforms initiated in 1991 had a profound and lasting impact on India. The effects were transformative on a macroeconomic scale, but a closer look at their sectoral and social consequences reveals a more complex and uneven picture.

1. Macroeconomic and Structural Outcomes:

The most immediate and visible success of the reforms was the acceleration of economic growth. The average GDP growth rate increased significantly, reaching approximately 6-7% annually in the post-1991 period, a marked improvement over the 3.5% rate of the pre- reform era. The growth was also more durable and sustainable

than the debt- fuelled expansion of the 1980s, which had led to the 1991 crisis. The reforms also led to a significant surge in foreign capital inflows. FDI, which was just \$97 million in 1991, soared to over \$80 billion in recent years. Similarly, foreign exchange reserves, which were at a critically low \$5.8 billion in 1991, reached a record high of over \$700 billion.

This period also witnessed a fundamental structural shift in the Indian economy. The services sector emerged as the new engine of growth, supplanting agriculture as the largest contributor to GDP. The share of services in India's GDP climbed from 27% in 1951 to 48% in 2000. This shift was a direct consequence of the reforms, with significant growth observed in sub-sectors like communication, financial services, and information technology (IT).

2. Sectoral Performance:

- **Services Sector:** The services sector proved to be the most dynamic beneficiary of the reforms. Deregulation and the promotion of private and foreign investment led to explosive growth in areas like telephony, airlines, and banking. The most prominent success story was the IT sector, which, through the establishment of Software Technology Parks and relaxed regulations, was able to leverage India's skilled workforce to export services globally, having a profound impact on the country's balance of payments.
- **Industrial Sector:** The impact on the industrial sector was more complex. While some earlier liberalization attempts led to a strong industrial growth of 9.2% in the late 1980s, the sector has not experienced the same sustained high level of growth as services in the post-1991 era. The industrial sector remains burdened by ongoing restraints, such as restrictive labour laws and the continued reservation of some labour- intensive industries for small-scale firms, which have prevented it from matching the performance of its Chinese counterpart.
- **Agriculture Sector:** The reforms had a largely indirect impact on the agricultural sector. Unlike the industrial sector, agriculture was already a privately dominated sector, which limited the scope for direct reforms. The reforms did, however, lead to a reduction in public investment in agriculture and a cut in subsidies, which in turn contributed to lower investment and capital formation in the

sector. The liberalization also increased competition in the 'marketing of agricultural production', which, for small and marginal farmers, often resulted in 'distress sales' and a reliance on off-farm employment to supplement income.

The asymmetrical impact of the reforms is evident in the fact that they disproportionately benefited the services sector while the industrial and agricultural sectors lagged behind in growth and job creation. The reforms addressed the major industrial and trade barriers that services and capital-intensive industries could leverage effectively. However, politically sensitive reforms, such as those in labour markets and agriculture, were either incomplete or pursued with less vigour. This created an unbalanced growth model where a modern, high-productivity services sector coexisted with lagging, low-productivity industrial and agricultural bases.

3.Social and Developmental Consequences:

- **Poverty Reduction:** The accelerated economic growth after 1991 did contribute to a decline in poverty rates. A World Bank report cited a reduction in extreme poverty and noted that 170 million people were lifted out of poverty between 2011-12 and 2022-23. However, this progress was not uniform. In the initial years, the decline in poverty was not statistically significant in many states, and some states, such as Punjab and Haryana, even saw a reversal in rural poverty trends.
- **Income and Regional Inequality:** A major criticism of the reforms is that they exacerbated existing inequalities. Income inequality increased steadily after 1991, with a study showing that the top 1% captured more than 21% of national income by 2014-15. The rise in inequality has been attributed to a shift in earnings from labour to capital income and the rapid growth of the services sector, which created a high demand for skilled workers. Regional inequality also widened, with a few states like Gujarat and Karnataka performing exceptionally well while others, like Uttar Pradesh and Bihar, recorded growth rates well below the national average.
- **Employment Trends: 'Jobless Growth' and Informalization:** One of the most significant paradoxes of the post-reform era is the phenomenon of "jobless growth." The robust economic growth has not translated into a commensurate increase in employment. A

study indicates that the employment growth rate was just 0.45% per annum between 2004-05 and 2011-12. Of the 61 million jobs created in the two decades after 1991, 92% were informal. This is because the fastest-growing sectors, such as IT, telecommunications, and banking, are capital-intensive and do not require large amounts of labour. The result is a widening gap between a small, highly skilled, high-income formal workforce and the vast majority of the population engaged in low-wage, informal jobs. This suggests that while the reforms were successful on a macroeconomic level, they failed to deliver inclusive growth and a formalization of the labour market.

THE ONGOING JOURNEY: SECOND-GENERATION REFORMS AND CURRENT CHALLENGES:

The initial set of 1991 reforms, while transformative, were widely considered a ‘necessary but not sufficient’ step. They laid the foundation for a more open economy but did not resolve all the underlying structural weaknesses. This recognition led to the push for a new wave of policy changes, often termed ‘second-generation reforms’.

The Need for ‘Second-Generation’ Reforms:

These reforms, which began in the early 2000s, were aimed at addressing the shortcomings and gaps that remained from the initial policies. They focused on deeper, more politically sensitive issues, including factor market reforms, the public sector, and institutional and legal frameworks. For instance, a key goal was to dismantle the Administered Price Mechanism (APM) for goods like petroleum and fertilizers to promote market-based pricing, although the implementation has been gradual due to socio-political sensitivities around cutting subsidies on essential goods.

More recently, the government has continued this reform agenda. A notable example is the Goods and Services Tax (GST) introduced in 2017, which sought to create a unified and simplified tax system for firms. Other initiatives include repealing obsolete laws, simplifying regulations, and promoting digital governance to transform the government's role from a ‘controller to a facilitator’.

Contemporary Challenges and Future Outlook:

India's economic journey continues to face significant challenges, both internal and external. Externally, the country must navigate a global environment marked by geopolitical tensions and a rise in protectionism. The imposition of tariffs by major trading partners like the United States poses a direct threat to India's labour-intensive export sectors, such as textiles, gems and jewellery, and leather, which could put hundreds of thousands of jobs at risk. In response, the government has been compelled to pivot toward boosting domestic demand through measures like a simplification of the GST structure, a strategy that paradoxically echoes the pre- 1991 emphasis on self-reliance but with a new ideological framework.

Domestically, a number of deep-seated issues persist. These include widespread poverty and income inequality, high unemployment and underemployment, and distress in the agricultural sector. India also faces a significant infrastructure deficit, which hinders economic growth and makes it less competitive globally. Going forward, the success of India's economic policies will depend on its ability to strike a delicate balance between continued global integration and a renewed focus on strengthening domestic manufacturing and micro, small, and medium enterprises (MSMEs). The government's ability to implement deeper structural reforms in areas like labour laws and the public sector, which are crucial for enhancing productivity and competitiveness, will be key to ensuring that future growth is both resilient and inclusive.

CONCLUSION:

The economic reforms of 1991 were a critical, crisis-driven response that fundamentally reshaped India's economic landscape. By dismantling the Licence Raj and embracing the principles of Liberalization, Privatization, and Globalization, India transitioned from a stagnant, state-controlled economy to a dynamic, market-oriented one. The reforms unleashed a period of sustained, high-speed growth, attracted a massive influx of foreign investment, and led to a profound structural shift with the services sector emerging as a global powerhouse.

However, a comprehensive analysis reveals a more complex picture. The benefits of this growth have been unevenly distributed,

leading to a significant widening of income and regional inequality. Furthermore, the growth has not been effective at generating jobs at a pace sufficient to absorb the country's expanding labour force, resulting in the paradox of jobless growth and a continued reliance on the informal sector. The unfinished agenda of the first-generation reforms, particularly in labour markets and agriculture, has hindered the progress of the industrial sector and left a large segment of the population vulnerable. The ongoing journey of reform, as demonstrated by initiatives like the GST, seeks to address these lingering issues while navigating an increasingly complex and protectionist global environment. The future of India's economic success will ultimately depend on its ability to implement deeper structural changes that can foster inclusive, resilient, and equitable growth for all.

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**AGRICULTURAL TRANSFORMATION AND RURAL
ECONOMY**

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INTRODUCTION:

Agricultural transformation and rural economy refers to the process of transitioning from traditional, subsistence-based agriculture to more modern, productive, and diversified farming practices, while also fostering economic development in rural areas. This transformation is crucial for poverty reduction, improved livelihoods, and overall economic growth, especially in developing countries. It involves various aspects like technological advancements, institutional reforms, and diversification of rural livelihoods.

KEY ASPECTS OF AGRICULTURAL TRANSFORMATION:

Technological Advancements:

This includes the adoption of improved seeds, fertilizers, irrigation systems, and mechanization to boost agricultural productivity.

Diversification of Rural Economies:

Moving beyond traditional farming to include non-farm activities like agro-processing, rural tourism, and other small businesses helps create more diverse and resilient rural economies.

Sustainable Practices:

Emphasizing environmentally friendly farming methods to ensure long-term productivity and resource conservation is crucial.

Institutional Reforms:

Land reforms, access to credit and markets, and strengthening agricultural institutions are vital for creating an enabling environment for farmers.

Importance for Rural Economies:

Poverty Reduction:

Increased agricultural productivity and income diversification can significantly reduce rural poverty.

Livelihood Improvement:

Agricultural transformation can lead to better living standards for rural communities by providing more income opportunities and access to essential services.

Economic Growth:

A thriving agricultural sector can be a catalyst for overall economic growth by contributing to food security, export earnings, and industrial development.

Rural-Urban Linkages:

Agricultural transformation can foster stronger linkages between rural and urban areas, leading to a more balanced and integrated national economy.

CHALLENGES AND CONSIDERATIONS: INITIAL INVESTMENT COSTS:

Modernizing agriculture often requires significant upfront investments in technology, infrastructure, and training.

Market Access:

Ensuring that farmers have access to reliable and profitable markets for their produce is crucial.

Environmental Sustainability:

It's important to balance agricultural intensification with environmental protection to avoid degradation of natural resources.

Social Equity:

Ensuring that the benefits of agricultural transformation are shared equitably across different segments of the rural population is essential.

EXAMPLES OF AGRICULTURAL TRANSFORMATION:

The Green Revolution, while having some drawbacks, significantly increased food production in many developing countries by introducing high-yielding varieties of crops and modern farming techniques.

In some regions, successful diversification of rural economies has involved developing agro-tourism, promoting local crafts, and supporting small-scale rural industries.

In conclusion, agricultural transformation and rural development are intertwined processes that are essential for sustainable and inclusive growth in many developing countries. By adopting modern farming practices, diversifying rural economies, and addressing social and environmental challenges, it is possible to create more prosperous and resilient rural communities.

IMPACT ON RURAL ECONOMY:

The Positive Impacts: A Virtuous Cycle of Growth:

Increased agricultural productivity (producing more output per unit of input) directly leads to higher farmer income. This sets off a powerful chain reaction of positive economic changes in rural areas.

1. Direct Economic Benefits for Farmers:

- **Higher Profits and Financial Security:** With more yield from the same plot of land and resources, farmers' profit margins increase. This provides a crucial buffer against bad weather, price fluctuations, and unexpected expenses, reducing vulnerability.
- **Diversification of Income Sources:** With a stable income base from staple crops, farmers can invest in diversifying their activities. This includes:
 - **Animal Husbandry:** Investing in dairy, poultry, or fish farming.
 - **Agro-Processing:** Adding value to raw produce by processing it (e.g., making jam, pickles, oil, or snacks) for sale, which captures more of the final product's value.
- **High-Value Crops:** Switching from basic grains to fruits, vegetables, flowers, or organic produce, which command higher market prices.

2. Stimulation of Local Non-Farm Economy (The Multiplier Effect):

This is perhaps the most significant impact on the broader rural economy. When farmers have more disposable income, they spend it locally, creating a multiplier effect.

Increased Demand for Local Goods & Services:-Farmers spend on better housing, clothing, education, and consumer goods, boosting local shops and artisans.

Job Creation in Supporting Sectors: Higher productivity creates demand for:

- **Transport and Logistics:** Truck drivers, warehouse operators, and traders to move the larger surplus to markets.
- **Agro-Input Dealers:** Shops selling seeds, fertilizers, pesticides, and tools see higher sales.
- **Mechanization Services:** Demand for tractor rentals, harvester services, and repair mechanics increases.
- **Financial Services:** Increased need for savings accounts, loans, and insurance, strengthening local banks and microfinance institutions.

3. Investment in Human Capital and Quality of Life:

- **Education:** Families can afford to send their children to better schools and colleges, even retaining them beyond primary level. This breaks the intergenerational cycle of poverty and builds a more skilled future workforce.
- **Healthcare:** Improved financial capacity allows families to access better healthcare, nutrition, and sanitation facilities, leading to a healthier, more productive population.
- **Women's Empowerment:** Increased income, especially from high-value activities like dairy or horticulture often managed by women, gives them greater financial autonomy and decision-making power within households and communities.

4. Technological Adoption and Modernization:

- **Investment in Innovation:** With higher income, farmers can afford to invest in new technologies—drip irrigation, better seeds, farm machinery—which further boosts productivity, creating a positive feedback loop.
- **Attraction of External Investment:** A thriving rural economy attracts investment from private companies in processing plants, cold storage facilities, and supply chain infrastructure, which further integrates rural areas into national and global markets.

5. Reduced Urban Migration:

- **Viable Livelihoods at Home:** When youth see viable economic opportunities and a modernizing agricultural

sector in their villages, they are less likely to migrate to overcrowded cities in search of menial jobs. This helps maintain the social fabric of rural communities and balances regional development.

- **Challenges and Risks to Manage:** The relationship between productivity and rural economy isn't automatically positive. Without proper support systems, it can create or exacerbate problems.
- **Inequality and Social Stratification:** The benefits of increased productivity are not always evenly distributed. Larger, wealthier farmers are often better positioned to adopt new technologies and access markets, potentially widening the gap between rich and poor farmers.
- **Environmental Sustainability:** Intensive farming practices aimed at maximizing productivity can lead to:
 - **Resource Depletion:** Overuse of water, leading to falling groundwater levels.
 - **Soil Degradation:** Loss of soil fertility due to excessive chemical fertilizer use.
 - **Pollution:** Runoff from pesticides and fertilizers contaminating water sources.
 - **Loss of Biodiversity:** Monocropping replacing diverse agricultural ecosystems.
 - **Market Linkages and Price Volatility:** Producing a surplus is meaningless if there is no market to sell it in. Farmers can become vulnerable to price crashes if local markets are flooded or if they lack access to larger, more stable markets.
 - **Debt Burden:** To increase productivity, farmers often take on debt to buy inputs or machinery. A crop failure or price drop can trap them in a cycle of debt, negating any potential income gains.

CONCLUSION:

The impact of increased productivity and income on the rural economy is transformative, but it is not automatic. To ensure this impact is positive and inclusive, it requires:

1. **Supportive Government Policies:** Investment in rural infrastructure (roads, electricity, irrigation), extension services, and fair credit systems.

- 2. Strong Institutions:** Effective farmer cooperatives and producer organizations that give smallholders collective bargaining power for both input purchases and output sales.
- 3. Sustainable Practices:** Promotion of climate-resilient and eco-friendly agricultural techniques (e.g., agroecology, precision farming) to ensure long-term productivity.
- 4. Inclusive Value Chains:** Developing systems that connect smallholder farmers directly to processors and retailers, ensuring they receive a fair share of the final price.

When managed correctly, increased productivity is the first and most critical domino that falls, triggering a virtuous cycle of investment, diversification, and improved well-being, ultimately leading to a resilient and vibrant rural economy.

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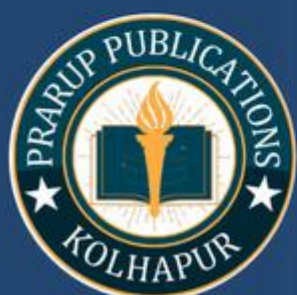
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