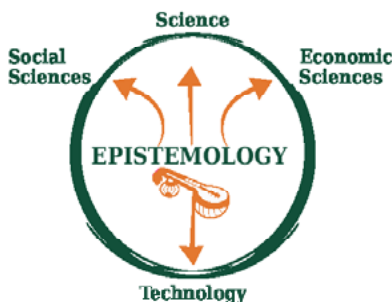
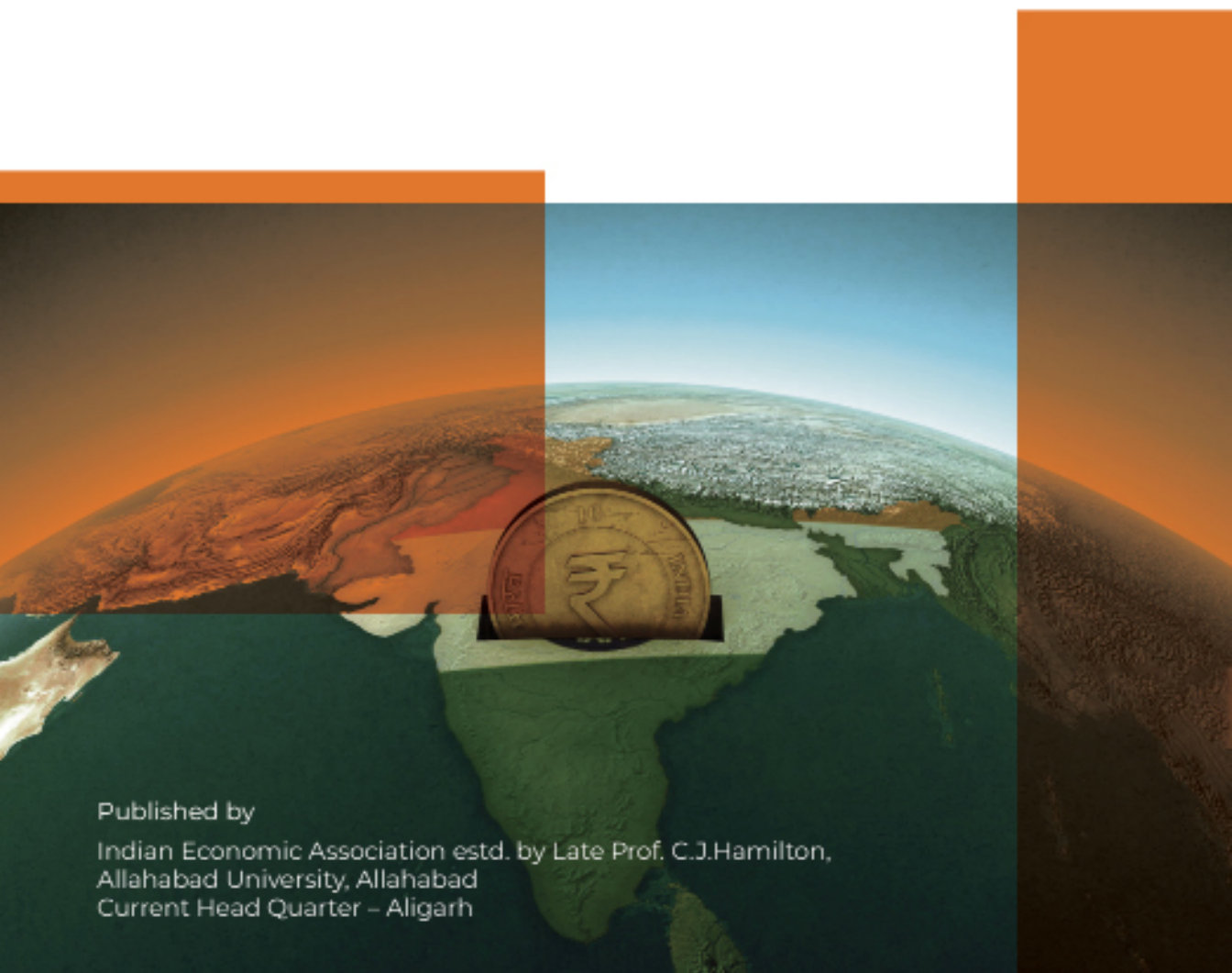




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Editor

Shri Prakash : Prof (retd.) & Head Educational Planning
Unit, NIEPA, MHRD, GOI

Address : C 4B, 226, Janakpuri, New Delhi 110058, India
Email : shriprakash@indianjournalofeconomyandpolicy.com ;

info@indianjournalofeconomyandpolicy.com
Mobile : 8527045052

Managing Editor

Prahlad Kumar : Prof (retd.) & HOD Economics, Dept.
of Economics, Allahabad University

Address : 1625/907, Kalyani Devi, Prayagraj

Email : prahladkumar@

indianjournalofeconomyandpolicy.com

Mobile : 9935256318

Associate Managing Editor

Indu Varshney : Professor (Economics Dept.),
D.S. College, Aligarh

Address : Economics Dept., D.S. College, Aligarh

Email : induvar@indianjournalofeconomyandpolicy.com

Mobile : 9411489030

Associate Managing Editor

Sonia Anand Dhir : Associate Professor, JIMS, Rohini,
New Delhi

Address : 3, Institutional Area, Sector-5, Rohini, New
Delhi

Email : sonia.dhir@jimsindia.org

Mobile : 9999693216

Line Editor

Rebecca Donald : Prof. IGNOU, New Delhi

Email : drrebeccadonald@gmail.com

Mobile : 88020 11221

Chief In Charge Technical Support

Monika Varshney : Prof. DS College, Aligarh

Email : monikafpc@gmail.com

Mobile : 7500540540

Editorial Advisory Board

Aniko Terezia Magashazi : Head International Relations
Office, Institute of Advance Studies Koszeg, Hungary

Address : Kőszeg, Chernel u. 14, 9730 Hungary

Email : aniko.magashazi@iask.hu

Mobile : 00-36-30-383-43-06

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Kec. Jetis, Kota Yogyakarta, Daerah Istimewa Yogyakarta
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Address : 5 Shaaban Robert Street, Dar es Salaam,
Tanzania

Email : richard.kiangi@ifm.ac.tz

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Rajas Parchure : Director - Gokhale Institute of Politics
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Address : 846, Shivajinagar, Deccan,
Pune 411004

Email : rajas.parchure@gipe.ac.in

Mobile : 91-20-25683300

Pooja Jain : Director, Jagan Institute of Management
Studies, New Delhi

Address : 3, Institutional Area, Sector-5, Rohini, New
Delhi

Email : poojajain@jimsindia.org

Mobile : 9810575404

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Mobile : 0575-89114107

Hanuman Prasad : Dean Mohan Lal Sukhadia
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Address : Mohanlal Sukhadia University Udaipur 313001,
Rajasthan, India

Email : profhanumanprasad@mlsu.ac.in

Phone : +919414343358

Neelam Dhall : Dean Research, Jagan Institute of Management Studies, New Delhi
Address : 3, Institutional Area, Sector-5, Rohini, New Delhi
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Mobile : 9891251870

Padam S. Bisht : Professor, Kumoun University Nainital, Uttarakhand
Address : Kashana Ahamad college Near Sand Marry School Rajbhawan Road Tallital Nainital Uttarakhand 263002
Email : hodeconomics@kunainital.ac.in
Phone : 0594236884

Swati Shastri : Associate Professor, Banasthali Vidyapeeth/ University, Rajasthan
Address : Head, Department of Economics Banasthali Vidyapith, P.O. Banasthali Vidyapith, Distt. Tonk, Rajasthan 304022
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Phone : 9887776407, 9352879802

Manjappa D Hosamane : Former Vice - Chancellor V S K University, Ballari, Karnataka, and Professor of Economics, University of Mysore
Address : 716, C Block, 11 Main, Vijayanagar 3 Stage, Mysuru 570030 Karnataka
Email : d.hosamane@indianjournalofeconomyandpolicy.com
Phone : 9739824419

S J. Manjunath : Prof and HOD, Department of Studies in Business Administration,
Address : B N Bahadur Institute of Management Sciences, University of Mysore, Manasagangothri, Mysore 570006
Email : manjunath@bims.uni-mysore.ac.in
Phone : 9448587801

Sumitra Chowdhary : (Retd.) Officer of the Indian Economic Service, Ministry of Finance, GOI
Address : Department of Economic Affairs, North Block, New Delhi 110001
Email : chowdhurysumitra.SC@gmail.com
Phone : 9811822730

Keya Sen Gupta: Professor at Indian Institute of Management Shillong
Address : Kondon Cottage, Upper Lachumiere, Shillong 793001
Email : kysengupta@gmail.com
Phone : 94367 66074

Adya Prasad Pandey : President, Indian Economic Association, Aligarh
Address : G20 Arvind Colony, BHU, Varanasi 221005
Email : appandey@indianjournalofeconomyandpolicy.com
Mobile : 9436030189

Dharmendra Kumar Asthana : Treasurer, Indian Economic Association, Aligarh
Address : HN. 2/179, Asthana Marg, Vishnu Puri, Aligarh 202001
Email : dkasthana@indianjournalofeconomyandpolicy.com
Mobile : 9358252197

Ajay Kumar Tomar : Chief Executive, Indian Economic Association, Aligarh
Address : HN. 9 Near Shanker Vihar Quarsi, Ramghat Road, Aligarh 202001
Email : aktomar@indianjournalofeconomyandpolicy.com
Mobile : 9456667429

Authors may submit their research papers and other material on the email shripakash@indianjournalofeconomyandpolicy.com or info@indianjournalofeconomyandpolicy.com of the journal with intimation to one of the editors

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ABOUT THE JOURNAL

The Indian Journal of Economy and Policy (IJEP) is a peer reviewed / refereed quarterly journal in the discipline of Economics edited for the first time by Dr Shri Prakash. The journal is owned by Indian Economic Association. The executive council of Indian Economic Association in its online meeting held on 7th April 2022 appointed Prof Shri Prakash as editor of the journal. The journal intends to provide researchers, academicians, professionals and practitioners a platform to share knowledge through genuine research in the areas largely pertaining to the problems of the economies and economic policies. The journal is designed to promote high quality original and innovative empirical research, methodological and realistic analysis and provide policy frameworks on existing economic problems. The journal encourages researchers and policymakers to share their thoughts and experience in the area of policy making and spread this knowledge to the academic community. The journal also aims to provide an interface for multidisciplinary research by providing a platform to researchers to share the research findings focusing on economic aspects of social, political, ecological and technological phenomena.

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From Editor's Pen

The volume 3 No. 1, April- June, 2025 is now ready for release. As usual the issue comprises five research papers; The volume 3 No. 1 is led by the paper of Amit Sharma and Ruchi Tyagi. The paper is titled, "Migration as Socioeconomic Metamorphosis: Evidence from India's Spatial and Occupational Transitions". It is highly innovative and greatly characterized by originality. The authors extend the conceptual and the theoretical framework of migration by including several social, economic, occupational and political phenomena which have been excluded from the traditional concept and the theory of migration. The authors adopt a metaphor classification of migration. Each of these categories comprise multiple processes of movement of the human capital/ human resources from one social status, occupation category, economic status, and other aspects which are now included under migration in this research paper. The authors have developed two mathematical equations to express causal relation between migration and its causes. Interestingly, these two equations are consistent with multiple interpretations of the causal relations. The paper highlights the transition from tenancy to ownership, transformation from the status of an unemployed to employment, transition from rural residence to urban areas, transition from the unmarried status to the status of married etc. In nut shell, this paper has successfully extended the frontiers of the concept and theory of migration. The authors use both deductive and inductive logic along with empirical evidence from Indian Economy so as to convincingly make their point of view clear.

The first paper is followed by the paper "Tourism as a Catalyst for Addressing Regional Imbalance, Economic Degradation, and Poverty Alleviation: A Pathway Analysis" of Rammiya Rajan. Rajan has innovatively explored the socio- economic conditions of the district Wayand of Kerala. She has evolved multiple regression equations as the part of our analytical framework. She highlights a very disturbing fact that the tribals of Wayanad have been denied from the benefits of policy of reservation. This exposes not only the failure of the Government of Kerala but it also highlights either the ignorance or the indifference of the MLAs and MPs connected year after year from this area. This paper should be an eye opener for the policy makers of the state of Kerala.

Suman Vishwakarma and Shobha Jain examine the impact of Mudra Yojana on the development of entrepreneurship. They used correlation analysis to determine the relationship between the core variables under study.

Rekha Murli explores the process of international migration from the specific area from the state of Kerala. She examines both the causes and consequences of migration including the demographic aspect of migration.

Chittranjan Senapati deals with the review of literature relating to the process of digitalization of Indian Economy. He has meticulously compiled exhaustively the basic facets of digitalization which have been examined and analysed by multitude of scholars. This paper will be found to be very handy by the future researchers who take any aspect of this topic for earning the degree of Phd. The author empirically analysed the impact of digitalization on growth, employment, knowledge, and skill components associated with the technology used in the process of digitalization. He would have made a very significant contribution to the existing literature. Hopefully some researcher will fill up this gap in the existing stock of knowledge.

We thank all the authors of this issue as well as the authors of previous two volumes who have patronized the Indian Journal of Economy and policy. We are grateful to all the members of Editorial Board and the honored referees who have spared their valuable time, knowledge, and skills to facilitate the publication of journal.

Suggestions from the leaders for the improvement of the quality of the contents of the Journal shall be welcomed Shri Prakash (Editor).

- Shri Prakash

Migration as Socioeconomic Metamorphosis: Evidence from India's Spatial and Occupational Transitions

Amit Sharma¹, Ruchi Tyagi²

Abstract

Migration has been a fundamental aspect of human existence, with significant economic implications studied by researchers, academics, and policymakers. While developed nations often enact restrictive immigration policies, they also selectively facilitate labor migration to address shortages. This paper examines the concept, types, causes, and consequences of migration, particularly its impact on India's economic growth. As a review study, it synthesizes key empirical findings from global research and Indian economic trends, without delving into individual case studies. Additionally, it proposes a new definition of migration centered on the socio-economic transformation of migrants.

Keywords

Migration, Immigration, Employment, Economic Growth

Introduction

Migration Dynamics in India - A Historical and Conceptual Analysis

This paper is virtually a revisit to the conceptual and theoretical paradigm of migration, which comprises nature, types, causes, and consequences for the economies involved in the process of migration. The study extends a conceptual framework to include certain categories of migration which have been excluded so far from this perview. For example, local communities of the destination economies opine that the first initial migrant is the way for his village to pave the way subsequently tread the path shown by him/her. Examples are the Indian migrants to US and Canada, while domestically, the examples are Tamil Nadu, Karnataka, Andhra Pradesh, Gujarat, and Maharashtra which have been the destinations of the migrants from Bihar, Jharkhand, MP, and UP. This phaset of migration has remained dormant in academic discussions so far. This paper is characterized by an innovative approach to facilitate several new dimensions of migration. Migration has constituted a fundamental aspect of human civilization since prehistoric times, evolving through distinct phases that reflect broader socioeconomic transformations. This paper examines migration patterns within the Indian context, tracing their development from early subsistence societies to contemporary industrialized economies while proposing an expanded conceptual framework.

Historical Evolution of Migration Patterns

The earliest migratory behaviors emerged during the hunter-gatherer era, when entire communities relocated as population growth outpaced local food supplies. These movements were typically confined within geographical regions, representing humanity's first experience with resource-driven migration. For example, trivals of Meghalaya, Nagaland and Mizoram used to engage in slash and burn cultivation. Once the productive capacity of the land has been exhausted, the entire communities used to migrate to other places. This cycle extended from three to five years.

¹ Research scholar, CCSU, Meerut, (U.P)
Email: ruchityagiccsu@gmail.com

The following are the changes in the pattern of migration resulting from the transition to settled agricultural societies:

1. Riverine permanent Settlements – The humans mostly preferred to settle down near the banks of big rivers to ensure irrigation facilities.
2. Arid regions settlements from which humans and cattle used to migrate temporarily to other areas of the country- During the floods and famine large number of persons used to migrate to safer destinations having ample amounts of fodder for cattle.
3. Mountain Communities- Developed shifting cultivation systems with 3-5 year relocation cycles: entire communities migrated after fully exploiting the productivity of one settlement to another.

Our field studies in 1970s in Nagaland documented villages with just 4-8 families, demonstrating how the inadequacy of population pressures rendered living conditions unsustainable because man does not live by bread alone. Therefore, such families migrated to more populous locations. This contrasts sharply with settled agricultural communities, where land fragmentation and diminishing returns prompted individual rather than collective migration.

Contemporary Migration in India

Modern India exhibits complex migration systems characterized by:

1. Rural to Urban migratory Flows:

- Temporary movements of seasonal agricultural workers from original location to adjoining areas- Daily agricultural workers from rural to urban areas during lean agricultural seasons falling between sowing and harvesting months move for employment to towns and cities.
- Relocation of permanent settlement - people migrate from rural to urban areas in search of jobs. Some of them engage in self-employment, and others work in formal and non-formal sectors of the economy. In such cases. Large proportions of migrants permanently settle down in the urban areas of their employment.

2. Notable migration from UP and Bihar has been occurring almost regularly during agricultural seasons. But most of them return back to their homes after the agricultural season is over. They learn important aspects of green revolution technology during this period. They introduce this technology in their home villages, and or teach it to the members of their families. Besides, sizable numbers of agricultural workers migrate from Bihar and eastern UP to Punjab and Haryana during busy agricultural seasons:

Construction labor, especially construction of roads migrate from Rajasthan to the rest of the country while construction workers from MP, Bihar and Bundelkhand areas of UP, also migrate to other areas where substantial job opportunities emerge from time to time, especially to the places where the jobs relating to the construction of high rise buildings takes place. Such workers as carpenters, whitewash workers, press man, plumbers and iron smiths specializing in the construction of grills, windows, and doors, electricians and sanitation workers etc. migrate from less developed to relatively more developed areas, especially from rural to urban settlements. auto and e-rickshaw drivers and domestic helps, especially from Jharkhand, Bundailkhand ,MP, west Bengal and Bihar also account for substantial numbers of migrants. Gujarat is also an important center for attraction for the migrants from states like Jharkhand ,Bihar ,Rajasthan ,MP and UP. It is not only humans

who migrate from less to more developed areas but also material resources, especially raw materials and even cash deposits with the banks, are drained out from the less developed to more developed regions (Harsh Kumar, 2014).

3. Crisis-Induced Migration- natural disasters like floods, droughts, and earthquakes, cause substantial migration from the location of occurrence to other areas on a temporary basis.

- Environmental (droughts, floods)
- Political (1971 Bangladesh crisis)
- Economic (Punjab farm mechanization displacements). are the examples.

4. Socioeconomic Mobility-based Migration:

- Educational pursuits- From places where facilities for higher education do not exist, people migrate to places of higher education. Some migration also occurs in pursuit of better and higher-quality education. For example, numerous students migrate from North East, Odisha, Bihar, UP, and MP to Delhi, Mumbai, etc. Pursuit of technical, medical, and engineering education also accounts for such migration.
- Occupational transitions (e.g., farmers to taxi drivers post-land acquisition)- Mechanisation of agricultural operations in green technology in the wake of the green revolution, the demand for certain occupations became extinct. Carpenters, Blacksmiths, harvesters, ploughmen, etc, lost their jobs due to the adoption of the mechanical processes. Consequently, these people got engaged in such jobs as drivers, petrol pump attendants, and mechanics, etc. This type of migration represents an occupational transition. Similarly, when a lower-order functionary is promoted to a higher job category, this represents movements from low income and low occupational category to the higher income, higher occupational category, and greater social status jobs. Such migratory processes have been totally excluded from the currently prevalent categories of migration.
- Housing transitions (rental to ownership) – When a person living in a rented accommodation moves to his/her own house, this represents a transition from lower to higher social and occupational status. A significant proportion of persons earn their living from the rental income derived from shops and houses. The above are also examples of excluded categories of migration.

Conceptual Framework

Traditional definitions focuses solely on spatial relocation prove inadequate for analyzing India's migration complexity. We propose a multidimensional conceptualization encompassing:

1. Spatial Dimension: Geographic displacement
2. Occupational Dimension: Sectoral shifts
3. Status Dimension: Economic mobility
4. Temporal Dimension: Permanent/temporary duration

All above four dimensions of migration have been elaborately discussed above. This conceptual framework is based on an innovative approach to take cognizance of reality.

The above framework recognizes that fundamental socioeconomic transformations - whether or not accompanied by geographic movement - constitute essential aspects of the migratory phenomenon. The Indian context demonstrates that migration represents not merely physical relocation, but a profound reconfiguration of individuals' economic and social positions.

2. Causes of Migration: A Multidimensional Analysis

Migration emerges from complex interactions between socioeconomic, environmental, and personal factors. Our analysis identifies nine primary drivers of migration.

2.1 Economic Imperatives

1. **Livelihood Acquisition:** Migration enables communities/groups/ individuals to secure means of living.
2. **Access to Employment:** Movement from unemployment zones to job-abundant locations.
3. **Occupational Mobility:** Pursuit of higher-paying/prestigious roles within or across sectors and occupational categories.

In several cases, some villagers get employment in MNREGA, but they sell a card and migrate to some adjoining urban area. It is explained by the fact that the employment in the village under this scheme was only for 100 days. While urban employment may be for long duration and higher income. In such cases, both spatial and occupational change may be involved. Similarly, a person gets greater wages/ income in the same occupation at other place, such people also migrate due to differential earnings though there may be no change in the occupational category.

2.2 Structural Determinants

4. **Institutional Transfers:** Job relocations in government/public/private sectors, including promotion-related displacement of persons are a special category of migration.
5. **Technological Displacement:** Labor market disruptions from technological shifts (e.g., Green Revolution mechanization in Punjab/Haryana replacing:

- Ploughmen with tractor operators
- Blacksmiths with auto-mechanics
- Wooden plough artisans with petrol pump attendants

Current digitalisation and the use of artificial intelligence have also been causing a special category of migration. Even the form of wars has been completely transformed.

2.3 Socio-Cultural Factors

6. **Marital Relocation:** Gender-differentiated patterns:
 - Traditional female migration to the spouse's residence
 - Emerging male relocation to a partner's location is an example of such migration.

7. **Educational Pursuits:** Historical and contemporary flows:

- Colonial-era UK-bound students
- Post-1990s shifts to US/Canada/Australia
- Medical students to Russia/Ukraine
- Intra-India rural-to-urban educational migration

2.4 Environmental & Political Catalysts

8. **Natural Disasters:** Tsunamis, floods (e.g., Thar Desert droughts triggering Rajasthan-to-MP/

Haryana movements)

9. Political Upheavals: Regime-change persecution (e.g., 1971 Bangladesh exodus)

Critical Intersections

Migration under this category may be several-fold/ categories

Migration Causation Factors:

Employment Dynamics: may comprise several facets-

Emergence of Jobs may be accounted by the following factors:

1. Economic growth rate- Either the stagnant economies start growing which results in the creation of jobs, or the rate of growth of the economy may be accelerated or the structural changes may lead to increased rates of growth resulting in new job opportunities.

2. Sectoral composition (secondary sector dominance = more jobs) – This refers to the changes in the sectoral composition of the economy relating to the reduction in the low productivity, low income and low or slow growth sector by the shifting of resources, including labor to more rapidly and higher income leading sectors. For example transfer of resources from primary to secondary and/or secondary to tertiary sectors may be associated with such changes which involves migration not only of labor but of resources also.

3. Production technology:

• **Capital intensity** ↔ Job scarcity: Replacement of existing technology by more advance and more capital intensive technology leads to elimination of some categories of jobs and creation of more jobs of different occupational categories. For example, emergence of IT technology and its use in production processes made incumbent for the job seekers to have adequate knowledge of IT. Washing machine eliminated the occupation of washermen while the jobs of pressman increased phenomenally. This type of technology requires more capital investment and it is generally labor displacing and productivity augmenting.

• **Labor intensity** ↔ Employment abundance – Labor intensity technology has been extensively in use by SMEs. However, the passage of time has been leading to the replacement of illiterate by literate, literate by school graduates, and school graduates by college graduates. This change entails more and better quality education. For example, jobs of stenographers and typists became extinct and their replacement by computer savvy data analyst so, even though better and more capital intensive technology comes in use but the jobs remain labor intensive. Just as taxis and buses cannot be driven without the driver. Similarly, computers cannot be operated without by a worker.

The post-1990 technology-centric development paradigm has exacerbated employment challenges, requiring sustained high growth to absorb India's expanding workforce. In the wake of introduction of new economic policy (NEP) of 1991, Indian economy registered negative growth while the remaining period was characterized by the following features: 1) The growth of Indian economy was jobless due growth being productivity centric; 2) Nearly 90% of total employment was accounted by the government and public sector enterprises before the advent of NEP. The proportion of employment in the private sectors grew rapidly during this period. In several cases, employees of government and public sector enterprises joined the private sector enterprises with higher income. Enterprises like ONGC and public sector banks were associated with this type of migration from public to private enterprises.

Educational Paradox

Despite educational expansion:

- 2011 universal elementary education achievement
- Mid-day meal incentives
- Rural institution proliferation

A dual-system effect persists:

Education Type	Language Medium	Enrollment Driver
Government Schools	Regional	Free education/meals
Private Schools	English	Employment advantages

This dichotomy fuels educational migration, as evidenced by • Munesh Rajjha & L.C Luna's Tumkur study (Karnataka) and Ghaziabad district observations (1991, Dr. Shri Prakash).

Rich families of Tumkur district of Karanatak send their children from rural to urban based English medium so called public schools of private sectors (Munesh Rajjha & L.C Luna). In village Duhai in district Ghaziabad Shri Prakash found that the government primary school established in 1942 with the enrollment of 300 students, the enrollment declined to 65-70 during first half of 90's since most affluent families send their children to private English medium public schools located in the village. Thos happened despite the government school have had very good infrastructural and learning/ teaching facilities.

Wage Differential Mechanics: This may be represented by the following equation:

Economic migration follows wage gradients:

math

$$\text{Migration}_{\{\text{rural} \rightarrow \text{urban}\}} \propto \frac{\text{Wage}_{\{\text{urban}\}} - \text{Wage}_{\{\text{rural}\}}}{\{\text{Migration}_{\{\text{cost}\}}\}}$$

Where:

$\text{Migration}_{\text{rural} \rightarrow \text{urban}}$ = Volume of rural-to-urban migration

$\text{Wage}_{\text{urban}}$ = Average urban wage

$\text{Wage}_{\text{rural}}$ = Average rural wage

$\text{Migration}_{\text{st}}$ = Total migration costs (monetary + non-monetary)

$$M_{ru} = f(W_u / W_r) \quad (1)$$

$$M_{ij} = f(m) \quad (2)$$

Equation 2 is consistent with multiple interpretations: i = Unemployment/ Self employment in an occupation / tenant: j= employment/ employee status with more income in same occupation / ownership – real estate – shops, houses, and land.: m = no. of jobs accessible to the migrants. Migrants have to compete with other migrants as well as locals for getting the available jobs in the destination economy.

The second equation represents is the brief representation of the different facets of migration.

M- Total migration

R- Rural

U – Urban

W- Wage

Explaining phenomena like:

- MGNREGA card resale (workers seeking urban premiums)
- UP-Bihar to Maharashtra dairy labor flows

Change in technology and updation of qualifications in occupations, rapid growth of education, especially higher education (upside-down educational pyramid):

University/ college
Senior secondary / intermediate
Secondary/high school
Middle School
Primary

This type of structural change in education resulted in all round upgradation of educational qualifications practically in all occupations (Amit Sharma, 2013). This may be defined as the migration of higher educated persons qualified for higher jobs moving down to accept lower occupational and low income jobs requiring lower level of educational qualifications.

Socioeconomic Status Transformation

Non-spatial migration occurs through:

- Employee-to-entrepreneur transitions
- Agricultural-to-service sector shifts
- Formalization of informal work arrangements

Migration causation transcends simple push-pull models, embedding within India's: Migration is the function of both push and pull factors. Push factors operate in the economy of the origin while pull factors act as magnetic force to attract the migrants towards the destination economy. The following are the cases of this category.

- Technological modernization cycles – Replacement of prevalent by more advance technology results in redundancy of some occupations and surge of new occupations.
- Educational stratification – Education has grown more rapidly than the population and the Indian economy (Shri Prakash, 1977). Consequently less educated work force has been replaced by more and better educated personnel in most sectors and occupations of the economy (Amit Sharma, 2013).
- Labor market fragmentation – Indian labor market is characterized by dichotomous structure. Local labor markets suffer from stagnancy and lack of dynamic restructuring. Certain traditional sectors are contained in this domain. For example, weavers of Varanasi will not move out of their place or occupation irrespective of the state of the market (Shri Prakash, 2020). As against this the labor market attest to modern industries like electrical and electronic and automobile companies. The labor markets of such industries are national in character.

Our framework accounts for both spatial relocation and socioeconomic metamorphosis as legitimate migratory pathways.

3. Cost-Benefit Analysis of Migration

This section requires analysis of the strengths and weaknesses together with the cost and benefits associated with the process of migration.

Migration presents complex economic trade-offs for both origin and destination regions. This section analyzes these impacts through empirical observations and theoretical frameworks.

3.1 Costs to Origin Economies

1. Demographic and Human Capital Impacts

- Selective migration disproportionately drains younger (20-35 years), better-educated populations, creating generational imbalances- Migrants are endowed with entrepreneurial talent, risk taking willingness and ability associated with the treading the unknown and unfamiliar territory. Migrants are the leaders of change who are followed by the followers of change. But non migrants are characterized with the lack of the spirit to face challenges, generally they resist change and remain content with their status how so ever low or high. Consequently, the economies of the origin of migrants are left with relatively older generation, with lower education and skills etc.
- Loss of entrepreneurial talent willing to undertake risks in unfamiliar environments which deprives the economies of the origin from rapid dynamic growth.
- Depletion of public investments in nutrition, healthcare, and education (avg. 18+ years of upbringing, 10+ schooling years)

2. Economic Costs

- Banking sector distortions: Banks in less developed regions generate only ₹0.60 credit per ₹1 deposit (Harsh Kumar 2014) since large proportions of the local savings are used for the credit creation in more advance regions.
- Foregone productivity contributions to state/national GDP – Movement of more enterprising, better educated, more skilled and resourceful migrants adversely affect the growth of the economies of origin.
- Job search and transition costs for migrants (accommodation, transportation, and period of joblessness) during which the migrants have to used their own resources to sustain themselves after migration. Besides, the job search also includes cost.

3. Social Costs

- Family separation leading to emotional distress (68% prevalence among Kerala Gulf migrants)
- Marital instability (12% rise in cases of marital distress and even divorce in migrant communities - Mumbai Police data). Extra marital relationships also emerge in such cases.
- Community relocation expenses (e.g., drought-induced village movements in Rajasthan)

3.2 Benefits to Economies of Origin

1. Remittance-Driven Micro and Macro Gains: The incomes of families receiving remittances are boosted, this may be represented by the following equation

$$Y_{it} = Y_{i(t-1)} + d Y_{i(t-1)}$$

Y_{it} is the income of i th family after migration has happened,

$Y_{i(t-1)}$ is the pre migration income of the i th family during the period $t-1$, where d represents differential/ additional income.

It lead to more expenditure on consumption and also increase savings at micro level.

2. Macroeconomic Advantages – Aggregate of remittances received by families equals $\sum d Y_{i(t-1)}$, $i = 1, 2, 3, \dots, K$, obviously migration takes place from K families from the economies of the origin. Aggregate remittances activate consumption multipliers and investment accelerator in the economies of the origin of the migrants. In case of remittances from abroad, the country gains precious foreign exchange in terms of foreign currencies. These gains may compensate the losses / costs of migration to the economies of origin.

- Improved balance of payments via foreign exchange inflows
- Activation of consumption multiplier and investment accelerator:

$\Delta MPC + \Delta MPS \rightarrow$ Economic growth acceleration based on consumption multiplier and investment accelerator

$dMPC$ (Marginal Propensity to Consume) activates consumption multiplier to enhance rate of growth. If the income increase n times the consumption expenditure, then the incremental income caused by consumption multiplier shall equal nd MPC. Similarly, if investment accelerator increases income by Q times the additional investment, then incremental income due to investment accelerator shall equal Qd MPS.

- Reduced dependency ratios: If an unemployed persons migrate, then there dependency on family is eliminated which reduces the number of dependent in the family and increases the number of earners. This reduces the dependency ratio.

math

$\frac{D_{i(t-1)}}{N_{t-1}}$ is the dependency ratio of the i th family before some members of the family have migrated. D denotes dependency and N family size. The post dependency ratio shall be $(D_{i(t)} - M_i) / N_{it} = D_{it} / N_{it}$ where $t-1$ and t relate to the pre and post migration periods.

3. Social Stability

- Alleviation of unemployment-induced unrest - Continuously increasing unemployment generates discontent and political unrest in the regions/ country at the micro level, several times the unemployed members of the family become the but of tonts by other members of the family, especially spouses. In some cases, such persons have also been driven to suicide, and in some cases, divorces have taken place. Migration mitigates such maladies.
- Demographic rebalancing in communally sensitive regions / or areas having excessive population pressures.

Brief note: 1."Equations assume migrants are net economic contributors pre-departure and remittances are exogenous additions." 2."Kerala's 36.4% SGDP from remittances reflects $R_t Y_t Y_{tRt}$ dominance over migrant contribution loss."

3.3 Costs to Recipient Economies

The following are the costs to the economies which host the migrants:

1. Labor Market Effects

- Wage suppression – Generally migrants accept jobs at wages lower than the wages to be paid to the local workforce. This in a medium run reduces the overall wage rate in the recipient economies. (e.g., 18% decline in Punjab farm wages post 2014-19, due to surge in migrant labors into Punjab).
- Job displacement of locals during labor surplus periods- In some cases, migrants replace local workers in some occupations, especially in some situations in which labor supply (local + migrants) is in excess of demand.

2. Social Friction

- "UP and BIHARI Bhaiya" stereotyping in Maharashtra. This is supposed to carry derogatory connotation. Similarly, a DMK minister in Tamil Nadu stated that UP and Bihari labor is engaged in cleaning the toilets in Tamil Nadu. They have this in their DNA. This type of expressions create tension between the migrants and the local communities.
- Nativist movements- At times, displacement of local labor market by migrants creates political tensions. Assam witnessed hostile agitation against the migrants for a prolonged period of time. (e.g., Assam's anti-migrant protests 1979-85: 2,191 fatalities)
- Addition of the migrants to the local population results in not only increase in total population, but it may also lead to distortion in the age, gender, and religious composition. For eg, Dhubri district of Assam has witnessed not only rapid increase in total population, but the Assamese have been rendered into a minority by the Bangladeshi illegal immigrants. Similarly, communal strikes transformed Sambhal district of UP into Muslim majority area due to the playnk of migration from there.

3. Infrastructure Strain

- Huge increase in the number of migrants in the host economy puts undue strain on physical and economic infrastructure such as housing, transport, water and electricity supply, educational and health services etc.

3.4 Benefits to Recipient Economies

The following are the benefits that the recipient economies derived from immigration.

1. Economic Efficiency is increased due to better and more educated immigrants taking up the jobs:
 - Labor shortage mitigation: Immigration mitigates labor shortage in the recipient economy, which results in the prevention of an undue rise in wages. (e.g., Bihar migrants enabling Punjab's farm mechanization). Mechanization of agriculture in Punjab led to three four crops per year which resulted in labor shortage. This was made good by labor from Bihar and UP.
 - Wage inflation containment in key sectors: High agricultural prices are the basic cause of inflation in India. Hence prevention of rise in wage cost in economies of green revolution through immigration keeps inflation in reasonable control.

- Productivity gains (22% higher output among Indian migrants in UAE construction)

2. Growth Contributions

- Immigrants contribute 7.1% to Meghalaya's GDP (Prakash & Choudhary)
- Historical precedent is provided by Alfred Marshall (1892) who estimated that migrants contributed 18 million pounds to UK GDP (Marshall 1892)

3. Socio-Cultural Enrichment

- Diaspora leadership (e.g., Indian-origin PMs in Mauritius/UK). Inter state migration within India also contributes to national integration through social and economic cooperation.
- Cultural synthesis and institutional revitalization (e.g., LSE's Indian director).

7. Conclusions

The following are the important conclusions derived from the analysis of migration in the study:

Our analysis establishes that migration fundamentally represents socioeconomic transformation beyond spatial relocation. This reconceptualization addresses critical gaps in traditional frameworks by incorporating:

1. Occupational transitions (e.g., Marginal farmers → taxi drivers post-land acquisition).

2. Status mobility (self-employed → wage labor transitions)

3. Income progression within occupations

Employment, education, and technological development emerge as decisive drivers of migration patterns. Job creation depends critically on:

- Economic growth rates
- Sectoral composition
- Production technologies (capital vs. labor intensity)

Migration presents dual-edged consequences: while generating benefits like increased per capita income through remittances (evident in the equation $\frac{Y_t + R_t}{N_t - m_t} > \frac{Y_t}{N_t}$), it simultaneously causes:

- Demographic distortions through selective youth migration (aged 20-35).
- Human capital depletion in origin economies
- Social and emotional costs from prolonged family separation

The study presents multi dimensional conceptual framework to increase the frontiers of the theoretical framework of migration.

8. Policy Suggestions

Despite extensive migration research, new global dynamics demand fresh approaches:

1. Redefinitional Frameworks

Adopt our expanded migration concept incorporating socioeconomic status changes in national data systems.

2. Globalization Reversal Strategies

Develop policy responses to declining mobility trends since the 1980s globalization peak:

- Skill-based immigration systems (e.g., Canada's points model)
- Diaspora engagement programs (e.g., Kerala's diaspora bonds)

3. Brain Drain Mitigation

Implement human capital retention mechanisms:

- Entrepreneurial incubation in source regions
- Remote work infrastructure for skilled youth
- India can gain a lot by inviting Indian migrants working in NASA and AI driven sectors in US along with Doctors and paramedical personnel.

4. Remittance Optimization

Channel transfers into productive investments through:

- Rural venture capital funds
- Matched savings schemes

5. Technology-Migration Nexus

Study how AI and automation reshape:

- Occupational transition patterns
- Future skill-driven mobility.

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Tourism as a Catalyst for Addressing Regional Imbalance, Economic Degradation, and Poverty Alleviation: A Pathway Analysis

Dr. P. Remmiya Rajan¹ & Adithya Dinesh²

Abstract

This study investigates the role of tourism development in influencing socio-economic development in Wayanad District, Kerala. Socio-economic development is operationalized through a composite index comprising measurable variables such as job creation, local business growth, women's empowerment, infrastructure development, environmental quality, poverty alleviation, and regional equity. Tourism development is treated as the dependent variable, while the composite index of socio-economic indicators serves as the independent variable set. The study is based on a structured survey of 150 respondents, including tourism-related business owners, local residents, tourists, and representatives from government and non-governmental organizations. Quantitative analysis was conducted using percentage distribution and regression modelling to assess the strength and direction of associations between tourism development and the selected socio-economic indicators. Furthermore, Structural Equation Modelling (SEM) was employed to explore the indirect and interactional effects among the indicators and to assess how improvements in composite socio-economic indicators influence tourism development outcomes. The study provides empirical insights into how integrated improvements in employment, infrastructure, gender participation, and local enterprise growth can act as catalysts for sustainable tourism development. These findings offer valuable policy recommendations for achieving balanced regional development and inclusive growth through tourism in Kerala.

Keywords

Tourism, Regional Imbalance, Economic Degradation, Poverty Alleviation, Sustainable Tourism Development, Regional Disparity and Growth, Tourism-led Economic Empowerment, Infrastructure and Destination Attractiveness, Composite Index of Tourism, Centre-Periphery Regional Theory, Inclusive and equitable Distribution, Granger Causality in Tourism Studies, Employment and Local Business Growth, Policy-Oriented Tourism Planning

Introduction

The tourism sector plays a crucial role in promoting economic development, and the Bandipore region, located in the northern part of Jammu and Kashmir, is no exception. Known for its breathtaking landscapes, pristine lakes, and proximity to famous tourist attractions such as Wular Lake and the dense forests of the Himalayas, Bandipore has significant potential to leverage tourism for economic development. Tourism in India is the largest and fastest-growing in the country. It has a vast impact on the national economy and plays a major role in other aspects of the country's

¹ Assistant Professor in Economics, Zamorins Guruvayurappan College
remmiyadinesh@gmail.com

² Relationship Manager, Restaurant Management Software
Petpooja

growth and development, especially the creation of jobs **Roe, D., and P. Urquhart. 2004.** Tourism has been used as a policy tool to generate economic growth, with the ultimate aim to improve living standards for whole sections of the local population. It can play a vital role in poverty alleviation in less developed nations as it promotes the improvement of basic infrastructure and accelerates human capital accumulation. Furthermore, it can also stimulate economic diversification and trigger structural change and tertiarization **Odhiambo, N. M. 2011** the ILO's Decent Work Agenda directly relates to poverty reduction through an integrated approach that is particularly relevant for the hotels, catering and tourism sector. The Decent Work Agenda can be put into practice through the implementation of the ILO's four strategic objectives, with gender equality as a crosscutting objective: Creating jobs, guaranteeing rights at work, extending social protection and promoting social dialogue **ILO (1996).**

Tourism is a sector known to generate positive effects on regional development. It serves as a vital tool for promoting economic, social, and political progress, particularly in geographically and economically disadvantaged areas. While the term region often denotes a broad spatial entity that may extend beyond state or district boundaries, this study specifically focuses on Wayanad District in Kerala as the target beneficiary region. Wayanad, a tribal-dominated and environmentally sensitive area within Kerala, has historically experienced infrastructural deficiencies and limited economic diversification. Therefore, leveraging its tourism potential can significantly contribute to reducing regional disparities, generating employment, and fostering inclusive development. The study positions Wayanad as a micro-regional case where tourism development can act as a catalyst for addressing localized socio-economic challenges within a defined territorial scope. Because a region's tourism potential accelerates that the development of the region's multi-faceted. A region's tourism potential can significantly accelerate its multifaceted development by stimulating local economies, enhancing infrastructure, and creating employment opportunities. Regions that have effectively harnessed their tourism assets have witnessed rapid socio-economic transformation. In this context, Kerala stands out with its distinctive offerings—lush backwaters, serene beaches, rich cultural heritage, and wellness tourism. Destinations such as Thiruvananthapuram, Varkala, and Kovalam, known for their coastal beauty and heritage monuments, attract both domestic and international tourists. The scenic water waves of the Arabian Sea, the spiritual richness of temples like Sree Padmanabhaswamy, and the long travel circuits that stretch across Kerala from Wayanad to Thiruvananthapuram (nearly 10 hours by road) make the state an immersive travel destination. Compared to other states like Jammu & Kashmir, Kerala offers a unique blend of nature, tradition, and accessible infrastructure. Hence, Kerala's tourism potential must be strategically harnessed for sustainable regional development. Thus, development in a region of tourism in rural or underdeveloped areas, can help eliminate economic imbalances **Blake et al. (2008).** Regional imbalances, which refer to the unequal economic development across different areas within a country or state, are a persistent issue in many parts of the world. These imbalances often result in the concentration of wealth and resources in urban or tourist-centric areas, leaving rural or remote regions underdeveloped. Over time, disparities in economic and infrastructural development across districts can lead to localized economic degradation, reinforcing cycles of social and economic inequality. While international economic inequalities operate at a different scale, the **focus of this study is on Kerala, where inter-district variations** in infrastructure, service delivery, and tourism potential are significant. Districts such as **Wayanad, despite rich natural and cultural assets, lag behind in terms of tourism infrastructure**, road connectivity, and accessibility compared to more developed districts like Ernakulam or Thiruvananthapuram. This intra-state imbalance limits inclusive growth and weakens the equitable distribution of tourism benefits. **Studies like that**

of **Shri Prakash and A.C. Mohapatra (1981)**, which examined inter- and intra-structural inequalities in the state of Madhya Pradesh, highlight how such spatial disparities can undermine regional development objectives. A similar lens is employed here to analyze how the uneven distribution of tourism-related infrastructure and amenities across Kerala's districts can perpetuate regional inequality, and how targeted tourism development in underdeveloped districts like Wayanad can help correct this imbalance.

Rationale of the study

The tourism sector holds significant potential to drive socio-economic development, particularly in regions characterized by economic stagnation, high unemployment, and underutilization of resources. In many developing regions, tourism is seen as a catalyst for addressing regional imbalances by redistributing income, generating employment, and improving the quality of life for marginalized populations. This study focuses on tourism development in Wayanad District, Kerala, which presents a unique case for understanding how tourism can address pressing issues like economic degradation, regional disparity, and poverty. However, regional disparities persist within Kerala, with some districts lagging in economic growth and infrastructural development. Wayanad, despite its natural beauty and cultural richness, has historically faced challenges such as high poverty levels, poor infrastructure, and limited employment opportunities.

This study aims to explore the intricate pathways through which tourism can promote balanced regional growth by assessing its impact on job creation, local business growth, infrastructure development, women's empowerment, and poverty reduction. By identifying key variables and analysing the relationships between them, the study seeks to contribute to the broader understanding of how tourism can be leveraged as an effective development strategy. Furthermore, the study will examine the role of local governments, policies, and community participation in fostering a conducive environment for sustainable tourism growth.

The findings of this study will have wider implications for tourism development in other regions facing similar socio-economic challenges, providing insights into policy interventions, community participation, and sustainable tourism practices that can lead to long-term poverty alleviation and balanced regional development.

Objective:

- Study of the impact of Tourism Development on the socio-economic Variables.

Hypotheses:

- **Null Hypothesis (H0):** There is no significant impact of tourism development on the dependent variables.
- **Alternative Hypothesis (H1):** Tourism development has a significant impact on the dependent variables (Job Creation, Local Business Growth, etc.).

Variables:

- Independent Variables (Composite Index): Job Creation, Transport Infrastructure, Number of Guides, Hotel Facilities
- Dependent Variable: Tourism Development Other Socio-Economic Indicators (to be modelled separately): Local Business Growth, Women Empowerment, Environmental Degradation, Poverty Alleviation, and Regional Imbalance.

Methods/ Models used in the study: The following is the set of methods and models used in the study.

- **Collection of Data:** The data have been collected through sample survey. The structured questionnaire has been convensed among the respondents. 150 respondents have been selected from Wayanad District. The district is composed of blocks each of which comprises cities, towns and villages. Tourism-related businesses (hotels, local shops, etc.), Local residents, Tourists, Government and NGO representatives involved in tourism have been selected as the respondents spread over the entire district.
- **Statistical technique:** Absolute values are converted into percentages which constitute the data base of the regression models.
- **Regression Equation:** $Y_i = \beta_0 + \beta_1 * X_1 + \epsilon$
Where:
 Y_i = Dependent Variable, i = Job Creation, Local Business Growth, Women Empowerment, Infrastructure Development, Environmental Degradation, Poverty Alleviation, Regional Imbalance.
 X_1 = Independent Variable (Tourism Development)
 β_0 = Intercept β_1 = Coefficient for X_1 , ϵ = Error term
- **SPSS Software** is used to estimate the regression models.

Data analysis

Table:1 The following table represents Gender wise data of the respondents

Gender	Number	Percentage (%)
Male	68	45.34
Female	82	54.66
Total	150	100
Source: Own Calculations		

The above table shows the gender-wise distribution of the sample; 54.66% are females and 45.34% are males, indicating a slightly higher representation of females in the study.

Table 2: The following table represents Age wise Distribution of the sample

Age Group	Number	Percentage (%)
18-25	40	26.67
26-35	32	21.33

36-45	43	28.67
46-60	35	23.33
Total	150	100
Source: Own Calculations		

The above table 2 shows that the sample is not fairly distributed across age groups, with the highest representation in the 36-45 age group (28.67%) and the lowest in the 26-35 age group (21.33%). Kerala is the first state to attain 100% literacy.

Table 3: The following table represents Salary-wise Distribution of the sample

Salary Range	Number	Percentage (%)
<20	37	25.34
40-60	33	23.33
60 -80	31	20.67
20 -40	29	16.66
>80	20	14.0
Total	150	100
Source: Author Compiled		

Interpretation of the data: The above table 3 shows the sample shows the highest representation in the <20 salary range (25.34%) and the lowest in the >80 salary range (14%), with other ranges fairly evenly distributed between 16.66% and 23.33%.

Table 4: Age and Salary-wise Distribution:

Age Group	Number (N)	Percent-age (%)	Salary <20	Salary 20k-40	Salary 40 -60	Salary 60-80	Salary >80
18-25	40	26.67	10	8	9	7	6
26-35	32	21.33	8	7	7	6	4
36-45	43	28.67	12	8	10	10	3
46-60	35	23.33	7	6	7	8	7
Total	150	100.0	37	29	33	31	20
Source: Author Compiled							

The above table 4 shows the age group distribution shows the highest concentration of participants aged 36-45 (28.67%) and the majority of individuals earning less than 20k are in this age group, while those earning over 80k are more evenly distributed, with a higher number in the 46-60 age group.

Table 5 The following table represents Gender and Salary-wise Distribution:

Gender	Number (N)	Percentage (%)	Salary <20	Salary 20-40	Salary 40-60	Salary 60-80	Salary >80
Male	68	45.34	18	14	15	14	7
Female	82	54.66	19	15	18	17	13
Total	150	100.0	37	29	33	31	20
Source: Author Compiled							

The above table 5 shows the gender and salary-wise distribution shows that females (54.66%) slightly outnumber males (45.34%) in the sample, with a similar distribution across salary ranges, though more females earn higher salaries (>80k) compared to males. It is probable that the females enter jobs earlier than the males which accounts for the greater earnings for females.

Table 6: The following table represents the distribution of data on the basis of Educational Qualification

Educational Qualification	Male (N)	Male (%)	Female (N)	Female (%)	Total (N)	Total (%)
Illiterate	5	7.35	3	3.66	8	5.33
Primary	10	14.71	12	14.63	22	14.67
Secondary	15	22.06	20	24.39	35	23.33
Higher Secondary	12	17.65	15	18.29	27	18.0
Graduate	10	14.71	15	18.29	25	16.67
Post-Graduate	8	11.76	10	12.2	18	12.0
Professional Qualification	8	11.76	7	8.54	15	10.0
Total	68	100.0	82	100.0	150	100.0
Source: Author Compiled						

The above table 6 shows that the majority of both males (22.06%) and females (24.39%) have secondary education, with smaller percentages progressing to higher education or professional qualifications. Illiteracy is low across both genders, and educational attainment is relatively evenly distributed between males and females.

ANOVA showing the Impact of Tourism Development on Socio-economic Variables based on Gender

Source	Sum of Squares	df	F	p-value
Gender	1.51	1	0.80	0.37
Residual	279.66	148		

Table 7: The following table represents Regression Analysis of Tourism development on Socio- Economic Variables

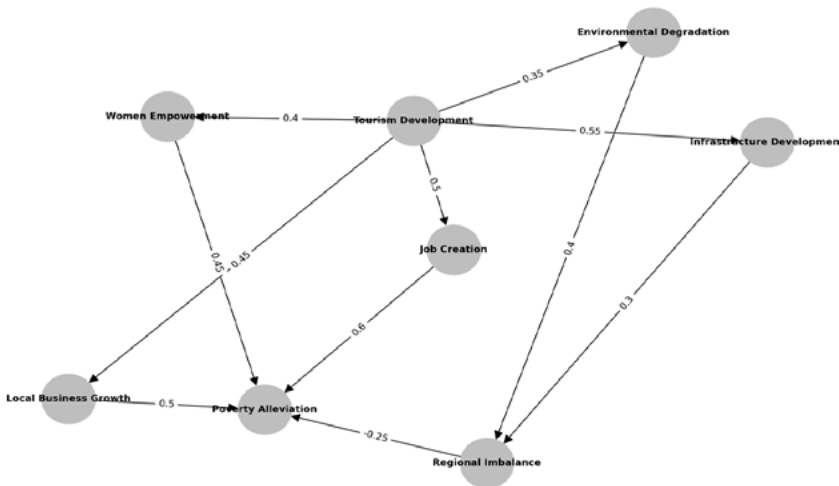
Dependent Variable	R-squared	Coefficient for Tourism Development	Significance (p-value)
Job Creation	0.723	0.702	0.0
Local Business Growth	0.681	0.552	0.0
Women Empowerment	0.613	0.535	0.0
Infrastructure Development	0.639	0.592	0.0
Environmental Degradation	0.369	-0.303	0.0
Poverty Alleviation	0.577	0.47	0.0
Regional Imbalance	0.422	-0.381	0.0
Source: Author Compiled			

Interpretation of the data: Table 7 illustrates the regression analysis linking socio-economic variables to tourism development. However, treating tourism as the sole independent variable limits the depth of the analysis. This revised version reframes tourism development as a dependent variable, shaped by key enablers such as job creation, infrastructure development, and hospitality facilities. Applying the centre-periphery framework from regional development theory, Wayanad is conceptualized as a peripheral region whose development hinges on focused interventions. Tourism growth in such areas is contingent upon structural improvements better roads, transport systems, and trained local service providers. For instance, rather than assuming tourism causes job creation, one must consider the reverse: a rise in tourism-related employment or transport access can attract more visitors. This insight supports the application of methods like Granger causality to validate directionality between variables. By repositioning tourism development as an outcome of infrastructural and economic readiness, this study moves beyond surface-level statistical correlation. It offers a policy-relevant model that identifies the necessary preconditions for tourism to thrive in lagging regions like Wayanad.

SEM Model analysis of the data

The diagram below illustrates the relationships between tourism development, regional imbalance, and poverty alleviation. The coefficients represent the strength of each relationship between the variables.

Tourism Development, Regional Imbalance, And Poverty Alleviation



Source: Author Compiled from Primary data

The table below presents the relationships between key variables in the SEM model, along with their respective coefficients (β), which indicate the strength of the relationships.

Table 7: Relationships between key variables in the SEM model

Variable 1	Variable 2	Coefficient (β)
Tourism Development	Job Creation	0.5
Tourism Development	Local Business Growth	0.45
Tourism Development	Women Empowerment	0.4
Tourism Development	Infrastructure Development	0.55
Tourism Development	Environmental Degradation	0.35
Job Creation	Poverty Alleviation	0.6
Local Business Growth	Poverty Alleviation	0.5
Women Empowerment	Poverty Alleviation	0.45
Infrastructure Development	Regional Imbalance	0.3
Environmental Degradation	Regional Imbalance	0.4
Regional Imbalance	Poverty Alleviation	-0.25
Source: Author Compiled		

The data shows that tourism development positively impacts key socio-economic variables, including job creation ($\beta = 0.5$), local business growth ($\beta = 0.45$), women empowerment ($\beta = 0.4$), and infrastructure development ($\beta = 0.55$), highlighting its role in fostering economic progress and gender equity. However, tourism also contributes to environmental degradation ($\beta = 0.35$), which can harm local ecosystems. Job creation ($\beta = 0.6$), local business growth ($\beta = 0.5$), and women empowerment ($\beta = 0.45$) are all crucial in reducing poverty. On the other hand, while infrastructure development helps reduce regional imbalance ($\beta = 0.3$), environmental degradation exacerbates it ($\beta = 0.4$). Regional imbalance ($\beta = -0.25$) negatively affects poverty alleviation, suggesting that

unequal regional development can hinder efforts to reduce poverty, despite the overall economic benefits of tourism. Thus, while tourism development drives economic growth, managing its environmental impact and addressing regional disparities are essential for achieving inclusive and sustainable poverty alleviation.

Findings:

1. Gender Distribution: The study reveals a slightly higher representation of female participants (54.66%) compared to males (45.34%), indicating that women are increasingly involved in tourism-related activities in Wayanad District. This suggests a gender-inclusive participation in the tourism sector, which can have implications for women's empowerment and economic independence.

2. Age Distribution: The majority of respondents are in the 36-45 age group (28.67%), followed by the 46-60 age group (23.33%). This indicates that mid-career and experienced individuals are more involved in tourism-related businesses. Younger age groups (18-25 and 26-35) also contribute significantly, suggesting that tourism offers opportunities across various age groups, promoting both early-career involvement and experienced leadership.

3. Salary Distribution: The salary-wise distribution shows that most respondents earn less than ₹20,000 (25.34%), while the smallest group earns over ₹80,000 (14%). The relatively high proportion of lower-income earners reflects that many tourism-related jobs may be in the informal or lower-wage sectors, though there are also opportunities for higher earnings, especially for women.

4. Age and Salary Correlation: The 36-45 age group has the highest representation in lower salary ranges (<₹20,000), while higher salary brackets (>₹80,000) are more common in the 46-60 age group. This suggests that higher incomes in tourism-related businesses may come with experience and seniority.

5. Gender & Salary Distribution: Females slightly outnumber males in higher salary ranges (>₹80,000), indicating that women in tourism-related roles are accessing higher-income opportunities, reflecting the sector's potential in promoting women's economic empowerment.

6. Educational Attainment: Most respondents, both male and female, have secondary education (23.33%). There is also a fair representation of individuals with higher education qualifications, indicating that the tourism sector provides opportunities for people with varying levels of education, though advanced education may not be a prerequisite for involvement.

7. Impact of Tourism Development:

- **Job Creation:** Tourism development has a strong positive impact on job creation ($R^2 = 0.723$), suggesting that tourism is a key driver of employment in Wayanad.

- **Local Business Growth:** A positive correlation ($R^2 = 0.681$) indicates that tourism fosters the growth of local businesses such as hotels, restaurants, and shops, thereby stimulating local economies.

- **Women Empowerment:** Tourism development significantly promotes women's empowerment ($R^2 = 0.613$), indicating that tourism-related activities offer women substantial economic opportunities.

- **Infrastructure Development:** There is a strong positive correlation ($R^2 = 0.639$) between tourism

development and infrastructure growth, suggesting that tourism leads to improvements in local infrastructure such as roads, transportation, and public services.

- **Environmental Degradation:** Tourism development negatively impacts the environment ($R^2 = 0.369$), indicating that tourism activities can lead to environmental harm, such as deforestation, pollution, and loss of biodiversity.

- **Poverty Alleviation:** The data shows that tourism contributes to poverty alleviation ($R^2 = 0.577$), reflecting its role in boosting income and employment for low-income individuals and communities.

- **Regional Imbalance:** A negative impact on regional imbalance ($R^2 = 0.422$) suggests that tourism may exacerbate inequality between different areas, with some regions benefiting more than others from tourism development.

Implications:

1. **Economic Growth and Job Creation:** The strong positive relationship between tourism development and job creation implies that policymakers should prioritize tourism as a strategy for employment generation. Efforts to expand the tourism industry can provide a sustainable solution to unemployment in the region.

2. **Local Business Support:** The positive impact on local business growth suggests that tourism can boost entrepreneurship and the local economy. Government policies should support small and medium-sized enterprises (SMEs) in the tourism sector by providing access to capital, training, and marketing opportunities.

3. **Empowerment of Women:** Tourism's significant role in women's empowerment highlights the need for targeted programs to encourage more female participation in tourism-related businesses. Empowering women through tourism can lead to wider socio-economic benefits, such as improved family well-being and community development.

4. **Infrastructure Development:** The positive link between tourism and infrastructure development suggests that investments in tourism can lead to broader improvements in public infrastructure, benefiting both tourists and local residents. Policymakers should ensure that tourism development projects are accompanied by infrastructure improvements.

5. **Environmental Sustainability:** The negative impact of tourism on environmental degradation highlights the need for sustainable tourism practices. It is essential to develop eco-friendly policies and guidelines that minimize the ecological footprint of tourism activities. This could include promoting responsible tourism, waste management, and the conservation of natural resources.

6. **Addressing Regional Imbalances:** Since tourism may increase regional inequalities, efforts should be made to ensure that tourism benefits are distributed more equitably. Policies should focus on developing tourism in underrepresented areas and ensuring that local communities receive fair benefits from tourism revenue.

7. **Poverty Alleviation through Tourism:** The contribution of tourism to poverty alleviation suggests that it can be an effective tool for reducing poverty in the region. Government initiatives should focus on inclusive tourism strategies that provide income-generating opportunities for low-

income households and marginalized communities.

8. Holistic Policy Approach: The findings suggest the need for a balanced policy approach that promotes the economic benefits of tourism while addressing its negative impacts, particularly on the environment and regional inequalities. This can be achieved through collaboration between government, private sector, and local communities to ensure sustainable and inclusive tourism development.

Conclusion of the Study

The study on the impact of tourism development on socio-economic variables in Wayanad District reveals that tourism is a powerful driver of economic growth, job creation, local business expansion, and women empowerment. Tourism development significantly contributes to infrastructure improvements and poverty alleviation, demonstrating its capacity to uplift local communities and foster inclusive economic growth. However, the findings also highlight challenges, such as environmental degradation and the exacerbation of regional imbalances, which require strategic attention.

The positive correlation between tourism development and socio-economic benefits, particularly in job creation and local business growth, underscores the importance of tourism as a key development strategy. The substantial role of tourism in empowering women suggests that it can serve as a valuable tool for promoting gender equality and economic independence among women in the region.

Nevertheless, the study also cautions against the environmental and regional inequalities that tourism can introduce. The negative impact on environmental degradation calls for the implementation of sustainable tourism practices, ensuring that economic growth does not come at the expense of the region's natural environment. Similarly, efforts to bridge regional imbalances should be prioritized to ensure that tourism benefits are distributed more equitably across all areas.

In conclusion, while tourism development in Wayanad has shown remarkable potential for driving socio-economic progress, a balanced approach that integrates sustainable practices and addresses regional disparities is essential. Policymakers, stakeholders, and the community must work together to harness the full potential of tourism while mitigating its adverse effects to ensure long-term, inclusive, and sustainable development in the district.

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A Study on The Mudra Yojana in Promoting New Entrepreneurs **Suman Vishwakarma¹, Dr. Shobha Jain²**

Abstract

The Pradhan Mantri Mudra Yojana (PMMY) is an initiative launched by the Government of India in 2015, aimed at promoting micro-entrepreneurship by providing financial support to small and emerging businesses. This study conducts an in-depth analysis of the status of the Mudra Yojana, evaluating its effectiveness in fostering new entrepreneurs. This study is based on secondary data. secondary data was collected from the reports that were published by the micro-unit developments and refinance agency limited, journals magazines, and newspapers. In this study tables, charts, diagrams, percentage analysis, used to analyse the data and In order to determine whether the program's outreach to new entrepreneurs has increased or decreased over time, this study uses correlation analysis and t-statistics to test the statistical significance of the association of total number of accounts opened and accounts opened by new entrepreneurs from 2015–16 to 2023–24, under the Pradhan Mantri Mudra Yojana (PMMY) and find a weak and insignificant relationship. These results indicate that the overall increase in accounts under the scheme does not directly imply that more entrepreneurs are participating. Concluded that there is need of more efforts to increase the size of loans. The study suggested that the government should take necessary steps to spread the schemes all over India and all the categories in an equal manner. The study also suggested taking necessary steps to enhance the awareness level of all the people about the schemes and to encourage them to participate in the field of entrepreneurship.

Keywords:

Entrepreneur, Kishore, MUDRA, PMMY, Shishu, Tarun.

Introduction

Entrepreneurship plays a critical role in driving economic growth, creating jobs, and fostering innovation. In emerging economies like India, access to finance is a significant barrier for aspiring entrepreneurs, particularly those from underrepresented or underserved sections of society. Recognizing this challenge, the Government of India launched the Micro Units Development and Refinance Agency (MUDRA) Yojana in April 2015. The Mudra Yojana aims to provide financial support to micro and small enterprises by offering them collateral-free loans, enabling them to start or expand their businesses. This study examines the effectiveness of the Mudra Yojana in promoting new entrepreneurs and shows the trend of new entrepreneur beneficiaries since 2015 to 2024. Mudra Yojana has been instrumental in providing a boost to the entrepreneurial ecosystem in India, particularly in the micro and small enterprise sector. The scheme has successfully targeted first-time entrepreneurs and individuals from economically weaker sections, who often find it challenging to secure loans from traditional banks. Although the number of accounts has increased exponentially because of the scheme, it is imperative to evaluate whether this expansion has successfully resulted

¹ Assistant Professor, Govt. Sanjay Gandhi Smriti PG College Ganj Basoda, Vidisha

*Ph.D. Research Scholar, Department of Economics, Barkatullah University, Bhopal

² Professor, S.S.L. Jain PG College Vidisha

in assistance for nascent business owners. The purpose of this paper is to statistically investigate the relationship between the number of new entrepreneur accounts over a nine-year period and the total number of accounts opened under PMMY.

Objectives of the Study

The primary objectives of this study are:

1. To evaluate the role of Mudra Yojana in fostering entrepreneurs in India.
2. To analyse the growth of new businesses because of the Mudra Yojana.

Overview of the Mudra Yojana:

Mudra Yojana is part of the Pradhan Mantri Mudra Yojana (PMMY), which focuses on supporting micro-enterprises. It offers three types of loans under the scheme.:

- 1. Shishu (Up to ₹50,000):** This is designed for small start-ups and budding entrepreneurs who need minimal capital to get started.
- 2. Kishore (₹50,000 to ₹5 Lakhs):** This loan supports businesses in the growth phase, enabling them to expand their operations.
- 3. Tarun (₹5 Lakhs to ₹10 Lakhs):** This loan targets more established businesses looking to scale up further.

The loans provided under the Mudra Yojana are collateral-free, and the repayment terms are flexible. The interest rates are competitive, making it easier for micro-enterprises to access funding.

Methodology:

To ascertain whether the two variables had a linear relationship, the Pearson correlation coefficient (r) was computed. Using the following t-statistic formula, the correlation's statistical significance was examined:

$$t = \frac{r \cdot \sqrt{n-2}}{\sqrt{1-r^2}}$$

Where:

- r = Pearson correlation coefficient
- n = number of observations (years)

The calculated t-value was compared against the critical t-value at a 5% significance level with degrees of freedom ($df = n - 2$).

Data Analysis and Interpretation:

The dataset has nine fiscal years, from 2015–16 to 2023–24. It includes total PMMY accounts, new entrepreneur accounts, and the percentage of new entrepreneur accounts.

Year	No. of accounts opened under PMMY	No. of accounts opened by New Entrepreneur under PMMY	Percentage
2015-16	34880924	12474668	35.76%
2016-17	39701047	9989470	25.16%
2017-18	48130593	12559327	26.09%
2018-19	59870318	13393802	22.37%
2019-20	62247606	11913903	19.14%
2020-21	50735046	7740581	15.26%
2021-22	53795526	6530351	12.14%
2022-23	62310598	10066770	16.16%
2023-24	66777013	13012796	19.49%

Table 1:source- www.mudra.org website

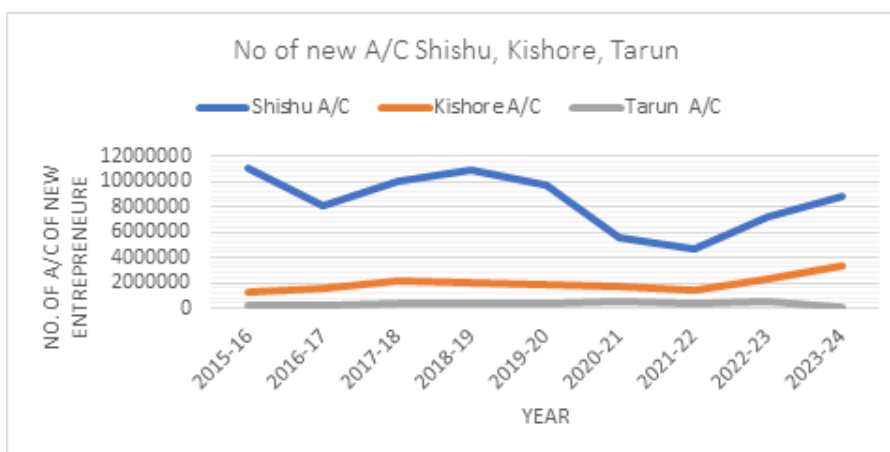
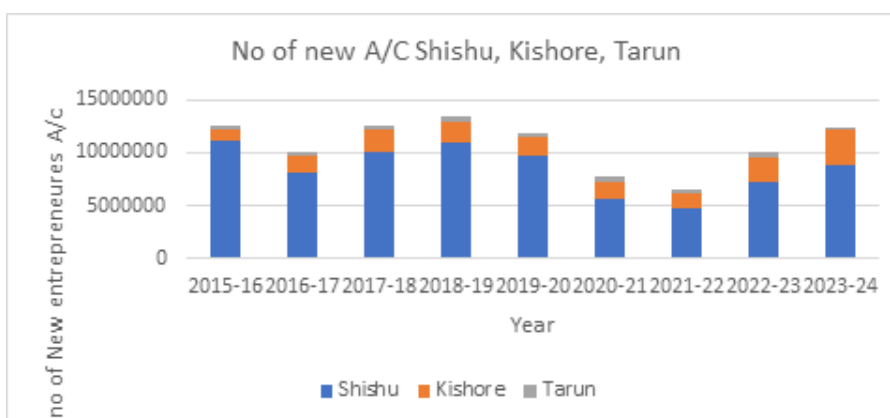
The table no. 1 outlines the growth in the number of accounts (A/C) and new entrepreneur accounts from the financial years 2015-16 to 2023-24, alongside the percentage of new entrepreneur accounts relative to the total number of accounts. The number of accounts consistently increased from **34.88 million in 2015-16 to 66.78 million in 2023-24**. This represents a significant rise in the total number of accounts over the years, indicating expansion in overall financial inclusion or participation by businesses. The number of new entrepreneur accounts varied across the years. The highest number of new entrepreneur accounts was recorded in **2015-16** (12.47 million) and the lowest in **2021-22** (6.53 million). After a decline during the years 2019-20 to 2021-22, the number of new entrepreneur accounts started recovering, reaching **13.01 million in 2023-24**. The percentage of new entrepreneur accounts as a proportion of the total number of accounts shows a declining trend from **35.76% in 2015-16 to 12.14% in 2021-22**. This decrease suggests that while the total number of accounts grew, the contribution of new entrepreneurs to this growth was diminishing. However, from **2022-23 onwards**, there was a recovery, with the percentage rising to **19.49% in 2023-24**, reflecting a resurgence in entrepreneurial activity. **2015-16** stands out as the year with the highest percentage of new entrepreneur accounts (35.76%). This could indicate either a policy push or favourable economic conditions promoting entrepreneurship during that time. **2021-22** shows the lowest percentage (12.14%), possibly reflecting economic challenges like the COVID-19 pandemic, which could have deterred new business formations. A gradual recovery is observed in **2022-23** and **2023-24**, with the percentage of new entrepreneur accounts increasing to **16.16%** and **19.49%**, respectively. This suggests a post-pandemic recovery, with entrepreneurship gaining momentum again.

The table highlights a significant increase in the total number of accounts, indicating financial growth, but a fluctuating pattern in new entrepreneurial activity. After a dip in new entrepreneur accounts and their percentage contribution during 2019-22, the trend shows signs of recovery, reflecting improving economic conditions or entrepreneurial support initiatives in recent years.

The following table:2 has nine fiscal years, from 2015–16 to 2023–24. It includes No. of Accounts of new entrepreneurs, total shishu, Kishore, Tarun PMMY accounts of new entrepreneur accounts, and the percentage of new entrepreneur accounts.

No. of Accounts of new entrepreneur							
Year	Shishu		Kishore		Tarun		Total New A/C
	A/C	Percent-age%	A/C	Percent-age%	A/C	Percent-age%	
2015-16	11081122	88.83	1191917	9.55	201629	1.62	12474668
2016-17	8110486	81.19	1586010	15.88	292974	2.93	9989470
2017-18	10047673	80.00	2105075	16.76	406582	3.24	12559327
2018-19	10935180	81.64	2016546	15.06	442076	3.30	13393802
2019-20	9660059	81.08	1825475	15.32	428369	3.60	11913903
2020-21	5618675	72.59	1654007	21.37	467899	6.04	7740581
2021-22	4682019	71.70	1463027	22.40	385305	5.90	6530351
2022-23	7251841	72.04	2359449	23.44	455480	4.52	10066770
2023-24	8849101	68.00	3406239	26.18	75746	0.58	13012796

Table 2 :source- www.mudra.org website



The table no. 2 provides a breakdown of new entrepreneur accounts categorized into Shishu,

Kishore, and Tarun segments for the years 2015-16 to 2023-24, along with the corresponding percentages for each category as a share of total new accounts. Here's a detailed interpretation:

Shishu Category:

The Shishu category dominates the distribution, consistently contributing the largest portion of new entrepreneur accounts each year. The percentage of accounts in this category started at 88.83% in 2015-16 but has gradually decreased over time, reaching 68.00% in 2023-24. This reflects a shift where fewer new entrepreneurs are relying on small loans (associated with the Shishu category). The absolute number of Shishu accounts peaked in 2018-19 at 10.94 million, followed by a decline, hitting a low of 5.62 million in 2020-21, likely due to the economic impacts of the COVID-19 pandemic. Since then, there has been a recovery, with 8.85 million Shishu accounts in 2023-24.

Kishore Category:

The Kishore category shows a gradual increase in both absolute numbers and percentage contribution over the years. Starting with 1.19 million accounts (9.55%) in 2015-16, it increased to 3.41 million (26.18%) in 2023-24, indicating that more entrepreneurs are moving into mid-level financing. This trend suggests that a growing number of businesses are advancing beyond the early stage and requiring larger loan amounts to support their growth.

Tarun Category:

The Tarun category consistently represents the smallest proportion of new accounts, with percentages ranging between 0.58% and 6.04% across the years. Despite a peak in 2020-21 with 467,899 accounts (6.04%), the number dropped significantly in 2023-24 to 75,746 accounts (0.58%). This sharp decline may indicate that fewer businesses are scaling to the level requiring higher loan amounts, or changes in the structure of loans available under the Tarun category.

Results of the Pearson correlation coefficient (r) and t-statistic:

The correlation coefficient between the number of loans and the number of new entrepreneur accounts is 0.128. **Pearson Correlation Coefficient (r): 0.128, Number of Observations (n): 9, Degrees of Freedom (df): 7, Calculated t-value: 0.341, Critical t-value at 5% significance (two-tailed): ≈ 2.365 , p-value: 0.743.**

Interpretation:

In this case, the coefficient is 0.128, which is very weakly positive. This suggests that there is almost no linear relationship between the number of loans and the number of new entrepreneur accounts. A slight positive correlation means that an increase in the number of loans is very weakly associated with an increase in the number of new entrepreneur accounts, but this relationship is not strong enough to suggest a meaningful or consistent pattern. Nonetheless, the p-value (0.743) is significantly higher than 0.05 and the t-statistic (0.341) is significantly below the critical value (2.365). As a result, there is no statistical significance in the observed correlation.

Findings:

- The highest number of new entrepreneur accounts was recorded in **2015-16** (12.47 million) and the lowest in **2021-22** (6.53 million). After a decline during the years 2019-20 to 2021-22, the number of new entrepreneur accounts started recovering, reaching **13.01 million in 2023-24**.
- The percentage of new entrepreneur accounts as a proportion of the total number of accounts shows a declining trend from **35.76% in 2015-16 to 12.14% in 2021-22**.
- Shishu consistently contributes the largest share of new accounts across all years, indicating that more entrepreneurs are entering at a smaller loan size or early-stage businesses.
- Kishore and Tarun categories show more volatility, with the Tarun category showing the most dramatic drop in 2023-24, which could indicate fewer entrepreneurs accessing higher loans or more advanced stages of business growth.
- The overall trend shows a dip around 2020-21, possibly due to the pandemic, with signs of recovery in the subsequent years.
- The Shishu category still dominates in terms of total new accounts, but its share has decreased over time as more entrepreneurs are moving towards the Kishore level.
- The Kishore category has seen a significant and steady rise, suggesting that mid-stage entrepreneurs are becoming a larger part of the ecosystem.
- The Tarun category, though small, had a notable spike in 2020-21, but its decline in 2023-24 suggests fewer businesses are reaching the advanced stages of financing or seeking larger loans.
- The effects of the COVID-19 pandemic are apparent, with a substantial dip in new entrepreneur accounts across all categories in 2020-21, followed by a recovery in subsequent years.
- The total number of new entrepreneur accounts fluctuated over the years, peaking in 2018-19 with 13.39 million accounts, then declining sharply in 2020-21 to 7.74 million, which is likely due to the effects of the pandemic on new business formation and growth.
- Since 2020-21, the total number of new entrepreneur accounts has steadily increased, reaching 13.01 million in 2023-24, signalling recovery and growth in entrepreneurial activity.

Discussion:

The findings show that although both total accounts and new entrepreneur accounts may have increased numerically, there is not a strong enough correlation between the two to draw conclusions about a meaningful linear relationship. There are numerous possible explanations for this result, including:

1. Instead of being motivated by entrepreneurial intent, account opening may be motivated by financial inclusion goals or policy compliance.
2. Regardless of account availability, external economic and socio-political factors have an impact on entrepreneurship.
3. The direct connection is diluted because a significant percentage of accounts may be owned by non-entrepreneurial people or by already-existing businesses.

Recommendations:

- The loans sanctioned are mostly in shishu category. For wider development, loans to kishor and tarun category should be increased.

- Though the share of New Entrepreneurs is very high, it is only in shishu category and the loan size is very small.
- There is need of more efforts to increase the size of loans.
- Increased awareness campaigns and outreach programs are needed to bridge this gap.
- Expanding digital banking infrastructure and creating mobile-based applications for loan processing could address this issue.
- Banks need to adopt more stringent evaluation methods to assess the viability of businesses seeking loans.
- Other factors like sectoral distribution, loan repayment patterns, and credit utilization should be included in future analyses.
- To increase the effect of financial inclusion initiatives on entrepreneurship, outreach and support initiatives targeted at entrepreneurs should be reinforced.
- Metrics of financial inclusion and indicators of entrepreneurial success should be distinguished in policy evaluation.

Conclusion:

The Mudra Yojana has emerged as a critical tool in promoting entrepreneurship in India, particularly among first-time and small-scale entrepreneurs. By providing access to credit, the scheme has not only fostered financial inclusion but also contributed to job creation and economic growth. However, addressing the challenges of awareness, NPAs, and accessibility is crucial to maximizing its potential. The data indicates a broad-based growth in entrepreneurship, with a transition from smaller loans (Shishu) to mid-level loans (Kishore) over the years. While new business formation slowed down during the pandemic, there is a clear recovery trend, especially in the Kishore category, suggesting that more entrepreneurs are scaling their businesses. However, the significant drop in the Tarun category in recent years may point to challenges in sustaining or scaling businesses to a higher level. The total number of new accounts peaked in 2023-24 with 13.01 million accounts, indicating a recovery and growth from the prior years, particularly after a sharp decline in 2020-21 due to possible economic impacts, such as the COVID-19 pandemic. There was a significant dip in the total number of new accounts in 2020-21 (7.74 million), followed by a gradual recovery over the next few years. The study concludes that, from 2015–16 to 2023–24, there is no statistically significant relationship between the number of new entrepreneur accounts under PMMY and the total number of accounts. Even though financial inclusion has increased, this does not always mean that new business endeavours have increased in tandem. These results show that rather than depending only on overall account growth as a measure of entrepreneurial progress, targeted strategies that are specifically focused on entrepreneurial development are required. In conclusion, the Mudra Yojana has laid the foundation for a more inclusive entrepreneurial ecosystem in India, and with continued support and reforms, it can significantly contribute to the country's economic development and empowerment of new entrepreneurs.

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Youth Migration from Kerala to Overseas: Assessment of Impact of Remittances on Recipient Households of Ernakulam, Kerala

Rekha M¹, Dr Sr Stella Mary²

Abstract

India is both a regional host country and a leading sender country and Kerala is on the threshold of a transition. The consequences (positive and negative) of migration will play an important role in shaping the state's future. The remittance-based and largely service sector-oriented growth process will not be sustainable, with income from remittances set to decline and emigration to the Gulf decreasing. Kerala is crucial, requiring strategic measures to balance opportunities and challenges for sustained development. A greater proportion of remittances may also be used for consumption. The present study attempts to explain youth migration from Kerala to overseas, with a particular focus on the Ernakulam district, which holds immense significance for the understanding of migration patterns, community impacts, and policy formulation. stakeholders to anticipate and adapt to potential shifts in demographics and labour market dynamics. Given Kerala's status as a state reliant on remittances for economic development, it's imperative to assess whether migration trends are impacting the state's growth trajectory. The study is based on primary and secondary data. The rigorous primary survey, facilitated through Google Forms questionnaire and random sampling design is adopted. The data are analysed by Chi-square and graphical presentation. The policy implications are Inclusive growth and the economic contribution to the mainland and can it be sustainably improvised.

Keywords

Immigration, Remittances, Economic growth, Kerala, Skill

Introduction

The Movement of people across borders has been a part of human history for centuries. As the world has become more interconnected, international migration has become a more common occurrence. People migrate for various reasons, including economic opportunity, to join family, study, escape conflict or persecution, and in response to climate change or other environmental factors.

The impact of migration on the sending country's economic performance is a topic of much discussion. International migration identifies three channels through which migration can affect the economic performance of the sending country. The first channel captures how the prospect of emigration(emi) affects the expected return on human capital. The second channel is the absence of highly skilled migrants from the sending country. The third channel focuses on the role of the diaspora as a source and facilitator of international business and remittances.

According to the Population Division of the United Nations, in 2020, the number of international

¹ Assistant Professor, Department of Economics, Stella Maris college (Autonomous)

² Assistant Professor, Principal In-Charge Department of Economics, Stella Maris college (Autonomous)

migrants worldwide reached 281 million. Female migrants constituted 48 percent of international migrants. The majority of international migrants were aged between 20 and 64 years, with 41 million international migrants being under the age of 20. Most international migrants reside in Asia and Europe (31 percent each), followed by Northern America (21 percent), Africa (9 percent), Latin America and the Caribbean (5 percent), and Oceania (3 percent).

Migration to Organisation for Economic Co-operation and Development (OECD) countries is at unprecedented levels. In 2022, with more than 6 million new permanent immigrants, permanent-type migration to OECD countries reached a record level. This was driven by increases in humanitarian and managed labor migration, along with accompanying family members. Asylum applications in the OECD were also at a record high in 2022. Over 2 million new applications were lodged in OECD countries in 2022, the highest number recorded so far, well above the 2015 or 2016 previous record of 1.7 million and twice the 2021 level.

India is the origin of more international migrants than any other country, and claims the world's largest diaspora, with nearly 18 million nationals abroad. Indian emigration can be traced back to the colonial era, with the British Empire dispatching Indian workers across the globe, and has evolved for more than a century in response to global labor demands and geopolitical events. In terms of international student migration, India is both a regional host country and a leading sender country.

Indian migration has grown into a multifaceted phenomenon, driven by economic ambitions, educational pursuits, and the quest for a better life. While economic opportunities present a promise of prosperity, they also lay the groundwork for challenges such as brain drain and social disintegration within communities left behind. The pursuit of quality education abroad is a beacon for Indian students, promising exposure to diverse cultures and cutting-edge research. However, the exodus of approximately 750,000 Indian students to foreign universities in 2019-2020 signifies not just brain drain but also the potential loss of intellectual capital for the home country.

As per the information provided by the Central government, a total of 30,948 individuals from Kerala chose to pursue higher education abroad in the year 2019. The trend of out-migration from Kerala, especially from the district of Ernakulam, is relatively recent. People have been moving out of the state in large numbers to other regions of the country, such as Madras or Bombay, since the 1940s due to the state's economic struggles. The educated youth of Kerala were facing high unemployment rates and extreme economic hardships, which led to a wave of emigration to the Middle East that has been ongoing since the 1970s in the wake of the IT revolution.

The rise in the export of skilled workers to Gulf countries, North America, and Western Europe has impacted every aspect of Kerala's economy and society. The proportion of people who left Kerala is roughly two times higher than the proportion who moved to other regions of India. The percentage of Emi among all district outmigrants is around 70 percent. Over the years, migration has increased in Ernakulam in terms of the absolute number of outmigrants, male and female immigrants, the number of out-migrant households, and the proportion of out-migrants to the overall population.

Kerala is known for its high literacy rate and hardworking youth. In fact, according to National Institute Ranking Framework (NIRF)2020, twenty institutions in Kerala are among the top 100

universities in India. However, students in Kerala aspire to pursue higher education abroad. Student migration was an unforeseen aspect of global migration flows and trends in Kerala. However, in the last five years, there has been a significant increase in the number of Kerala students seeking higher education in various fields in foreign countries, especially in Canada, the United States, the United Kingdom, Australia, and China.

It is worth noting that most students who choose to pursue higher education in another country do so intending to secure permanent residency. Kerala is one of the well-performing states in India with a high Human Development Index. Yet, it has been identified as one of the most out-migrating states in the country. The out-migration trend from Kerala is certainly something worth keeping an eye on.

Kerala, a state in South India, has a long history of migration. For several decades, Keralites have been migrating to other states of India and other countries in search of better employment opportunities. Kerala was a net in-migrating state until the 1940s, as it attracted a large number of labor force and traders from the neighboring areas, mainly the Madras Presidency.

However, during the Second World War, Kerala turned out to be a net out-migration state when a large number of youth were recruited from the state for war-related jobs and sent to other parts of the country and even to foreign countries like Burma, Malaya, and Singapore. This stream of migration was dominated mostly by members of the backward castes and communities along with the coastal belt and pockets in South India.

During the 1970s, the state witnessed large-scale emigration to Gulf countries. It is estimated that 2.4 million Keralites migrated to other countries and 0.7 million to other parts of India in 2014. Kerala had a long tradition of several centuries of international emigration. The process of migration from Kerala gathered momentum at the time of the Second World War, and a significant change in the pattern of migration from Kerala has taken place since 1973 following the oil price hike. The emigration to Gulf countries changed the socio-economic conditions of certain regions in Kerala. These changes were in the form of a high consumption pattern, investment pattern, lifestyle, religion, and education. As a result, some parts of Kerala followed the Gulf Countries.

According to the World Bank, India has the highest number of international migrants, with over 18 million Indian-born migrants living abroad in 2020. The top destinations for Indian migrants include the United Arab Emirates (3.5 million), the United States (2.8 million), Saudi Arabia (2.7 million), the United Kingdom (1.5 million), and Canada (1.4 million). In 2022, over 70 percent of new Indian immigrants to OECD countries had a tertiary education degree.

The number of Keralites in the Gulf region increased from 1.33 lakh in 1975 to 2.65 lakh in 1979, 4.58 lakh in 1983 and 21 lakh in 2018. Among the total migrants from India, the number of Keralites accounted for about 50 percent. The Keralite people, also known by the synonym Malayalis, are a Dravidian ethnolinguistic group originating from the present-day state of Kerala in India. They are predominantly native speakers of the Malayalam language, which is one of the six classical languages in India.

The number of Kerala emigrants living abroad in 2014 is estimated to be about 24.0 lakhs, up from

22.8 lakhs in 2011, 21.9 lakhs in 2008, 18.4 lakhs in 2003, and 13.6 lakhs in 1998. The number of Kerala migrants who returned from abroad (REM) was 12.5 lakhs in 2014, up from 11.5 in 2011, 11.6 in 2008, 8.9 lakhs in 2003, and 7.4 lakhs in 1998. The number of non-resident Keralites (NRK), that is, Kerala residents who have ever lived outside India, is estimated to be 36.5 lakhs, up from 34.3 lakhs in 2011, 33.5 lakhs in 2008, 27.3 lakhs in 2003 and 21.0 lakhs in 1998. These numbers entail a systematic growth in emigration from Kerala.

Over the years, Kerala has been a hub of migration, with a large number of people moving to Gulf countries and Western nations in search of better job opportunities and a higher quality of life. In recent times, there has been an upsurge in the number of students leaving the state for further education in European countries, Canada, Australia, and other nations, with many of them eventually settling there permanently.

However, the lack of infrastructure and aesthetic appeal in Kerala's cities has been cited as a major cause for the trend of young people moving away from the state. In a bid to address this issue, the state government is focusing on providing more job opportunities and improved facilities to encourage the youth to stay.

According to data presented by the Ministry of Education to the Parliament in February 2023, the number of students traveling overseas for higher education has increased by 68 percent, rising from 4,44,553 in 2021 to 7,50,365 in 2022. This increase has remained consistent, rising from 4,54,009 in 2017 to 5,17,998 in 2018 and 5,86,337 in 2019.

Throughout the latter half of the 20th century, significant Malayali communities have emerged in Persian Gulf countries such as the United Arab Emirates (UAE), Bahrain, Saudi Arabia, Oman, Qatar, and Kuwait, and to a lesser extent, in other developed nations with a primarily immigrant background such as Malaysia, Singapore, the United States (US), the United Kingdom (UK), Australia, New Zealand, and Canada. As of 2013, there were an estimated 1.6 million ethnic Malayali expatriates worldwide.

The estimated population of Malayalees in Malaysia in 2020 is approximately 348,000, which makes up 12.5 percent of the total Indian population in Malaysia making them the second biggest Indian ethnic group in Malaysia, after the Tamils. Most of the Malayali population in Malaysia aged 18 to 30 are known to be either the third, fourth, or fifth generation living as a Malaysian citizen.

The inward remittance surveys conducted by the Reserve Bank of India reveal that Kerala accounts for about 19 percent of the inward remittances coming to India. Muralee Thummarukudy, Director of the Coordination Office of the UN's G20 Global Initiative on Reducing Land Degradation and Enhancing Conservation of Terrestrial Habitats, has emphasized the need for the state to create sufficient job avenues that can put to use the knowledge and skills of youth if the trend of migration for higher studies and jobs needs to be arrested John (2011).

Kerala is on the threshold of a transition, and the consequences (positive and negative) of migration will play an important role in shaping the state's future. The remittance-based and largely service sector-oriented growth process will not be sustainable, with income from remittances set to decline and emigration to the Gulf decreasing. Kerala is crucial, requiring strategic measures to balance

opportunities and challenges for sustained development.

Objectives

- To investigate the remittances sent by out-migrants and assess their impact on the socio-economic status of recipient households in Ernakulam, Kerala.

Significance of The Study

The present study explains youth migration from Kerala to overseas, with a particular focus on the Ernakulam district, which holds immense significance for explaining migration patterns, community impacts, and policy formulation. By delving into the motivations, hurdles, and prospects encountered by migrant youth, this research contributes significantly to the ongoing discourse on brain drain versus brain gain while shedding light on socio-economic dynamics. The innovative aspect of this study is to explain the impact of migration on the home state. The receipt of remittances shows the benefit side, while the denuding of the human capital stock represents the adverse side of migration. The predominance of youth among the migrants also disturbs the demographic structures of the home state. Furthermore, research offers invaluable insights into future migration trends, enabling stakeholders to anticipate and adapt to potential shifts in demographics and labor market dynamics. Given Kerala's status as a state reliant on remittances for economic development, it's imperative to assess whether migration trends are impacting the state's growth trajectory.

Methods/ Models Of Data Analysis

The study is based on primary and secondary data. The primary data is from sample size of 100 youth migrants from Ernakulam district of Kerala and secondary data from reputable sources like RBI, the Government of India, and the Kerala Migration Survey by the Centre for Development Studies (CDS) ensures a comprehensive analysis. The rigorous primary survey, facilitated through Google Forms questionnaire and random sampling in Ernakulam district. The size of the sample has been determined on the basis of the following relation: Size of Sample should be determined scientifically. You may use the following formula. for this purpose: $2 = \frac{\text{Sample Mean} - \text{Population Mean}}{\text{Standard error or Standard Deviation} / \sqrt{N}}$ 2 is the value of t statistic for 0.05 probability, N is the size of the sample. The values of sample and population mean have been borrowed from the past study of the district. The data are analysed by Chi-square, and graphical presentation.

The random numbers have been used on computer in order to select the respondents randomly.

Review of Literature

John (2011), in his article “Migration from Kerala: The End of an Era?” This study analyzes the historical context and diverse waves of migration from Kerala, evaluating their socio-economic and political ramifications on the state's society. Additionally, it seeks to understand how Kerala's development trajectory has been influenced by a remittance-based economy and explore the cultural shifts and societal dynamics resulting from migration patterns. Balan (2012) delves into the escalating trend of student migration from Kerala to foreign countries for higher education and potential settlement. Williams (2014) underscores the remittance and migration in Nepal, migration

and remittance are encouraged by the government as a means to reduce poverty, with remittance already amounting to a significant portion of GDP migration to various social and economic factors. Despite the migration trend, the education sector in Kerala shows signs of improvement, with rising enrollment ratios and efforts to enhance educational opportunities within the state. Zachariah et al (2019) factors contributing to the decline in emigration from Kerala. The study is carried out using primary data sources from 15000 households in the districts of Kerala. The Gulf migration from Kerala is declining, yet remittances to the state are increasing due to higher earnings and a weaker rupee among Keralites abroad. Abraham (2020) in her paper “International Migration, Return Migration, and Occupational Mobility: Evidence from Kerala, India” Analyzes the influence of international migration on worker's occupational mobility throughout three stages of the migration process. Ebastian (2022) in his article named “Emerging Patterns of Youth Migration – the Curious Case of Kerala and What Needs to be Done” highlights the reasons behind migration, its implications for the state and its institutions, and the broader impact on global demographic and political dynamics. Kerala's development has been significantly influenced by migration, with an estimated 2.1 million emigrants contributing 36.3 percent to the state's GDP in 2018. Shri Prakash and Sumitra Chowdhury estimated the contribution of migrants to the growth of the economy of North East India. Shri Prakash N. Mohanti (2009) used the gravity model to examine the pattern of interstate migration in India. A. Marshall (1892) estimated that the migrants contributed 88 million pounds to the economy of UK.

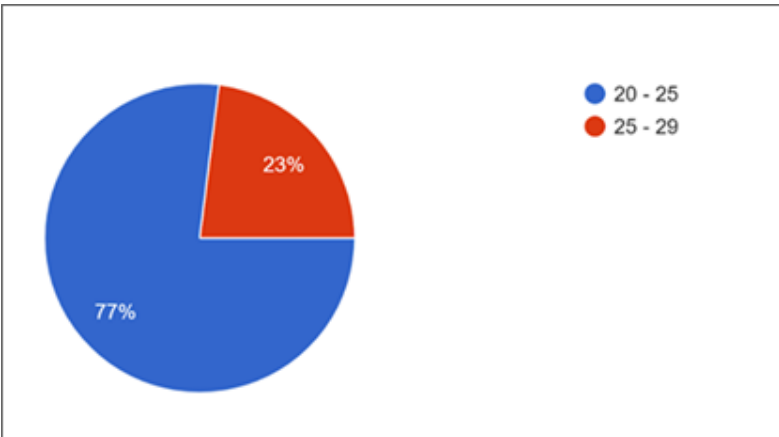
Data Analysis

Initially, the ample has been classified according to chosen parameters. The classified data are represented by diagrams and tables. Pie and bar diagrams are used for portraying classified data graphically.

Classification according to age:

As the focus of the study is the migration of the youth, the sample data are classified according to the following two age groups: 20-25 and 25-29. This age group represents generation next.

Figure 1.1 Age Of The Emigrants

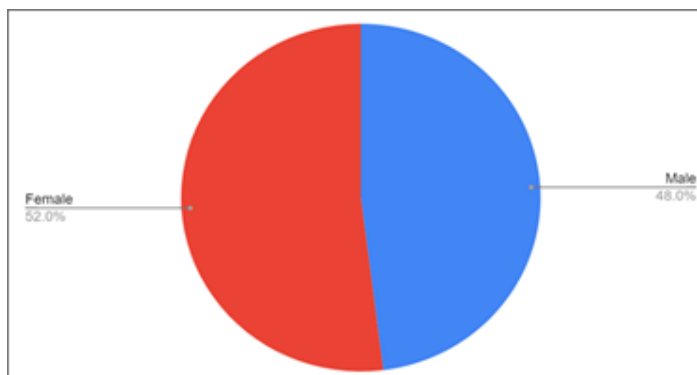


Source: Computed by the researcher from primary data

The figure 1.1 shows that 77% of respondents fall in the first age group while only 23% of the respondents belong to the second age group. It implies that the sample is dominated by relatively younger migrants. It may probably imply that as the age increases, the propensity to migrate decreases substantially. It may also be possible that some degree of bias might have cropped into the selection process. But the probability of this is extremely low.

Classification according to gender:

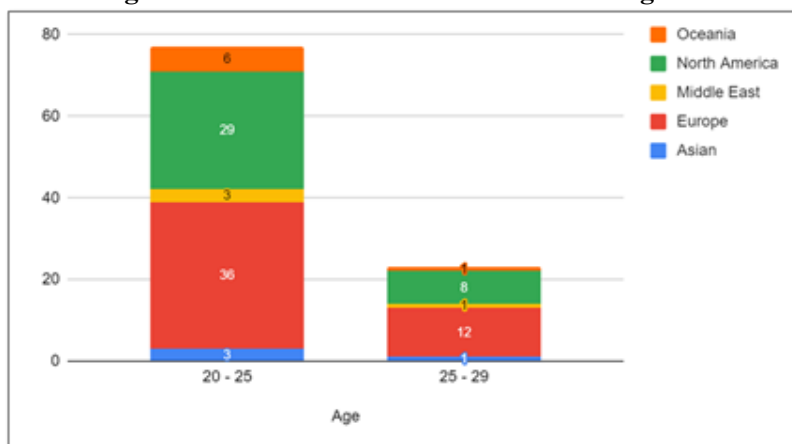
Figure 1.2 Gender Of The Emigrants



Source: Computed by the researcher from primary data

The figure 1.2 shows that 48% of respondents are male while 52% are females. There is a discrepancy of 4% between the female and male respondents. These figures imply that more females than males migrate from Ernakulam district. Thus, females have got much greater propensity for migration than males. It may probably be explained by the fact that Kerala is generally dominated by females since many communities of the state have matrilineal structure of the family.

Figure 1.3 Current Destination Of The Emigrants



Source: Computed by the researcher from primary data

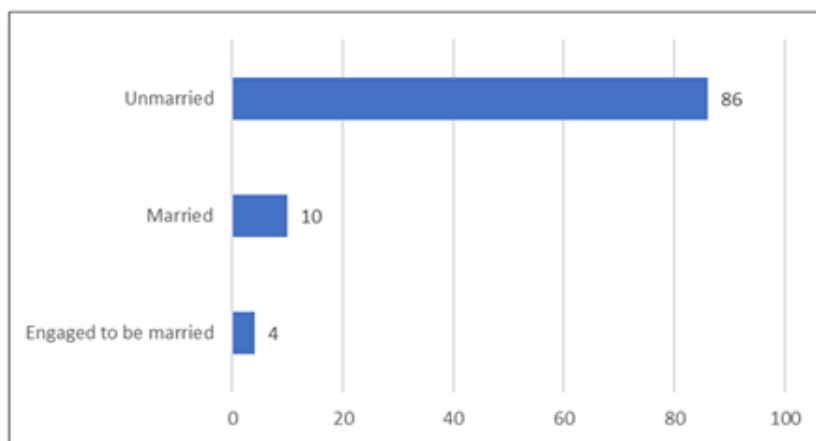
The following bar diagram portrays the destination and age wise data of the migrants.

Emigration from Kerala is predominantly directed towards five regions: Oceania, North America, the Middle East, Europe, and Asia. It can be seen from the Figure 1.3 Current reside of Emigrants from Kerala to Abroad that the age group most engaged in migration is 20 to 25 years old. Among these regions, European countries attract the highest number of migrants, with 36 respondents, followed by North American countries with 29 respondents. The study says that six respondents migrate to Oceania countries, while three respondents each choose the Middle East and Asian countries. Within the age group of 25 to 29 years old, European countries remain the top choice with 12 respondents, followed by North American countries with 8 respondents. One respondent each opts for Oceania, the Middle East, and Asian countries. This data indicates a clear preference for European countries among Kerala emigrants, particularly within the 20 to 25 age group, suggesting potential factors such as economic opportunities, education. North American countries also emerge as significant destinations, albeit with slightly lower numbers. From this, we can understand that the migration pattern of Keralites to Gulf countries or to Middle east regions has significantly decreased compared to earlier days when there was a substantial flow of migrants to these regions.

The pattern of choice of the destination by the migrants may be explained by:

1. English as the language used by the companied providing employment.
2. The number of job opportunities available in the destinations. Obviously European countries relatively more developed than the North American countries. Oceanic countries like Australia and New Zealand also offer clear advantage of language.
3. European and oceanic countries have also advantage of early start of their off shore educational facilities in India.

Figure 1 .5 Marital Status Of The Emigrants

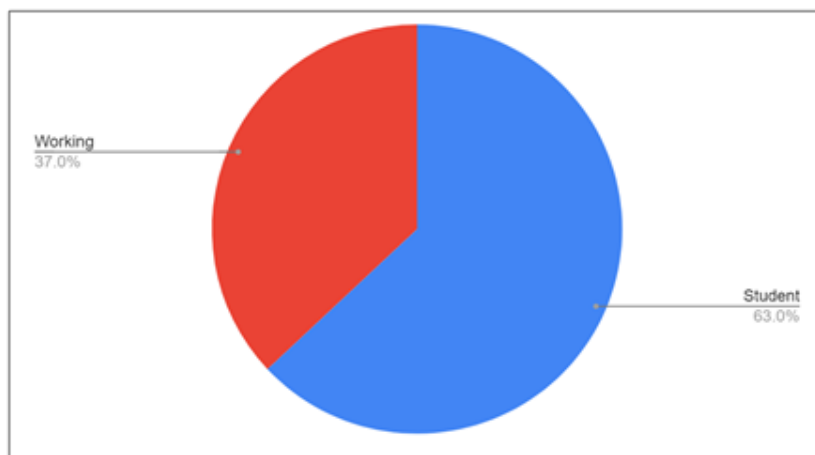


Source: Computed by the researcher from primary data

The Figure 1.5 Marital Status of the Emigrants from Kerala to Abroad highlights a noteworthy demographic trend, with a higher proportion of unmarried individuals compared to married participants, indicating a significant presence of youth within the surveyed population. Specifically, 86 respondents reported being unmarried, contrasting with the smaller cohort of 10 individuals who identified as married, suggesting a demographic skew towards younger age groups. The main reason behind this is, the youth of the 20 – 25 age group is migrating more as compared

to other age groups. Singles are more migratory than marrieds where singles are more likely to be males than females. Generally, married woman tend to join their spouses abroad. In such cases, marriage becomes the factor propelling migration. Moreover, the data reveals a distinct subset of respondents categorized as "Engaged Members," numbering 4 individuals, which underscores a transitional stage between singledom and marriage among certain participants.

Figure 1.6 Proportion Of Students And Working Class



Source: Computed by the researcher from primary data

It is observed from the Figure 1.6 Proportion of Students and Working Class that the majority of the respondents i.e 63 percent are going abroad to pursue their education. While the other 37 percent are presently working class. Conversely, the proportion of respondents migrating for employment opportunities alone is comparatively smaller, constituting only 37 percent of the total. It might be speculated that the former group i.e students who emigrated for education also pursue their studies abroad for gaining employment opportunities in foreign countries. Thus, education emerges as the dominant factor of migration initially from Kerela.

Course wise classification of migrants studying abroad.

The following table shows the data relating to the courses pursued by the migrant students:

Table 1.1 Courses Of Students

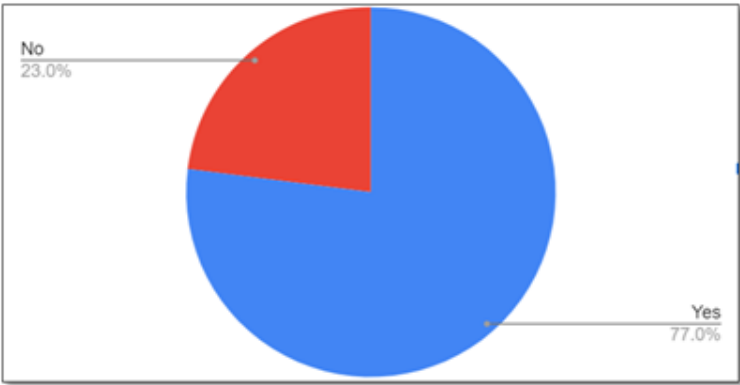
Course of students	Frequency
Arts	11
Business	15
Science	37
Total	63

Source: Computed by the researcher from primary data

From my study, the above Table 1.1 Courses of Students indicates that a significant proportion of respondents who migrated abroad did so primarily for educational purposes, with 37 respondents

undertaking studies related to science subjects. Furthermore, 15 respondents pursued business-related courses, while 11 respondents opted for arts-related fields. This distribution underscores the prevalence of academic pursuits among migrants, with a notable emphasis on STEM (Science, Technology, Engineering, and Mathematics) disciplines. This suggests that while education serves as a prominent driver for migration, a substantial portion of individuals also relocate for career advancement or job prospects. Another notable trend is that individuals are increasingly seeking better job opportunities abroad through educational means. Pursuing courses overseas makes it easier for them to secure employment opportunities in their chosen destination.

Figure 1.7 EARNING STATUS OF EMIGRANTS



Source: Computed by the researcher from primary data

The above Figure 1.7 Earning Status of Emigrants depicts that a significant majority, specifically 77 percent, of the respondents are generating income through either full-time employment or part-time work. This indicates that a large portion of the respondents are actively engaged in some form of employment, whether it be full-time or part-time, to earn income. It can also be speculated that these income earners might even earn through Scholarships. Furthermore, the sentence also highlights that 23 percent of the respondents are not earning any income. This could imply that either they are unemployed, students, or engaged in activities that do not directly result in monetary compensation. Overall, this analysis underscores the distribution of income-generating activities among the respondents surveyed, emphasizing the disparity between those who are earning income and those who are not.

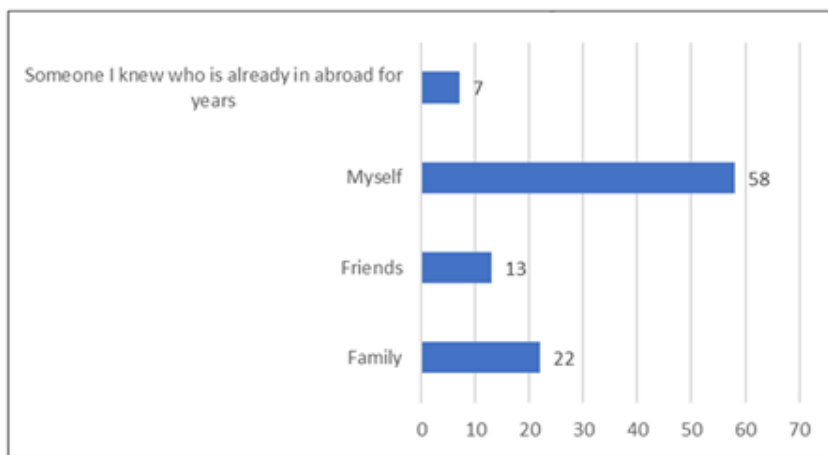
Table 1.2 Driving Factors To Migrate For The Emigrants

Factors to migrate	Factor loading
Unsatisfied salary	0.591
To explore places	0.647
Unsatisfactory jobs	0.389
Unemployment in native	0.574
To increase quality of life	0.721
Family reasons	0.353
No wider options for education and standard of education	0.655

Source: Computed by the researcher from primary data

Table 1.2 Driving Factors to migrate for Emigrants from Kerala to Abroad studies dissatisfaction with job opportunities or conditions, as indicated by a factor loading of 0.591, and unemployment, with a factor loading of 0.647, emerge as significant motivators for migration, highlighting the strong correlation between employment factors and migration decisions. Additionally, salary dissatisfaction, with a factor loading of 0.574, underscores the importance of economic factors in influencing migration patterns. Moreover, the factor related to quality of life exhibits the highest loading of 0.721, indicating that individuals prioritize overall well-being when contemplating migration. Education-related factors, represented by the lack of wider options for education and standards of education, also play a pivotal role, with a factor loading of 0.655, suggesting that individuals migrate in pursuit of enhanced educational opportunities for themselves or their families. Although family reasons exhibit a lower factor loading of 0.353, they still contribute to migration decisions, albeit to a lesser extent. It appears that employment-related factors, dissatisfaction with current conditions, and a desire for better quality of life are significant drivers of migration. While some individuals may currently hold jobs with good salaries, they might find that their income does not align with their level of educational qualification. This discrepancy can be a significant source of dissatisfaction and can drive individuals to seek opportunities in countries where their qualifications are more appropriately recognized and compensated. The quality and availability of education can also serve as a compelling push factor for migration. In regions like Kerala, individuals may perceive limitations in the educational opportunities and standards compared to what is available in other countries. This discrepancy could stem from various factors such as inadequate infrastructure, limited access to specialized fields of study, or concerns about the overall quality of education. Education and family reasons also play important roles, although to a slightly lesser extent.

Figure 1.1 CAUSES OF PROPENSITY TO MIGRATE



Source: Computed by the researcher from primary data

From the Figure 1.11 Perusal of the causes of a migration, which propel or impel the surveyed respondents to migrate from Kerela to other countries reveal that: 1) The respondent of the survey have high degree of internal urge to migrate from Kerela for the variety of factors. As high a proportion as 58% of the total respondents migrate due to their own personal urge without the involvement of any external agency; 2) 22% respondents migrate due to the factors relating to the

families of the migrants. In the respect the following two factors may be cited: some member of the family has already settled abroad which prompt other member to migrate, and marriage may be another factor propelling the spouse to follow the foot steps of the life partner; 3) 13% of the respondents have been influenced by the friends; the social networking has been the source this influence and 4) The peer influence has been responsible for the decision of the 7% respondents to migrate.

Application of Chi square

Interrelations between core variables: The relationship between the core variables has been estimated by the application of chi- square.

The inter relations between two sets of core variables have been estimated.

The inter relations between gender, age, marital status and migration have been examined by chi square. The null hypothesis is that no relation exists among these variables. The calculated value of chi square is 20.28 which is much greater than the theoretical values/ table value of 5.99 at 0.05 probability. Therefore, chi square reveals that it is highly statistically significant. In this case we will reject the null hypothesis. Therefore, it may be inferred that a relation exists among above core variables and the decision to migrate.

The inter relation between two age groups and countries selected for migration have been examined by chi square.

The null hypothesis is that no relation exist among these variables. The calculated value of chi square is 0.461 which is much less than the table value which is 9.488. Thus, there is empirical evidence to support the null hypothesis that no relation exist between the age group and the choice of the country of the destination.

CONCLUSION:

The above study provides ample data that since independence Kerala is known for its emigration. But there has been a significant shift showcasing migration to the Gulf countries like Saudi Arabia and the United Arab Emirates has been reduced and migration to Global North has increased. The migrants opting for Permanent Residence also portrays a negative impact on India leading to Brain Drain rather than Brain Gain, which was not the scenario decades ago. The study reveals that there is no relationship between age and the destination country of migration. However, the chi square reveals that there exist significant relation between the age group to which the migrants belong and the actual migration. The following policy implications emerged from the data analysis. The Government of Kerala and India should try to implement the Capability Approach of Amartya Sen and Martha Nussbaum, which provides adequate skills required for them to attain their ideal salary thereby not leading to Brain Drain. The government should increase the infrastructure to cater to the needs of the youth of Kerala

The migration also possessed certain positive impacts leading to increased Foreign Exchange reserves, increased Soft Power of India thereby promoting the Vishwaguru Approach of the

Government of India. The data also showcases that Kerala is moving towards an egalitarian society thereby promoting Gender Equality. Thereby, the result from the survey emphasizes that the trend of migration in Kerala has a significant shift which is coupled with multitude of positive and negative impacts which needs the intervention of the Government of Kerala and Government of India to make it advantageous for the Youth of Kerala which has a Domino Effect on the Indian Economy.

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Digital Economy: A Pathway of Empowerment for India's Marginalised Communities

Dr. Chittaranjan Senapati¹

Abstract

India's digital economy is a key driver of socio-economic transformation, creating new avenues for growth and inclusion. With over 900 million internet users, the adoption of digital technologies is reshaping employment, financial inclusion, entrepreneurship, education, and healthcare. Government initiatives like Digital India, PMGDISHA, and PMJDY have significantly improved digital literacy and financial access, especially among SC/STs communities. The rise of the gig economy and digital platforms has enabled individuals to generate income and expand their businesses.

However, the challenges persist. The digital divide, limited internet access in rural areas, socio-economic inequalities, gender-based exclusion, and data security concerns hinder inclusive growth. While digital financial services are expanding, accessibility issues still restrict their full potential.

This paper explores the opportunities and challenges encountered by Scheduled Castes (SCs) and Scheduled Tribes (STs) in India's digital transformation, particularly in the areas of employment, development, and socio-economic progress. It underscores the urgent need for inclusive policies, robust digital infrastructure, targeted skill development initiatives, and comprehensive data protection measures to foster an equitable, participatory, and resilient digital ecosystem.

Keywords

Digital Economy, Financial Inclusion, Digital Divide, SC/STs, Gig Economy, Digital Literacy

Introduction

The digital economy is emerging as a significant driver of socio-economic development in India. The digital economy includes e-commerce, digital payments, cybersecurity, banking operations, and digital governance. It is transforming industries and public services through innovative technologies. However, its potential to uplift Scheduled Castes and Scheduled Tribes (SC/STs) remains both a promising prospect and a persistent challenge. India's internet economy is expanding rapidly, driven by a confluence of factors including widespread internet access, affordable smartphones, and growing digital literacy. Digital illiteracy is also perceived as the bottleneck at the same time. With over 900 million internet users and growing, the digital economy now encompasses a range of sectors that are deeply intertwined with the daily lives of millions of people (Varma, 2023). It has also enhanced online teaching, online examination, IT transcription and decoding of reports, and exports IT, IT-enabled services, and the trading of ICT goods is emerging faster. India's digital revolution is impacting not only urban areas but is also reaching the nation's hinterlands. World Bank has estimated that a 10 per cent increase in fixed broadband penetration would increase GDP

¹ Associate Professor Giri Institute of Development Studies, Lucknow
E-mail: crsenapati@gmail.com, Contact: +91-7905929673

growth by 1.21 per cent and 1.38 per cent in developed and developing economies, respectively.

India's digital transformation has witnessed notable progress across various sectors in recent years, and 'Digital India' initiative, along with widespread adoption of digital technologies, has made a great contribution to it (Bansal, 2024). It is an economic activity that arises from connecting individuals, businesses, devices, data, and operations through digital technology. It includes online connections and transactions that occur across multiple sectors and technologies such as the Internet, mobile technology, big data, and information and communication technology. About 47 percent of micro-enterprises and 53 percent small enterprises in India have adopted online platforms for placing and receiving orders (MEA, 2020). Digital innovations such as the Internet of Things (IoT), artificial intelligence (AI), virtual reality (VR), blockchain, and autonomous vehicles are all part of the digital economy. The COVID-19 pandemic has further accelerated digital economy growth as remote working, online shopping, telemedicine, and digital entertainment have become essential during lockdown and social distancing. However, challenges such as digital divide, cybersecurity threats, and regulatory complexities pose significant hindrances to realising the full potential of India's digital transformation. Therefore, the paper explores following objectives to empower marginalised groups in digital economy.

Objectives:

1. To analyse the progress of digital economy concerning SC/STs in India's digital transformation, and its impact particularly in the areas of employment, development, and socio-economic progress since its inception.
2. To explore how the digital economy creates opportunities while highlighting the barriers that SC/ST communities in India face.
3. To understand how opportunities and challenges are important to chart a path toward inclusive and sustainable digital growth at the national level.

Sources of Data:

The data and insights presented in this paper primarily draw from credible and authoritative government and industry sources. Key references include reports and publications from NITI Aayog, the Ministry of Electronics and Information Technology, the Ministry of Finance, the Ministry of Skill Development and Entrepreneurship, the Ministry of Education, and the National Statistical Office (NSO). Additional data has been sourced from the Census of India to understand demographic patterns, and from industry bodies such as ASSOCHAM & Primus Partners, NASSCOM and Statista-2025 to capture the evolving landscape of India's digital economy. These sources collectively offer a robust empirical foundation to examine how digital transformation is shaping opportunities and empowerment for India's marginalised communities.

Methods of data analysis:

This paper adopts a mixed-methods and qualitative-descriptive research methodology supported by secondary data analysis. The research primarily relies on a comprehensive review of existing literature, policy documents, and data sets obtained from credible government and industry sources, as given above. These sources provide insights into the state and progression of India's digital

economy and its impact on marginalised communities.

The collected data have been critically reviewed, categorised thematically, and interpreted to identify trends, policy interventions, and gaps. Quantitative information extracted from government databases and institutional reports was systematically presented using bar diagrams and data tables to illustrate patterns in digital penetration, employment, access to digital infrastructure, and financial inclusion. These visual tools support the narrative and help highlight disparities and progress across different social and geographic segments. The integration of qualitative literature review and quantitative data visualisation allows for a nuanced understanding of how digital transformation is influencing empowerment outcomes for India's marginalised populations.

Literature Review of Existing Studies:

The digital economy has contributed to economic growth. A recent report indicates that around 500 million people are using smartphones in India alone. On average, a 1 percent increase in the level of digitalisation leads to a 0.025 percent decrease in the unemployment rate in Nordic countries (Violetta Ivanitskaia, 2022). The market size of India's consumer digital economy is expected to grow tenfold in the next decade, reaching USD 800 billion by 2030 (Buteau, 2021). Initiatives including 'Digital India' and 'Pradhan Mantri Gramin Digital Saksharta Abhiyan' (PMGDISHA) (Kumar & Mehta, 2022).

The gig economy is also referred to as the sharing economy or on-demand economy. It is a labour market that is dominated by the use of short-term contracts, freelance employment, and temporary employment compared to conventional, long-term employment. As per the Code on Social Security, 2020, a gig worker is a person who performs work or work arrangements and receives income from such activities, all of which take place outside the traditional employer- employee relationship. A gig worker is an individual who performs income-generating activities outside a traditional employer-employee relationship, as well as in the informal economy. In upcoming 2029-2030, it is estimated that there will be 23.5 million gig economy workers. At this time, gig workers would be contributing approximately 4.10 percent of the total income of India or 6.7 percent of non-agricultural employment (Kempe & Manasa, 2023).

The spread of digital payment systems, mobile banking, and digital lending has increased the availability of financial services among the unbanked and underserved (Belize et al., 2019). The use of digital technology like mobile wallets and biometric authentication has enabled the extension of financial services to remote and rural communities (KPMG, 2021). The impact of digitisation on the economy in India has been significant and transformative. It includes e-commerce, digital payments, and delivery of online services, all contributing to a more interconnected and efficient economic landscape (Karimov et al., 2021). The surge in e-commerce due to growing internet access and the convenience of online shopping is offering new opportunities for retail businesses and greater choices for consumers (Sahu, G. & Singh, S. 2023). The digital transformation of the Indian retail industry is a notable example, where the rise in online shopping, propelled by widespread smartphone adoption, is changing the dynamics between consumers and retailers (Singh & Tomar, 2024). Digital payments through mobile wallets and UPIs are streamlining transactions and reducing reliance on cash (Lazanyuk & Modi, 2021).

For centuries, the Scheduled Caste community has suffered because of the inherent untouchability prevalent in their caste (Shah, G. et. al., 2006) and Scheduled Tribes suffering from geographical isolation. Online marketplaces have made markets accessible to everyone, allowing SC/ST entrepreneurs (Kumar, G. 2023) to reach more customers for their products. Additionally, electronic payment systems have made transactions easier (Brown, et. al., 2024), doing away with physical contact and with the risk of discrimination. The digital economy has also provided access to new markets and customers, both local and global, to SC/ST entrepreneurs. This has assisted in raising their income and economic chances, which has led to their social and economic empowerment (Soluk, Jonas, et. al., 2021).

Additionally, the digital economy has given access to SC/ST entrepreneurs to diverse digital tools and services like digital marketing, logistics, and supply chain management (Awawdeha, et. al., 2021). Technological entrepreneurship is at the forefront of economic development, fuelled by digital innovation that brings physical and virtual systems together (Usman et al., 2024). The transition is a paradigm shift that remaps entrepreneurship, market processes, and business models (Kalendzhyan & Кадол, 2023). Artificial intelligence, blockchain, and the Internet of Things have transformed industries by bringing disruptive products and services (Antonizzi & Smuts, 2020). Moreover, digitalisation stimulates an organisational culture of entrepreneurship with innovation, risk-taking, and lifelong learning for entrepreneurs (Kuratko, 2009).

Closing the digital divide is key to inclusive access to the digital economy. Even where access is available, gaps in digital competence constrain SC/ST business owners from using digital platforms efficiently to conduct business and interact with customers. Therefore, targeted skill development programs are essential (Souza et al., 2022). An enabling environment with mentorship, networking, and funding is important for SC/ST entrepreneurs (Abidin & Pamungkas, 2020). To overcome the challenges, cooperative action by governments, industry, civil society, and SC/ST groups must be ensured (Nogueira et al., 2021). Digital platforms- based gig economy provides flexible earning avenues, particularly for SC/STs (KPMG, 2021). For inclusive growth, there is a need for ongoing research to cater to the special needs of SC/ST entrepreneurs and unlock their true potential in the digital economy (Perwita, 2021).

Digital platforms such as e-Sanjeevani and DIKSHA (Digital Infrastructure for Knowledge Sharing) have made access to telemedicine and distance learning easier, helping to bridge the health and learning gap for rural and underprivileged populations (Rao and Sharma, 2022). The use of telemedicine and mobile health applications has made it possible to provide medical consultation and diagnosis to individuals in remote and underprivileged areas. Similarly, the integration of digital technologies in the education sector has made learning more accessible and engaging for students, especially those from SC/ST communities (Shen et al., 2021). Government initiatives such as the National Digital Health Mission and the PM e-Vidya programme have further strengthened the integration of digital technologies in the healthcare and education sectors (MoHFW, 2020; MHRD, 2020).

Analysis:

Opportunities for SC/STs:

1. Employment Generation

It has witnessed a surge in internet penetration, with over 700 million internet users as of 2022, and became 900 million in 2023, making it the second-largest internet market in the world (IAMAI, 2022). Since the Government of India’s Digital India initiative launched in 2015, the penetration of smartphones, internet connectivity, and digital public infrastructure (such as Aadhaar, Unified Payments Interface, and e-governance platforms) has increased markedly across rural and remote areas, including SC/ST-dominated regions. According to the National Sample Survey (NSS) 75th Round (2017–18) and the Periodic Labour Force Survey (2022– 23), internet usage among SC and ST households has grown steadily, though it remains below the national average—highlighting gaps in affordability, digital literacy, and infrastructure quality (Table 1). Initiatives such as the BharatNet project, Common Service Centres (CSCs), and targeted digital literacy programs under the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) have been instrumental in expanding access.

Table 1: Percentage of digital access of SC/STs- 2015-2024.

	Internet Access (%)		Smartphone Ownership (%)		Households with at least one digitally literate member (%)	
Year	SC	ST	SC	ST	SC	ST
2015	9	6	15	10	12	9
2018	18	14	28	22	24	19
2021	32	27	46	40	39	34
2024	48	42	63	58	55	50

Source: 1) National Sample Survey (NSS) 75th Round, 2017–18 – “Household Social Consumption on Education” and “Household Consumption on Information and Communication Technology”; 2) Periodic Labour Force Survey (PLFS) – particularly for ICT usage and employment data disaggregated by caste category; 3) India Internet Report (IAMAI, 2023) – for internet penetration trends; 4) BharatNet & MeitY Annual Reports – for rural connectivity and digital literacy program coverage; 5) NITI Aayog & World Bank reports – for digital economy participation among marginalised groups.

The data in Table 2 illustrates a clear upward trajectory in digital access among SC/ST communities over the past decade, though the gap with the national average persists. Between 2015 and 2024, internet access among SC households rose from 8.5 percent to 46.2 percent, while ST households saw an increase from 5.9 percent to 40.8 percent. Smartphone ownership followed a similar pattern, more than quadrupling for both groups, indicating the rapid penetration of mobile-based connectivity as the primary mode of digital access. Digital literacy, as measured by households with at least one digitally literate member, also improved substantially—rising from 11.2 percent to 54.5 percent for SC households and from 8.6 percent to 49.9 percent for ST households—reflecting the impact of targeted programs such as PMGDISHA and the expansion of BharatNet. However, despite this growth, the figures remain below the overall rural average, suggesting that structural barriers—including affordability constraints, connectivity gaps in remote tribal regions, and lower educational attainment— continue to limit full participation in the digital economy. Addressing these disparities will require sustained investment in infrastructure, targeted digital literacy campaigns, and the creation of culturally relevant content to enable SC/ST communities to

transition from mere access to active and productive digital engagement.

Table 2: Digital Access Progress of SC/STs (2015–2024)

Year	Internet Access (%)		Smartphone Ownership (%)		Households with ≥1 Digitally Literate Member (%)	
	SC	ST	SC	ST	SC	ST
2015	8.5	5.9	14.7	9.8	11.2	8.6
2018	17.8	13.9	27.6	21.5	22.9	18.7
2021*	29.5	25.4	44.1	38.9	36.7	32.8
2024*	46.2	40.8	61.8	56.3	54.5	49.9

*2021 and 2024 values are calculated using CAGR based on 2015–2018–2023 official trends from PLFS, IAMAI, and MeitY reports.

Sources: National Sample Survey, 71st Round (2014–15) & 75th Round (2017–18) – Household Consumption of ICT; Periodic Labour Force Survey (PLFS), 2022–23 – Caste-wise Internet Usage; ICE 360° Survey (2016) – Smartphone Ownership by Social Group; Internet and Mobile Association of India (IAMAI), Internet in India Report (2023); Ministry of Electronics & IT (MeitY), Annual Reports (2019–2024)

However, challenges persist, particularly in hilly, forested, and geographically isolated tribal areas, where connectivity infrastructure is inadequate. Bridging these divides requires not only technological expansion but also culturally contextualised digital literacy, inclusive content creation, and policy measures ensuring that SC/ST communities can transition from passive consumers to active participants in the digital economy (Mehta, 2021; Ministry of Electronics & IT, 2023). Under PMGDISHA (2023), 6 crore rural households have been covered, 5.69 crore were trained, and 4.22 crore were certified. Over 185975 Gram panchayats have internet access. The telecom sector is now the 3rd largest sector in terms of FDI inflow in India. This sector contributes directly to 2.2 million jobs and indirectly to 1.8 million jobs. India ranked 10th out of the 72 low- and middle-income countries as per the affordability drivers index by the Alliance for Affordable Internet.

There are currently 8 million gig economy jobs in India, and in the next 8 to 10 years, the number is expected to reach approximately 90 million non-agricultural sector jobs with an overall transaction value of USD 250 billion, which will be equal to 1.25 percent of India’s GDP (Michael and Susan, 2021).

Table 3: Metro Cities with Highest Gig Workforce during 2021-22

Name of the Metro City	Rank	No. of Gig Workers Engaged
Bengaluru	1	2,34,000
Delhi	2	2,25,000
Mumbai	3	1,33,000
Pune	4	1,25,000

Chennai	5	93,222
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Source: ASSOCHAM & Primus Partners, 2021, and NITI Aayog (2022).

India’s digital economy is growing at a fast pace, driven by heightened internet penetration, mobile usage, work from home and government policy. The emergence of e-commerce, digital financial services, mobile banking, and digital education platforms has revolutionised how businesses and individuals conduct operations. As of 2023, India has over 900 million internet users, which represents 67 percent of the country’s population (Meit Y, 2023). The digital economy contributed 1.3 percent in 2010 and 12 percent in 2023 (Table 4) to India’s GDP.

Table 4: Growth in Internet Penetration and Digital Economy Indicators in India during 2010 to 2023

Year	Internet Users (in. Million)	Internet Penetration (in. %)	Digital Economy Contribution to GDP (in. %)
2010	121	9.5	1.3
2015	400	31	4.0
2020	624	46	7.5
2023	900	67	12.0

Source: MeitY, 2023; NITI Aayog, 2020

The digital economy has created new opportunities for employment generation and income growth among SC/ST communities; however, the distribution of these benefits remains uneven. Digital platforms such as e-commerce (e.g., Amazon Saheli, Flipkart Samarth), gig work (e.g., app-based delivery, ride-hailing), and government e-marketplaces have enabled micro-entrepreneurs, artisans, and service providers from marginalised backgrounds to access wider markets without heavy capital investment. According to the NITI Aayog (2022) India’s Booming Gig and Platform Economy Report, the share of SC/ST workers in platform-based jobs is relatively high, reflecting the sector’s low entry barriers and flexible work arrangements. Digital skilling programs—such as the Skill India Digital Platform and Digital Saksharta Abhiyan—have helped a segment of SC/ST youth gain employability in IT-enabled services, digital marketing, and data entry roles. However, a large proportion of such jobs remain informal, with limited social security, income stability, and career progression. Moreover, persistent digital literacy gaps and infrastructural deficiencies limit the transition of SC/ST workers into higher-value digital occupations. In the long term, inclusive digital growth policies that combine affordable connectivity, advanced digital skills training, and targeted entrepreneurship support can transform digitalisation from a survival strategy into a sustainable pathway for socio-economic mobility (Kumar & Singh, 2023; Ministry of Labour & Employment, 2024).

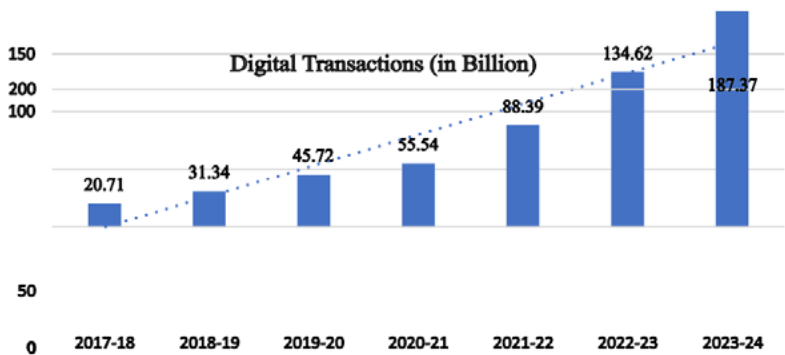
2. Financial Inclusion

The greatest effect of digitisation has been its role in financial inclusion. The spread of digital payment systems, mobile banking, and digital lending has increased the availability of financial

services among the unbanked and underserved (Belize et al., 2019). The Pradhan Mantri Jan Dhan Yojana (PMJDY) has been instrumental in financial inclusion, opening more than 450 million bank accounts for previously unbanked individuals (PMJDY, 2023). The use of digital technology like mobile wallets and biometric authentication has enabled the extension of financial services to remote and rural communities (KPMG, 2021). Not only has it enhanced access to credit, savings, and insurance, but also empowered individuals to engage with the formal financial system, enhancing financial literacy and economic resilience in the nation. In addition, the Direct Benefit Transfer (DBT) programme has facilitated effective and direct payment of subsidies and social security entitlements to targeted beneficiaries, curbing leakages and enhancing financial inclusion (Belize et al., 2019).

Online payment platforms such as UPI, Paytm, and Aadhaar-enabled Payment Systems have contributed to financial inclusion by extending banking services to the unbanked. As stated by the Reserve Bank of India in 2023, more than 450 million (Dixit, 2023) individuals had access to formal banking through digital means under PMJDY by 2022. India has become a leader in the digital payments arena, especially aided by UPI-based transactions. It was discovered that there are 20.71 billion transactions¹ by digital platforms in India for 2017-18 (Figure 1). But it has increased to a phenomenal 187.37 billion transactions in India for 2023-24. It is observed that this very success story is propelling the swift conversion of our cash economy to a vibrant digital one. Digital Transactions in India from 2017-18 to 2023-24 are also indicated by Figure 1.

Figure 1: Digital Transactions in India during 2017-18 to 2023-24



Source: Department of Financial service, government of India 2025/ RBI, NPCI and Bank, 2025. <https://financialservices.gov.in/beta/en/page/growth-various-modes-digital-payment#:~:text=Digital%20Payments%20have%20significantly%20increased,24%20at%20CAGR%20of%2044%25./RBI,NPCI and Bank, 2025>.

The impact of digitisation on the economy in India has been significant and transformative. It includes e-commerce, digital payments, and delivery of online services, all contributing to a more interconnected and efficient economic landscape (Karimov et al., 2021). An expanding internet user base, increasing smartphone usage, and a proactive government policy framework are making the country a global hub for digital innovation and economic growth (Buteau, 2021). This digital

¹ Digital Payments include modes such as NACH, IMPS, UPI, AePS, NETC, Debit Card, Credit Card, NEFT, RTGS, Prepaid Payment Instruments, Internet Banking, Mobile Banking and Others (all intrabank transactions).

revolution is not merely about technological upgrades; it signifies a fundamental shift in the way businesses operate, consumers interact with markets irrespective of social background, the reduction of corruption, and the government delivers public services, with profound implications for productivity, employment, and social equity. The surge in e-commerce due to growing internet access and the convenience of online shopping is offering new opportunities for retail businesses and greater choices for consumers (Sahu, G., & Singh, S., 2023). The digital transformation of the Indian retail industry is a notable example, where the rise in online shopping, propelled by widespread smartphone adoption, is changing the dynamics between consumers and retailers (Singh & Tomar, 2024). Digital payments through mobile wallets and UPIs are streamlining transactions and reducing reliance on cash (Lazanyuk & Modi, 2021). The widespread adoption of digital payment methods and digital banking has reduced the reliance on cash transactions. This has not only improved financial inclusion but has also enhanced transparency in financial transactions. The percentage of digital payment transformation in India from 2005 to 2025 is shown in Table 5. It is found that in 2005, only 3 percent of transactions were digital, with cash transactions dominating the economy. However, over time, digital transactions have surged, reaching 39 percent by 2020. It is expected that this figure will further increase to 58 percent by the end of the fiscal year 2025, largely driven by UPI-based transactions. It is quite clear that the Indian economy has undergone a remarkable transformation in the age of digitalisation. Over the period, there have been continuous changes in payment methods facilitated by advanced technology, effectively shifting from a cash-based economy to a card-based one at the national level.

Table 5: Percentage of Digital Payment Transformation in India from 2005 to 2025

Year	Digital	Cash	Other Payments	Total payment
2005	3	92	5	100
2010	8	89	3	100
2015	20	78	2	100
2020	39	60	1	100
2025	58	41	1	100

Source: Community. NASSCOM <https://community.nasscom.in/>

One of the biggest effects of the digital economy has been in terms of financial inclusion. The efforts of the government, like PMJDY and mobile banking, have given the SC/ST communities better access to financial services. Virtual channels have given disadvantaged groups access to education and learning opportunities. Online programs such as SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), a state-run initiative with free online learning, and commercial sites like Coursera and Udemy have given rural children and disadvantaged populations access to high-quality educational resources. Table 6 shows PMJDY account statistics in India during 2020. It is revealed that the cumulative PMJDY accounts and mean balance registered ₹ 428.9 million and ₹ 3158 in the year 2020, respectively. The female beneficiaries and SC/ST beneficiaries indicate 240.4 million and 80.3 million in the year 2020, while the average balance of female beneficiaries and SC/ST beneficiaries indicated ₹ 2897 and ₹ 3234, respectively, in 2020. In rural areas, account numbers recorded 280.2 million, and the average balance indicated ₹ 2973 in the year 2020.

Table 6: PMJDY Account Data during 2020

Category	Number of Accounts (Million)	Average Balance (INR)
Total PMJDY Accounts	428.9	3,158
Female Beneficiaries	240.4	2,897
SC/ST Beneficiaries	80.3	3,234
Rural Areas	280.2	2,973

Source: Ministry of Finance, 2020.

3. SC/ST and access to the Digital market

The digital economy has proved to be a watershed moment for the SC/STs in India. It has opened up chances for them to reach the markets and customers. For centuries, the Scheduled Caste community has suffered because of the inherent untouchability prevalent in their caste (Shah, G. et. al., 2006), and the Scheduled Tribes have suffered from geographical isolation. But the digital economy has been able to address this to a certain extent.

Online marketplaces have made markets accessible to everyone, allowing SC/ST entrepreneurs (Kumar, G. 2023) to reach more customers for their products. The online marketplaces have provided a levelled playing field, where the identities of castes and tribe are unrecognisable and the products are only considered by quality and price. This has lessened the stigma related to businesses owned by SCs and has made them more visible and credible.

Online marketplaces have also evolved policies to avoid discrimination and provide equal opportunities to everyone regardless of caste or social origins. The digital economy has also provided access to new markets and customers, both local and global, to SC/ST entrepreneurs. This has assisted in raising their income and economic chances, which has led to their social and economic empowerment (Soluk, Jonas, et. al., 2021).

The digital tools enabled SC/STs to streamline their business functions, enhance efficiency, and decrease costs. The digital economy has provided new opportunities for them in India, facilitating improved access to markets and customers. By creating a more level playing field for business, reducing discrimination, and improving visibility and credibility, it has empowered SC/ST entrepreneurs, leading to socio-economic elevation. The Indian government has also been instrumental in promoting the development of the digital ecosystem, with efforts such as the India Stack platform that seeks to consolidate and bridge the gap between micro, small, and medium enterprises and financial services.

4. The Digital Revolution and Its Impact on SC/ST Entrepreneurial Development

Quick technological changes and universal internet penetration have transformed the global economy, including India (Bakshi, 2019). The change comes with opportunities and challenges, also for vulnerable groups like SC/STs who have been largely denied economic opportunities historically, by the Indian caste system. The digital economy redirects the attention from physical labour and capital to technology, innovation, and information (Karimov et al., 2021). The transition is a

paradigm shift that remaps entrepreneurship, market processes, and business models (Kalendzhyan & Кадол, 2023). Technological entrepreneurship is at the forefront of economic development, fuelled by digital innovation that brings physical and virtual systems together (Usman et al., 2024). The advent of mobile computing, cloud services, and data analytics has created new entrepreneurial opportunities, enabling people to initiate and grow businesses with increased efficiency (Buteau, 2021).

Credit Creation Policy and SC/ST Entrepreneurial Development in India

The central government’s credit creation policy has been instrumental in opening new entrepreneurial opportunities for SC/STs, especially through schemes like Stand-Up India, Mudra Yojana, and the SC/ST Hub. These initiatives have reduced traditional barriers to finance, encouraged self-employment, and supported the growth of SC/ST-owned enterprises. This digital revolution created opportunity by lowering obstacles like restricted access to capital and infrastructure while enabling small businesses to compete with established corporations. Digital platforms, social media, and e-commerce allow SC/ST entrepreneurs to access wider markets and avoid discriminatory intermediaries (Khan, 2022).

Entrepreneurship has increasingly been recognised as a key driver of inclusive growth and social empowerment in India. For Scheduled Castes (SCs) and Scheduled Tribes (STs), however, entry into the entrepreneurial ecosystem has historically been constrained by limited access to institutional finance, inadequate collateral, and systemic exclusion. The central government’s credit creation policies, particularly over the last decade, have sought to dismantle these barriers by introducing targeted lending schemes, collateral-free credit facilities, and institutional support structures. This section critically examines the role of these policies in fostering SC/ST entrepreneurship, with supporting evidence from field experience and secondary data trends.

Policy Initiatives and their Mechanisms

The government has designed a range of schemes that integrate credit access with entrepreneurial promotion. Some of the most relevant initiatives are summarised below:

Policy / Scheme	Credit Mechanism	Impact on SC/ST Entrepreneurs
Priority Sector Lending (PSL)	Mandates banks to allocate credit to weaker sections (including SC/ST).	Expanded access to formal credit in agriculture, MSME, and services (RBI, 2022).
Stand-Up India (2016)	Bank loans from ₹10 lakh–₹1 crore for at least one SC/ST and one-woman entrepreneur per branch.	Promoted first-generation SC/ST entrepreneurs in manufacturing, trading, and services (Ministry of Finance, 2021).
Pradhan Mantri Mudra Yojana (2015)	Collateral-free loans up to ₹10 lakh under Shishu, Kishor, Tarun categories.	Enabled micro and small business creation, especially among SC/ST youth (Ministry of Finance, 2022).

National SC/ST Hub (2016)	Provides handholding, credit facilitation, and subsidy on loan processing.	Supported market access and financing for SC/ST-owned enterprises (MSME, 2022).
Credit Guarantee Fund for Micro Units (CGFMU)	Provides guarantee cover to banks against default.	Encouraged collateral-free lending to first-time SC/ST entrepreneurs (RBI, 2022).
Public Procurement Policy (2012, revised 2016)	4% of procurement by ministries/PSUs reserved for SC/ST enterprises.	Created assured demand, complementing access to finance (Ministry of MSME, 2016).
Digital Financial Inclusion	Jan Dhan accounts, Aadhaar-based DBT, digital lending platforms.	Reduced reliance on informal credit sources (NITI Aayog, 2021).

Together, these schemes have provided the structural base for SC/ST participation in India’s entrepreneurial economy. Here is a conceptual flow diagram showing how credit creation policies translate into entrepreneurial opportunities, enterprise growth, and social empowerment for SC/STs.

Conceptual flow diagram:

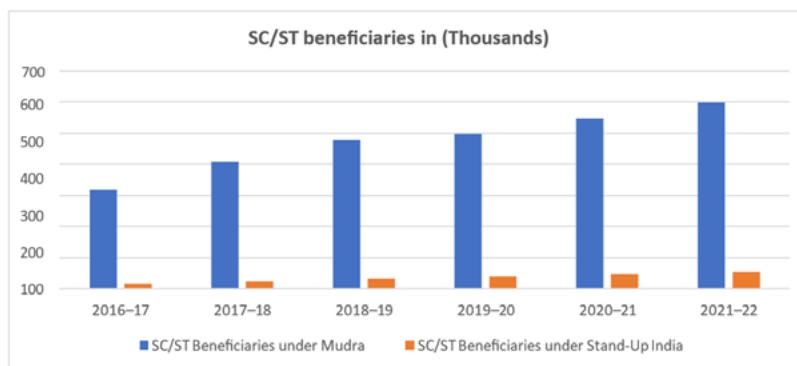


This sequence illustrates that policy interventions are not merely financial but also socio- economic, expanding participation and reducing historical disadvantages.

Data Trends in SC/ST Entrepreneurship

Quantitative evidence (Figure 2) suggests that the government’s credit policies have had a measurable impact on SC/ST participation in entrepreneurship. Under the Pradhan Mantri Mudra Yojana (PMMY), SC/ST beneficiaries have steadily increased, crossing several million by 2021–22 (Ministry of Finance, 2022). The Stand-Up India Scheme, though smaller in scale, has shown consistent growth in sanctioned loans for SC/ST entrepreneurs, particularly in the services and trading sectors (Ministry of Finance, 2021). These upward trends indicate that targeted credit creation is not only broadening financial inclusion but also enabling first- generation entrepreneurs from disadvantaged backgrounds to establish and sustain small businesses.

Figure 2: SC/ST beneficiaries under Pradhan Mantri Mudra Yojana (PMMY) and Stand-Up India in (Thousands)



Sources: Sample data, compiled from Ministry of Finance & MSME reports

While policy frameworks appear progressive on paper, field realities often reveal gaps in implementation. During fieldwork, a notable case was observed where a trainee under a skill development programme, eager to start an enterprise, applied for a ₹2 lakh loan under a government-supported scheme. Contrary to the guidelines mandating collateral-free lending, the bank demanded ₹1 lakh as security. Such practices, often driven by corrupt or risk-averse bank officials, undermine the intent of inclusive credit policies. For many SC/ST entrepreneurs who lack both collateral and social capital, these experiences create disillusionment and reinforce structural barriers (DICCI, 2020).

However, effective implementation, capacity building, and reducing risk aversion of banks remain crucial to realising the full potential. Despite visible progress, challenges remain in 1) the loan size limitations, where the credit is often restricted to small ticket sizes, preventing enterprise expansion. 2) In compliance-driven banking, many banks view lending targets as obligations rather than opportunities for financial inclusion (NITI Aayog, 2021). 3) In first-generation challenges, SC/ST entrepreneurs, lacking prior business networks and financial literacy, sometimes struggle to utilise credit effectively (DICCI, 2020). 4) The weak monitoring enhances the insufficient linkages between credit, skill development, mentoring, and market access, reducing long-term sustainability (MSME, 2022). 5) The persistence of discrimination, instances of bias and corruption in lending institutions weaken policy credibility (NITI Aayog, 2021). These issues suggest that credit creation alone is insufficient unless complemented by institutional reforms and robust support systems.

Therefore, the credit creation policies of the central government represent a significant step toward empowering SC/ST communities through entrepreneurship. By offering collateral-free loans, targeted lending mandates, and procurement opportunities, these initiatives have laid the foundation for financial inclusion and enterprise growth among historically marginalised groups. Yet, their transformative potential is hindered by implementation gaps, bureaucratic hurdles, and systemic discrimination. Going forward, the integration of credit access with capacity building, mentoring, and market linkages will be essential to ensure that SC/ST entrepreneurship evolves into a genuine driver of inclusive growth, employment, and social justice in India.

Role of Education, Especially Science and Technological Education, for SC/ST Development

The digital economy creates two main entrepreneurial opportunities by using technology and technological education to enhance current markets and build new markets by applying technological innovations (Wu et al., 2024). Artificial intelligence, blockchain, and the internet of things have transformed industries by bringing disruptive products and services (Antonizzi & Smuts, 2020). Information technologies minimise transactional costs, expand information exchange, and enhance scalability, thus improving business competitiveness. Moreover, digitalisation stimulates an organisational culture of entrepreneurship with innovation, risk-taking, and lifelong learning for entrepreneurs (Kuratko, 2009).

In the context of SC/STs, education is a foundation for social mobility for them. It has historically been the most effective tool for breaking caste-based occupational barriers. For SC/ST communities, access to quality education is directly linked to upward social and economic mobility. Science and technological education, in particular, helps SC/ST youth move beyond traditional, low-paid manual work and into skilled, knowledge-based sectors.

It enhances employability in the modern economy. The current economy is driven by STEM (Science, Technology, Engineering, Mathematics) skills. SC/ST youth with science and technical education are more employable in high-growth sectors like IT, manufacturing, renewable energy, healthcare, and digital services. Government initiatives like Skill India Mission and Digital India link technological skills with entrepreneurship, creating opportunities for SC/ST participation in new industries.

It promotes entrepreneurship & innovation. The science and technology education provides the knowledge base for start-ups, innovation, and self-employment. When it combined with government credit creation policies (like Mudra, Stand-Up India), technical education enables SC/ST youth to set up enterprises in areas such as IT-enabled services, agro-tech, e-commerce, and green technologies. The technical know-how also improves productivity of traditional occupations, e.g., modernising handicrafts, agriculture, and small-scale industries.

It bridges the digital divide in India, which is a major challenge for SC/ST communities. It helps access to computer literacy, internet use, and vocational training in digital technologies reduces dependence on low-income informal jobs. Digital literacy empowers SC/ST youth to access e-governance, online credit platforms, and market opportunities.

It strengthens representation in higher education & research. Reservation in IITs, NITs, AIIMS, and central universities has increased SC/ST participation in science and technical fields. Scholarships such as National Fellowship for SC/ST Students, Post-Matric Scholarships, and Rajiv Gandhi National Fellowship support higher education in technology and research. This representation not only builds professional careers but also creates role models for future generations.

Education promotes Socio-Economic Empowerment and Leadership. Science and technological education fosters confidence, leadership, and awareness among SC/ST youth. Educated individuals are better equipped to fight discrimination, negotiate with financial institutions, and demand equal opportunities. In the long term, this contributes to inclusive nation-building, where marginalised

groups actively shape technological and industrial growth.

A lot of challenges still persist, despite reservation policies. Dropout rates among SC/ST students in science and technical courses remain high due to poor schooling foundations. Digital divide between urban and rural SC/ST populations restricts equal access to modern technology. Stereotyping and discrimination in higher technical institutions create barriers to full participation.

Therefore, the science and technological education plays a transformative role for SC/ST communities by enhancing employability, enabling entrepreneurship, bridging the digital divide, and fostering social mobility. When combined with supportive policies in credit creation and skill development, it becomes a powerful instrument for inclusive growth and empowerment.

The challenges of the digital revolution come in the forms of data security risks, issues regarding data confidentiality, and possible employment displacement via automation. SC/ST business owners also have other challenges, including the digital divide, lack of financial support on the ground, social capital that constrains technology, internet access, and digital competence, especially in rural settings (Mishra & Jain, 2019). Closing the divide is key to inclusive access to the digital economy. Even where internet access is available, gaps in digital competence, like digital training, financial problems and social support constrain SC/ST business owners from using digital platforms efficiently to conduct business and interact with customers. Therefore, targeted skill development programs are essential (Souza et al., 2022). An enabling environment with mentorship, networking, and funding is important for SC/ST entrepreneurs (Abidin & Pamungkas, 2020).

To overcome the challenges, cooperative action by governments, industry, civil society, and SC/ST groups must be ensured (Nogueira et al., 2021). E-commerce platforms and the Government e-Marketplace (GeM) give SC/ST entrepreneurs exposure to larger markets (Chandra, 2021). Digital platforms-based gig economy provides flexible earning avenues, particularly for SC/STs (KPMG, 2021). Initiatives like Startup India and the Digital India Startup Hub further enhance digital entrepreneurship with funding support, mentorship, and infrastructure facilities. For inclusive growth, there is a need for ongoing research to cater to the special needs of SC/ST entrepreneurs and unlock their true potential in the digital economy (Perwita, 2021).

5. Access to Education and Healthcare

Although both general and technical educational gaps persist among SC/STs in India, these disparities have been gradually narrowing with the advent and expansion of digital education. The spread of affordable smartphones and low-cost internet after the launch of Reliance Jio in 2016 significantly improved access among marginalised groups (IAMAI, 2022). Government initiatives such as SWAYAM, DIKSHA (Digital Infrastructure for Knowledge Sharing), and the broader Digital India programme have further enhanced access to quality content for SC/ST students in remote and underserved areas (Ministry of Education, 2022). Studies note that the proportion of SC/ST youth accessing online learning has increased steadily, helping to reduce barriers of geography, cost, and institutional discrimination (NITI Aayog, 2018; UNESCO, 2021). However, the digital divide persists, with lower levels of device ownership, irregular electricity supply, and gaps in digital literacy disproportionately affecting SC/ST households (IAMAI, 2022). Thus, while digital education has acted as a partial equaliser, targeted interventions remain necessary to ensure

equitable participation of SC/STs in both general and technical education. On the other hand, digital platforms such as e-Sanjeevani made access to telemedicine easier, helping to bridge the health and learning gap for rural and underprivileged populations (Rao and Sharma, 2022). Hon'ble Prime Minister Narendra Modi's vision of the Digital India, where quality healthcare percolates right up to the remotest regions, powered by e-Healthcare eSanjeevani was launched in November 2019. eSanjeevani has digitally brought health services to the masses in rural areas and remote communities. The National Telemedicine Service of India has already served over 321,997,230 patients at over 130,110 Health & Wellness Centres (as spokes) through 16,627+ hubs and over 677 online OPDs serviced by more than 227,575 doctors, medical specialists, super-specialists and health workers as telemedicine practitioners till December 2024. It is noticed that over 57 percent of the beneficiaries of eSanjeevani are females, and around 12 percent of all the beneficiaries are senior citizens. It also goes to reflect that the platform is finding its reach in the more vulnerable sections of the population.

Digitalisation has also transformed the delivery of healthcare and education services, making them more accessible and inclusive. The use of telemedicine and mobile health applications has made it possible to provide medical consultation and diagnosis to individuals in remote and underprivileged areas, overcoming the challenges of limited infrastructure and a shortage of healthcare professionals.

Medical transcription has emerged as an important source of foreign exchange earnings for India, particularly since the early 2000s. As part of the broader Business Process Outsourcing (BPO) and Knowledge Process Outsourcing (KPO) industries, medical transcription services involve the digitisation and documentation of patient records, clinical notes, and medical histories for healthcare providers, mainly in the United States and Europe (NASSCOM, 2021). This development may be viewed as a precursor and component of the expansion of online medical services, since it combines healthcare expertise with information technology platforms to deliver services across borders. Over time, medical transcription has not only contributed to India's export revenues but has also generated employment opportunities for educated youth, including those from SC/ST and other disadvantaged backgrounds, by enabling remote and flexible work options (Mehta & Awasthi, 2019). Its success demonstrates how the digital economy can integrate India into the global healthcare services value chain.

Similarly, the integration of digital technologies in the education sector has made learning more accessible and engaging for students, especially those from SC/ST communities. Online learning platforms, virtual classrooms, and digital educational content have expanded the reach of quality education, even in areas with limited access to traditional educational institutions (Shen et al., 2021). Government initiatives such as the National Digital Health Mission and the PM e-Vidya programme have further strengthened the integration of digital technologies in the healthcare and education sectors, ensuring that the benefits of these services reach the most vulnerable sections of the population (MoHFW, 2020; MHRD, 2020). But the accessibility to digital devices is a question of contention in the case of SC/STs.

Challenges faced by SC/STs

1. Digital Divide

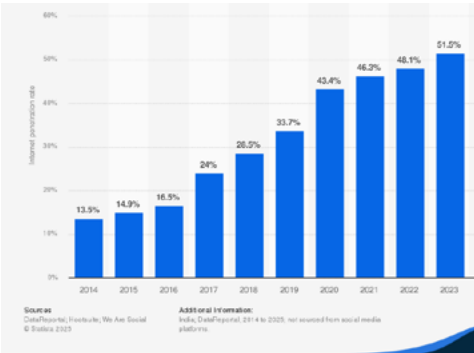
Historically, Indian society has been characterised by significant social and economic disparities based on caste, religion, and ethnicity (Das & Biswas, 2022). These communities continue to suffer from age-old caste prejudices, exclusion, and discrimination in various spheres of socio-economic life, including access to education, employment, healthcare, and other essential services (Das, 2013). Digital divide refers to “the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both their opportunities to access ICTs and to their use of the internet. It exists between caste groups, the old and the young and also based upon education, gender, social class, ethnicity and disability. Despite growing digital penetration, a significant digital divide persists. As per TRAI (2023), only 52 percent of rural households have internet access, compared to 87 percent in urban areas. According to the National Statistical Office (NSO, 2021), only 33 percent of rural households have access to the internet, compared to 81 percent in urban areas. On the other hand, the number of households with internet in India registered 51.4 million in rural and 81.5 million in urban areas during 2021 (Table 6).

Table 6: Internet Access in Rural and Urban Areas in India during 2021

Region	Total Households (Million)	Internet Access (in %)	Number of Households with Internet (Million)
Urban	100.6	81.0	81.5
Rural	155.7	33.0	51.4

Source: National Statistical Office (NSO), 2021

As per the latest data, India has seen significant growth in internet penetration, with the rate rising to 55.3 percent in 2025, up from 14 percent in 2014. By 2024, the total number of internet connections in India reached nearly 954 million, with urban areas accounting for 556 million connections and rural areas 398 million. Despite 70 percent of India's population living in rural areas, urban regions still maintain a higher density of connections. The urban-rural digital divide is evident in various internet activities. In 2024, social media usage was 59 percent in urban areas compared to 35 percent in rural areas, while digital payments were 46 percent in urban and 16 percent in rural regions. However, rural internet adoption is growing rapidly, with rural users accounting for 488 million of India's internet users in 2024. Mobile connectivity dominates internet access in India, with 50 percent of users accessing the internet via smartphones or tablets in 2025. The government's Digital India campaign and increased availability of cheap data plans have significantly contributed to bridging the urban-rural internet gap (Figure-3).



Source: Statista-2025 (Details: India; Data Reportal; 2014 to 2025; not sourced from social media platforms.

Despite the opportunities, SC/STs face several challenges in accessing and benefiting from the digital economy. One of the most pressing challenges is the digital divide between urban and rural India. While urban areas have high internet penetration, rural areas continue to struggle with poor infrastructure.

Besides structural barriers, the remoteness and forest-dwelling lifestyle of many SC/ST communities further limit their ability to benefit from digital opportunities. Poor connectivity, lack of stable electricity, and weak infrastructure in tribal and forested regions act as serious obstacles to participating in online education, medical transcription, and other digital service-based employment (NITI Aayog, 2018). As a result, even though digital platforms have the potential to integrate marginalised communities into global value chains, geographical isolation compounds existing educational and financial gaps. Without targeted investments in digital infrastructure and community-based training programmes in these areas, the promise of online medical services and other digital economy jobs will remain unevenly distributed (Ministry of Tribal Affairs, 2021). The persistent gap in digital access significantly limits the ability of rural Scheduled Castes (SCs) and Scheduled Tribes (STs) to fully engage in the digital economy, restricting their access to vital information, online services, and employment opportunities.

According to the 2011 Census, SCs constituted 19 percent of the rural population and 13 percent of the urban population, while STs made up 11 percent of the rural population and 2.8 percent of the urban population (Census, 2011). Furthermore, out of their respective population, 76.4 percent of the SC population and nearly 90 percent of the ST population reside in rural areas. This demographic pattern underscores a critical challenge of internet accessibility among rural SC/ST populations is less than half compared to their urban counterparts, further deepening the digital divide and socio-economic disparities. The persistent digital divide in India remains a major concern, particularly for Scheduled Castes (SC) and Scheduled Tribes (ST), who make up over 25 percent of the population and have historically faced socio-economic marginalisation (Das, 2013). This divide extends beyond mere access to digital technologies to include disparities in digital literacy and utilisation, exacerbated by economic and educational disadvantages (Srivastava & Shainesh, 2015).

While efforts have traditionally focused on providing digital infrastructure, research highlights that social and cultural factors significantly influence digital adoption (Sparks, 2013). In India, caste-based hierarchies often manifest in the digital sphere, reinforcing exclusion (Kamath, 2018). A study on Dalits in semi-urban Bangalore found that mobile phone access alone did not equate to meaningful digital inclusion or empowerment, as socio-cultural barriers persisted (Kamath, 2018). Addressing this divide requires shifting focus from the first-level digital divide—centred on access—to the second-level, which involves digital skills and competencies (Vaidehi et. al., 2021). The lack of digital literacy among marginalised communities further compounds socio-economic disadvantages, limiting their ability to leverage digital tools for upward mobility.

2. Economic Inequality and Digital Divide for SCs and STs

The digital economy can potentially democratise access to markets, information, and opportunities. Yet, if left unaddressed, market concentration, labour market polarisation, and the digital divide can exacerbate economic inequality (Pichai, 2024). While technology-enabled startups create wealth, income inequality has increased, and excluded groups find it difficult to access capital, markets, and technology because of systemic disparities (Basu, 2022). Inclusive growth calls for focused interventions and policies that ensure digital transformation becomes a force of equality and not division. SC/ST communities continue to suffer from economic deprivation, falling behind in literacy, employment, health, and housing. It was found that at least one-third of the income and poverty differentials between general caste and SC/ST households were due to 'unequal treatment' and not due to socioeconomic differentials. Exclusion of SC/ST populations from the digital sphere has the potential to perpetuate the cycle of poverty and deepen economic and social divides within the nation. India's caste-based digital divide has been examined through nationally representative data. It evidences digital differences between SC/ST and other castes while investigating underlying socioeconomic conditions (Borooah, 2005; Maity, 2017).

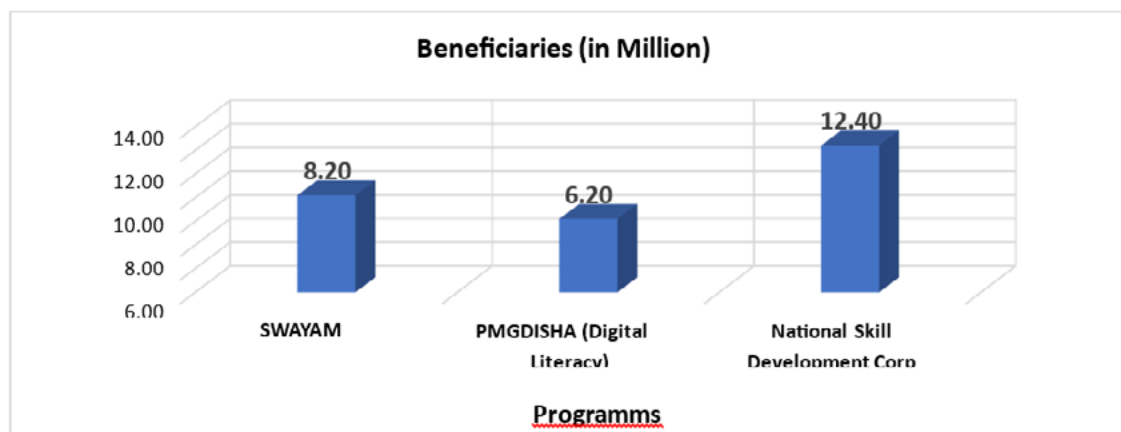
3. Limited Digital Literacy among SCs and STs

Digital literacy remains a critical barrier, particularly among women, elderly populations, and socio-economically disadvantaged communities. Skills training programs often fail to reach the most marginalised (Sen, 2021). Another critical barrier to inclusive digitalisation is the lack of digital literacy and skills among the marginalised communities. Many individuals, especially those from low-income and rural backgrounds, lack the necessary skills and knowledge to effectively utilise digital technologies and services (Shen et al., 2021). This hinders their ability to participate in the digital economy, access online services, and engage in digital entrepreneurship. In terms of digital literacy, 37.1 per cent of the urban population can use the internet as compared to only 13 percent in the rural areas.

Regional disparities in development, along with persistent income inequalities and poverty, further exacerbate the marginalisation of Scheduled Tribes (STs). Their geographical concentration in states such as Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Gujarat, Jharkhand, Chhattisgarh, Andhra Pradesh, West Bengal, Karnataka and other north-east States and Lakshadweep highlights the intersection of regional underdevelopment and social disadvantage. These spatial inequalities often limit access to quality education, healthcare, and employment opportunities, thereby reinforcing cycles of poverty among ST communities.

Programs like PMGDISHA aim to increase digital literacy in rural areas, empowering individuals to use technology effectively in daily life, thereby enhancing their participation in the digital economy. By improving digital skills, marginalised individuals can improve employability, access better job opportunities, and enhance productivity in rural industries. The digital literacy initiatives in India during 2021 are shown in Figure 4. The figures show that the beneficiaries under SWAYAM, PMGDISHA and National Skill Development Corp. in India registered 8.2 million, 6.2 million and 12.4 million, respectively, during 2021. Digital literacy initiatives in India during 2021.

Figure 4: Digital Literacy Initiatives programmes in India during 2021



Source: Ministry of Skill Development, 2021

Poverty, illiteracy, and lack of general awareness are some of the key barriers that prevent the scheduled caste and scheduled tribe populations from accessing digital technologies and developing digital literacy skills. In many rural areas, a significant portion of these communities remain unaware of the value and potential of digital tools for education, employment, and overall development. The government's efforts to provide educational and financial support, as well as reservations in jobs and educational institutions, have had limited success in bridging this digital divide (Das, 2021). Research has shown that the digital divide in India is deeply rooted in the existing socioeconomic disparities between caste groups. The lack of data on the second-level digital divide, which encompasses digital skills and competencies, has also hindered a comprehensive understanding of the challenges faced by the scheduled caste and scheduled tribe populations (Vaidehi et al., 2021).

4. Data Privacy and Security Concerns

The mass storage of digital information creates critical privacy issues, especially among marginalised populations exposed to increased vulnerabilities. With increasing digitisation via AI, cloud computing, and high-performance computing, data collection and processing of personal information have been on the rise (Liu, 2020). This creates ethical questions regarding data privacy, ownership, and responsibility since people exchange privacy for digital convenience. Companies can manipulate users with big data analytics, threatening autonomy and making intellectual property vulnerable to threats (Leung et al., 2020).

Minority groups are poorly digitally literate, which places them at risk of fraud, identity theft, and abuse of data. India's Digital Personal Data Protection Act (DPDP Act) of 2023 has however enacted. Minorities are also discriminated against and shrivelled based on data biases and algorithms. Most people don't know their data is being gathered, which exposes them to more privacy threats. The digital divide exacerbates these problems, as uneven access to technology and information leaves marginalised communities vulnerable to cyber-attacks. Solving these problems needs strong legal frameworks, digital literacy programs, and ethical data practices. Strong data protection laws need to restrict data gathering and increase user control (Liu, 2020). Closing the digital divide is needed

to provide protection of privacy to all. Algorithms must be dealt with to neutralise biases, thus avoiding the marginalisation of certain groups of people. Sustaining digital privacy is finally not only concerned with the safeguarding of rights but also with bringing social justice and equity to the digital world (Jurkiewicz, 2018; Kuhlman et al., 2020).

5. Gender Disparity and Digital Divide of SC/ST Women

Women from marginalised groups get the double hit of socio-cultural constraints and gender- based digital exclusion. In India, 51 percent of men used mobile internet in 2021, but only 30 percent of women did. Similarly, 61 percent of men owned mobile phones, while only 31 percent of women could access (UN Women, 2023). It has been stated that only 34 percent of rural Indian women use mobile internet. Despite low literacy rates among SCs (66%) and STs (59%) according to the 2011 Census—dropping to 56.5 percent (SC) and 49.4 percent (ST) for women—illiteracy does not preclude digital engagement (Census India, 2011). Most manage with visual cues, audio prompts, and support from others. Digital inclusion has grown due to affordable internet and mobile technology, emphasising accessibility over traditional literacy.

The intersection of gender, caste, and technology leads to disparities, particularly for women from SC and ST. The digital gender gap includes access, literacy, and security problems that still prevail globally (Wang, 2022). Women remain digitally underrepresented and face employment problems in the mobile industry and tech leadership (Borgonovi et al., 2018). They also have fewer odds of using mobile internet in middle- and lower-income countries than men (Faith & Banga, 2023). These imbalances need to be addressed because digital technologies empower people and ensure Sustainable Development Goals. Technology has the capability of eliminating gender differences, but socio-economic inequality perpetuates digital divide. SC/ST women are denied autonomy over phone ownership— another constraint to digital landscape (Nahar, 2024). These silos must be bridged through structural reforms, gender-transformative policies, and AI-driven interventions for gender equality. The UN's SDG 5B targets the use of ICT to empower women (Tsetsi & Rains, 2017). Policies for digital inclusion need gender-disaggregated data so women from poor groups are actively engaged with and benefit from digital economy (Huyer, 2005; Mariscal et al., 2019).

Conclusion

To unlock the potential of the digital economy for marginalised communities in India, policymakers need to bridge the digital divide by making strategic interventions in infrastructure, literacy, financial inclusion, and regulatory environments. Upgrading digital infrastructure, particularly in rural India, is essential, considering the gap in broadband penetration. Digital literacy initiatives need to empower marginalised communities by offering necessary skills for digital platform navigation. Women's participation needs to be ensured through targeted policies that overcome socio-cultural limitations and enhance digital uptake through public-private partnerships. Financial inclusion is yet another primary pillar. Digital financial literacy has to include consumer rights and protection. Scaling up digital payment systems, online banking, and microfinance facilities will strengthen economic engagement of underprivileged communities. Values such as data privacy, algorithmic bias, and cybersecurity need to be regulated in an effective manner. The influence of digital policies needs to be monitored through wide-ranging data gathering. India's digital revolution is an environment of vast opportunities and challenging problems, determining the course of economic growth, social

progress, and international competitiveness. The digital economy holds transformative power for India's marginalised communities, promoting jobs, financial inclusion, and social empowerment. Digital economy has opened up new avenues for the SC community in India to reach markets and customers. By offering a level playing field, minimising discrimination, and maximising visibility and credibility, the digital economy has assisted in empowering SC entrepreneurs and enhancing their socio-economic standing.

Yet, major impediments still exist in the form of infrastructural deficiencies, illiteracy and socio-economic disparities. These gaps need to be bridged by concerted action from the government, private sector, and civil society. As per UNESCO for inclusive digital solution, there is a requirement to concentrate on users and their needs, concentrate on users digital and competences, make the clarity and relevance of content appropriate for low skilled and low literate users, employ right media and customise user interface for low skilled and low literate users, ensure initial training and support in the country.

To bridge the gap, policies must integrate digital skill development with infrastructure expansion, ensuring that digital inclusion translates into real economic and social empowerment for historically disadvantaged communities.

Policy Recommendations

1. To bridge the digital divide, the government must expand broadband access through initiatives like Bharat Net.
2. To strengthen digital literacy, the targeted programs focusing on rural women and SC/STs are essential. Digital literacy and education can be provided to large groups of people via online courses, tutorials and mobile learning.
3. To support digital entrepreneurs, provision to be made access to credit, mentoring, and market linkages should be strengthened.
4. To ensure data security, a stringent law/act for data privacy and security must be implemented.
5. To promote inclusive digital platforms, content in local languages and culturally sensitive platforms can boost digital inclusion.
6. To bridge the gender divide, a regulatory policy frameworks that enable women to actively participate in the formulation and implementation of national digital strategies. Identify and eliminate all potential risks that women and girls encounter from increased digitalisation by encouraging the adoption of safety-by-design approaches. Promote and implement gender-responsive policies to create an enabling, inclusive, and non- discriminatory digital economy for women-led and -owned businesses.

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Managing Editor

Prahlad Kumar : Prof (retd.) & HOD Economics, Dept. of Economics, Allahabad University

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Address : 3, Institutional Area, Sector-5, Rohini, New Delhi
Email : poojajain@jimsindia.org Mobile : 9810575404

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Hanuman Prasad : Dean Mohan Lal Sukhadia University, Udaipur
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Email : profhanumanprasad@mlsu.ac.in Phone : +919414343358

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Manjappa D Hosamane : Former Vice - Chancellor V S K University, Ballari, Karnataka, and
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Address : 716, C Block, 11 Main; Vijayanagar 3 Stage, Mysuru 570030 Karnataka
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108 Annual International Conference of Indian Economic Association

108th IEA Concept Note

Main Theme:

India's Approach to a 'Viksit Bharat' @2047: Perspective of Emerging Global Complexities and Realities

As India aspires to become a developed nation by 2047, it faces multifaceted challenges and opportunities within the global landscape. The interplay of economic growth, technological innovation, industrial transformation, human security, sustainability, and trade dynamics will shape India's trajectory towards a 'Viksit Bharat.' This conference aims to explore India's strategic roadmap in the context of emerging global complexities, ensuring inclusive development, economic resilience, and sustainable progress.

This conference aims to provide a comprehensive understanding of India's developmental roadmap, addressing opportunities and challenges in achieving 'Viksit Bharat' by 2047. By fostering dialogue among policymakers, industry leaders, academicians, and stakeholders, this event will contribute to shaping a progressive, resilient, and globally competitive India.

Subthemes:

1: Agriculture and 'Viksit Bharat'

Agriculture remains the backbone of India's economy, with over 50 percent of the population dependent on it. By 2047, India's agricultural sector must undergo a transformation, leveraging technology, sustainable practices, and policy interventions to ensure food security, enhance productivity, and improve farmer incomes. The subtheme will explore:

- * The role of Agri-Tech, AI, and data-driven farming in boosting agricultural output
- * Sustainable agriculture practices in the face of climate change
- * Government policies and global partnerships to strengthen India's Agri-economy
- * Empowering smallholder farmers and fostering agribusiness innovations

2: Financial Economy & Industrial Development in 'Viksit Bharat'

A robust financial economy and industrial sector are critical for achieving 'Viksit Bharat.' India's industrial landscape must be strengthened through increased manufacturing capabilities, financial inclusion, and regulatory reforms. This subtheme will discuss:

- * Strengthening the financial sector to support industrial growth
- * Enhancing MSME contributions and promoting self-reliance under 'Make in India'
- * India's industrial competitiveness in the global economy
- * Investment climate, FDI policies, and infrastructure development

3: Digital Economy and Artificial Intelligence and the Labour Market Perspective to 'Viksit Bharat'

The rapid digitisation of the Indian economy and the rise of AI-driven technologies will redefine the labour market and economic productivity. This subtheme will examine:

- * The impact of digital transformation on employment and skill development
- * AI, automation, and the future of work in India
- * Bridging the digital divide and ensuring an inclusive digital economy
- * Policy frameworks to balance innovation with employment generation

4: Sustainable Development and Human Security in the Eve of 'Viksit Bharat'

India's growth must align with sustainability and human security to ensure a resilient future. Sustainable development goals (SDGs) and a holistic approach to human security will be central to India's progress. Discussions under this subtheme will include:

- * Climate resilience and India's green energy transition
- * Human security, healthcare, and social welfare systems
- * Urbanisation, smart cities, and environmental sustainability
- * Policies for gender equality, education, and community empowerment

5: Direction and Composition of India's Trade and Contribution to 'Viksit Bharat'

India's trade policies and global market positioning will significantly impact its journey toward becoming a developed nation. This subtheme will focus on:

- * India's evolving trade policies and export-import dynamics
- * Strengthening trade ties with key global economies
- * Role of innovation and entrepreneurship in global trade competitiveness
- * Strategies to integrate India into global value chains and reduce trade imbalances

6: 108th IEA host State's Socio-economic development working towards 'Viksit Bharat'

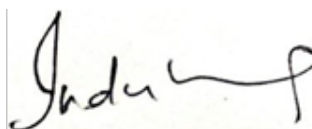
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- (I) Impact of infrastructure development on economic growth of the state.
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