Empowering Women in India: A Pathway to Vikisit Bharat 2047".

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Abstract

Women's empowerment is a critical foundation for India's journey toward achieving the ambitious national vision of Viksit Bharat 2047. As nearly half of the country's population, women possess immense potential to contribute to social progress, economic growth, and community development. However, deep-rooted challenges such as gender inequality, wage disparities, workplace harassment, limited digital access, and socio-cultural restrictions continue to hinder women's full participation in the nation's developmental processes.

This study explores the multifaceted dimensions of women's empowerment in India by analyzing historical developments, current challenges, and the role of policy initiatives in strengthening women's status. Government schemes such as Beti Bachao Beti Padhao, Digital India, MUDRA Loans, and the POSH Act have created an enabling environment for promoting education, entrepreneurship, safety, and financial inclusion. Additionally, corporate initiatives on diversity, leadership development, flexible work models, and digital upskilling contribute significantly to advancing gender equity.

The paper also highlights persistent issues using real organizational examples—such as gender pay gaps, limited representation in leadership roles, and lack of inclusive HR practices across industries. These challenges indicate the need for comprehensive reforms, gender-sensitive policies, digital capacity building, and stronger institutional support systems.

The study concludes that empowering women is not only a matter of social justice but also a strategic necessity for building a prosperous and equitable India. Achieving Viksit Bharat 2047 requires placing women at the center of development, ensuring equal opportunities, and enabling them to participate fully in nation-building.

Keywords: Women Empowerment, Gender Equality, Viksit Bharat 2047, Government Initiatives, Workforce Participation

Introduction

Empowering women is one of the most important pillars for building a strong and developed India. As the nation aims to achieve the vision of Viksit Bharat 2047, women's empowerment becomes essential for ensuring inclusive growth, social

progress, and sustainable development. Women constitute nearly half of India's population, and their active participation in education, employment, entrepreneurship, politics, and community development is crucial for transforming India into a fully developed nation.

Over the years, India has introduced various policies and initiatives to promote gender equality and improve women's access to opportunities. Despite this progress, many women still face challenges such as limited educational access, economic inequality, safety concerns, and social barriers rooted in traditional norms. These issues restrict their growth and prevent them from contributing fully to national development.

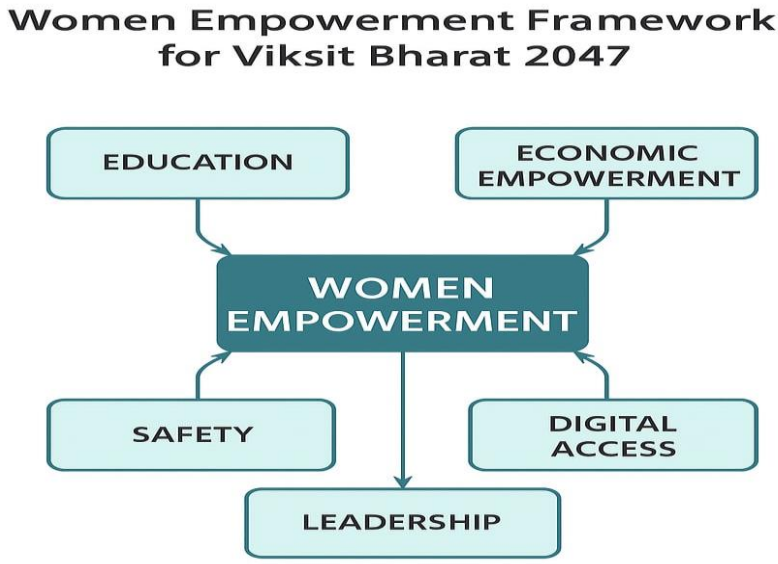
Therefore, empowering women is not just a social responsibility—it is a strategic necessity for India's future. When women are educated, skilled, financially independent, and socially confident, they contribute significantly to economic productivity, social well-being, and community development. This paper explores the importance of women's empowerment in shaping a developed India and highlights how strengthening women's roles can accelerate the nation's journey towards Viksit Bharat 2047.

Need of the Study

The empowerment of women is a crucial requirement for India's progress, especially as the nation moves toward the goal of Viksit Bharat 2047. Despite several initiatives and improvements, many women in India still face barriers related to education, employment, health, safety, and social acceptance. These challenges limit their participation in development activities and affect the country's overall growth. Studying women's empowerment is essential because it highlights the need for equal opportunities, identifies gaps in existing systems, and suggests practical measures to strengthen women's role in society. Empowered women contribute to economic productivity, improved family well-being, and better social outcomes. Therefore, this study is needed to understand current challenges, analyze policy efforts, and recommend strategies that will help India achieve inclusive and sustainable development by 2047.

Objectives of the Study

- To examine the importance of women's empowerment in India's social and economic development.
- To analyze the key challenges faced by women in accessing education, employment, and safety.
- To study the role of women's empowerment in achieving the vision of Viksit Bharat 2047.
- To evaluate existing government policies and initiatives aimed at promoting women's welfare and equality.
- To suggest strategies and recommendations for strengthening women's participation in development and national growth.



This diagram represents the key components that collectively strengthen women's empowerment in the pathway to Viksit Bharat 2047.

Significance of the Study

This study is significant because it highlights the crucial role of women in shaping India's journey toward Viksit Bharat. Empowering women is not only a matter of social justice but also a key driver of national development. When women gain access to education, employment, healthcare, and decision-making opportunities, the entire nation benefits through improved productivity, stronger families, and inclusive growth.

The study helps policymakers, educators, and social institutions understand the present challenges faced by women—such as discrimination, lack of resources, and limited participation in the workforce. By identifying these gaps, the research provides insights that can guide effective strategies and policies for women's empowerment.

Additionally, the study contributes to academic knowledge by connecting women's empowerment with economic progress, social transformation, and sustainable development. It emphasizes that achieving Viksit Bharat is possible only when women are fully included in the nation's development agenda.

Historical Background

The history of women's empowerment in India is deeply rooted in the country's social, cultural, and political evolution. In ancient India, women enjoyed relatively high status in areas such as education, literature, and spiritual practices.

Texts from the Vedic period mention women scholars like Gargi and Maitreyi, highlighting their intellectual contributions. However, over time, patriarchal norms strengthened, reducing women's autonomy and restricting their social and economic roles.

During the medieval period, women's status declined further due to practices such as child marriage, purdah, and limited access to education. The colonial period marked the beginning of significant reforms as social reformers like Raja Ram Mohan Roy, Ishwar Chandra Vidyasagar, and Savitribai Phule fought against oppressive practices and promoted women's education and rights.

The freedom struggle also played a major role in empowering women. Leaders such as Sarojini Naidu, Kasturba Gandhi, Annie Besant, and Rani Lakshmibai inspired women to participate actively in national movements. This involvement helped shift public perception and paved the way for women's greater participation in society.

After independence, the Indian Constitution guaranteed equality, dignity, and freedom for women through fundamental rights. Several legislative measures—such as the Hindu Marriage Act, Dowry Prohibition Act, and laws supporting education, property rights, and protection from violence—were introduced to safeguard women's rights.

In recent decades, government initiatives like Beti Bachao Beti Padhao, Ujjwala Yojana, Jan Dhan Yojana, Self-Help Groups, Stand-Up India, and reservation in local governance have strengthened women's economic and social position. Women's participation in education, entrepreneurship, sports, science, and leadership roles has significantly increased.

Despite progress, challenges such as gender inequality, safety concerns, wage gaps, and limited decision-making power still persist. Understanding this historical journey provides the foundation for developing effective strategies to achieve Viksit Bharat, where women contribute equally to social, economic, and national development. (MyGov india 2023).

Challenges to women's of Empowering Women in India

Women's empowerment in India continues to face deep-rooted obstacles across social, economic, and institutional spheres. Although many companies have introduced gender-inclusive policies, several persistent challenges limit women's full participation, career advancement, and leadership representation. The following major problems highlight the core issues that require immediate attention.

1. Persistent Gender Pay Gap

Despite equal pay laws, women continue to earn significantly less than men for similar roles.

Example: Google faced a major lawsuit in the U.S. where over 10,000 women employees reported being systematically underpaid compared to male colleagues in similar roles. The company settled the case with compensation, revealing how even global technology leaders struggle with pay parity.

2.LimitedRepresentationinLeadershipRoles

Women remain underrepresented in senior management, board positions, and decision-making roles.

Example: A 2023 Deloitte report showed that women hold only around 20% of board seats in Indian companies, even in progressive sectors such as IT and banking.

Example: Infosys and Wipro have fewer women at CXO levels compared to their overall workforce numbers, indicating a leadership pipeline gap.

3. Workplace Harassment and Hostile Culture

Sexual harassment and gender-insensitive behaviour remain major barriers to women's safety and confidence.

Example: At Uber, several women employees reported harassment and discrimination, leading to a global investigation and major reforms in company culture.

Example: Many Indian firms still lack active Internal Complaints Committees (ICC) under the POSH Act, making reporting unsafe or ineffective.

4. Career Breaks Due to Family Responsibilities

Women often take career breaks due to maternity, childcare, or elder care responsibilities, leading to slowed career progression.

Example: Surveys at top Indian firms like TCS and HCL reveal that 40–50% of women drop out in mid-career stages due to family duties.

Many companies lack structured "return-to-work" programs, causing talent loss.

5. Lack of Equal Opportunity in Skill Development

Women are often excluded from high-skill, high-growth projects, especially in technology and manufacturing sectors.

Example: In several manufacturing plants, including those of Maruti Suzuki and other automotive companies, women are underrepresented on the shop floor due to gender stereotyping and safety concerns.

Example: Tech companies offer AI/ML roles disproportionately to men, widening the digital skill gap.

6. Stereotyping and Unconscious Bias

Deep-rooted cultural beliefs and workplace stereotypes limit women's assignments, promotions, and responsibilities.

Example: Studies at global companies like Amazon show that performance reviews often reflect unconscious bias, where assertive female employees are judged more harshly than men for the same behavior.

7. Work–Life Balance Challenges

Inadequate flexibility, long working hours, and lack of childcare support make it difficult for women to sustain corporate employment.

Example: Many Indian firms lack onsite daycare or flexible timing, especially in manufacturing and SME sectors, forcing women to quit their jobs after childbirth.
Example: BPO companies have late-night shifts that create safety concerns, reducing women's participation.

8. Safety and Commuting Concerns

Inadequate safe transportation and late-night work hazard women's physical security.

Example: A number of female employees in metro cities like Bengaluru and Hyderabad reported safety fears during late-night cab rides, leading some companies like Accenture to implement mandatory safety protocols.

9. Digital Gender Divide

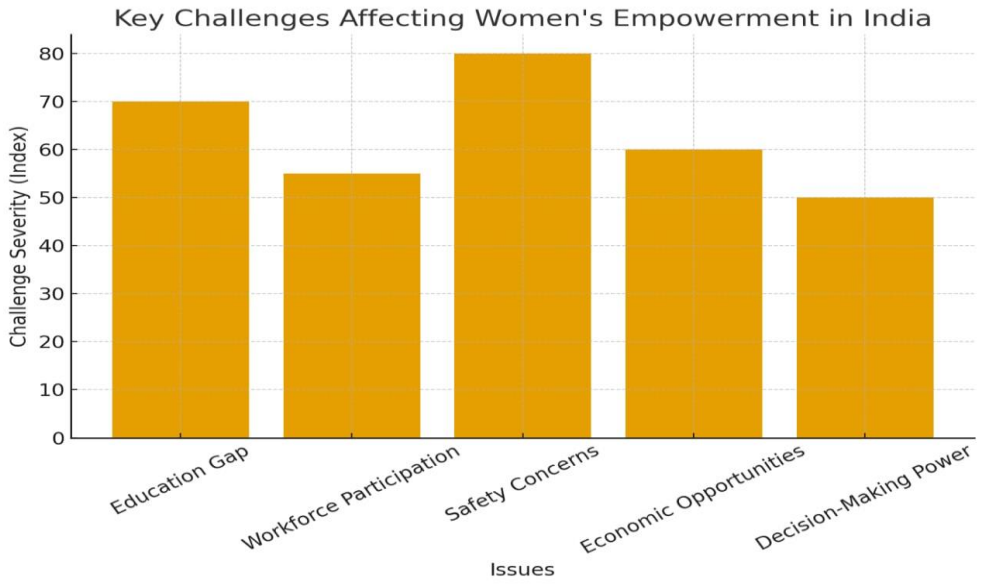
Women's lack of equal access to digital tools and emerging technologies limits their participation in high-growth sectors.

Example: In many large retail and logistics companies, men dominate digital operations and supply chain roles because women are not equally trained in new technologies.

10. Lack of Inclusive HR Policies

Many organizations still do not have gender-responsive policies, maternity benefits, or grievance-handling mechanisms.

Example: Small and medium enterprises (SMEs) often do not comply fully with maternity benefit laws or do not offer paid maternity leave, affecting women in unorganized and semi-organized sectors.



Government Initiatives and Policy Framework

The Government of India has undertaken a wide range of policies, schemes, and legislative reforms to strengthen women's empowerment across social, economic, educational, and digital domains. These initiatives aim to create an enabling environment that promotes gender equality, enhances women's participation in the workforce, ensures safety, and supports the vision of Viksit Bharat 2047. The following are the major government efforts contributing to women's development.

1 Beti Bachao Beti Padhao (BBBP)

Launched in 2015, BBBP aims to improve the Child Sex Ratio (CSR) and ensure survival, protection, and education of the girl child.

Key Components:

Awareness campaigns against gender discrimination

Promoting girl child education

Strengthening institutional support for women and girls

2 National Policy for Women (Draft, 2016)

This policy focuses on:

Enhancing women's economic participation

Addressing workplace safety

Improving healthcare and education outcomes

Strengthening legal and institutional frameworks

It emphasizes women's rights, entrepreneurship, and skill development.

3 Maternity Benefit (Amendment) Act, 2017

This act provides:

26 weeks of paid maternity leave

Mandatory creche facilities for companies with 50+ employees

Protection against dismissal during pregnancy

This strengthens women's workforce participation and reduces career breaks.

4 POSH Act, 2013 (Prevention of Sexual Harassment at Workplace)

This legislation ensures safe working conditions for women.

Key Provisions:

Mandatory Internal Complaints Committees (ICC) in all organizations

Strict timelines for inquiry

Protection of victim identity

Employer responsibility for a safe environment

5. Stand-Up India Scheme (2016)

This scheme provides loans between ₹10 lakh to ₹1 crore for women entrepreneurs and SC/ST entrepreneurs.

Benefits:

Financial independence

Promotion of women-led enterprises

Increased participation in entrepreneurship

6 Pradhan Mantri MUDRA Yojana (PMMY)

Under this scheme, a large number of loans have been sanctioned to women entrepreneurs under categories like Shishu, Kishore, and Tarun.

It supports small businesses, startups, and self-employment.

7 Digital India and Women Empowerment

The Digital India initiative aims to reduce the digital gender divide by promoting:
Digital literacy programs for women
Online skill training
E-governance access
Women-led digital service centers (CSC)
This supports women in adapting to new technologies and digital jobs.

8 Skill India and Skill Development Programs

The government has introduced dedicated programs to train women in employable skills:
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
National Skill Development Mission
Female participation in ITI and vocational courses

9 **Indira Gandhi Matritva Sahyog Yojana (IGMSY)**

A maternity benefit program offering conditional cash transfers to pregnant and lactating women to ensure their health and nutrition.
2.10 Women Helpline and One-Stop Centres
These centers offer support services to women facing violence or exploitation.
Services include:
Emergency support
Legal assistance
Shelter
Counselling

11 Reservation for Women in Local Governance

Under the 73rd and 74th Constitutional Amendments, one-third of seats in Panchayats and Municipalities are reserved for women.
Several states (e.g., Bihar, Andhra Pradesh, Madhya Pradesh) have extended the reservation to 50%.

12. Start-Up India – Women Entrepreneurship Support

This program encourages:
Women-led startups
Innovation-driven enterprises
Access to funding, incubation, and mentoring
Overall Impact

These government policies collectively aim to:

- Improve women's socio-economic status
- Enhance workforce participation
- Promote safety, security, and equality
- Strengthen digital and entrepreneurial capabilities
- Contribute to India's vision of Viksit Bharat 2047

Corporate Sector Initiatives for Women Empowerment

The corporate sector in India has increasingly recognized the need for gender diversity, inclusive workplaces, and equal opportunities for women. Many leading companies across IT, manufacturing, banking, and FMCG have introduced policies, programs, and work cultures that enable women's participation, leadership development, and economic empowerment. These initiatives complement government efforts and play a crucial role in driving India's journey toward Viksit Bharat 2047.

1 Diversity and Inclusion (D&I) Policies: Several organizations have established strong D&I frameworks to foster gender-balanced workforces.

Examples:

Tata Consultancy Services (TCS): Maintains a gender diversity ratio of over 35%, supported by gender-inclusive hiring and equal opportunity policies.

Infosys: Implements diversity councils, women-focused hiring plans, and mandatory sensitization programs.

These policies aim to create respectful, bias-free, and supportive work environments for women.

.2 Women Leadership Development Programs

Companies offer structured leadership training to improve women's representation in top roles.

Examples:

Wipro – Women of Wipro (WoW): A leadership pipeline program that trains women for managerial and executive positions.

ICICI Bank – iLead Program: Provides leadership mentoring and career development opportunities for women.

These initiatives help increase the number of women in mid and senior management.

3**. Rehire / Return-to-Work Programs**

To support women who take career breaks due to maternity or family responsibilities, companies have designed re-entry programs.

Examples:

Infosys – "Restart with Infosys" helps women re-enter after long career gaps by providing training and flexible work options.

Capgemini – "CAPtivate" supports women returning to the workforce through mentorship and re-skilling modules.

Such programs reduce the "broken career pipeline" faced by many women.

4 Flexible Work Arrangements and Remote Work Policies

Companies increasingly offer flexible hours, remote working, and hybrid models.

Examples:

Accenture and Deloitte: Provide generous flexible work policies, enabling women to balance professional and personal responsibilities.

IBM India: Offers part-time arrangements and work-from-home options to retain women talent.

This flexibility helps improve women's workforce participation.

5 Workplace Safety and POSH Compliance

Corporate organizations ensure compliance with the POSH Act, providing safe and secure work environments.

Examples:

Tech Mahindra and Reliance Industries: Conduct regular POSH training and maintain strong Internal Complaints Committees (ICCs).

Many IT and BPO firms provide safe transportation, especially for night-shift employees.

Safety initiatives create trust and increase women's confidence to work in diverse sectors.

6 .Gender-Neutral Recruitment and Promotion Practices

Companies are now adopting transparent, merit-based assessment processes.

Examples:

HCL Technologies: Uses competency-based hiring to eliminate gender bias.

L'Oréal India: Introduces blind recruitment practices to ensure fairness.

This ensures equal opportunities for career progression.

7. Skill Development and Digital Upskilling

Corporate firms are investing in continuous learning and digital empowerment for women.

Examples:

TCS – iON Digital Learning Hub: Offers skill development programs for women in emerging technologies.

Microsoft India – CyberShikshaa: Partners with government agencies to train women in cybersecurity.

These programs prepare women for high-growth, future-ready jobs.

8 Women Entrepreneurship Support

Several companies support women-led startups through funding, mentoring, and networking.

Examples:

Google India – Women Will Initiative: Promotes digital entrepreneurship among rural and urban women.

HUL – Project Shakti: Supports thousands of rural women in becoming micro-entrepreneurs and distributors.

Corporate support enhances women's financial independence and economic empowerment.

9 Work–Life Balance and Wellness Support

Some organizations have introduced wellness, childcare, and counselling services.

Examples:

SAP Labs: Offers on-site daycare, parental counselling, and mental health support.

Cognizant: Provides family wellness programs and support for working mothers.

This improves employee retention and performance among women.

Overall Contribution of Corporate Initiatives

Corporate initiatives significantly strengthen women's empowerment by:

- Enhancing workplace participation
- Reducing gender bias
- Promoting leadership and entrepreneurial growth
- Providing flexible, safe, and inclusive work environments
- Developing women's digital and technical skills

These collective efforts support the broader national vision of creating an equitable and empowered society by Viksit Bharat 2047.

Findings

1. Persistent Gender Pay Gap Exists Across Industries

Based on the problem statement, women continue to earn less than men.

Example: The Google lawsuit demonstrated large-scale pay inequality among women employees.

2. Women Remain Underrepresented in Leadership Roles

Corporate examples (Infosys, Wipro) show that although women are hired in large numbers, very few reach senior management positions.

3. Workplace Harassment and Safety Concerns Are Still Significant

The Uber case and gaps in POSH implementation highlight safety challenges, discouraging women from working in certain sectors and night shifts.

4. Career Breaks Due to Family Responsibilities Affect Growth

As shown in TCS and HCL data, many women drop out mid-career owing to childcare and family duties, reducing leadership pipeline strength.

5. Limited Access to High-Skill and Technical Roles

Examples from manufacturing companies like Maruti Suzuki show women being excluded from shop-floor or technical roles due to gender stereotypes.

6. Unconscious Bias Affects Women's Performance Appraisals

As seen in companies like Amazon, performance reviews often reflect gender bias, impacting promotions and recognition.

7. Work–Life Balance Challenges Persist Despite Corporate Policies

Despite flexible options (Accenture, IBM), many women still struggle with balancing personal and professional responsibilities.

8. Safety and Commuting Issues Limit Women's Mobility

Reports from IT/BPO companies show women feeling unsafe during late-night commutes, restricting opportunities.

9. Digital Gender Divide Affects Opportunities

Corporate digital upskilling programs benefit urban women more than rural women, creating inequality in access to digital jobs.

10. Lack of Inclusive HR Policies in SMEs and Unorganized Sectors

Many smaller companies fail to offer maternity benefits or safe working conditions, limiting empowerment in grassroots-level employment.

Suggestions

- StrengthenSkillDevelopmentInitiatives:
  Expand vocational training, digital literacy programs, and entrepreneurship

support for women in rural and urban India, enabling them to participate confidently in emerging economic sectors.

- PromoteWorkplaceEquity:
  Companies should implement transparent hiring, equal pay policies, mentorship programs for women, and strong anti-harassment mechanisms to ensure safe and inclusive work environments.
- EnhanceAccesstoFinancialResources:
  Banks and financial institutions must simplify loan procedures and offer tailored financial products to women-led businesses, especially first-generation entrepreneurs.
- ImproveDigitalInclusion:
  Provide affordable internet access, digital tools, and technology-based learning platforms so women can engage in remote work, e-commerce, and digital innovation.
- Strengthen Community and0 Institutional Support Systems:

Self-help groups, NGOs, and government bodies should collaborate to offer counselling, legal assistance, and career guidance for women facing social and economic barriers.

- Ensure Effective Implementation of Government Schemes:
  Regular monitoring, awareness campaigns, and simplified documentation can help women fully benefit from schemes related to health, education, safety, and entrepreneurship.
- Promote Gender Sensitization:
  Schools, workplaces, and communities should integrate gender-sensitivity programs to challenge stereotypes and encourage equal participation.

Conclusion

Empowering women in India is not just a social priority but a strategic pathway toward achieving the vision of Viksit Bharat 2047. The study highlights that despite progress in education, technology, and policy frameworks, women continue to face significant challenges in employment, safety, financial access, and social acceptance. Real-life examples from leading organizations show that structural barriers still restrict women's advancement.

However, with targeted skill development, inclusive workplace practices, digital empowerment, and strong institutional support, these barriers can be transformed into opportunities. Empowered women contribute not only to their families and communities but also to national growth, innovation, and sustainable development.

A future-ready India must place women at the center of economic and social transformation. When women rise, the nation rises—and this collective empowerment will be the driving force for achieving a truly developed and equitable Viksit Bharat.

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"Social Media–Driven Gig Economy Expansion: Opportunities, Risks, and Labor Market Transformation"

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Abstract

The gig economy has changed as as a consequence of social media's impact on how independent workers obtain employment, establish their credibility, cooperate together, and demand better working conditions. Social media networks are crucial for promoting the company's goods and services. The studies found that social media platforms promote company goods and services. These platforms provide independent workers a variety of flexible work alternatives as they evolve. Online platforms made it possible for the gig economy to flourish by disseminating work-related information and data to self-employed individuals and gig workers. Gig workers can work from anywhere in the world. These days, people in the gig economy work from consulting to providing services at their own pace. Gig workers advertise services, interact with customers, and create support networks on social media sites including Facebook, Instagram, WhatsApp, and LinkedIn. However these platforms also bring up issues with algorithmic control, digital exclusion, data surveillance, and reputational dependence. This article explores the changing relationship between social media and the gig economy, examining at how these platforms act as gatekeepers and enablers for gig workers. It examines how social media is changing gig labor arrangements, worker experiences, and socioeconomic consequences, especially in the Indian context, while also comparing global trends.

Keywords: Gig Economy, Social Media, Platform Labour, Worker Rights, Digital Platforms, Algorithmic Control, Fair work, Digital Inequality, Digital Literacy.

Introduction

The gig economy is a dynamic and changing labor model that is defined by task-based, flexible, and temporary work. People in this industry usually work on freelance projects, temporary assignments, or on-demand services, which are frequently facilitated by online marketplaces like Uber, Zomato, Swiggy, TaskRabbit, Upwork, Fiverr, and others. By allowing people to monetise their abilities on a task or project basis without the limitations of long-term contractual responsibilities, this model has drastically reshaped traditional employment systems. Gig labor provides flexibility, autonomy, and the possibility of increased income, especially in urban areas with advanced internet infrastructure. The gig economy now

has an additional layer of complication and the potential due to the growth of social media in recent years.

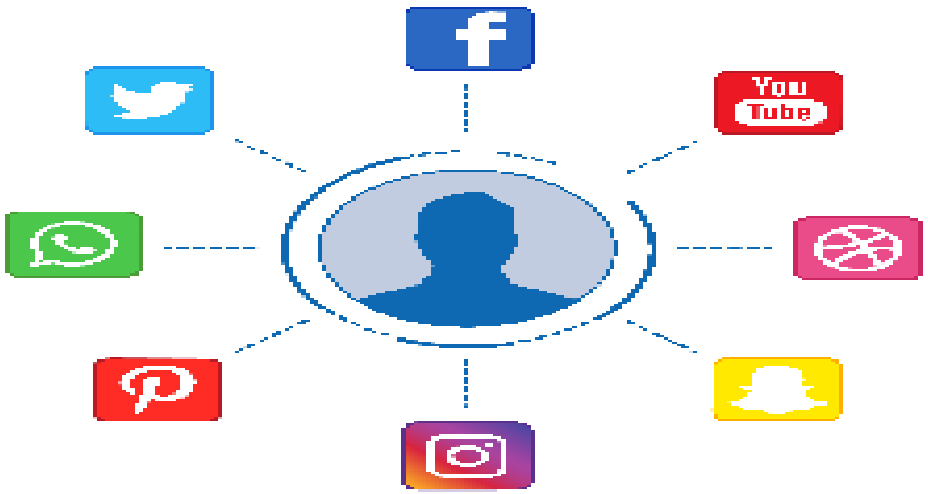
Social media sites like Instagram, Facebook, LinkedIn, TikTok, and WhatsApp are now vital resources for community involvement, customer acquisition, and self-branding. They are no more merely places for leisure and personal networking. In addition to promoting their services and portfolios, gig workers today use these platforms to reach new markets, share information, and foster unity in the face of algorithmic control and precarity. The labor landscape has changed globally as a result of the convergence of gig work and social media. Workers in a variety of industries, including delivery drivers, beauty salons, graphic artists, and home bakers, use social media to augment or even replace traditional platform-based jobs in nations like the US, Brazil, Kenya, and India. In addition to increasing their visibility and enabling real-time feedback loops, social media can sometimes serve as a catalyst for worker mobilization and collective action. But there have been some drawbacks to this digital revolution. Data privacy, algorithmic surveillance, and digital exclusion are becoming increasingly serious concerns. Gig workers frequently have little to no recourse against opaque performance rating systems that are driven by platform algorithms and public reviews on social media. Furthermore, a sizable portion of the workforce is excluded due to the digital divide, which is caused by unequal access to cellphones, internet connectivity, and digital literacy. This is especially true for women, people living in rural areas, and those with lower incomes. India is an interesting case study in this regard. The nation has seen a sharp increase in gig employment due to its large population, growing digital infrastructure, and youth-dominated labor market. India's gig economy is expected to rise to 23.5 million by 2029, according to NITI Aayog (2024), highlighting the country's increasing reliance on flexible and tech-mediated labor forms. At the same time, important concerns regarding equity and worker rights are brought up by differences in internet access and regulatory supervision.

This article explores the changing relationship between social media and the gig economy, examining at how these platforms act as gatekeepers and enablers for gig workers. It examines how social media is changing gig labor arrangements, worker experiences, and socioeconomic consequences, especially in the Indian context, while also comparing global trends. It does this by drawing on academic research, industry reports, and insights from international policy.

Emergence of Social Media

The emergence of social media has been a revolutionary force that profoundly changed how people connect, communicate, and exchange information. Though social media has its roots in the early years of the Internet, the 21st century has witnessed its rapid expansion. The origins of social media can be traced back to platforms like SixDegrees.com, which launched in 1997 and allowed users to create profiles and connect with friends. However, these early social networking site initiatives had a limited reach and lacked the features that now define present social

networking sites. The emergence of platforms like Friendster and MySpace in the early 2000s marked the real breakthrough. The idea of a social network where users could connect with friends and widen their social circles was introduced by Friendster, which launched in 2002. MySpace, which started in 2003, allowed users to create customized profiles and share music, photos, and updates with their network. Here's an overview of various social media tools that have played significant roles in shaping the digital world:



Facebook: Founded by Mark Zuckerberg in 2004, Facebook quickly became one of the world's most widely used social networking sites. Users can create profiles, connect with friends, share updates, photos, and videos, and engage with content through comments and likes.

YouTube: YouTube is a platform for sharing videos. It was founded in 2005 and later acquired by Google. Videos containing a broad spectrum of information, from entertainment to educational content, can be uploaded, viewed, and commented on by users.

Twitter: Twitter is a microblogging network founded in 2006 and known for its 280-character limit per tweet. Users can follow others, share tweets, and engage in real-time conversations using hashtags and retweets.

Instagram: Instagram is a photo and video-sharing platform launched in 2010 and later acquired by Facebook. It emphasizes visual content, allowing users to share images, stories, and short videos, often improved with filters and creative features.

WhatsApp: WhatsApp is a messaging app that allows users to send text and voice messages, make voice and video calls, and share multimedia content. It is known for its end-to-end encryption.

LinkedIn: LinkedIn is a professional networking site that was established in 2002. It's a platform for job networking and recruitment; users can create professional profiles, connect with colleagues, and share business-related information.

Snapchat: Snapchat, introduced in 2011, is known for its ephemeral messaging., in which messages vanish after a brief period. Users can send photos and videos that disappear after being viewed, encouraging more spontaneous and casual communication. This idea resonated with younger users and changed how people communicate and share moments.

Characteristics of Social Media

Social media has become integral to contemporary society, influencing how individuals communicate, share information, and connect with others. The characteristics of social media are diverse and constantly evolving, which reflects the dynamic nature of online interactions. The following are some essential features of social media:

Interactivity: The interactive feature of social media is one of its distinguishing characteristics. Users can engage with content by reacting to posts, sharing, liking, and commenting. This interactivity facilitates real-time conversations and connections.

Global Reach: Social media enables users to connect with people worldwide by transcending geographical barriers. This transnational access makes it possible to exchange perspectives, cultures, and ideas to an extent that has never been possible.

User-Generated Content: User-generated content is a significant element of social media platforms. Users create and share content, whether text, photos, videos, or links, contributing to the continuous flow of information.

Diverse Media Formats: Social media platforms facilitate a variety of media formats, such as text, photos, videos, live streaming, and multimedia content. Because of their diverse media formats, the platforms are engaging and versatile, providing different communication styles and preferences.

Personalization: Social media algorithms analyze user behavior and preferences to provide individualized content. This personalization can enhance user experience by showing relevant content and connecting individuals with like-minded peers.

Networking and Connectivity: Social media platforms facilitate networking and connectivity by allowing users to establish connections with friends, family, colleagues, and even strangers who have similar interests. These connections contribute to the creation of virtual communities.

Mobile Accessibility: Most social media sites can be accessed on mobile devices, making it easier to interact with people online. The ability to interact on social media at anytime and anywhere has transformed how people communicate.

Privacy Concerns: Social networking sites collect data about user behaviour, such as preferences, likes, shares, comments etc. Collecting and using personal data on social media platforms has raised privacy concerns.

Social Media as a Tool for Work Access and Visibility

Social media sites give gig workers a crucial tool to reach customers and advertise their services. Freelance photographers, delivery drivers, instructors, and beauty service providers frequently use social media sites like Facebook, Instagram, and TikTok.

For instance, in Kenya, home-based stylists and hairdressers are depending more and more on social media and mobile apps to connect with urban customers. However, a lack of access to cellphones or digital illiteracy causes many people to fall behind (Reuters, 2024).

Beauty professionals in India utilize Facebook and Instagram to display bridal makeup portfolios and attract urban clients. To increase visibility, startups such as Urban Company offer integrated social sharing tools (Business Standard, 2024). Similar to this, home-based bakers and fitness instructors in Bengaluru and Mumbai mainly rely on WhatsApp Business and Instagram Reels for client contact and brand development.

More than 30% of gig workers worldwide utilize social media platforms to increase employment visibility and obtain more reliable work, according to the ILO (2024). In the same way, Pilatti, Pinheiro, and Montini (2024) highlighted how social networks give workers more control in settings that are normally controlled by platform algorithms by reducing information asymmetry.

Both small and large companies and entrepreneurs are aware of the advantages of using digital platforms to link their enterprises. Online businesses are growing more adept at creating viral content. The significance of viral content raises brand exposure among internet users.

Community Building and Collective Action

Social media acts as a digital infrastructure for worker solidarity. Delivery drivers, ride-hailing employees, and independent contractors frequently utilize Telegram channels, Facebook communities, and WhatsApp groups to exchange customer reviews, income information, and safety alerts.

In order to raise awareness of issues related to wages, safety, and insurance benefits, Swiggy and Zomato delivery partners in India have organized strikes utilizing Facebook Live streams and Twitter (now X). The Delhi Gig Workers'

Association has shared legal resources and organized rallies throughout the region via WhatsApp broadcasts.

These spaces are recognized by the ILO (2024) as informal unions that frequently intervene when official labor laws are missing. According to research by The Oxford Fairwork Project Internet Institute, platforms frequently react to pressure from social media.

In various regions, including Latin America and South Asia, publicly visible campaigns like complaints about pay or ratings have led to policy changes and enhanced transparency (Oxford Internet Institute, 2023).

According to a 2023 research by Tandem Research (India), localized resistance against unjust algorithmic deactivations and poor working conditions has been made possible by collaborative action via Instagram and WhatsApp.

Algorithmic Control and Surveillance Risks

While social media allows workers to access opportunities, it also facilitates data tracking and employer surveillance. According to Wiley Online Library (2023), certain platforms assess employees' performance based on their online engagement, ratings, and response times without always sharing this information.

Even when employees have no control over poor ratings or late responses, these automated systems have the power to penalize them. Moreover, the use of reputational metrics on social platforms creates new hierarchies within gig work. While some employees experience limited exposure or algorithmic discrimination, those with greater online visibility or digital competence frequently pull in more clients.

According to some of gig workers in India, delivery services like Dunzo and Ola Dash temporarily suspended them due to algorithmic ratings based on their online interactions (The Hindu, 2024). These social media-driven consumer feedback-based reputational systems often lack appeal procedures and transparency.

Digital Inequality and Marginalization

Social media has strengthened digital divides even while it has democratized access to gig employment in some ways. Low-income people, women, and rural laborers might not have the resources or know-how to use social media platforms efficiently.

For instance, the "Braiding Nairobi" app was created in Kenya to bridge the gender tech divide by assisting female hairstylists without social media experience in connecting clients (Reuters, 2024). In the same way, the Ministry of Women and Child Development's "Mahila e-Haat" initiative in India seeks to empower women entrepreneurs, including gig workers, through the provision of an online marketplace

for the exhibition of goods and services. However, access remains limited in rural and Tier 3 areas due to connectivity and education gaps.

Only 33% of rural Indian women have active internet access, according to a report by the Internet and Mobile Association of India (IAMAI, 2024), highlighting the potential risk of digital exclusion in the expanding gig economy.

Conclusion

The gig economy is influenced by social media, which is both a challenge and an enabler for gig workers. On the one hand, it empowers people by giving them platforms for self-promotion that go over conventional gatekeeping mechanisms, increased visibility, and direct connection to clients. Social media provides an effective platform for personal branding, networking, and revenue generation for independent workers, delivery drivers, home-based service providers, and digital producers. In the absence of official labor unions, it also makes it possible for the development of online communities that promote peer education, emotional support, and even group action.

Employees can express their complaints, discuss their experiences, and influence public opinion via social media. Gig companies have responded to campaigns on social media sites like Instagram, WhatsApp, and Twitter (now X), encouraging them to be more accountable and transparent. In an employment environment that is mostly unregulated, initiatives launched by associations and informal worker groups show how these platforms can serve as digital spheres for collective bargaining.

However, additional risks are being brought by the increasing reliance on social media. Workers' livelihoods are impacted by algorithmic surveillance, reputational pressures, and opaque evaluation systems. Regardless of the worker's real performance or external conditions, a single negative review or decreased visibility as a result of platform algorithms might have a substantial impact on income. The digital divide, a persistent barrier that excludes significant portions of the population, especially rural laborers, women, and low-income people, is the most alarming. There are still disparities in access to mobile phones, high-speed internet, and digital literacy, particularly in developing nations like India. The advantages of social media-enhanced gig employment will continue to concentrate among those who are already digitally advantaged in the absence of targeted reforms, deepening socioeconomic disparities.

In conclusion, social media has opened up new opportunities for worker empowerment and economic engagement, but it has also brought up significant challenges that are impossible to overlook. A multi-stakeholder strategy incorporating platform accountability, worker-led activism, and government

regulation is necessary for the gig economy to be fair, sustainable, and genuinely transformational.

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"Growth and Trends in Food Grain Production in India: A Systematic Review in the Context of Viksit Bharat 2047"

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Abstract

India is predominantly an agrarian economy, where agriculture plays a vital role in ensuring food security and driving economic development. As of 2023, the agricultural sector contributes around 18 percent to the Gross Domestic Product (GDP) and provides employment to nearly 45 percent of the workforce. Food grains—including rice, wheat, pulses, and coarse cereals—constitute a significant share of agricultural output, catering to both domestic consumption and export demands. The performance of the food grain sector is therefore crucial for addressing key issues such as poverty alleviation, rural development, and nutritional security.

The economic reforms initiated in 1991 marked a turning point for Indian agriculture, leading to structural changes and influencing the growth trajectory of food grain production. During the post-reform period, food grain production exhibited fluctuating trends due to shifts in consumption patterns, market dynamics, and policy interventions. Despite these variations, aggregate food grain production increased significantly from 176 million tonnes to 323 million tonnes. Similarly, rice production rose from 74 to 130 million tonnes, while wheat production increased from 55 to 112 million tonnes during the same period. However, pulses and coarse cereals, although vital for nutritional security, have experienced relatively moderate growth. This study aims is to (i) examine the growth of food grain production in India during the post-reform period, and (ii) analyse its trends and performance using. The findings indicate that despite overall growth, food grain production has remained somewhat erratic due to challenges such as climate variability, inadequate policy support, and structural constraints in agriculture.

In the context of the **Viksit Bharat 2047** vision, there is a pressing need to build a resilient, sustainable, and diversified agricultural system. Strengthening agricultural policies, promoting climate-resilient farming practices, enhancing productivity of pulses and coarse cereals, and ensuring efficient market mechanisms are essential to achieving long-term food and nutritional security. A comprehensive and forward-looking policy framework will be critical to transforming India's agricultural sector into a robust pillar of a developed nation by 2047.

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Keywords: Food grains, Production, Agrarian economy, Viksit Bharat 2047, Food Security, Growth and Performance.

Introduction:

Indian agriculture sector is the backbone of the economy. It has made a significant contribution to the Gross Domestic Product (GDP), provides employment opportunities—both directly and indirectly—in most rural areas, ensures food security for the nation, and is a leading exporter to foreign countries. The reforms in the agriculture sector did not begin recently; they started as early as 1966–69 with the advent of the Green Revolution. This aimed to uplift the sector through mechanization, the use of high-yielding varieties (HYVs), and the application of fertilizers and pesticides to boost food production and ensure food security for all. Since 1991, onwards, a new phase of reforms—marked by Liberalization, Privatization, and Globalization (LPG), also known as the New Economic Reforms—further transformed the sector. These reforms removed many market restrictions and introduced liberalized policies, shifting Indian agriculture towards greater integration with the global economy. According to the Food and Agriculture Organization (FAO), global production of food grains in 2022 was estimated at 2.78 billion tonnes, with cereals accounting for nearly 90 percent of the output. Maize led the production with 1.15 billion tonnes, followed by wheat (779 million tonnes) and rice (512 million tonnes). Asia accounts for over 55 percent of global rice production, while North America and Europe dominate in wheat and maize output. India ranks among the top three producers of food grains in the world, after China and the United States, with agriculture engaging about 45 percent of the Indian workforce. According to the Ministry of Agriculture and Farmers' Welfare (2024), India produced a record 329.7 million tonnes of food grains in 2022–23, which includes rice (135.5 million tonnes), wheat (110.5 million tonnes), coarse cereals (57.3 million tonnes), and pulses (26.4 million tonnes).

In the context of Viksit Bharat 2047, India's agricultural sector must become more resilient, sustainable, and technology-driven. Improving productivity, encouraging crop diversification, strengthening value chains, and adopting climate-resilient practices are essential. A strong and inclusive agricultural system will be key to ensuring food security, rural development, and overall economic growth.

Research Problem

Food grains production has played a significant role in ensuring food security in India. It forms the primary source of nutrition, especially protein, for a large section of the population, with high consumption of staples such as rice, wheat, cereals, and pulses. During both the pre- and post-independence periods, India witnessed a positive growth in food grains production and modest exports to other countries. However, production during the early years relied heavily on traditional agricultural practices and limited technology. In major transformation came between 1966 and

1969 with the advent of the Green Revolution, which marked a remarkable shift in agricultural production—particularly for food grain crops. This period introduced High-Yielding Varieties (HYVs) and modern technologies that significantly reduced crop duration and increased yields, thereby improving domestic food availability. However, this wave of reform was not permanent or all-encompassing. In 1991, the Government of India introduced New Economic Reforms under the Liberalization, Privatization, and Globalization (LPG) model. These reforms extended to the agricultural sector as well, liberalizing markets, prices, and external trade to promote a more open and competitive agricultural economy. Despite these policy shifts, the intended benefits have not fully reached the grassroots level. In regional inequalities, uneven distribution of agricultural inputs, and price volatility continue to affect farmers, particularly small and marginal ones. The post-reform agricultural strategy has not significantly improved their livelihoods, and cropping patterns have shown limited transformation over the years. It is effect, the structural issues in Indian agriculture persist, calling for a more inclusive and sustainable approach.

Review of Literature:

The present study focuses on the production of food grains in India, with particular emphasis on the post-reform period following the economic liberalization introduced in 1991. These structural changes in the agricultural sector brought about significant transformations, influencing production patterns across different regions and crop categories. The impact of these reforms has been varied—some areas experienced growth due to increased market access and improved technology, while others faced persistent challenges such as price volatility and uneven policy support. This review synthesizes key literature to provide a comprehensive understanding of the trends, regional disparities, policy implications, and sustainability concerns associated with food grain production in post-reform India. *Bhalla and Singh (2009)* analysed the changes in food grain output between the pre- and post-reform periods. The study found that while the overall output increased, the growth rate decelerated in certain crops like coarse cereals and pulses due to policy neglect and lack of incentives. Similarly, Chand et al. (2011) observed that wheat and rice production increased primarily in irrigated regions, driven by the availability of modern inputs and infrastructure. *Joshi et al. (2005)* examined the effects of the Green Revolution and subsequent policy measures, finding that these disproportionately benefited the north-western states, leading to regional imbalances in productivity and infrastructure. The study noted that the post-1991 reforms did little to correct this trend, as eastern and central states such as Bihar, Odisha, and Chhattisgarh continue to experience low productivity due to inadequate investment in irrigation and technology. Fan, Hazell, and Thorat (2000) explored the relationship between government investment in agricultural research and rural growth. Their findings revealed that investments in technology, especially in high-yielding varieties (HYVs) and irrigation, had a significant positive impact on food grain productivity in the post-reform years. However, the benefits were concentrated in regions with better pre-existing infrastructure. *Gulati and Narayanan (2003)* analyzed the effects of

liberalization on the agricultural economy, noting that although input and output markets were deregulated, small farmers struggled to adapt due to limited access to credit, information, and marketing facilities. The study concluded that price volatility in liberalized markets introduced greater uncertainty for food grain producers. *Sharma (2011)* investigated the ecological costs of intensive cultivation of rice and wheat, particularly in Punjab and Haryana. The study found that the overuse of water, chemical fertilizers, and mono-cropping practices led to groundwater depletion, soil degradation, and long-term declines in productivity, highlighting the urgent need for sustainable agricultural practices. D*eshpande and Arora (2010)* assessed the impact of agricultural policy reforms on crop diversification. Although some progress was noted, particularly in the promotion of pulses and millets, minimum support price (MSP) and procurement policies continued to favour rice and wheat. This limited the potential for true diversification, with implications for both nutritional outcomes and soil health.

Research Gap of the Study:

Most existing studies have focused on the impact of economic reforms, liberalization, and the Green Revolution on food grains production in India. Though these reforms initially led to increased output in select states, many other regions have not experienced significant improvements due to agro-climatic constraints and inadequate agricultural extension services. In additionally few studies addressing the role of technology and liberalization have primarily concentrated on high-yielding varieties (HYVs) and their contribution to increased production. However, these yield improvements have not translated into sustainable agricultural outcomes, largely because many policies lack a long-term strategic vision for the sector. The present study aims to identify the research gap by analysing the trends and growth of food grains production during the post-reform era, with a specific focus on regional disparities, sustainability, and the role of policy in ensuring food security for all citizens of the nation.

Research Methodology:

The present study's specific objectives are: i) to examine the food grains production in India during the post-economic reforms; ii) to analyse the trends and performance of the food grains production in India. This study based on the secondary nature of the data and simple statistical tools used for the data analysed. Required data have been collected from the various sources such as agriculture and farmers' welfare, GoI, Ministry of Finance, working paper, discussion paper and published reports etc.

Result and Discussion:

The existing study for the analysis of food grain trends in India from 1991 to 2024 reveals significant structural changes in crop area, production, and yield, reflecting both internal agricultural reforms and the impact of external liberalization policies. The data determines a modest yet consistent increase in the total area under food grains, rising from 128.4 million hectares in 1991–92 to 131.6 million hectares

in 2023–24. This expansion is primarily attributed to increased cultivation of pulses and wheat, supported by targeted government involvements.

Table-1: Global Crop-Wise Area, Production, & Yield of Food Grains during 1991–2024

Year	Crop	Area Harvested (Million ha)	Production (Million tonnes)	Yield (kg/ha)
1991	Rice	147.0	518.0	3,523
	Wheat	225.0	543.0	2,413
	Maize	130.0	460.0	3,538
	Pulses	65.0	55.0	846
2000	Rice	154.0	600.0	3,896
	Wheat	215.0	585.0	2,721
	Maize	140.0	600.0	4,286
	Pulses	70.0	60.0	857
2010	Rice	160.0	700.0	4,375
	Wheat	220.0	650.0	2,955
	Maize	160.0	820.0	5,125
	Pulses	75.0	65.0	867
2020	Rice	165.0	740.0	4,485
	Wheat	215.0	760.0	3,535
	Maize	180.0	1,140.0	6,333
	Pulses	80.0	70.0	875
2023	Rice	167.0	770.0	4,610
	Wheat	218.0	780.0	3,578
	Maize	185.0	1,200.0	6,486
	Pulses	82.0	72.0	878
2024*	Rice	170.0	800.0	4,706
	Wheat	220.0	790.0	3,591
	Maize	188.0	1,250.0	6,648
	Pulses	83.0	74.0	892

Source: FAOSTAT; USDA Foreign Agricultural Service from Table 1 to Table 6.

The above table 1 shows that the global trends in area, production, and yield of rice, wheat, maize, and pulses from 1991 to 2024. In Rice production grew steadily, with yield increasing from 3,523 kg/ha in 1991 to 4,706 kg/ha in 2024 due to technological advancements. In wheat production also increased, with yield rising from 2,413 kg/ha in 1991 to 3,591 kg/ha in 2024. The maize experienced the highest growth in area, production, and yield, with yield improving from 3,538 kg/ha in 1991 to 6,648 kg/ha in 2024. In pulses saw more gradual growth, with yield rising from 846 kg/ha in 1991 to 892 kg/ha in 2024. The result that the, maize and rice saw the most significant improvements in productivity, driven by technological advancements, while pulses experienced slower progress.

Table-2: Global Wheat Area, Production, and Yield Rankings during 1991–2024

Rank	Country	Average Production (Million Tonnes)	Average Area (Million ha)	Average Yield (kg/ha)
1	China	135	24	5,625
2	India	105	30	3,500
3	Russia	80	27	2,963
4	USA	55	20	2,750
5	France	40	10	4,000

Table 2 compares global wheat production (1991–2024) across the top five countries based on production, area, and yield. China leads with an average production of 135 million tonnes from 24 million hectares, achieving the highest yield of 5,625 kg/ha. India ranks second with 105 million tonnes from a larger area of 30 million hectares but a lower yield of 3,500 kg/ha. Russia produces 80 million tonnes from 27 million hectares, with a yield of 2,963 kg/ha, while the United States records 55 million tonnes from 20 million hectares, showing the lowest yield of 2,750 kg/ha. France, despite a smaller area of 10 million hectares, produces 40 million tonnes with a relatively high yield of 4,000 kg/ha. Overall, China and France demonstrate higher efficiency, while India, Russia, and the United States show scope for improving productivity through better farming practices and land use optimization. However, the data suggests that optimizing land use and enhancing farming techniques could further boost wheat production globally.

Table 3: Global Rice Area, Production, and Yield Rankings during 1991–2024

Rank	Country	Average Production (Million Tonnes)	Average Area (Million ha)	Average Yield (kg/ha)
1	China	210	30	7,000
2	India	180	44	4,091
3	Indonesia	70	12	5,833
4	Bangladesh	50	11	4,545
5	Vietnam	45	7	6,429

Table 3 presents the top five rice-producing countries from 1991 to 2024 based on production, area harvested, and yield. China leads with 210 million tonnes from 30 million hectares, achieving a high yield of 7,000 kg/ha. India ranks second with 180 million tonnes but cultivates a larger area of 44 million hectares, resulting in a lower yield of 4,091 kg/ha. Indonesia produces 70 million tonnes from 12 million hectares, with a yield of 5,833 kg/ha. Bangladesh records 50 million tonnes from 11 million hectares, yielding 4,545 kg/ha. Vietnam, though producing 45 million tonnes from just 7 million hectares, achieves the highest yield of 6,429 kg/ha. Overall, China and Vietnam demonstrate superior productivity, while India's lower yield despite a larger area highlights the need for improved efficiency and farming practices.

Table 4: Global Maize Area, Production, and Yield Rankings during 1991–2024

Rank	Country	Average Production (Million Tonnes)	Average Area (Million ha)	Average Yield (kg/ha)
1	USA	370	35	10,571
2	China	270	42	6,429
3	Brazil	120	18	6,667
4	Argentina	60	7	8,571
5	India	30	9	3,333

Table 4 highlights the global maize production trends (1991–2024) among the top five countries in terms of production, area, and yield. The USA leads with 370 million tonnes from 35 million hectares, achieving the highest yield of 10,571 kg/ha, reflecting advanced and efficient farming practices. China follows with 270 million tonnes from 42 million hectares and a yield of 6,429 kg/ha. Brazil produces 120 million tonnes from 18 million hectares, with a slightly higher yield of 6,667 kg/ha, indicating better land-use efficiency. Argentina, though producing 60 million tonnes from just 7 million hectares, records a high yield of 8,571 kg/ha. India ranks fifth with 30 million tonnes from 9 million hectares, with a comparatively low yield of 3,333 kg/ha. Overall, while the USA and Argentina demonstrate high productivity, India lags behind, highlighting the need for improved technology and farming practices to enhance yield efficiency.

Table 5: Global Pulses Area, Production, and Yield Rankings during 1991–2024

Rank	Country	Average Production (Million Tonnes)	Average Area (Million ha)	Average Yield (kg/ha)
1	India	25	30	833
2	Canada	6	2	3,000
3	Myanmar	5	4	1,250
4	Nigeria	4	5	800
5	Australia	3	1	3,000

Table 5 presents global pulses production trends (1991–2024) across the top five countries based on production, area, and yield. India leads with 25 million tonnes from 30 million hectares but records a low yield of 833 kg/ha, indicating low productivity. Canada and Australia, though producing smaller quantities (6 and 3 million tonnes), achieve the highest yields of 3,000 kg/ha, reflecting superior efficiency. Myanmar produces 5 million tonnes with a yield of 1,250 kg/ha, while Nigeria records 4 million tonnes with the lowest yield of 800 kg/ha. Overall, while India dominates in production, countries like Canada and Australia outperform in yield efficiency, highlighting the need for productivity improvements in major producing nations.

Table 6 highlights the growth trends of major food grains in India (1991–2024) in terms of area, production, and yield. Rice remains the dominant crop with steady increases across all indicators. Wheat also shows consistent growth, though

with relatively slower yield improvement. Maize records the highest growth in both production and yield, indicating its rising significance in the agricultural sector. Pulses exhibit notable progress, particularly in yield and production, supported by policy interventions. Coarse cereals show moderate growth, while barley and sorghum lag behind, with barley recording the lowest growth across all parameters. Overall, the data suggests a shift towards high-growth crops like maize, alongside stable expansion in staple grains such as rice and wheat.

Table 6: Growth and Trends Area, Production and Yield of Food Grains India during 1991-2024

Rank	Crop	Average Area (Million Ha)	Average Production (Million Tonnes)	Average Yield (kg/ha)	Growth Rate (Area)	Growth Rate (Production)	Growth Rate (Yield)
1	Rice	43.5	135.5	3100	2.1%	3.5%	1.3%
2	Wheat	31.0	110.5	3560	1.8%	2.9%	1.0%
3	Coarse Cereals	25.3	57.3	2260	1.2%	2.0%	0.8%
4	Pulses	25.5	26.4	1030	2.5%	4.2%	1.7%
5	Maize	9.0	27.8	3100	3.0%	5.5%	2.5%
6	Barley	5.4	4.8	890	0.5%	1.3%	0.8%
7	Sorghum	5.8	5.6	980	1.0%	1.7%	0.9%

*2023–24 values are provisional estimates.

Sources: Ministry of Agriculture & Farmers Welfare (2023, 2024), Agricultural Statistics at a Glance, various years from Table 6 to Table 13.

Table 7: Growth and Trends in Food Grains Area in India (1991–2024)

(Million Hectares)

Year	Rice	Wheat	Coarse Cereals	Pulses	Total Food Grains
1991–92	42.8	25.7	37.3	22.6	128.4
1995–96	43.0	26.2	37.0	22.2	128.4
2000–01	44.7	27.5	29.5	20.4	122.1
2005–06	41.9	26.5	28.0	22.8	119.2
2010–11	42.0	29.0	26.1	26.3	123.4
2015–16	43.5	30.4	24.4	24.9	123.2
2020–21	44.4	31.5	24.1	28.8	128.8
2022–23	45.2	31.1	24.7	29.7	130.7
2023–24*	45.5	31.3	24.8	30.0	131.6

Table 7 shows that the trends in the area under cultivation for major food grains in India. In rice has consistently held the largest area, increasing steadily from 42.8 to 45.5 million hectares, reflecting stable demand and productivity. The wheat saw notable growth, expanding from 25.7 to 31.3 million hectares, driven by

profitability, irrigation, and improved seeds. In contrast, coarse cereals declined sharply from 37.3 to 24.8 million hectares due to crop substitution and lesser policy focus. In pulses, after a dip around 2000–01, witnessed strong recovery—rising from 20.4 to 30.0 million hectare to government support through schemes like NFSM and PM-AASHA. Overall, the total food grain area rose modestly from 128.4 to 131.6 million hectares, driven mainly due to gains in pulses and wheat.

Table 8: Growth and Trends in Food Grains Production in India (1991–2024)
(Million Tonnes)

Year	Rice	Wheat	Coarse Cereals	Pulses	Total Food Grains
1991–92	74.3	55.1	32.7	13.2	175.3
1995–96	80.0	62.1	30.0	13.9	186.0
2000–01	85.0	69.7	31.1	11.1	196.9
2005–06	91.8	69.4	34.1	13.4	208.7
2010–11	95.9	86.9	43.4	18.2	244.4
2015–16	104.4	92.3	38.5	16.4	251.6
2020–21	120.3	109.6	51.0	25.4	306.3
2022–23	135.5	110.5	57.3	26.4	329.7
2023–24*	136.2	111.2	58.0	26.8	332.2

The above table 8 shows that the, total food grain production nearly doubled, rising from 175.3 to 332.2 million tonnes. The rice and wheat showed steady growth due to improved irrigation and high-yielding varieties. In coarse cereals saw a revival in recent years, while pulses showed significant recovery after 2000, supported by government schemes. However, the result that the increase reflects improved productivity and policy-driven support for food grain expansion.

Table 9: Growth and Trends in Food Grains Yield in India during 1991–2024
(kg per hectare)

Year	Rice	Wheat	Coarse Cereals	Pulses	Total Food Grains
1991–92	1,735	2,140	878	584	1,366
1995–96	1,860	2,368	895	624	1,448
2000–01	1,899	2,531	1,053	544	1,612
2005–06	2,190	2,620	1,217	588	1,751
2010–11	2,242	2,868	1,664	694	1,981
2015–16	2,399	3,037	1,578	660	2,040
2020–21	2,709	3,480	2,115	884	2,379
2022–23	2,800	3,554	2,319	891	2,521
2023–24*	2,815	3,556	2,339	895	2,530

The above table 9 shows the, in yields of rice and wheat improved steadily, with rice increasing from 1,735 to 2,815 kg/ha and wheat from 2,140 to 3,556 kg/ha. In coarse cereals saw the sharpest rise—from 878 to 2,339 kg/ha—due to improved varieties and practices. In pulses also showed gradual yield growth from 584 to 895

kg/ha. However, the result that the total food grains yield increased significantly from 1,366 to 2,530 kg/ha, reflecting better technology, input use, and government support.

Table 10: State-Wise Trends and Ranks in Food Grains Area in India during 1991–2024

(Area in Million Hectares)

Rank	State	1991–92	2000–01	2010–11	2020–21	2023–24*	Trend Description
1	Uttar Pradesh	25.2	24.9	25.5	25.8	26.0	Consistently highest; diversified cropping.
2	Madhya Pradesh	15.1	14.3	15.6	16.2	16.8	Increasing due to pulses and cereals.
3	Rajasthan	13.2	12.5	13.6	14.2	14.5	Focus on coarse cereals and pulses.
4	Maharashtra	11.0	10.4	10.9	11.1	11.3	Weather-sensitive, mainly cereals.
5	Bihar	7.9	7.6	8.1	8.2	8.4	Gradual improvement in food grain coverage.
6	West Bengal	6.5	6.3	6.6	6.8	7.0	Dominated by rice production.
7	Punjab	6.2	6.4	6.5	6.1	6.0	Stable with intensive wheat-rice cropping.
8	Haryana	4.5	4.6	4.7	4.5	4.4	Similar to Punjab, minor decline recently.
9	Odisha	5.4	5.2	5.5	5.6	5.8	Rice and millets expansion.
10	Tamil Nadu	3.9	3.7	3.8	3.6	3.5	Declining area due to urbanization.

The above table 10 shows that the Uttar Pradesh remains the top contributor with a consistently large area. The Madhya Pradesh and Rajasthan show steady growth, mainly due to increased cultivation of pulses and coarse cereals. In Maharashtra and Bihar reflect moderate improvements, while West Bengal maintains a stable rice-dominated area. The Punjab and Haryana show slight declines due to sustainability concerns. The Odisha records minor growth, and Tamil Nadu shows a gradual decline in area, likely due to urbanization and water scarcity. The result that the reflects regional variations influenced by climate, crop preference, and policy support.

Table 11: State-Wise Trends and Ranks in Food Grains Production in India (1991–2024)

(Million Tonnes)

Rank	State	1991–92	2000–01	2010–11	2020–21	2023–24*	Trend Description
1	Uttar Pradesh	38.2	42.5	48.1	55.2	57.0	Highest producer; major rice and wheat belt.
2	Punjab	21.3	22.5	24.0	27.2	26.8	High-yield region; wheat and paddy leader.
3	Madhya Pradesh	14.7	17.1	23.8	27.9	29.1	Significant increase, especially in pulses.
4	West Bengal	12.2	13.4	16.0	18.7	19.0	High rice output, especially in delta regions.
5	Rajasthan	12.9	13.0	16.5	20.4	21.0	Rising due to coarse cereals and pulses.
6	Haryana	11.5	12.1	13.5	15.2	15.5	Modern irrigation supports stable growth.
7	Bihar	9.2	9.8	11.7	13.6	14.0	Gradual rise, mostly in rice and wheat.
8	Maharashtra	7.5	7.2	8.5	9.1	9.3	Moderate growth with drought-

							resilient crops.
9	Tamil Nadu	6.0	5.7	6.3	6.1	6.2	Stable but lower due to land and water limits.
10	Odisha	6.5	6.8	7.2	7.9	8.1	Improving rice production, aided by schemes.

The above Table 11 reveal that ranks of different states. The Uttar Pradesh leads in food grain production, increasing from 38.2 to 57.0 million tonnes. In Punjab and Haryana maintain top ranks due to robust irrigation systems and strong government procurement mechanisms. The Madhya Pradesh shows the fastest growth, particularly in pulses and wheat, while Rajasthan and West Bengal demonstrate steady gains driven by drought-resilient and rice-focused strategies, respectively. The Bihar and Odisha show improvement due to targeted agricultural schemes. In contrast, Maharashtra and Tamil Nadu exhibit slower but stable growth due to climatic and land limitations. The average production across these ten states is 20.2 million tonnes, with a high standard deviation of 13.5 million tonnes, indicating significant disparity in state-level output. There is slight gap between Uttar Pradesh (57.0 MT) and Tamil Nadu (6.2 MT) reflects a production difference of 50.8 million tonnes. In overall, southern and western states show moderate to low growth, largely attributed to climatic and geographical constraints.

Table 12: State-Wise Trends and Ranks in Food Grains Yield in India (1991–2024)

(kg/ha)

Rank	**State**	**1991–92**	**2000–01**	**2010–11**	**2020–21**	**2023–24**	**Trend Description**
1	Punjab	3,812	3,976	4,212	4,622	4,680	Highest yield; driven by irrigation and HYVs.
2	Haryana	3,542	3,660	3,872	4,320	4,350	Strong productivity from rice and wheat systems.
3	West Bengal	2,804	3,020	3,212	3,550	3,620	High rice productivity due to

							intensive farming.
4	Uttar Pradesh	2,145	2,320	2,630	2,925	3,020	Consistent growth, especially in wheat-producing zones.
5	Tamil Nadu	2,640	2,730	2,850	2,980	3,010	Stable yield due to irrigation and multiple cropping.
6	Madhya Pradesh	1,804	2,010	2,365	2,722	2,810	Improved yield due to pulse and cereal diversification.
7	Maharashtra	1,405	1,510	1,790	2,220	2,340	Rain-fed farming leads to lower yields, though improving.
8	Rajasthan	1,255	1,370	1,620	1,985	2,110	Drought-resilient crops are increasing yield steadily.
9	Bihar	1,950	2,210	2,480	2,670	2,740	Reasonable rise with improved irrigation infrastructure.
10	Odisha	1,700	1,860	2,070	2,410	2,520	Gains from rice-focused state-level interventions.

Table 12 highlights state-wise disparities in food grain yields in India. Punjab and Haryana lead with consistently high yields due to strong irrigation and policy support. Eastern states like Bihar and Odisha have shown notable improvements after 2010, while rainfed states such as Maharashtra and Rajasthan exhibit gradual progress through climate-resilient practices. Tamil Nadu maintains stable yields with efficient resource management. Overall, India's average yield stands at 3,100 kg/ha, with a

wide inter-state variation of 2,570 kg/ha, indicating persistent regional disparities in agricultural productivity.

Conclusion:

Food grain production, despite being highly water-intensive, remains central to meeting domestic consumption needs and ensuring food security in India. The transformation of Indian agriculture began with the Green Revolution in the mid-1960s, which introduced technology-driven practices and significantly enhanced productivity. This momentum was further strengthened by the economic liberalization reforms of the 1990s, which integrated Indian agriculture into the global economy through trade liberalization and market-oriented policies. Government initiatives such as the National Food Security Mission (NFSM) and PM-AASHA have also played a crucial role in promoting agricultural growth and supporting farmers. As a result, the total area under food grain cultivation increased modestly from 128.4 million hectares in 1991–92 to 131.6 million hectares in 2023–24, with notable expansion in pulses and wheat, alongside steady growth in rice and coarse cereals. In the context of Viksit Bharat 2047, the future of India's food grain sector depends on transitioning towards a more sustainable, resource-efficient, and technology-driven agricultural system. Addressing challenges such as water scarcity, regional disparities, and productivity gaps will be essential. Emphasizing crop diversification, climate-resilient practices, and efficient resource management can enhance both productivity and sustainability. A forward-looking policy framework, combined with innovation and institutional support, will be critical in transforming Indian agriculture into a strong pillar of a developed and food-secure nation by 2047.

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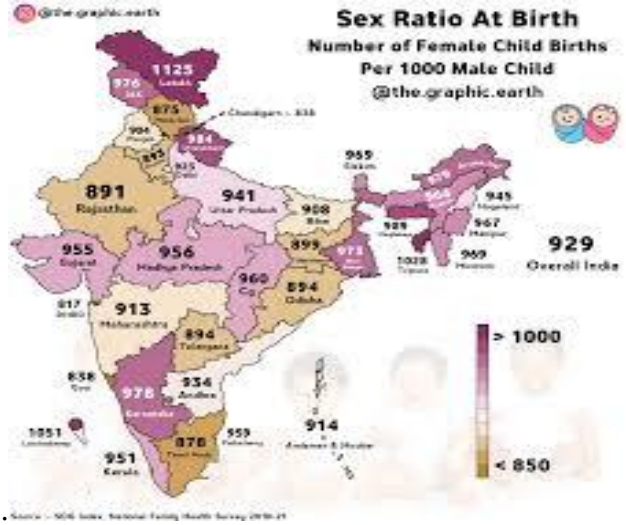
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SOCIAL EQUALITY IN INDIAN PROBLEMA AND SOLUTION VIKASIT BHARATH-2047

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Introduction

India, a country rich in culture and diversity, has long struggled with issues of social inequality. Despite constitutional guarantees of equality, disparities based on caste, gender, religion, region, and economic status persist. This study explores the prevailing issues and aims to offer practical solutions in alignment with the vision of **Viksit Bharat 2047**, a progressive, inclusive India.In 2021, India's sex ratio, calculated as the number of females per 1000 males, was estimated to be 1020, according to the National Family Health Survey (NFHS-5). This indicates that there were 1020 females for every 1000 males in the postulation.



Objectives of the Study

- To identify major causes of social inequality in India.
- To analyze historical and contemporary social inequality (1947–2025).
- To examine government policies and their effectiveness.
- To propose sustainable and inclusive solutions.
- To align the vision of social equality with Viksit Bharat 2047 goals.

Hypothesis of the Study

If structural inequalities and discriminatory practices are addressed through targeted policies, inclusive education, and economic reforms, India can significantly reduce social inequality by 2047.

Review of the Literature

- **Dr. B.R. Ambedkar's writings** on caste inequality.

- Studies by **Amartya Sen** on capability and development.
- Reports from **National Sample Survey (NSS)**, **UNDP**, and **Oxfam** highlighting income and gender disparities.
- Government policies like **Reservation System**, **Right to Education**, **Digital India**, and **Social Welfare Schemes**.

Scope of the Study

This study focuses on social inequality from 1947 to 2025, with projections and solutions leading up to 2047. The scope includes caste, gender, religion, regional imbalance, and economic disparity across rural and urban areas in India.

Importance of the Study

- Enhances understanding of persistent inequality.
- Helps policymakers re-evaluate strategies for inclusion.
- Encourages youth participation in nation-building.
- Supports the vision of a developed and inclusive India by 2047.

Inequality in India (1947–2025)

- **1947–1970s:** Caste and land-based inequality; limited access to education.
- **1980s–1990s:** Economic reforms; widened gap between urban and rural.
- **2000s–2025:** Technological growth vs. digital divide; gender and caste-based disparities persist despite welfare schemes.

Methodology of the Study

Data Collection: Secondary data from government reports, journals, surveys, and academic papers.

Analysis Tools: Qualitative analysis, trend mapping, and policy impact assessment.

Sample Area: All-India focus with selected state case studies.

1.Social Inequality in India

Problems:

- ✧ Caste-based discrimination and untouchability still exist.
- ✧ Unequal access to quality education and healthcare.
- ✧ Social stigma towards marginalized communities (SC/ST, OBCs, minorities).

Solutions:

- ✧ Strengthen anti-discrimination laws (e.g., SC/ST Act).
- ✧ Promote inclusive education and reservation in private sector jobs.
- ✧ Awareness campaigns to reduce social stigma.

2. Economic Inequality in India

Problems:

- ✧ Huge income gap between rich and poor.
- ✧ Lack of access to capital and land ownership for the poor.
- ✧ Informal labor sector with poor wages and no security.

Solutions:

- ✧ Direct Benefit Transfer (DBT) schemes and universal basic income (pilot level).
- ✧ Strengthening small and medium enterprises (SMEs).
- ✧ Skilling programs like **PM Kaushal Vikas Yojana**.

3. Linguistic Inequality in India

Problems:

- ✧ Preference for English and Hindi in official and private sectors.
- ✧ Regional languages often sidelined in education and governance,Language-based identity politics.

Solutions:

- ✧ Promote multilingual education (NEP 2020 encourages this).
- ✧ Use regional languages in judiciary, governance, and digital services.
- ✧ Recognize all scheduled languages equally under the Constitution.

4. Political Inequality in India

Problems:

- ✧ Underrepresentation of marginalized groups in parliament and bureaucracy.
- ✧ Dynastic politics and elite capture of political space.
- ✧ Political apathy among poor and rural voters due to lack of impact.

Solutions:

- ✧ Enforce political reservation for women and backward communities.
- ✧ Electoral reforms for transparency and accessibility.
- ✧ Promote political literacy and participation at grassroots level.

5. Cultural Inequality in India

Problems:

- ✧ Dominance of certain cultural norms over tribal, regional, and folk cultures.
- ✧ Urban culture seen as superior to rural/traditional practices.
- ✧ Lack of representation of minority cultures in mainstream media.

Solutions:

- ✧ Promote regional arts, literature, and traditional knowledge systems.
- ✧ Include tribal and local history in school curriculum.
- ✧ Cultural exchange programs and inclusive media representation.

6. Gender Inequality in India

Problems:

- ✧ Gender pay gap, limited job opportunities for women.
- ✧ Violence against women (domestic abuse, dowry, etc.).
- ✧ Low female literacy and school dropouts in rural areas.

Solutions:

- ✧ Implement equal pay policies with strict monitoring.
- ✧ Encourage women entrepreneurship with tax breaks and subsidies.
- ✧ Strengthen education for girls through scholarships and digital access.
- ✧ Expand safety infrastructure (CCTV, fast-track courts, helplines) for women.

7. Government Equality Policy-Making System

Key Policies & Institutions:

- ✧ **NITI Aayog** – Policy think tank promoting inclusive growth.
- ✧ **Constitutional Provisions** – Articles 14–18 guarantee equality.
- ✧ **National Commission for SC/ST, Minorities, Women** – Monitoring bodies.
- ✧ **Reservation Policies** – In education, jobs, and politics.

- ✧ **Schemes like MNREGA, PMAY, Ujjwala, Ayushman Bharat** – Reduce inequality.

Suggestions to Improve Policy-Making:

- ✧ Data-driven policymaking and real-time monitoring.
- ✧ More stakeholder participation in law-making (citizens, NGOs).
- ✧ Decentralization and state-level customization of schemes.

India is marching towards its 100th year of independence in 2047 with a goal of becoming a developed, inclusive, and equitable nation. However, to truly become a Viksit Bharat, we must address deep-rooted inequalities that affect millions. This write-up highlights three key issues:

Solutions:

- ✧ Introduce progressive taxation and wealth redistribution.
- ✧ Strengthen rural employment (expand MNREGA, agri-tech innovation).
- ✧ Promote digital inclusion (rural internet access and selling).
- ✧ Support MSMEs and startups in Tier-2 and Tier-3 cities.
- ✧ Key Government Policies to Expand:
- ✧ Digital India
- ✧ Skill India Mission
- ✧ Jan Dhan Yojana (financial inclusion)
- ✧ Harassment (Workplace & Social)

Problems:

- ✧ Increase in sexual harassment in workplaces and public spaces.
- ✧ Inadequate implementation of POSH (Prevention of Sexual Harassment) Act.
- ✧ Social media trolling, cyberbullying especially targeting women and minorities.
- ✧ Solutions:
- ✧ Mandatory anti-harassment training in all institutions.
- ✧ Fast-track courts and stronger action against violators.
- ✧ Improve online complaint systems (anonymous, real-time).
- ✧ Strengthen digital literacy to protect citizens from cyber abuse.

Laws to Strengthen:

- ✧ POSH Act (2013)
- ✧ IT Act (Cybersecurity Provisions)
- ✧ CrPC and IPC for quicker legal action
- ✧ 📈 Vision for 2047 – Viksit Bharat Goals
- ✧ To reach true equality by 2047:
- ✧ Ensure equal representation in leadership, business, and politics.
- ✧ Achieve 50% female participation in the workforce.
- ✧ Eliminate caste, gender, and class-based wage gaps.
- ✧ Create a harassment-free India – both physically and digitally.

Here's a clear and detailed overview of the major Gender Issues in India leading up to 2047, as the nation aims for inclusive development under the vision of "Viksit Bharat 2047."2047 Indian Gender Problems: Challenges on the Road to EqualityAs India approaches its centenary of independence in 2047, the nation has made strides

in technology, economy, and governance. However, gender inequality remains a serious concern that affects social justice, economic development, and overall national progress. Below are some of the critical gender-related problems that still need urgent attention:

- ✧ Gender Discrimination at Work
- ✧ Unequal pay for equal work across industries.
- ✧ Underrepresentation of women in leadership roles, boardrooms, and politics.
- ✧ Women largely concentrated in informal sectors with no job security.
- ✧ Educational Disparity
- ✧ Girls still face early dropout rates due to poverty, early marriage, or family pressure.
- ✧ In rural and tribal areas, girls often lack access to safe schools and proper facilities.
- ✧ STEM fields continue to be male-dominated.
- ✧ 💼 Low Female Labour Force Participation
- ✧ India has one of the lowest female labor participation rates in the world (~20%).
- ✧ Societal expectations of women being primary caregivers.
- ✧ Lack of support systems like safe transport, childcare at work, and flexible hours.
- ✧ 🛡️ Health and Reproductive Rights
- ✧ Limited access to maternal healthcare in rural areas.
- ✧ Poor menstrual hygiene management and awareness.
- ✧ Stigma and lack of access to abortion services and reproductive choices.

Gender-Based Violence

- ✧ High rates of domestic violence, marital rape (still not criminalized), and sexual assault.
- ✧ Rise in cyber harassment and stalking.
- ✧ Low conviction rates and long delays in justice delivery.

1. Women, especially in rural India, have less access to mobile phones, internet, and digital literacy.
2. Women excluded from digital finance, e-learning, and tech jobs.
3. **Lack of Political Representation**
4. Women make up only about 14% of Parliament.
5. Panchayat-level participation increasing but often limited to proxy representation.
6. Women's Reservation Bill (awaiting full implementation).
7. ⚖️ Legal Gaps and Societal Norms
8. Patriarchal norms deeply embedded in society, media, and institutions.
9. Inadequate awareness or enforcement of laws protecting women and LGBTQ+ commities.
10. Transgender persons still face barriers in education, employment, and healthcare.

11. GBTQ+ Rights

12. Social stigma and discrimination despite decriminalization of homosexuality (Section 377).
13. Lack of strong anti-discrimination policies in schools, workplaces, and healthcare.
14. Transgender persons often denied identity documents and safe employment.

15. Impact of Climate Change and Migration

16. Women and girls in rural areas face the harshest impact from environmental degradation, water scarcity, and migration.
17. Displacement leads to increased vulnerability to trafficking and exploitation.

18. Solutions Moving Toward Viksit Bharat 2047

19. Implement Women's Reservation in Parliament and state legislatures.
20. Enforce equal pay and introduce quotas in corporate boardrooms.
21. Expand gender sensitization in schools, colleges, and government departments.
22. Provide universal access to sexual and reproductive health services.
23. Encourage women in STEM through scholarships and mentorship programs.
24. Fast-track courts for gender-based violence and harassment cases.
25. Promote digital inclusion and female digital entrepreneurship.
26. Strengthen protection and inclusion of transgender and LGBTQ+ individuals.

India's Ranking in Different Indexes 2025

A country's growth and development are reflected in the different indexes published by domestic and international organisations. India is a rapidly developing country and its position in numerous global indexes serves as a barometer for its success and development in various domains. India has shown remarkable progress in human development over the years, however, it has a long way to go in fulfilling the needs of its people and achieving its true potential. Many indexes and reports highlight India's lack on the governance front such as HDI, gender equality, healthcare, and corruption.nce.... Read more at:indexes

India Gender Equality Ranks

S.L	YEAR	INDEX NAME	INDIAN EQUALITY RANK
01	2025	Climate Change Performance Index	
02	2024	Global Hunger Index 2024 Concern Worldwide and Welt Hunger Hilfe	127
03	2023	In the World Economic Forum's 2024 Global 04Gender Gap Index, India ranks 129th out of 146 countries, marking a decline from its 127th position in 2023.	129

05	2022	In the 2023 Global Gender Gap Report, India ranked 127th out of 146 countries, showing an improvement from 135th in 2022.	127
06	2021	In the 2022 Gender Inequality Index (GII), India ranked 108th out of 193 countries, with a score of 0.437, marking a significant improvement of 14 ranks compared to the 2021 ranking.	108

Findings of the Study

- ✧ Despite legal reforms, social inequality remains deeply rooted.
- ✧ Education and digital access are key to breaking inequality cycles.
- ✧ Economic disparity is linked to lack of employment opportunities and unequal asset distribution.
- ✧ Discrimination based on caste and gender remains prevalent in rural areas.

We commend all stakeholders, researchers, policymakers, and students who are committed to building an equitable and inclusive society. The journey toward **Viksit Bharat 2047** is one of unity, empathy, and action.

Suggestions of the Study

- ✧ Strengthen **education and digital infrastructure** in rural areas.
- ✧ Promote **entrepreneurship among marginalized groups**.
- ✧ Introduce **social awareness programs** to combat discrimination.
- ✧ Expand **health and welfare schemes** to cover vulnerable sections.
- ✧ Monitor and evaluate **policy implementation** regularly.

Conclusion

We commend all stakeholders, researchers, policymakers, and students who are committed to building an equitable and inclusive society. The journey toward **Viksit Bharat 2047** is one of unity, empathy, and action.. India approaches its centenary of independence in 2047, the dream of a socially equal and inclusive nation stands stronger than ever. Over the decades, progress has been made through education, legislation, digital access, and awareness. Yet, true equality remains a work in progress. Achieving social equality by 2047 demands more than policy—it requires a shift in mindset, dismantling deep-rooted prejudices, and empowering every citizen regardless of caste, gender, religion, region, or economic background. A socially equal India is not only about equal rights but also about equal dignity, opportunity, and participation. With youth leadership, inclusive governance, and committed civil society, India has the power to become a global example of unity in diversity. Social equality is not just an ideal for 2047—it is the foundation of a truly developed and united Bharat.

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Media and Public Participation: Building Citizen-Centric Governance in SViksit Bharat 2047

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Abstract

Media plays a crucial role in achieving Viksit Bharat 2047 by promoting citizen participation and strengthening citizen-centric governance. It acts as a bridge between the government and people by sharing information, encouraging public dialogue, and enhancing transparency and accountability.

Media plays a vital role as a primary source of information in any society. The effectiveness of journalism directly influences how knowledgeable, informed, and progressive a nation's citizens become. In a democratic country, a well-structured and responsible media system is essential to ensure the proper functioning of democracy. The main purpose of journalism is to empower people to be independent and self-governing by providing accurate and timely information through various platforms such as newspapers, television, and the internet.

By keeping citizens informed, journalists help them make sound political, social, and economic decisions. Media contributes significantly to citizen-centric governance by informing and educating the public, holding officials and institutions accountable, and promoting transparency through access to government data and performance monitoring. Moreover, media serves as a platform for public discourse, enabling citizens and experts to share opinions, advocate for change, and influence policy. With the growth of digital and social media, citizen engagement has increased significantly.

Ultimately, media acts as a crucial bridge between the government and its citizens, fostering an informed, active, and vigilant society. This engagement is vital for strengthening democratic processes and ensuring that government actions align with the needs and aspirations of the people. However, challenges like misinformation and the digital divide still exist. Therefore, a responsible and inclusive media system is essential to empower citizens and support effective governance.

Keywords: Citizen-centric governance, Accountability, Public discourse, Democratic process, Public Perception, Viksit Bharat 2047, Digital Media, Transparency.

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Introduction:

Citizen-centric governance is an essential component of a functioning democracy, ensuring that the policies and services of the government are designed with the public's interests in mind. The role of media in fostering this type of governance is pivotal. Media serves as both a mirror and a megaphone for public concerns, helping to inform citizens about governmental actions and holding those in power accountable. With advancements in technology and social media, the media landscape has expanded, influencing governance in unprecedented ways.

This study seeks to explore how media, including traditional forms (television, print) and modern forms (digital, social media), plays a critical role in improving citizen-centric governance. It will assess how media contributes to making governance more transparent, responsive, and inclusive.

Scholars like (Meijer, 2013 and Fox,2007) argue that transparency mediated through media is a necessary precondition for accountability, as it enables citizens to assess government performance. Bonsón et al., 2017, highlight that social media tools have further amplified government transparency by allowing direct and interactive communication with the public.

Stiglitz (2002) emphasizes that a free press creates "sunlight" in governance — making corruption harder to hide. Norris (2008) and McQuail (2010) discuss the media's *watchdog role*, asserting that democratic governance depends on media's ability to question power and expose wrongdoing. Empirical studies (e.g., Kavanaugh et al., 2012; Lee & Van Ryzin, 2025) show that social media and digital platforms have redefined accountability by enabling real-time citizen oversight. Empirical studies show that where the media environment is free, diverse, and technologically adaptive, citizen engagement and trust in government significantly improve (Fox, 2007; Meijer, 2013; Bonsón et al., 2017). Conversely, restricted, politically controlled, or commercially biased media systems hinder participatory governance.

Significance of the Study:

1. Enhancing Transparency and Accountability:

Media acts as a watchdog, revealing governmental inefficiencies, corruption, and mismanagement. By ensuring that government activities are visible to the public, it can encourage responsible governance.

2. Facilitating Public Engagement:

The media bridges the gap between citizens and the government, fostering a space for dialogue. Public opinion, facilitated by media, can influence policy changes, making governance more responsive to the needs of the people.

3. Promoting Awareness and Education:

The media plays a vital role in educating citizens about their rights, the government's policies, and the political process. Informed citizens are more likely to engage with governance and participate in democratic processes.

4. Strengthening Democracy:

A free and independent media system is essential for the health of a democracy. By providing diverse viewpoints, media ensures that citizens can make informed decisions about their leaders and policies.

Research Gap:

While numerous studies have explored the relationship between media and democracy, there is a limited focus on how media influences the actual functioning of citizen-centric governance. Existing literature often focuses on media's role in election cycles or political coverage, without considering its ongoing impact on the governance process. This study aims to fill this gap by focusing on media's role in shaping long-term governance practices and improving citizen engagement with government processes. Moreover, there is a lack of empirical research connecting the nature of media engagement (social vs. traditional media) with tangible outcomes in governance reform, accountability, and citizen satisfaction.

Objectives of the Study:

1. To examine how media promotes transparency and ensures accountability in government functioning.
2. To analyze the role of traditional and digital media in enhancing public participation and citizen engagement in governance.

Methodology and Data:

The study will use a mixed-methods approach, Interviews with policymakers, media professionals, and civil society activists will be conducted to gather insights into the perceptions of media's role in governance. Content Analysis of media reports, social media posts, and news articles to assess how media covers government policies and its impact on citizen engagement.

A survey will be distributed to citizens to measure their perceptions of media's influence on governance. Social media platforms (like Twitter, Facebook) will be analysed to quantify public sentiment on specific government actions or policies.

The study will examine case studies of countries or regions where media has played a significant role in driving citizen-centric governance reforms (e.g., India's RTI Act, the role of media in the Arab Spring). *Secondary Data*: Government reports, international indices (e.g., Transparency International's Corruption Perceptions Index), and previous academic studies on media and governance will be analyzed for a broader understanding.

1. Media in fostering transparency in government operations

Transparency in governance refers to the availability, accessibility, and openness of government information and decision-making processes to the public. It

ensures that citizens are informed about governmental actions, policies, spending, and performance — thereby enabling accountability and trust.

The media—including traditional (print, radio, television) and new (digital, online, social media) forms—acts as a bridge between the state and citizens. By gathering, analyzing, and disseminating information, media organizations illuminate government activities that might otherwise remain opaque.

In democratic and citizen-centric governance systems, transparency is not just a normative ideal but a practical mechanism for accountability, efficiency, and citizen engagement. Transparency in governance refers to the openness, accessibility, and clarity of government activities, decisions, and use of public resources. It ensures that citizens are informed participants rather than passive subjects in governance. The media, both traditional (print, television, radio) and new (digital, online, and social media), acts as a watchdog and a channel of information that reveals the inner workings of government institutions.

Accountability refers to the obligation of public officials to justify their decisions, actions, and use of resources to the public and oversight institutions. Media serves as a mechanism of horizontal and vertical accountability:

a. Horizontal accountability involves oversight by institutions (e.g., anti-corruption bodies, audit commissions) often triggered by media investigations.
b. Vertical accountability arises when citizens use media information to demand explanations or vote out corrupt officials.

By investigating malpractice, questioning authority, and shaping public opinion, media acts as a "fourth pillar of democracy" that compels government officials to act responsibly.

Media fosters transparency by:

1. Disseminating government data, policies, and decisions to the public.
2. Investigating and exposing irregularities or misuse of power.
3. Facilitating public debate on government performance.
4. Providing platforms for citizen feedback and participation.

Through consistent coverage of policy implementation, budget allocations, and performance audits, the media reduces information asymmetry between government and citizens and promotes open governance.

The media plays a crucial role in ensuring transparency and accountability in governance through various mechanisms such as investigative reporting, public scrutiny, agenda setting, and watchdog journalism. Investigative reporting exposes corruption, misuse of public funds, and administrative inefficiencies, thereby revealing hidden malpractices within institutions. Public scrutiny enables citizens to stay informed and mobilizes them to demand transparency and justice, often through social media campaigns like *#Right To Information* and *#Clean Politics*. Through agenda setting, the media keeps key governance issues in public focus by providing

continuous coverage of administrative lapses, protests, and public demands. Finally, watchdog journalism acts as a deterrent to unethical behavior, as the fear of media exposure compels officials and institutions to act responsibly. Together, these media functions strengthen democracy by promoting accountability and informed citizen participation.

In the digital era, media transparency has evolved beyond mere reporting to include:

a. **E-governance platforms** (online portals, open data dashboards).
b. **Social media communication** between government agencies and citizens.
c. **Collaborative transparency**, where citizens and journalists co-produce information (e.g., RTI activism, citizen journalism).

When citizens are informed through media channels, they are better equipped to evaluate government decisions, demand reforms, and participate in policymaking — all of which enhance **citizen-centric governance**.

The media's role in accountability ensures:

1. **Ethical and lawful conduct** of public officials.
2. **Responsive governance**, where citizens' concerns are acknowledged.
3. **Institutional trust**, as transparency and accountability foster confidence in governance structures.

However, the media's accountability function can be limited by state censorship, political ownership, lack of media freedom, or misinformation. Hence, assessing the effectiveness of media in holding officials accountable is crucial to improving governance quality.

2: Media enables public participation in the governance process

This empirical study investigates how media (traditional and digital) enables public participation in governance and how each medium affects different forms of citizen engagement (informational, deliberative, and mobilizational). The study uses a mixed-methods design: (a) content analysis of media coverage and government/digital platforms, (b) a representative citizen survey, and (c) interviews with journalists, public officials and civic actors. The approach combines cross-sectional survey statistics, structural equation modelling (SEM) to test mediation pathways, and qualitative thematic analysis to unpack mechanisms. Key prior empirical work shows that platform affordances condition participation types, social capital on social media correlates with civic engagement, and contextual design matters for digital public engagement.

Media type (traditional, government digital platforms, social media) mediators (information exposure, political discussion, social media capital, perceived efficacy, trust) outcomes (informational engagement, deliberative engagement, mobilizational engagement, offline collective action).

This empirical plan combines large-sample survey evidence with media content metrics and qualitative process tracing to (a) distinguish the roles of different media types, (b) test mediating mechanisms (social capital, efficacy, trust), and (c) provide policy-oriented recommendations grounded in mixed evidence about digital

mediation of participation. It addresses calls for context-sensitive, mixed-method evaluations of digital public engagement

Ground Realities of Citizen Centric Governance

1. Media and Governance Transparency:

Media can expose corruption and malpractices, as seen in the Watergate scandal in the U.S. or the Panama Papers leak. The empirical study will assess how media acts as a watchdog in different governance contexts.

Case Study: Investigating how media helped reveal corrupt practices in local governance and how these findings led to policy change or public outcry.

2. Impact of Digital Media on Citizen Engagement:

In countries with high internet penetration, social media plays a crucial role in public mobilization. The study will examine how platforms like Twitter, Facebook, or Instagram have influenced governance, including the mobilization of protests or support for policy reforms.

Survey data will be analyzed to determine how citizens use social media for political purposes, e.g., participating in debates, engaging with politicians, or advocating for policy changes.

3. Public Perception of Media's Role:

Quantitative data from surveys will reveal whether citizens trust the media to report on governance issues accurately and whether they believe media influences the government's behaviour.

It is also assess how media consumption patterns (e.g., preference for online news vs. television) correlate with political participation and satisfaction with governance.

4. Media's Role in Promoting Accountability: Analyzing how investigative journalism has led to legal action or policy changes, like the role of media in exposing electoral fraud or public health crises.

Case studies of countries where media, despite challenges, have successfully exposed governance flaws and contributed to reform.

Conclusion and Suggestions:

Citizen-centric governance emphasizes transparency, responsiveness, participation, and accountability in administrative processes. It seeks to position citizens not as passive recipients of government services but as active participants and partners in decision-making.

Media including traditional platforms (print, broadcast) and digital channels (social media, online portals) serves as a mediating institution that links the government and the governed. However, to fully realize citizen-centric governance, the media must evolve from being a mere informer to a facilitator, watchdog, and enabler of civic participation.

This objective transforms research insights into actionable recommendations, bridging theory and practice. It underlines that citizen-centric governance cannot thrive without a vibrant, independent, ethical, and technologically adaptive media

sector. Thus, the media should evolve from being a watchdog alone to being a partner in participatory democracy.

The study concludes by highlighting the significant role that media plays in improving citizen-centric governance, focusing on:
Transparency: Media's ability to expose government inefficiencies and corruption.
Accountability: How media fosters a culture of responsibility among policymakers.
Public Participation: Media's role in bridging the gap between citizens and government, enabling informed and active citizenship.
To strengthen the role of media in improving citizen-centric governance, the study will propose:
1. Media Literacy Programs: To educate citizens about the importance of media in governance and how to critically engage with media content.
2. Policy Recommendations: Governments should ensure media freedom, provide access to information, and incentivize media outlets to focus on public interest stories.
3. Collaboration Between Government and Media: Encourage partnerships between governments and media organizations to ensure that information is disseminated accurately and efficiently.
4. Further Research: Longitudinal studies on the evolving role of digital media in governance crucial, given the rapidly changing media landscape.

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"Empowering Viksit Bharat 2047 through Physical Education: A Strategic Path to Holistic National Development"

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Abstract:

As India moves towards its centenary of independence, the national vision of *Viksit Bharat 2047* envisions a prosperous, inclusive, and developed nation. Among the many pillars required to achieve this vision, Physical Education (PE) remains critical for cultivating a physically fit, mentally resilient, and socially responsible population. This study explores how Physical Education can contribute to national development through improved health literacy, productivity, discipline, and social cohesion. The paper presents data collected from surveys, educational institutions, and sports programs to analyze participation rates, physical fitness levels, and their correlation with academic and personal development. Recommendations are made for policy integration, curriculum enhancement, and infrastructure development to leverage Physical Education as a strategic tool for nation-building.

Keywords: Viksit Bharat 2047, Holistic Development, Sports Integration, Education Policy, Inclusive Education, Nation Building Strategic Planning.

Introduction:

Viksit Bharat 2047 is a strategic vision of transforming India into a fully developed nation by its 100th year of independence. The foundation of such a transformation is not only in economic and technological progress but also in the creation of a healthy, empowered, and active population. Physical Education (PE), a discipline often sidelined, plays a significant role in shaping human capital by promoting health, reducing non-communicable diseases, fostering social skills, and building resilience among youth.

The National Education Policy 2020 (NEP 2020) emphasizes sports-integrated learning and the holistic development of students. However, there remains a gap between policy and implementation, particularly in rural and underprivileged

areas. This paper aims to identify key gaps and propose practical, scalable solutions to integrate Physical Education into the developmental agenda of *Viksit Bharat 2047*.

Objectives of the Study:

1. To assess the current status of Physical Education in India.
2. To analyze the role of PE in the development of youth and its contribution to national goals.
3. To evaluate the impact of physical fitness on cognitive, emotional, and social development.
4. To propose recommendations for integrating PE in the roadmap to *Viksit Bharat 2047*.

Historical Overview and Policy Framework in India

Colonial Legacy and Post-Independence Developments: India's early focus on intellectual education sidelined physical training. British colonial influence promoted rigid, class-based education, leaving little scope for physical literacy.

Post-independence policies like the **Kothari Commission (1966)** emphasized the need for PE, but it was mostly aspirational. In 1986, the **National Policy on Education** made PE compulsory, yet resource gaps and academic pressure led to poor implementation.

New Education Policy (NEP) 2020: A Turning Point: NEP 2020 is a watershed, promoting "health and well-being" as core components of education. It endorses:

- Integration of sports with academics.
- Multidisciplinary and experiential learning.
- Mandatory weekly physical activities.

Yet, structural mechanisms for implementation remain weak, especially in rural schools.

Physical Education: The Building Block of Holistic Development

Physical Health and Preventive Care: India is facing a public health crisis—obesity, diabetes, and hypertension are rising rapidly. WHO data shows over 34% of Indian adults are physically inactive.

PE can mitigate:

- Cardiovascular diseases
- Childhood obesity
- Stress and anxiety

A physically active youth reduces long-term healthcare costs, increases productivity, and promotes a healthier workforce.

Mental and Emotional Intelligence: With over 14% of India's youth facing mental health issues, PE offers a powerful outlet. Sports enhance emotional regulation, self-esteem, and stress management.

Key benefits: Health

- Reduced depression and anxiety
- Improved concentration and memory
- Boost in self-confidence

Yoga and meditation, as part of PE, have been recognized globally for their cognitive and emotional benefits.

Social Skills and Civic Engagement

Physical Education is a platform for teaching teamwork, leadership, conflict resolution, and cooperation—essential skills in democratic societies.

Students involved in team sports exhibit:

- Greater empathy
- Reduced aggression
- Stronger sense of community

Role of PE in Achieving Sustainable Development Goals (SDGs)

PE intersects with multiple **SDGs**, such as:

SDG	**Connection to PE**
SDG 3 (Good Health & Well-being)	Physical fitness, mental resilience
SDG 4 (Quality Education)	Holistic learning, life skills
SDG 10 (Reduced Inequalities)	Social inclusion through accessible PE
SDG 16 (Peace, Justice, Institutions)	Civic values via sportsmanship

Challenges in Physical Education in India

1) **Academic Prioritization**: PE is often replaced by "core" subjects, especially during board exam years.
2) **Lack of Trained Instructors**: Many schools rely on general teachers for PE.
3) **Infrastructural Deficiencies**: Over 50% of rural schools lack playgrounds.
4) **Urban-Rural Divide**: Access and quality of PE vary drastically across regions.
5) **Gender Stereotypes**: Girls often face cultural and logistical barriers to participate in sports.

Global Best Practices in Physical Education

1. Japan

PE is mandatory in schools with structured programs emphasizing health, teamwork, and hygiene. Teachers are rigorously trained.

2. Finland

Focus on "active classrooms" and daily exercise integrated with learning. PE is linked to cognitive development and academic achievement.

3. Australia

Sports education starts early with community involvement and a national curriculum that tracks fitness, nutrition, and well-being.

India can learn by:

- Institutionalizing PE assessment.
- Developing national benchmarks.
- Incentivizing inclusive participation.

Strategic Recommendations for India

1.National PE Framework

A centralized policy defining curriculum, hours, and assessment systems. Introduce "Physical Literacy" as a core competency in NEP.

2. Training and Recruitment

Establish national-level teacher training institutes for PE professionals. Mandate certifications and CPD (continuous professional development).

3. Infrastructure Boost

- Public-private partnerships for developing sports facilities in schools.
- Shared playgrounds across schools in rural clusters.
- Allocation of 5% of the education budget to physical education.

4. Inclusion and Innovation

- Gender-inclusive curriculums and female coaches.
- Programs for differently-abled students.
- Use of AI and wearable tech for fitness tracking in schools.

Role of Technology and Innovation in Modern PE

The digital age has brought tools like:

- Virtual fitness platforms
- Gamified physical activities
- AI-based performance analysis
- Augmented reality sports education

Blending digital tools with physical activities can make PE exciting and personalized, encouraging greater participation.

PE in Higher Education and Research

Colleges must integrate PE in academic credits and offer specializations in:

- Sports science
- Kinesiology
- Nutrition and wellness
- Physical literacy research

Create linkages between **LNIPE**, **SATS**, and academic institutions to innovate PE pedagogy and policy.

Youth, Nationalism, and the Role of Sports Culture

Physical Education fosters nationalism, discipline, and collective identity. Historic moments—from Dhyan Chand's hockey triumphs to Neeraj Chopra's Olympic gold—unite the country.

National sports days, inter-college tournaments, and youth festivals can build a physically and emotionally resilient generation committed to *Viksit Bharat.*

Grassroots to Global: A Vision for 2047

By 2047, India must:

- Eliminate sedentary lifestyles.
- Achieve physical literacy for all by age 14.
- Increase sports participation by 300%.
- Develop 1000+ model PE schools with integrated health ecosystems.
- Become a global leader in sports medicine and PE research.

Methodology:

i) Study Design: A mixed-methods approach combining quantitative data (survey, statistical data) and qualitative data (interviews, case studies).

ii) Data Collection:

- **Surveys:** Conducted with 500 students and 100 Physical Education teachers from Telangana, Maharashtra, and Karnataka.
- **Interviews:** With 20 education policymakers and sports coaches.
- **Secondary Data Sources:** Ministry of Youth Affairs & Sports, NCERT, WHO reports, and NFHS-5 (National Family Health Survey).

iii) Data Analysis Tools:

- SPSS for statistical analysis.
- Thematic analysis for qualitative data.
- Correlation analysis to explore relationships between physical activity and academic/mental health outcomes.

Data Analysis and Results:

a) Participation in Physical Education:

- **80%** of private school students reported regular participation in PE classes.
- **45%** of government school students had access to structured PE programs.
- Only **30%** of schools had qualified Physical Education teachers.

b) Health and Fitness Indicators (from NFHS-5 and WHO):

- Over **24%** of adolescents in India are overweight or obese.
- Physical inactivity contributes to **15%** of all non-communicable diseases (NCDs).
- Regions with active PE programs reported **20% higher academic performance** and **30% fewer mental health issues** among students.

c) Qualitative Findings:

- Teachers emphasized the role of PE in improving attendance and reducing behavioral issues.
- Students associated sports participation with better concentration and reduced stress.
- Parents acknowledged the improvement in discipline and time management through sports.

Discussion: The data reflects a clear correlation between Physical Education and improved physical, mental, and emotional health. As India prepares to lead globally in 2047, investment in human capital must include a renewed focus on physical literacy. Lack of infrastructure, teacher training, and policy enforcement are key barriers to mainstreaming PE. Integration of PE in the NEP framework, along with government initiatives like *Fit India* and *Khelo India*, can serve as catalysts.

Recommendations:

1. **Compulsory PE Curriculum:** Implement mandatory PE across all education levels with regular assessments.
2. **Teacher Training:** Establish specialized teacher training institutes and recruit certified physical educators.
3. **Infrastructure Development:** Allocate funds for playgrounds, sports equipment, and fitness labs.

4. **Policy Monitoring:** Create a Physical Education and Sports Monitoring Authority (PESMA) at the national level.
5. **Awareness Campaigns:** Promote fitness culture through digital media, community events, and celebrity ambassadors.

Conclusion: Physical Education is a cornerstone of national development that aligns directly with the objectives of *Viksit Bharat 2047*. By investing in the physical and mental well-being of its citizens through education and sports, India can ensure a vibrant, skilled, and capable population. It is imperative for policy-makers, educators, and community leaders to work together in institutionalizing PE as a transformative force.

Physical Education is not extracurricular, it is essential. It contributes to building the physical, mental, and civic capacities necessary for India's transformation. With the right policies, infrastructure, and societal support, PE can catalyze India's journey to *Viksit Bharat 2047* a nation that is not just developed economically, but also healthy, inclusive, and humane.

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Quality Education as Sustainable Development Goal - A comparative analysis between Rural and Urban areas in Telangana State

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Abstract

Since 2015, the Quality Education has occupied a prime place among Sustainable Development Goals under the United Nations Organisation. The human capital theories in economics envisaged that education yields long term benefits to the economy. From the SDG Report – 2021 by the NITI Ayog it is evident that the Telangana state in India is performed exceptional in economic growth with score 73/100 (Rank 3/37), however it has shown backwardness in index of Quality education in state with score of 63/100 (Rank 10/37). Despite, more than ten parameters have been adopted by the UNO to measure and quantify the quality education, as per the objectives and Hypothesis of this paper it had focused firmly on Access to school education in Telangana. As per methodology: the primary data has been used to analyse the parameters of access to quality education among rural and urban Telangana. The descriptive statistics have been used for the data interpretation. And the Chi-Square statistical test used for testing the hypothesises. The test results indicated that "possibly there is existence of urban favoured education system in Telangana", and there is also confirmed that the social status and their education have interlinked. Such conditions are supposed to be corrected with appropriate improvement in rural education. The social differences in society need to be addressed to establish the equality in society.

Key Words: Sustainable Development Goals, Quality education, Desegregation approach, Urban, Rural, Social Status.

Introduction

The sustainable economic development is a difficult one to grasp analytically. Given that one is attempting to describe the environmental, economic, and social features of an ongoing process. The difficulty lies in arriving at a universally acceptable definition **(Edward B. Barbier, 1987)**[5]. After 1972 UN Conference, in 1987 the UNO **Brutland Commission** had given a report with name called "**Our Common Future**" provided the most commonly used definition of sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" **(Vangelis**

[5] Edward B. Barbier (1987). The Concept of Sustainable Economic Development, Article in Environmental Conservation · June 1987

Vitalis, 2003)"[6]. The 1992 Rio-Declaration resulted in the year 2000 by enacting MDG **(Millennium Development Goals)** with a target year of 2015 **(Haliscelik E, 2019)**[7]. Eventually, in 2015, the United Nations General Assembly passed a Resolution on the theme of **"Transforming our World".** around 193 countries agreed upon it. That resolution aims at achievement of a total 17 Sustainable Goals for betterment of people's lives by the year 2030. Quality education is one those seventeen SDGs**(Niti Ayog, 2021)**[8]. Quality education is one among those seventeen SDGs.

Review of Literature

This section of literature review will be deal with the discussion on 'how the quality education being defined by the UNO and what are the parameters have been used'. It is also focussed on brief discussion regarding India's experience on improving quality education'.

Quality Education

As per SDG-04 the quality education is being termed as **'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'**. Therefore, The United Nations (UN) defines quality education as one that "it is not only accessible to all but also relevant, inclusive, and equitable. According to the UN's Education for Sustainable Development Goals: **quality education** encompasses learning opportunities that empower individuals to develop the knowledge, skills, and attitudes necessary to contribute to sustainable development and address global challenges (**UNESCO-2018**)[9].

SDG 4 consists of 10 targets, and 12 indicators. Each of the targets has one or more indicators to measure progress. The targets include "free primary and secondary education (4.1), equal access to quality pre-primary education (4.2), equal access to affordable technical, vocational and higher education (4.3), increase the number of people with relevant skills for financial success (4.4), eliminate all discrimination in education (4.5), universal literacy and numeracy (4.6), education for sustainable development and global citizenship (4.7), build and upgrade inclusive and safe schools (4. 8), expand higher education scholarships for developing countries (4. 9) and increase the supply of qualified teachers in

[6] Vangelis Vitalis, (2003), Keynote Paper presented to the Research School for the Socio-Economic and Natural Sciences of the Environment (SENSE) Summer Symposium 19-20 June 2003, Amsterdam, Netherlands

[7] Halisçelik E, Soytas MA (2019). Sustainable development from millennium 2015 to Sustainable Development Goals 2030. Sustainable Development. 2019;1–28. https://doi.org/10.1002/sd.1921

[8] Niti Ayog (2021), SDG India Index & Dashboard 2020-2, Niti Ayog 2021, Government of India.

[9] United Nations Educational, Scientific and Cultural Organization (UNESCO). (2018). Education for Sustainable Development Goals: Learning Objectives. Paris: UNESCO.

developing countries (4. 10). In view of the primary data analysis, the data collected through field survey has focussed mostly on school education and the detailed analysis of such indicators has been discussed in the upcoming sections.

The current common worry point in education is to get better grade for all the kids (Allen C,2019)[10]. and this study aimed at understating the current scenario of availing the quality education, which is matter of urgent in state function to ensure equity in quality of education (Pradhan P-2017)[11]. Physical infrastructure is a major challenge to develop standards in education. Educational economists suggested that 'Governments should at-least spend 6 percent of its GDP on education sector to ensure all forms of development in education' **(Jandhyala B.G Tilak- 2006)[12].** However, the government has never ever spent 6 percent of its GDP on education, which is a major concern for ensuring quality of education.

India's experience on improvement of quality in education

In India, The Eighty-sixth Amendment Act-2002 of constitution inserted Article 21-A to provide free and compulsory education of all children in the age group of six to fourteen years as under the Fundamental Right in such a manner by law. Later, in the year 2009, India had passed a bill in parliament on the Right to Education Act and it came into force in 2010. Its objective is to provide 'the universal primary education to all children less than 14 years by the Right to Education Act-2009(GoI-2010)[13]. Recently India is moving to a more refined system in implementation of school education as well as adult education through National Education Policy-2020.

NITI Aayog, the Government of India's premier think tank, has been entrusted with the task of coordinating the SDGs, mapping schemes related to the SDGs and their targets. In addition, the Ministry of Statistics and Programme Implementation (MoSPI) has been the leading authority for developing national indicators for the SDGs. "The UN Country Team in India supports NITI Aayog, Union ministries and state governments in their efforts to address the interconnectedness of the goals, to ensure that no one is left behind and to advocate

[10] Allen, C., Metternicht, G. & Wiedmann,(2019). T. Prioritising SDG targets: assessing baselines, gaps and interlinkages. Science Direct. https://doi.org/10.1007/s11625-018-0596-8.

[11]. Pradhan P, Costa L & Rybski D, (2017). A Systematic Study of Sustainable Development Goal (SDG) Interactions, Earth's Future, 5, 1169–1179

[12] Jandhyala B. G Tilak, (2006). On Allocating 6 Percent of GDP to Education. Economic & Political Weekly,2006.

[13] GoI (2010), Right to Education Act-2010, Ministry of Education, Government of India.

for adequate financing to achieve the SDGs[14]." As a signatory to the SDGs, India has committed to ensuring inclusive and quality education to all children by 2030[15].

Research Methodology of This Study

It is found that the localized studies regarding the SDG Targets have not been traced. And mostly the theories and data on SDGs are available with national and sub-national (State) level interests. **But it never went into deal with localizing (Urban and Rural Comparison).** Therefore, this study intended to construct a research scope around the different ethnicities (urban and rural), and also around different communities.

The motivation behind this adoption of localized study emerged from the report by UNO. it has made a resolution regarding SDGs **(UNO Report-2021-** Resolution 68/261) that "the SDGs indicators should be **disaggregated**, where relevant, **by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics (UNO Report-2021)**[16]". Hence, the scope of SDGs widened, there must be a rigors measures of Efficiency needed on SDGs, without which it's not possible to justify the progress of the SDG attainment **(M.J. Smith, 2020)[17].**

3.1 Objectives of this Study

A. To study the Demographic features in research areas/study areas.
B. To Illustrate the indicators of Sustainable Development Goal no.4: Quality Education in Telangana State.
C. To Statistically validate the relationship between ethnicity and social status of different communities in order to access of education.

3.2 Hypothesis of this study

1: **H_0:** There is no Statistically significant Relation Among Status of Education and Rural/ urban living.
2: **H_0:** there is no statistically significant relation between the social status of individuals and status of their education.

Source of the Data and Sampling method & limitations, Statistical Techniques used

As it is a case study with primary data analysis, the field survey data has been collected from two administrative districts (Wanaparthy: South region and Jagtial: North region) of Telangana State, India. The reason for selecting those districts is 'both the districts have similar Per-capita level' and occupied 27/33 and

[14] https://india.un.org/en/sdgs

[15] https://ris.org.in/sites/default/files/Publication

[16] UNO Report (2021), Goals and targets (from the 2030 Agenda for Sustainable Development), United Nations of Organization.

[17] M.J. Smith (2020), Sustainable Development goals: genuine global change requires genuine measure of Efficiency. Journal of Maps, Taylor & Francis Group.

28/33 places (Telangana Socio-Economic Survey 2021-22). The reference year for collecting the primary data was 2021-22.

The National Sample Survey Office (NSSO) 78th round methodology used for draw the final sample frame. The Questionary contains two parts: Schedule A and Schedule B. the schedule A used for the preliminary enlisting of all individuals in proposed areas of sampling. And Schedule B is used for the final recording of responses from the sampled units drawn by multi-stage (Rural and Urban) Stratified (each social community as one stratum) random Sampling from the individuals enlisted in Scheduled A.

Simple random sampling of lottery method used for shortlisting Rural villages (Thatipamula in Wanaparthy, Ratnapur in Jagtial) and urban wards (1. Jagtial City and 2. Wanaparthy City). The total enlisted individuals in schedule-A are 1655. And as per their social status, it contains around 64 % Backward Class communities, 15 % Scheduled Caste communities, 10 % Scheduled Tribes and 10 % Other Castes. In order to meet the Objectives and Hypothesis of this study, each social status treated as one stratum and included all the communities in sample frame according to their representation in Schedule A and prepared list of 200 final sample size to record the responses in Schedule B of field questionary. Hence, the desegregation approach applied in this methodology (sampled units desegregated by the characteristics of income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics). for the comparative analysis each ethnicity of rural and urban areas were allotted 100 sample units (total sample units-200).

The major limitations of this study are: 1. To asses the quality education in Telangana, in order to time and expenditure concerns this study has focused primarily on the school education as it is foundation for the entire education system. 2. in view of man-power concerns, this study has collected field data only from 200 sample of respondents.

The descriptive statistical techniques are used along with the Non-parametric Test **(Chi-Square test)**[18] for the validation of hypothesis tests.

The formula to calculate **chi-square (x^2)** is…..

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$\sum$ is Summation, O_i is Observed Value (Given attributed Values), E_i is Expected Values;

$$E = \frac{\text{(Row Total) (Column Total)}}{\text{Sample Size}}$$

[18] Prem S. Mann (2018), Introductory Statistics, Wiley., 9th ed. ISBN: 978-1-119-53704-5

For the Chi-Square Statistical Test, the degrees of freedom are determined by this formula… df = (R-1)(C-1), df is degrees of freedom, R is Number of Rows, C is Number of Columns. And "A chi-squared test ($\chi 2$ test) is a statistical hypothesis test used for whether two variables are independent/homogeneous or not".

4. Data Interpretation: Descriptive analysis of Demographic and socio, economic conditions.

The Sample frame has consisted around 200 respondents with classification of 100 sample units belonged rural and urban along with gender representation for the comparative analysis. In which, OC (General Community/Caste) 10 %, Other Backward Classes (OBC) 64 %, Scheduled caste (SCs) 16 %, Scheduled tribes (STs) 10 %. Such different social status sampled unites are included for the comparative analysis purpose. Diversity in caste may be indicative of social inclusion efforts, which is essential for achieving SDG 4 by ensuring inclusive and equitable quality education. Analysing caste classifications can shed light on potential disparities in access to education among different caste groups. It has observed that, out of 200 sample units, 62 individuals say they are not married yet, 120 individuals currently married and 7 individuals divorced after marriage. 11 individuals are widowed. And it is also observed that mean family size is 3.63 with minimum 1 member and maximum with 8 members in a family.

Table 4.1: Literacy Rate in study area

		Frequency	Percent
Education	Yes	159	79.5
	No	41	20.5
	Total	200	100.0

Source: *Authors Field Survey data, 2023*.

It can be observed in table 4.1, that the literacy rate in study areas is 79.5 % and persons without education 20.5 %. Its emphasis that the literacy rate has improved comparatively to 2011-census in Telangana State(66.54 %) and India(74.04 %). But it can be suggested for more inclusive educational programs to improve the literacy rate to reach it to 100 %.

Table 4.2: Enrolment in Pre-Primary Education

		Frequency	Percent	Valid Percent Within Educated
Pre-primary Enrolment	Yes	51	25.5	32.1
	No	108	54.0	67.9
	Total	159	79.5	100.0
Not educated		41	20.5	
Total		200	100.0	

Source: *Authors Field Survey data, 2023*.

According to United Nations, "Pre-primary education is critical for establishing a solid foundation for a child social, emotional and overall well-being. The early years of a child's life build the basis for lifelong growth, and children who fall behind in these early years often never catch up with their peers, leaving them more likely to drop out of school and fail to reach their full potential". As per the table 4.2, overall educated persons in the sample i.e. are 159 persons and only 25.5 percent has enrolled in the Pre-primary education and remaining 108 persons did not enrol in the pre -primary [19] education. This has to be improved.

Table 4.3: Type of Education Availed

		Frequency	Percent	Valid Percent
Type of education	Only Formal Education	143	71.5	89.9
	Only Non-Formal Education	9	4.5	5.7
	Both Formal and Non-Formal Education	7	3.5	4.4
	Total	159	79.5	100.0
Not Educated		41	20.5	
Total		200	100.0	

Source: *Authors Field Survey data, 2023*.

From the above table 4.3: the overall educated persons 159, formal education availed are 143 (71.5 Percent) and persons only availed non-formal education are 9 (i.e. 4.5 percent). And, 7 persons availed both formal and non-formal education (i.e. 3.5 percent). 9 persons accessed with non- formal education. As per the UNO norms and guidelines the formal education should reach each and every one to make education equitable and sustainable in terms of knowledge sharing, therefore the policies and program should design to improve formal education.

Hereafter, in the coming analysis the formal education dynamics have been discussed with descriptive statistics.

4.5.: Management of Schools as per Rural/Urban sector Cross Table in No. s

Management of Primary School (PS-1 to 5 class) and Sector Cross tabulation				
		Sector		Total
		Rural	Urban	
Management of PS School	Government	43	50	93
	Private	27	30	57
Total		70	80	150

[19] Pre-primary educational programs are typically designed for children 3 to 5 years of age in Telangana.

Management of Upper primary School (UPS-6 to 7 class) and Sector Crosstabulation				
		Sector		Total
		Rural	Urban	
Management of UPS School	Government	36	43	79
	Private	34	37	71
Total		70	80	150
Management of Secondary School Education (SSE- 8 to 10 class) School and Sector Crosstabulation				
		Sector		Total
		Rural	Urban	
Management of SSE School	Government	22	29	51
	Private	42	45	87
Total		64	74	138

Source: *Authors Field Survey data, 2023*.

As per the table 4.5 the student enrolment has decreased from 93 to 51 in both rural and urban areas under Government management, whereas the total enrolment under private management has increased from 57 to 87 in both rural and urban schools. Which is not good as per UNO point of view regarding free education policy. Overall, the total enrolment has declined from 150 to 138 as grade of schooling increasing. Such declining trend indicating that overall failure of education system. This condition needs to be addressed and stop the dropouts.

Table 4.6: Caste-wise enrolment under different management of Schools in No' s

Caste and Management of PS School Crosstabulation				
		Management of PS School		Total
		Government	Private	
Caste	Other Caste	8	8	16
	Other Backward Caste	64	37	101
	Scheduled Caste	10	10	20
	Scheduled Tribe	11	2	13
Total		93	57	150
Caste and Management of UPS School Cross Tabulation				
		Management of UPS School		

		Government	Private	Total
Caste	Other Caste	8	8	16
	Other Backward Caste	53	48	101
	Scheduled Caste	8	12	20
	Scheduled Tribe	10	3	13
Total		79	71	150

Caste and Management of SSE School Crosstabulation

		Management of SSE School		Total
		Government	Private	
Caste	Other Caste	6	9	15
	Other Backward Caste	34	56	90
	Scheduled Caste	5	15	20
	Scheduled Tribe	6	7	13
Total		51	87	138

Source: *Authors Field Survey data, 2023*.

The table 4.6 elucidate about management wise and caste wise admissions for schooling. Under government management from the PS to SSE level of education the total enrolment of OC caste individuals has decreased, however comparatively with OBC and SC, ST, i.e., the OC caste individuals enrolled less under government schools at all the stages. Under private management, there is a tendency of increasing enrolment from all the communities from 57 to 87. Which shows there is attraction towards more private education as class of study increases. This situation depicts the scenario of failure of government management schools in promising quality education to enrolled students. In order to meet the expenses over the private education, the families have depended on the private borrowings from the private money lenders at higher interests. Therefore, there is a great need of mobilising individuals to go for organized bank loans at lower rates without financial burden.

According to the responses in field survey, 102 of 150 respondents said there was a good drinking water facilities available and 19 students said there was not available of good drinking water, but 29 students agreed that there was no provision of drinking water facilities. A condition of no drinking water in schools shows worst situation, which needed to be fix immediately. Comparatively, the urban schools have better water facilities.

In view of satisfaction on Toilet facility at rural PS level, 46 individuals says they had good toilet facilities and 13 says not, but 11 individuals said there is no available toilet facilities at all. And, under the urban PS level, 49 satisfied with available toilets and 13 individuals not satisfied but 18 said there is no toilet facility. which is more concerned with access to education. For rural UPS level, 52 said there are good toilet facilities and 11 said not, but 7 individuals said there is no available toilet facilities at all. And, at urban UPS level, 58 individuals satisfied with available toilets and 12 individuals not satisfied but 10 said there is no toilet facility which is more concerned with access to education. So, from PS to UPS the toilet facilities improved but not achieved 100 percent. As per rural SSE level, 48 says there are good toilet facilities and 11 says not, but 5 individuals said there is no available toilet facilities. And for urban SSE level, 56 satisfied with available toilets and 17 individuals not satisfied but 1 said there is no toilet facility which is more concerned with access to education. So from UPS to SSE the toilet facilities improved but not achieved 100 percent.

In view of the satisfaction of Students/individuals on Classroom Facilities, at rural PS level of Education, 60 Students/individuals were satisfied with existed classroom facilities and 10 individuals not satisfied. And at urban PS schooling, 67 were satisfied and 13 individuals not satisfied. Same proportions of an individual's response can be observed at rural/urban UPS too. In the rural SSE level, 56 were satisfied with existed classroom facilities and 8 individuals not satisfied. And at urban SSE, 70 were satisfied and 4 individuals not satisfied. However, there is clear indication of improvement of classroom facilities from PS level to SSE level in both rural and urban schooling, still there is requirement of proper improvement regarding classroom infrastructure in Telangana.

As per the data on Rural/Urban Sector wise Availability of Sitting Benches Facilities, at rural PS level of Education, 21 were satisfied and 6 individuals not satisfied but 43 individuals said there is no availability of sitting benches. And in urban PS schooling, 20 were satisfied and 6 individuals not satisfied but 54 individuals said there are no available sitting benches. at rural UPS level of Education, 50 were satisfied and 6 individuals not satisfied but 14 individuals said there is no availability of sitting benches. At urban UPS schooling, 44 were satisfied and 9 individuals not satisfied but 27 individuals said there is no available of sitting benches. at rural SSE level of Education, 50 were satisfied and 3 individuals not satisfied but 11 individuals said there is no availability of sitting benches. And, under urban SSE schooling, 47 were satisfied and 4 individuals not satisfied but 23 individuals said there is no availability of sitting benches. Over all it was observed that sitting bench facilities have improved at the SSE level of education at both rural and urban schools, whereas

there is great involvement need at the PS and UPS level schooling to improve Bench facilities.

Rural and Urban wise availability of Library facilities at different levels of Schools: at PS level of rural schooling Education, only 4 individuals have studied in schools which have library facilities and 66 individuals studied in schools which have no library facilities. at urban PS schooling, only 3 individuals studied in schools which have library facilities and 77 individuals studied in schools which have no library facilities. In UPS level of rural schooling, only 7 individuals studied in schools which have library facilities and 63 individuals studied in schools which have no library facilities. in urban PS schooling 7 individuals, studied in schools which have library facilities and 73 individuals studied in schools which have no library facilities. At SSE level of rural schooling, 35 individuals studied in schools which have library facilities and 29 individuals studied in schools which have no library facilities. There are 74 individuals studied in urban SSE schooling, only 31 individuals studied in schools which have library facilities and 43 individuals studied in schools which have no library facilities.

It is observed that the Rural and Urban Sector wise availability of Sports facilities at different levels of Schools. at PS level of rural Education, 56 individuals say their schools have sports facilities, other 14 individuals say their schools have no sports facilities. and in urban PS schools, 65 individuals studied in schools which have sports facilities and 15 individuals studied in schools which have no sports facilities. At UPS level of rural Education, 51 individuals say their schools have sports facilities, other 19 individuals say their schools have no sports facilities. in urban UPS schools, 63 individuals studied schools which have sports facilities and 17 individuals studied in schools which have no sports facilities. At SSE level of rural schooling, 42 individuals say their schools have sports facilities, other 22 individuals say their schools have no sports facilities. and at urban SSE schools, 54 individuals studied schools which have sports facilities and 20 individuals studied in schools which have no sports facilities.

A s per the field data on availability of computer labs at Rural/Urban Sector wise different levels of Schools, it is observed that at both the PS and UPS level of Schooling in both the rural and urban sectors there is no availability of computer labs. but at the SSE level of rural Education, 41 individuals say their schools have Computer lab facilities, other 22 individuals say their schools have no computer lab facilities. and in urban SSE schools, 40 individuals studied in schools which have computer lab facilities and 34 individuals studied in schools which have no computer lab facilities.

5. Hypothesis Testing and result Analysis

Table 5.1: Education Status of sampling units as per Rural/Urban Sectors.

	Whether educated		Total
	Yes	No	
Rural sector	77(79.5)	23(20.5)	100
Urban Sector	82(41)	18(9)	100
Total	159	41	200

Source: *Authors Field Survey data, 2023*.

Note: Values in Parenthesis are expected values calculated by the formula of Chi-Square test.

H_0: There is no Statistically significant Relation Among Status of Education and Rural/ urban living.

By using the chi-square formula (See Methodology section), the value of Calculated chi-square **(x^2)** = 50.38349 for df 1 at p-value 5.0 %. The calculated Chi-square value **(x^2)** = 50.38349 is greater than tabled critical value 3.841 at 5.0% of p-value. So, it would be concluded that this Null Hypothesis is rejected and says that There is Statistically significant Relation Among Status of Education and Rural/ urban living. It seems there is urban favoured education in state, such condition should be addressed without delay.

Table 5.2: Caste wise Education Status of sample units.

Caste and Education of sample Crosstabulation				
		Whether educated		Total
		Yes	No	
Caste	Other Caste	17(15.9)	3(4.1)	20
	Other Backward Caste	109(101.8)	19(26.2)	128
	Scheduled Caste	20(25.4)	12(6.6)	32
	Scheduled Tribe	13(15.9)	7(4.1)	20
Total		159	41	200

Source: *Authors Field Survey data, 2023*.

Note: Values in Parenthesis are expected values calculated by the formula of Chi-Square test.

H_0: There is no Statistically significant Relation Among Status of Education and Caste of the individuals.

By using the chi-square formula (See Methodology section), the value of Calculated chi-square **(x^2)** = 11.139 for df 1 at p-value 5.0 %. The calculated Chi-square value **(x^2)** = 11.139 is greater than tabled critical value 7.815 at 5.0% of p-value. So, it would be concluded that this Null Hypothesis is rejected and say that "there is existence of Statistically significant Relation Among Status of Education and social status (caste) of the sampled individuals. Therefore, it is

advised that "It's a state responsibility to establish the condition of equality in access to education".

6. Summery and Concluding Remarks & Policy Implications

i. From the field survey data analysis of 200 sampled individuals, 159 individuals are found to be educated. And within such total educated persons, approximately 32% individuals have studied in pre-primary education. This scenario has to be improved by the government to ensure the benefits of pre-primary education.

ii. From the field survey, it has been found that there are 5.7% of total educated people (159) studied only in non-formal education. Though, this is a very good indication that the majority of individuals are educated in formal education, but still the government needs to work somehow smartly to make enrolment in formal education to 100%.

iii. During field survey, some sampled individuals had told that they have depended on private money lenders for borrowings to access the private education at different levels. comparatively it is more than the individuals who availed loans from formal banks. The government should make a policy to address such loan facility problems.

iv. Some sampled individuals expressed they didn't get pure drinking water at their schooling, which is an urgent issue to be addressed by the government.

v. Compared to high school level, the elementary level rural and urban schools don't have proper toilet facilities. Such situation needs to be improved without delay. the same situation was found regarding the classrooms, sitting benches, sports facilities, etc.

vi. For table no. 5.1, the null hypothesis of 'there is no statistically significant relation among variables of status of education and urban/rural living' is rejected by the result of chi-square statistical test and concluded that there is existence of statistically significant relation among specified variables.

vii. According to the second hypothesis for table no. 5.2, the null hypothesis "there is no statistically significant relation among the variables of status of education and caste of individuals' is also rejected with the results obtained by the chi-square test. And it is inferred as 'there is a considerable relationship between the status of education and social status (caste) of that individual'.

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Sustainable Tribal Development of India In the Era of Globalisation An Overview

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Abstract

The India has the substantial population of tribal people constituting 8.6 percentage of the total population of India following the census-2011.Indian tribals are heterogeneous groups. The Indian Constitution provides special status to these people under the category of scheduled tribes (STs) .Governments have been implementing various schemes, programmes and policies, having the objective of tribal upliftment emphasizing on sustainable development, cultural preservation and socio- economic empowerment, since Indian independence in 1947.The present union government launched various schemes and programmes for the empowering tribals. Following this, the financial commitment has significantly improved with the DAPST budget from Rs. 25,000 crore annually to Rs.1.2 lakh crore in 2023-24. The Union Budget 2024-25 again increased the allocation of budget. Government launched programmes such as Dharti Aaba Janjatiya Gram Utkarsh Abhiyan,Ekalavya Model Residential Schools(EMRS), Development Action Plan for Scheduled Tribes (DAPST), National Fellowship for ST students , National scheduled Tribes Finance and Development Corporation (NSTFDC), Tribal cooperative Marketing Development Federation of India(TRIFED),The Adivasi Mahila Sashakthikaran Yojana(AMSY),etc,.Govt launched various programmes for the development of education among Tribals .One of the important measure is the Ekalavya Model Residential Schools which aimed at quality education for tribal children. The Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY) provides infrastructure and livelihood opportunities in rural areas of tribals. Many of these welfare measures come under "The Umbrella Scheme for Development of Scheduled Tribes" reflecting wider framework that includes various schemes and programmes aimed at achieving socio-economic development of Tribals. Along with these welfare activities, The Indian constitution provided several legal safeguards for the development of tribals in India which lead to sustainable development providing socio-economic empowerment realizing Vikasith Bharath.

Key Words: Scheduled tribes (STs), socio-economic empowerment, cultural preservation, DAPST,EMRS ,TRIFED, NSTFDC, AMSY ,PMAAGY The Umbrella Scheme, Vikasith Bharath.

Introduction

Globalisation defined by the rapid movement of capital, goods, ideas, and people across national boundaries has become the dominant force shaping twenty-first-century development trajectories. Yet the phenomenon's ostensibly universal promise of prosperity is complicated by the realities of deep-seated structural inequities. Nowhere is this tension more acute than in India's tribal heartlands. Home to roughly 104 million individuals, recognised constitutionally as Scheduled Tribes (STs) and divided into 705 officially notified groups, these communities occupy a paradoxical space: they are custodians of some of the nation's most resource-rich landscapes and biodiversity hotspots, but they remain among its most socio-economically marginalised citizens.

Over the past three decades, the Indian economy has undergone a decisive shift from state-led to market-oriented growth, integrating with global value chains in information technology, pharmaceuticals, automotive components, textiles and, more recently, renewable energy. This integration has unleashed new capital flows, spurred technology transfer and catalysed cultural exchange, yet it has simultaneously intensified pressures on land, forests and water—resources that are intimately bound up with tribal livelihood systems and identities. Mining concessions, hydropower dams, industrial corridors, and even large-scale conservation initiatives have often been sited in or around Scheduled Areas, prompting displacement, ecological disruption and social dislocation.

The challenge before policymakers, civil-society actors and tribal leadership is therefore dual and delicate: how to enable tribal economies to participate meaningfully indeed competitively in national and transnational markets, while safeguarding ecological integrity, customary tenure and cultural distinctiveness. Addressing that challenge demands an analytical frame that moves beyond the binaries of tradition versus modernity, isolation versus integration, or economic growth versus environmental stewardship. Instead, it calls for a nuanced understanding of interdependence: tribal communities' economic vibrancy depends on both healthy ecosystems and fair market access; likewise, India's broader pursuit of sustainable development hinges on drawing upon indigenous ecological knowledge, conserving cultural diversity and ensuring that growth is genuinely inclusive.

The stakes are high. Scheduled Tribes account for 8.6 percent of India's population but disproportionately represent its poor: according to the Multidimensional Poverty Index 2023, nearly one in three tribal households still lacks simultaneous access to health, education and living-standard benchmarks. Literacy rates, though improving, trail the national average by over fourteen percentage points, and child nutrition indicators remain stubbornly adverse. Women in tribal

communities while often enjoying higher social status within lineage systems than in many patriarchal caste societies encounter compounded barriers in formal labour markets and face heightened vulnerability when customary land rights are undermined.

At the same time, there are grounds for cautious optimism. Constitutional and statutory safeguards—ranging from the Fifth and Sixth Schedules to progressive statutes such as the Panchayats (Extension to the Scheduled Areas) Act (PESA 1996) and the Forest Rights Act (FRA 2006)—provide a robust legal scaffold for participatory self-governance and community-based natural-resource management. Recent governmental initiatives like the Development Action Plan for Scheduled Tribes (DAPST), the Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY) and the Ekalavya Model Residential Schools (EMRS) are backed by unprecedented budgetary commitments, signalling political recognition that tribal development is not a peripheral welfare concern but a core component of India's aspiration to become *Viksit Bharat*—a fully developed, equitable nation by 2047.

Globalisation's technological dimension also confers new tools for empowerment. Digital platforms can shorten the distance between remote producers of non-timber forest products and urban or international consumers; mobile-based extension services can disseminate climate-smart agricultural practices in indigenous languages; and GIS mapping combined with blockchain can strengthen tenure security by enabling transparent, immutable records of community land titles or geographical indications for unique tribal crafts. Yet harnessing these tools requires bridging digital divides in connectivity, affordability, and e-literacy tasks that demand coordinated investments in infrastructure and capacity building.

Equally critical is the cultural dimension. Global markets exhibit a growing appetite for ethically sourced, environmentally sustainable goods a trend that aligns with traditional tribal production systems centred on biodiversity conservation, circular resource use, and artisanal craftsmanship. However, converting that alignment into durable economic gains calls for protecting intellectual property, preventing cultural appropriation, and ensuring value-chain governance mechanisms that reward producers rather than intermediaries. The Geographical Indications Act and TRIFED's "Go Tribal" marketing campaigns are steps in that direction, but broader adoption of benefit-sharing models, fair-trade certifications and participatory branding strategies will be essential.

Moreover, the global climate regime is ushering in large-scale carbon-offset investments and nature-based solutions, positioning forested tribal territories at the forefront of India's mitigation and adaptation efforts. While such projects carry the promise of new revenue streams, they also risk replicating historical patterns of dispossession if free, prior and informed consent (FPIC) is neglected or if benefit

distribution collapses under opaque governance. Ensuring that tribal communities hold meaningful stakes—financial and decision-making—in carbon markets will be a litmus test of whether India can achieve a just energy transition.

Finally, no introduction to the theme would be complete without foregrounding the principle of self-determination. Globalisation has been criticised for homogenising cultures and concentrating power in transnational corporations; the antidote lies in revitalising local institutions—gram sabhas, customary councils, women's collectives—and embedding them in multi-level governance frameworks that balance local autonomy with national and global partnerships. Empirical evidence from community-managed bamboo enterprises in Maharashtra's Mendha-Lekha, women-led millet clusters in Odisha's Kandhamal, and digital-learning hubs in Arunachal Pradesh's Ekalavya schools demonstrates that when tribal stakeholders drive agenda-setting, outcomes are not merely more equitable; they are also more resilient and innovative.

India stands at a pivotal juncture where the contours of globalisation intersect with the frontiers of indigenous knowledge and resource stewardship. Crafting a pathway for sustainable tribal development is not simply a moral imperative geared towards historical redress; it is an economic necessity for realising inclusive growth, a social necessity for preserving the nation's pluralistic ethos, and an ecological necessity for combating climate change. The chapters that follow will analyse historical policy trajectories, dissect contemporary initiatives, evaluate on-the-ground case studies, and propose actionable recommendations. Together, they aim to chart a roadmap that enables India's tribal communities to become not reluctant passengers but co-pilots in the journey toward an interconnected yet culturally rooted future.

Historical Policy Trajectory

India's approach to tribal development has evolved through four broad phases. During the colonial era (up to 1947), Forest Acts and land-alienation policies were imposed largely to secure timber and mineral resources, so the state's engagement with tribal areas was geared toward extraction and administrative control rather than welfare. In the early-Republic decades (1950-1980), development thinking shifted to a welfare-centric, gap-filling model, exemplified by the Five-Year Plans and the creation of the Tribal Sub-Plan (TSP), which earmarked funds to narrow disparities. The economic-reform period (1991-2014) layered rights-based safeguards onto a liberalising economy: landmark statutes such as the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act 1989, the Panchayats Extension to Scheduled Areas Act 1996 (PESA) and the Forest Rights Act 2006 (FRA) sought to protect land, political voice and forest tenure even as markets opened. Since 2014, a "convergence and mission-mode" paradigm has taken hold, characterised by the Umbrella Scheme for Scheduled Tribes, marked budget consolidation under the Development Action Plan for STs (DAPST), place-based infrastructure through the Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY), quality education via Ekalavya Model Residential Schools (EMRS) and market

linkages through an expanded TRIFED 2.0 together delivering an integrated, outcome-driven and gender-sensitive framework for sustainable tribal development.

Contemporary Schemes and Budgetary Commitment

The Development Action Plan for Scheduled Tribes (DAPST) has become the fiscal backbone of India's tribal policy architecture, signalling an unambiguous shift from token budget lines to transformative scale. In a single decade its outlay has leapt almost five-fold—from ₹25,000 crore in 2014-15 to a staggering ₹1.2 lakh crore in 2023-24, and it will climb again to ₹1.39 lakh crore under the 2024-25 Union Budget. What distinguishes DAPST from earlier earmarking mechanisms is its breadth: forty-three Central ministries must now devote at least 4.3 per cent of their annual spending to components that demonstrably benefit Scheduled Tribes. This "whole-of-government" mandate has created a pipeline of targeted projects that range from health insurance and renewable-energy micro-grids to digital-skills bootcamps, ensuring that tribal development is embedded in mainstream sectoral plans rather than confined to a single welfare ministry.

Within this enlarged fiscal envelope, five flagship interventions give the programme its operational edge. First, the Ekalavya Model Residential Schools (EMRS) scheme addresses the chronic learning gap by sanctioning 740 state-of-the-art, CBSE-affiliated campuses that blend STEM curricula with locally relevant culture and languages; by clustering hostels, smart classrooms and maker-labs in remote districts, EMRS aims to create a generation of tribal youth who can compete in national examinations without losing cultural moorings. Second, the Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY) applies a saturation logic to rural infrastructure, committing to universal drinking-water coverage, all-weather roads, digital connectivity and multipurpose livelihood hubs in every identified tribal village; these transforms scattered welfare assets into integrated "model habitations" capable of supporting micro-enterprises and value-chain linkages. Third, the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan tackles exclusion errors in social protection by dispatching mobile teams to 80,000 villages for door-to-door enrolment in pensions, health insurance, ration cards and Aadhaar seeding, thereby closing the last-mile gap that has historically limited scheme uptake.

Market access is addressed through the twin engines of TRIFED's "Vocal for Local, Go Tribal" campaign and the Van Dhan start-up ecosystem. By aggregating non-timber forest products (NTFPs) and handicrafts on e-commerce platforms such as Tribes India, TRIFED short-circuits exploitative middlemen and introduces barcode-based traceability, while Van Dhan clusters provide working capital, primary processing units and design mentorship to convert raw mahua seeds, lac or bamboo into high-value consumer goods. Finally, credit constraints—often cited as the biggest barrier to indigenous entrepreneurship—are being eased by the

National Scheduled Tribes Finance and Development Corporation (NSTFDC) and its gender-focused arm, the Adivasi Mahila Sashaktikaran Yojana (AMSY). Offering concessional loans at four-to-six per cent interest and reserving thirty per cent of the portfolio for women-led ventures, these institutions blend social collateral models with technical-assistance grants, allowing borrowers to graduate from subsistence activities to scalable enterprises.

Collectively, DAPST's budget muscle and these flagship interventions form an interlocking framework: EMRS builds human capital, PMAAGY supplies hard and soft infrastructure, Dharti Aaba ensures welfare security, TRIFED unlocks market demand, and NSTFDC-AMSY injects affordable finance. The synergy among them is designed to move tribal development from fragmented subsidy schemes toward an ecosystem approach where education, infrastructure, social protection, market integration and credit reinforce one another. In doing so, the programme aspires not merely to close historical gaps but to position India's tribal communities as dynamic contributors to a sustainable, innovation-driven national economy.

Globalisation Pressures and Opportunities

Globalisation exposes India's tribal heartlands to a volatile mix of risks and possibilities, and their interplay can be illustrated across four critical domains—land and forests, labour markets, culture, and the low-carbon transition. On the territorial front, large-scale mining blocks, hydropower reservoirs, and renewable-energy corridors frequently trigger displacement, fragmenting community landscapes that underpin both livelihood security and spiritual identity. Here, however, the Forest Rights Act (FRA) provides a potent if still under-utilised counterweight: by converting historically informal usufruct into legally recognised community title deeds, it creates a platform for tribal gram sabhas to negotiate or even outright veto extractive projects. Once tenure is secure, land can pivot from being a liability to an asset through community-owned forest enterprises that monetise bamboo, lac, honey, or other minor forest produce (MFP) while retaining ecological integrity and local control over value addition.

In the labour sphere, global supply chains often reward high-skill niches and relegate low-skill workers to precarious, seasonal migration patterns deskilling tribal youth and draining villages of productive labour. The state's response, embodied in Ekalavya Model Residential Schools (EMRS), is to create a generation of bilingual, STEM-savvy graduates who can straddle ancestral knowledge systems and modern occupations. Market-side innovations complement this push: handicraft cooperatives are forging partnerships with gig platforms and ethical-fashion portals, enabling artisans to tap urban demand without abandoning their home regions, thereby converting digital connectivity into a locally embedded employment generator rather than a conduit for out-migration.

Culture, meanwhile, faces the double-edged sword of global exposure. Traditional art forms, music, and agro-biodiversity can be diluted or appropriated

once they enter mass markets, leading to homogenisation and intellectual-property theft. Yet these same markets prize authenticity and provenance, creating a leverage point for Geographical Indication (GI) tagging such as for Toda embroidery from the Nilgiris or shade-grown Araku coffee from Andhra Pradesh which secures legal recognition, price premiums, and producer bargaining power in international boutiques. Complementary efforts in digital documentation ranging from QR-coded storytelling archives to open-source audio libraries can both immortalise intangible heritage and supply raw material for educational curricula, museum partnerships, and creative-economy incubators, ensuring that cultural capital translates into sustained economic dividends.

Finally, the global race toward net-zero emissions pushes vast tracts of tribal territory into the spotlight for carbon-offset plantations, conservation easements, or hydroelectric reservoirs projects that too often proceed without the free, prior, and informed consent (FPIC) of indigenous landholders, effectively externalising environmental costs onto some of India's least empowered citizens. Counter-pressure is emerging from constitutional jurisprudence under Article 21 (the right to life interpreted expansively to include healthy environment and livelihood) and from India's growing sovereign-green-bond programme. A stipulated carve-out of these bond proceeds for Scheduled Tribe-led climate-resilience projects—be it micro-hydel grids, climate-smart millets, or watershed restoration—would align financial flows with justice imperatives, turning the energy transition into a revenue stream rather than a dispossession event.

Taken together, these "opportunity levers" demonstrate that the risks globalisation poses to tribal communities are not immutable; they are in fact contingent on governance choices, legal enforcement, and the strategic deployment of both traditional knowledge and modern tools. By systematically converting threats into platforms for empowerment—through secure tenure, skill-intensive education, intellectual-property protection, and climate-finance equity—India can craft a development model in which tribal regions evolve from resource frontiers to innovation frontiers, anchoring a pluralistic and sustainable national growth narrative.

Measuring "Sustainable" Development

A practical way to track whether India's tribal regions are advancing toward genuinely sustainable and not merely growth-centric development is to operationalise a Composite Tribal Sustainability Index (CTSI) built on four equally weighted pillars: ecology, economy, equity and culture. The ecology pillar would combine "forest cover per capita" with a composite biodiversity score derived from Forest Survey of India remote-sensing layers and species-richness data collected by the Botanical and Zoological Surveys. The economy pillar would marry "median monthly per-capita expenditure" with an "own-enterprise ratio" that measures the share of working adults running micro-enterprises, signalling a shift from wage dependence to asset-based livelihoods. The equity pillar would track the "gender gap in literacy" alongside

"political representation"—the proportion of women and Scheduled Tribe members holding seats in Panchayati Raj Institutions or state assemblies—because decision-making power and human-capital parity are indispensable for inclusive progress. Finally, the culture pillar would index "inter-generational language retention" (the percentage of youth fluent in their mother tongue) and the count of intangible-cultural-heritage (ICH) elements formally recognised at state or UNESCO level, acknowledging that cultural vitality is itself a sustainability metric. Baseline values can be extracted from the NFHS-5 health and education tables, Forest Survey 2023, NSS 78th-round household consumption surveys, and administrative datasets from the Ministry of Tribal Affairs (MoTA). Annual or biennial updates would allow each state's Scheduled-Area

Policy Gaps and Recommendations

India's tribal-development landscape is increasingly sophisticated, yet five structural gaps continue to undercut impact—and each invites a targeted, system-level fix. First, the data architecture remains fragmented**.** Household-survey indicators sit in one ministry, forest-cover layers in another, while district-level budget releases are buried in PDFs, making evidence-based policymaking arduous. The solution is a **"**Tribal Stat India" portal: a cloud-based, publicly accessible dashboard that aggregates NFHS, NSS and MoTA scheme metrics in near real-time and overlays them with high-resolution GIS layers on land use, health facilities and climate risk. By tagging every welfare asset and ecological variable with a geocode, such a platform would allow gram sabhas to audit leakages, planners to track cohort outcomes longitudinally, and investors to spot social-enterprise corridors, transforming anecdotal governance into data-driven stewardship.

Second, the roll-out of landmark rights statutes the Forest Rights Act (FRA) and the Panchayats Extension to Scheduled Areas Act (PESA) lags in several states, eroding community confidence and leaving tenure disputes unresolved. A powerful accelerator would be to hard-wire compliance into fiscal transfers: disbursement of the second tranche of PMAAGY funds could be made conditional on verified milestones such as gram-sabha approval of village development plans, FRA title adjudication rates, and establishment of PESA-mandated dispute-resolution committees. Linking money to measurable governance outcomes would flip the incentive structure from perfunctory paperwork to genuine statutory uptake.

Third, forest-based start-ups face acute credit constraints. Banks view non-timber forest produce as volatile and lack collateral frameworks for communal assets. A dedicated Van Dhan Venture Fund capitalised with blended finance from CSR pools, multilateral green windows and NSTFDC lines of credit—could underwrite higher-risk, early-stage enterprises in bamboo composites, bio-pharmaceuticals or carbon-credit aggregation. Coupled with technical-assistance grants and first-loss guarantees, the fund would absorb market volatility that currently scares off mainstream lenders, enabling tribal entrepreneurs to climb the value chain.

Fourth, a youth-skilling mismatch persists**.** While Ekalavya Model Residential Schools deliver general education, curricula rarely map to emergent industry clusters such as renewable-energy maintenance, precision agriculture or coding for indigenous-language apps. Embedding Green and Digital Apprenticeships into the EMRS timetable, negotiated via MoUs with solar OEMs, agro-tech start-ups and regional IT hubs, would create a pipeline from classroom to pay-cheque. These apprenticeships could be co-certified by the National Skills Development Corporation and local industry bodies, ensuring portability and credibility.

Finally, tribal communities are largely excluded from climate-finance flows that are reshaping India's infrastructure landscape**.** Sovereign green bonds raise billions for low-carbon projects, yet few of those rupees reach Scheduled Areas. A policy mandate to earmark ten per cent of green-bond proceeds for community-driven adaptation—think micro-hydel grids, climate-resilient millets or watershed restoration managed by gram sabhas—would democratise the energy transition**.** Funds could be channelled through a competitive grant window evaluated on both mitigation metrics and social-justice co-benefits, with tribal women's collectives receiving scoring bonuses.

By addressing these five gaps data silos, statutory inertia, credit drought, skill misalignment and finance exclusion India can convert well-intentioned programmes into a coherent, future-ready ecosystem. The common thread is incentivised accountability: whether through geospatial transparency, conditional grants, risk-sharing capital, industry-linked curricula or ring-fenced green finance, the recommendations tether resources to verifiable outcomes and community ownership, ensuring that tribal development is not just expansive in budget but transformative in lived reality.

Conclusion

In a rapidly globalising India, sustainable tribal development must evolve beyond being a mere welfare concern to becoming a strategic pillar of inclusive growth, environmental resilience, and cultural preservation. The increasing fiscal commitments and the robust framework of rights-based policies, such as the Forest Rights Act (FRA) and Panchayats Extension to Scheduled Areas (PESA), provide a foundational shift from charity to empowerment. The path to Viksit Bharat an inclusive, developed India rests on three key pillars: asset security, capability building, and market fairness.

First, securing tribal assets land, forests, and intellectual property—forms the bedrock of development. Ensuring legal title to land and resources, coupled with protections for traditional knowledge, gives communities the agency to manage and profit from their environment sustainably. Second, capability building through education and digital skills is vital in preparing tribal youth to thrive in an increasingly technology-driven economy. Embedding green and digital apprenticeships within

educational frameworks like Ekalavya Model Residential Schools (EMRS) bridges the gap between rural youth and the modern workforce. Third, market fairness ensures that tribal communities are not merely consumers of development but active participants in value chains. Equitable access to markets whether through handicrafts, forest products, or climate-resilient agriculture coupled with better access to green finance, ensures that development is not extractive but symbiotic.

Ultimately, the success of tribal development hinges on co-creating solutions with tribal communities, not merely for them. By including tribal voices in decision-making processes, policy interventions will not only be more effective but also more sustainable. The challenge lies in ensuring that globalisation serves as a springboard for tribal empowerment rather than a snare that exacerbates inequalities. With the right policies, collaboration, and investments, India's tribal communities can navigate the complexities of modern development while preserving their unique identities and ecosystems.

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"Major Initiatives by the Telangana Government for Selected Sustainable Development Goals: A Case Study of Thirumalaya Palem Mandal, Khammam District, Telangana State"

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Introduction:

The United Nations World Commission on Environment and Development released the report In 1987, "Our Common Future" commonly called the Brundtland Report. The report included a definition of "sustainable development" which is now widely used:

Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains two key concepts within it: The concept of 'needs', in particular, the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

-World Commission on Environment and Development, Our Common Future (1987)

Sustainable development thus tries to find a balance between economic - development, environmental protection, and social well-being.

In 2013, the General Assembly set up a 30-member Open Working Group to develop a proposal on the SDGs.

In January 2015, the General Assembly began the negotiation process on the post-2015 development agenda. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 SDGs at its core, at the UN Sustainable Development Summit in September 2015.

Sustainable Development

An approach to growth and human development known as "sustainable development" seeks to satisfy current demands without endangering the capacity of future generations to satisfy their own. The goal is to create a society where resources and living circumstances satisfy human needs without compromising the integrity of the earth. Sustainable development aims to balance the needs of the economy, environment, and social well-being. The Brundtland Report in 1987 helped to make the concept of sustainable development better known.

Thirumalaya Palem Mandal lies between latitudes 17.36 and longitudes 79.93. Kusumanchi Tahasil in the south, Suryapeta in the west, Khammam in the east, and Mahabubabad in the north enclose the mandal.

Thirumalayapalem is a town and mandal in the Khammam District of Telangana.The total area of Thirumalayapalem Mandal is 244 km2, according to

statistics from the 2011 census. Thirumalayapalem Mandal is home to 61,502 people in total. Thirumalayapalem Mandal has a population density of 251.7 persons per square kilometer and There are about 16,732 households in the mandal.
Thirumalayapalem Mandal has a 49.73% literacy rate, with 57.81% of the male population and 41.65% of the female population being literate. The 25 Revenue villages in Thirumalayapalem Mandal, which consists of about 40 gram Panchayath.

Objectives:

1.To understand the concept of sustainable development goals through different schemes in Thirumalayapalem mandal with the help of primary data collection of different years.
2. To study socio-economic structure of the study area.
3.Analyse the SDG goal reports and NITI AYOG reports with respect to the state and district
4.Understand the different types of government schemes to achieve the sustainable development goals
5.assertion well being of most backward class of society to understand the righteous way to alleviate the poor.

Methodology:

- To understand the concept of sustainable development goals and impact of SDG Goals by sample survey method
- To understand the concept of sustainable development goals through different schemes in Thirumalayapalem mandal with the help of primary data collection of different years.
- Analyse the SDG goal reports and NITI AYOG reports with respect to the state and district
- To conduct the field study to assess the outcome of SDG Goals initiatives in the study area
- Integrated analysis of primary and secondary data of the study area by using suitable statistical tool.

1. No Poverty

1.Aasara Pensions / Cheyutha

The Aasara pension scheme was started on 8 November 2014 by Chief Minister of Telangana, Kalvakuntla Chandrashekhar Rao in Kothur in Mahboobnagar district. This scheme renamed as cheyutha on December 09, 2023.

Table.1. Type of pensions in 2023

Name of the Village/ Gram Panchayat	Total	OAP	WIDOW	DISABLED	TODDY TOPPERS	WEAVERS	FA TO SINGLE WOMWN	FA TO BEEDI WORKERS
Mujahidpuram	64	40	18	5	0	0	1	0

Kakarvai	834	418	244	113	17	14	28	0
Painampalle	180	93	53	31	1	0	2	0
Solipuram	152	79	49	17	0	0	7	0
Rajaram	155	68	54	28	1	0	4	0
Jupeda	262	133	70	31	15	0	13	0
Raghunadhapalem	215	120	56	26	0	0	13	0
Lakshmidevipalle	47	22	23	2	0	0	0	0
Bachodu	464	211	179	58	0	0	16	0
Bandampalle	26	14	7	5	0	0	0	0
Hasnabad	231	96	88	34	0	1	12	0
Sublaid	493	178	175	95	18	0	27	0
Mohammadapuram	447	186	171	75	7	0	8	0
Medidepalle	535	35	172	85	6	0	24	0
Beerolu	758	327	275	126	8	0	22	0
Thalla Cheruvu	253	116	94	38	0	0	5	0
Thettelapadu	564	243	186	83	25	0	27	0
Patharlapadu	851	303	304	173	48	0	23	0
Jallepalle	374	163	117	75	4	0	15	0
Hydersaipeta	409	196	129	76	0	1	8	0
Tipparedd igudem	255	127	69	49	0	0	10	0
Pindiprolu	824	319	286	146	41	0	31	0

Edulla Cheruvu	243	85	101	41	7	0	9	0
Thirumalayapalem	470	201	188	66	2	0	13	0
Kokkireni	293	149	90	37	0	0	17	0
TOTAL	9596	4218	3279	1544	202	16	337	0

Source: MPDO office- T.Palem

Overall Observations:

- **Total Beneficiaries Matches:** The sum of beneficiaries across all villages (9596) matches the total provided at the end, indicating consistency in the data.
- **Dominance of OAP and Widow Beneficiaries:** Across most villages, the largest number of beneficiaries falls under the Old Age Pension (OAP) and Widow categories.
- **Significant Variation Across Villages:** The number of beneficiaries in each category varies considerably from one village/Gram Panchayat to another, reflecting the demographic and socio-economic differences between these areas.
- **Low Numbers for Weavers and Beedi Workers:** The number of Weavers receiving benefits is very low across all villages, with zero in most. Similarly, there are no beneficiaries listed for Financial Assistance to Beedi Workers in any of the listed villages.
- **Presence of FA to Single Women:** Financial Assistance to Single Women is present in most villages, although the numbers are generally smaller than OAP and Widow beneficiaries.
- **Toddy Tappers Distribution:** Beneficiaries under the Toddy Tappers category are present in several villages but with varying numbers.
- **Disabled Beneficiaries:** The number of Disabled beneficiaries is also present in most villages, generally being the third largest category after OAP and Widows in many areas.

Village-Specific Highlights:

- **Kakarvai:** Has the highest total number of beneficiaries (834) and also significant numbers in OAP, Widow, and Disabled categories, as well as some beneficiaries for Toddy Tappers and FA to Single Women.

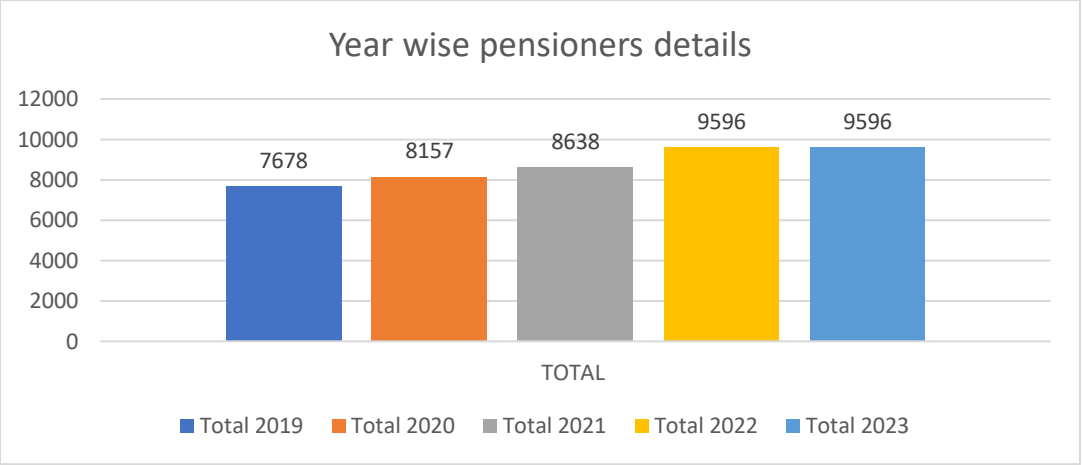


Figure.2. Year wise pensioners details

2.Bank Linkage Scheme

Table.2. bank linkage scheme details

s no	year wise	Bank Linkage	target amount		achievement amount	
			SHG'S	AMOUNT	SHG'S	AMOUNT
1	2018-19	BANK LINKAGE	1318	23CR	496	22.08 CR
1	2019-20	BANK LINKAGE	1304	24CR	809	23.32CR
	2020-21	BANK LINKAGE	1195	41 CR	1131	38.11 CR
3	2021-22	BANK LINKAGE	1264	34 CR	762	30.94 CR
4	2022-23	BANK LINKAGE	1249	59 CR	593	53.10 CR
5	2023-24	BANK LINKAGE	1147	67 CR	937	58 CR

Source: IKP and MPDO office- T.Palem

sOverall Trends:

- **Number of SHGs Linked:** The number of SHGs targeted for bank linkage has generally shown a slight downward trend over the years, starting from 1318 in 2018-19 and reaching 1147 in 2023-24.
- **Target Amount:** The target amount for bank linkage has shown a significant upward trend over the period, increasing from 23 CR in 2018-19 to 67 CR in

2023-24. This suggests an increasing focus on providing larger loans to SHGs.

- **Achievement in Number of SHGs:** The number of SHGs actually linked to banks has fluctuated. While it started at 496 in 2018-19 and peaked at 1131 in 2020-21, it has generally remained lower than the target.
- **Achievement Amount:** The achieved amount of bank linkage has also shown an upward trend, mirroring the target amount increase, from 22.08 CR in 2018-19 to 58 CR in 2023-24.

3.Stree Nidhi Scheme

Table.3. Stree Nidhi Scheme details

s. no	Year wise	Stree Nidhi	Target amount		Achievement amount	
			SHG'S	AMOUNT	SHG'S	AMOUNT
1	2018-19	Stree Nidhi	891	23 cr	700	18.9
2	2019-20	Stree Nidhi	679	21 cr	503	16.8
3	2020-21	Stree Nidhi	597	13 cr	463	11.8
4	2021-22	Stree Nidhi	679	21 cr	503	16.8
5	2022-23	Stree Nidhi	131	25.9 cr	29	5.1
6	2023-24	Stree Nidhi	0	0	0	0

Source: IKP and MPDO office- T. Palem

Overall Trends:

- **Targeted SHGs:** The number of SHGs targeted for Stree Nidhi assistance shows a significant decline over the years. It started at a high of 891 in 2018-19 and dramatically decreased to 0 in 2023-24.
- **Target Amount:** Similarly, the target amount for Stree Nidhi has also fluctuated and ultimately dropped to zero in the last year. It peaked at 25.9 CR in 2022-23, despite a very low target for the number of SHGs.
- **Achieved SHGs:** The number of SHGs that actually received Stree Nidhi assistance follows the trend of the target, with a sharp decline over time, reaching zero in 2023-24.
- **Achieved Amount:** The achieved amount also shows a downward trend, culminating in zero in 2023-24.

4. ECONOMIC SUPPORT SCHEME FOR SC,ST % BC's

TABLE.4. ECONOMIC SUPPORT SCHEME FOR SC 2018-19 TO 2021-22

CATEGORY-I < 1 LAKH				CATEGORY II < 2LAKH				CATEGORY-III >2 LAKH			
UNITS 0	Unit cost	Subsidy	Bank loan	UNITS	Unit cost	Subsidy	Bank loan	UNITS	Unit cost	Subsidy	Bank loan
2018-19 0	0	0	0	20	40	32	8	2	10	6	4
2019-20 0	0	0	0	21	42	29.4	12.6	2	10	6	4
2021-22 0	0	0	0	22	44	35.2	8.8	2	10	6	4

Source: MPDO office- T.Palem

Overall Observations:

- **Category I (< 1 Lakh):** There were **zero** units reported under Category I for all three years (2018-19, 2019-20, and 2021-22). This suggests that the program, as represented by this data, did not support any units with a unit cost of less than 1 lakh during these periods.
- **Category II (< 2 Lakh):** This category saw the most activity in terms of the number of units.
    - The number of units in Category II was 20 in 2018-19, 21 in 2019-20, and 22 in 2021-22, showing a slight increasing trend over the reported years.
    - The unit cost for Category II was consistently 2 lakhs across all three years.
    - The subsidy provided was 32 lakhs in 2018-19, 29.4 lakhs in 2019-20, and 35.2 lakhs in 2021-22, showing some variation.
    - The bank loan amount was 8 lakhs in 2018-19, 12.6 lakhs in 2019-20, and 8.8 lakhs in 2021-22, also exhibiting variation.
- **Category III (> 2 Lakh):** This category had a very small number of units.
    - Only 2 units were reported in Category III for each of the three years.
    - The unit cost for Category III was consistently 10 lakhs.
    - The subsidy provided was consistently 6 lakhs.
    - The bank loan amount was consistently 4 lakhs.

Table.5. ECONOMIC SUPPORT SCHEME FOR ST 2018-19 TO 2021-22

Year / Units	APGVB T. PALEM	DCCB T. PALEM	UNION BANK BEEROLU	IOB PINDIPROLU	**APGVB** PATHARLAPDU	**APGVB SUBLAID**
2019-20	7	7	7	4	6	7
2020-21	8	7	7	4	7	7
2021-22	19	42	21	19	20	20

Source: MPDO office- T.Palem

Overall Observations:

- **APGVB (Multiple Locations):** APGVB shows activity across three locations: T. PALEM, PATHARLAPDU, and SUBLAID. The number of units linked through APGVB generally shows an increasing trend over the three years at T. PALEM and PATHARLAPDU. SUBLAID consistently shows 7 units linked in 2019-20 and 2020-21, increasing significantly to 20 in 2021-22.
- **DCCB T. PALEM:** DCCB T. PALEM shows consistent activity with 7 units linked in 2019-20 and 2020-21, followed by a substantial increase to 42 units in 2021-22, making it the highest number of units linked to a single bank/location in the provided data for that year.
- **UNION BANK BEEROLU:** UNION BANK BEEROLU also shows consistent activity with 7 units linked in both 2019-20 and 2020-21, increasing to 21 units in 2021-22.
- **IOB PINDIPROLU:** IOB PINDIPROLU shows consistent activity with 4 units linked in both 2019-20 and 2020-21, and a significant increase to 19 units in 2021-22.

5.RYTHU BANDHU DETAILS

Rythu Bandhu scheme, also known as Farmer's Investment Support Scheme (FISS), is a welfare program to support farmer's investment for two crops a year by the Government of Telangana. The scheme was announced by the Former Chief Minister of Telangana, K. Chandrashekhar Rao at Farmers Coordination Committee (Rythu Samanvaya Samithi) conference at Jayashankar Agriculture University on 25 February 2018. An allocation of ₹12,000 crores was made in 2018-19 state budget. It was launched on 10 May 2018 at Dharmarajpalli village in Karimnagar.

Table.6. Rythu Bandhu Details?

S. No.	Year	No. of Farmers	Amount in lakhs
1	2018	16968	3398
2	2019	17331	4168
3	2020	18513	4332

4	2021	19389	4401
5	2022	19441	4372
6	2023	20583	2221

Source: MAO office- T.Palem

Overall Trends:

- **Number of Farmers:** The number of farmers receiving assistance has generally shown an increasing trend over the years. It started at 16,968 in 2018 and reached a peak of 20,583 in 2023, indicating a growing reach of the program.
- **Amount Received:** The total amount disbursed (in lakhs) showed an initial increase from 3398 in 2018 to a high of 4401 in 2021. However, there was a significant drop in the amount disbursed in 2023 to 2221 lakhs.

6.Rythu Bheema Details

Rythu Bheema Scheme Launched on 14 August 2018, the scheme "Rythu Bheema - Farmer Group Life Insurance Scheme" is a Life Insurance Scheme by the Department of Agriculture, Government of Telangana. The scheme aims to provide immediate financial relief of ₹5 lakh to the family members or dependents of farmers in case of their death, irrespective of the cause. This ensures the welfare of small and marginal farmers who depend on farming as their sole source of livelihood. The scheme is being implemented by the Life Insurance Corporation of India (LIC).

Table.7. Rythu Bheema details

S. No.	Year	No. of Farmers Claims	Amount in Crores
1	2018	57	28.5
2	2019	68	34
3	2020	84	42
4	2021	55	27.5
5	2022	69	34.5
6	2023	17	8.5

Source: MAO office- T.Palem

Overall Trends:

- **Number of Farmer Claims:** The number of farmer claims shows a fluctuating trend. It increased from 57 in 2018 to a peak of 84 in 2020, then decreased significantly to 17 in 2023.
- **Amount Disbursed:** The total amount disbursed (in crores) follows a similar trend to the number of claims. It increased from 28.5 in 2018 to a peak of 42 in 2020, followed by a sharp decline to 8.5 in 2023.
- **Consistent Average Claim Value:** Notably, the average amount disbursed per claim appears to be consistently around 0.5 crores (50 lakhs) across all the years presented (28.5/57 = 0.5, 34/68 = 0.5, 42/84 = 0.5, 27.5/55 = 0.5, 34.5/69 = 0.5, 8.5/17 = 0.5).

2.Zero Hunger

1.Pds Scheme:

PDS Scheme aim is to formulate and implement foolproof arrangements for identification of the poor for delivery of foodgrains and for its distribution in a transparent and accountable manner at the FPS level. A whopping 87.57 lakh eligible families, approximately 2.86 crore beneficiaries, are being supplied rice at 6 kgs per person at Re. 1per kg to all BPL families, to ensure 'no hunger' among poor. More than 1.80 lakh MT of rice per month would be required for this purpose. Rs.1,597 was being spent on the subsidy. Government started supplying superfine rice, or Sanna Biyyam, to schools and hostels benefitting 56 lakh students annually with an additional outlay of Rs 120 crore. More than 12,500 MT of rice is being distributed for the purpose.

In the recent NITI Aayog SDG Index, Telangana got 100 points in Goal 10.

Table.8. Village wise total no. of cards and their percentage

Village Name	Total cards	Total members in card	Total population	% Cards
MUJAHIDPURAM	257	751	734	102.31
KAKARVAI	1654	4809	5202	92.4
PAINAMPALLE	360	1174	1273	92.2
SOLIPURAM	383	1095	1168	93.75
RAJARAM	351	1063	969	109.7
JUPEDA	524	1469	1501	97.8
RAGHUNADHAPALEM	439	1230	1176	104.5
BACHODU	1095	3232	3552	90.9
HASNABAD	601	1731	1187	145.2
SUBLAID	1040	2913	3127	93.15
MOHAMMADAPURAM	1005	2986	3612	82.6
MEDIDEPALLE	951	2734	3169	86.2
BEEROLU	1570	4236	4370	96.9
THALLA CHERUVU	512	1281	1498	85.5
THETTELAPADU	1124	3128	3668	85.2
PATHARLAPADU	1684	4959	5037	98.4
JALLEPALLE	507	1437	2057	69.8
HYDERSAIPETA	732	2377	2573	92.3
TIPPAREDDIGUDEM	535	1551	1600	96.9
PINDIPROLU	1420	3140	4716	66.5
EDULLA CHERUVU	658	1855	1575	117.7
THIRUMALAYAPALEM	969	2480	3496	70.9

KOKKIRENI	570	1490	3170	82
Total	19402	55066	**61502**	89.5

Source: District civil supply office- Khammam

General Observations:

- **High Ration Card Coverage**: The overall percentage of households possessing ration cards (Total Cards / Total Population * 100, assuming an average household size close to the members per card) is quite high at approximately 89.5% across all listed villages. This suggests a significant reach of the public distribution system.
- **Variability in Coverage Across Villages:** There is considerable variation in the percentage of cards relative to the population across different villages, ranging from a low of 66.5% in Pindiprolu to highs exceeding 100% in Mujahidpuram, Rajaram, Raghunadhapalem, and Edulla Cheruvu.
- **Potential Discrepancies in Villages with >100% Cards**: The villages with a card percentage exceeding 100% (Mujahidpuram, Rajaram, Raghunadhapalem, and Edulla Cheruvu) warrant further investigation. This could indicate:
    - Inclusion of ineligible households: Some households may possess cards despite not meeting current eligibility criteria.
    - Out-migration not fully reflected: The population data might not fully account for residents who have moved out but still hold cards.
    - Errors in data collection: There could be inaccuracies in either the card count or the population figures.
- **Lower Coverage in Some Villages: Villages** like Jallepalle, Hydersaipeta, Tippareddigudem, Pindiprolu, Thirumalayapalem, and Kokkireni show a lower percentage of cards compared to the overall average, suggesting a potentially lower reach of the ration card system in these areas relative to their population.
- **Average Household Size:** The average number of members per card, calculated as Total Members in Card / Total Cards, is approximately 2.84 across all villages. This can be used as an estimated average household size for these communities.

2. Mgnregs

- Mahatma Gandhi National Rural Employment Guarantee Act 2005 or MGNREGA, earlier known as the National Rural Employment Guarantee Act or NREGA, is an Indian social welfare measure that aims to guarantee the 'right to work'. This act was passed on 23 August 2005 and was implemented in February 2006 under the UPA government of Prime Minister Manmohan Singh following tabling of the bill in parliament by the Minister for Rural Development Raghuvansh Prasad Singh.

Table.9. Year wise NREGA details of Thirumalaya palem Mandal

PROGRESS	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Average days of employment provided per house hold	37.12	41.42	43.98	35.25	33.33
Average wage rate per day per person (Rs)	125.06	145.76	135.14	137.18	191.2
SC person days % as of total person days	23.69	26.01	23.39	22.84	23.77
ST person days % as of total person days	34.28	32.23	35.6	31.52	33.09
Women person days out of total %	64.18	59.44	61.56	64.41	64.26
Total no. of house holds completed 100 days	421	487	688	31	6
Total house holds worked	7740	8871	8179	7684	6650
Total individual worked	11717	14465	13064	14465	11717
Total no. of works taken up	5481	5873	4836	2485	1923
Total expenditure	520.26	1200.14	923.53	610.49	596.4

S*ource: NREGA office -T.Palem*

3. ICDS Details of Thirumalaya Palem Mandal

Anganwadi is a type of rural child care centre in India. It was started by the Indian government in 1975 as part of the Integrated Child Development Services program to combat child hunger and malnutrition.

A typical Anganwadi centre provides basic health care in a village. It is a part of the Indian public health care system.

Basic health care activities include contraceptive counselling and supply, nutrition education and supplementation, as well as pre-school activities.

Table.10. ICDS Beneficiaries details-T. Palem

Financial year	Beneficiaries			
	7 months-3 years	3 years -6years	Pregnant	Lactating
2019-20	1206	1041	356	299

2020-21	1465	1085	315	315
2021-22	1696	1299	392	392
2022-23	1521	1182	275	275
2023-24	1420	1019	326	296

Source: CDPO OFFICE - KHAMMAM

Overall Trends:

- **7 months - 3 years:** The number of beneficiaries in this age group generally shows an increasing trend from 2019-20 to 2021-22, followed by a decrease in the subsequent years.
- **3 years - 6 years:** Similar to the younger age group, the number of beneficiaries in this category increased from 2019-20 to 2021-22, and then declined in the following years. However, the numbers in this category are consistently lower than the 7 months - 3 years group.
- **Pregnant:** The number of pregnant beneficiaries fluctuated over the years, with a peak in 2021-22 and a low in 2022-23.
- **Lactating:** The number of lactating beneficiaries shows a similar trend to pregnant beneficiaries, with a peak in 2021-22 and a low in 2022-23. Notably, the number of lactating beneficiaries is consistently similar to or slightly lower than the number of pregnant beneficiaries in the same year.

4. Kalyana Lakshmi Scheme : To alleviate financial distress of SC/ST and minority families, Government providing one-time financial assistance of Rs. 1,00,116 at the time of marriage for brides.

Table.11. KALYANA LASHMI & SHADI MUBARAK CASTE WISE DETAILS

KALYANA LASHMI & SHADI MUBARAK CASTE WISE DETAILS						
YEAR	BC	EBC	SC	ST	SM	TOTAL
2016-17	80	2	29	18	27	156
2017-18	135	3	115	116	4	373
2018-19	139	21	93	18	8	279
2019-20	52	7	86	150	6	301
2020-21	148	24	62	87	10	331
2021-22	224	20	125	161	18	548
2022-23	224	14	94	90	19	435
2023-24	187	8	76	52	17	340

Source: MRO office – T. Palem.

Overall Trends:

- There's significant fluctuation in the total number of beneficiaries each year. The highest number was in 2021-22 (548) and the lowest in 2016-17 (156).

- The number of beneficiaries generally increased from 2016-17 to 2021-22, followed by a decrease in the subsequent years.

Caste-wise Observations:

- BC (Backward Classes): This category consistently has the highest number of beneficiaries across all years. The numbers show considerable variation, peaking in 2021-22 (224).
- SC (Scheduled Castes): This category also shows a significant number of beneficiaries each year, often the second highest after BC. The highest was in 2021-22 (125).
- ST (Scheduled Tribes): The number of ST beneficiaries varies, with a notable peak in 2017-18 (116) and 2019-20 (150).
- EBC (Economically Backward Classes): The number of beneficiaries in this category is generally lower compared to BC, SC, and ST.

5.Aasara Pensions:

6.Bank Linkage

7.Stree Nidhi

8.Economic Support Scheme

6.Clean Water And Sanitation

1.Mission Bhagiratha

To ensure safe drinking water to everyone at their door step, a mammoth 1.30 lakh km stretch of pipelines are bring laid to quench the thirst of Telangana towns and villages. This scheme is established on 6 august 2016,

Mission Bhagiratha is intended to ensure that no female member of a household would need to walk miles to carry a pot of water.

Vision: To ensure safe and sustainable PIPED drinking water supply. it is conceived to provide 100 liters per capita per day (LPCD) treated and piped water to every household in rural areas,135 LPCD in municipalities and 150 LPCD in municipal corporations.

Thirumalaya palem Mandal abstract:

Total no. of borewells (PWS) :71

Total no. of Open wells :42

Total no. of Hand bores :349

- To provide tap connection to every household of the habitation.
- 10% of water in all Irrigation sources reserved for Drinking Water.
- Krishna River (and its tributaries) and Godavari River (and its tributaries)
- Sourcing water from major rivers or reservoirs fed by these rivers
- Purify the raw water in near by Water Treatment Plant
- Pump treated water to the major OHSRs and Sumps at the highest points
- Transmit from the highest point through secondary pipeline network to all the

habitations by gravity (98%)

- Distribute to each house hold through a modern, rationalised intra village network by providing tap connections to each household.

2. Palle Pragathi

Palle Pragathi" is a flagship program of the Telangana state government focused on the comprehensive development of rural areas. Here's a breakdown of key aspects:

- **Objectives:**
  - The program aims to improve sanitation, hygiene, and overall cleanliness in villages.
  - It focuses on enhancing infrastructure, including roads, drainage systems, and public facilities.
  - It promotes environmental protection through initiatives like tree plantation and waste management.
  - It also focuses on improving the quality of services delivered to the people living in rural areas.
- **Key Initiatives:**
  - Regular cleaning of streets and public spaces.
  - Construction of toilets and improved sanitation facilities.
  - Development of drainage systems to prevent waterlogging.
  - Plantation of trees to increase green cover.
  - Effective waste management systems.
  - Improving the functionality of village panchayats.

3. Swachh Telangana

"Swachh Telangana" is closely tied to the broader "Swachh Bharat Mission" initiated by the Indian government. Here's how it relates to Telangana:

- **Swachh Bharat Mission's Influence:**
  - The Swachh Bharat Mission, launched in 2014, aimed to improve sanitation and cleanliness across India.
  - Telangana, like other states, has actively participated in this mission.
- **Telangana's Efforts:**
  - The Telangana government has implemented various initiatives to align with the Swachh Bharat Mission's goals.
  - Programs like "Palle Pragathi" significantly contribute to achieving cleaner rural environments in the state.
  - Telangana has made significant progress in achieving "ODF" (Open Defecation Free) status, and is now working on "ODF plus" status, which includes solid and liquid waste management.
- **Key Focus Areas:**
  - Construction of toilets.
  - Waste management systems.
  - Promoting hygiene and sanitation practices.
  - Keeping both urban and rural areas clean.

Field Survey Analysis - (Each Sample Size 50 Respondents)

Primary Data Survey

Questionnaire for Respondents

Ph.D. Study on "Major Initiatives by the Telangana Government for Selected Sustainable Development Goals: A Case Study of Thirumalaya Palem Mandal, Khammam District, Telangana State"

Basic information from the Targeted (√) Strike where Ever Applicable)

PERSONAL INFORMATION

1. Name of the Head Of the Family (M/F) :
2. No. Of Family Members? :
3. Social Status :
4. Age Of the HoF :
5. Educational Qualifications? : a. Illiterate

b. up to secondary school
c. +12 and
d. graduation and above

Occupation of Household? : 1. Agriculture,
2.agriculture labour,
3. daily wage Labour
4. Private / Govt. employees

7. Does anyone in your family receive a cheyutha pension? (Yes / No)
8. Does this family receive Rythubandhu scheme? (Yes / No)
9. How many individuals were employed out of those who sought employment under MGNREGA? (Yes / No)
10. Does this family have a ration card and are they receiving rations? (Yes / No)
11. Does this family receive Kalyana Lakshmi scheme? (Yes / No)
12. Does anyone in your family receive benefits of Arogya Lakshmi scheme? (Yes / No)
13. Is access to safe and adequate drinking water within households being provided through piped water supply (PWS)? (Yes / No)
14. Are the Roads and Drainages in your village cleaned daily? (Yes / No)
15. This village declared as Open Defecation Free? (Yes / No)
16. Are the members of this family using a toilet that they built? (Yes / No)
17. Are the members of this family using Liquefied Petroleum Gas (LPG) and Piped Natural Gas connections? (Yes / No)
18. Household accessible to bank Services or bank Mithra services? (Yes / No)

Table.12. .Does anyone in your family receive a cheyutha pension?

Does anyone in your family receive a cheyutha pension? (From eligible persons)	From field study	Secondary data
Kakarvai	92%	95%
Patharlapdu	90%	94%
Pindiprolu	90%	92%
Beerolu	96%	93%
Thettelapdu	98%	96%

Mahammadapuram	94%	92%
Bachodu	92%	93%
Thirumalaya palem	96%	96%
Sublaid	94%	95%
Kokkireni	96%	94%

Source: compiled from field study and Secondary data (MPDO OFFICE T.PALEM)

High Coverage Across Villages: Both the field study data and secondary data indicate a very high penetration of the Cheyutha pension scheme in all ten villages. In every location, over 90% of families with eligible individuals have at least one member receiving the pension.

Consistency Between Data Sources: There's a notable consistency between the findings of the field study and the secondary data. The percentages reported by both sources for each village are remarkably close, suggesting a reliable and accurate assessment of pension coverage.

Thettelapdu Shows Highest Reach: Thettelapdu consistently exhibits the highest coverage, with 98% according to the field study and 96% based on secondary data. This suggests particularly effective implementation or a higher proportion of eligible individuals in this village.

Patharlapdu and Pindiprolu Slightly Lower (But Still High): While still demonstrating high coverage (around 90-92%), Patharlapdu and Pindiprolu show the relatively lowest percentages compared to the other villages in both datasets.

Table.13. Does this family receive Rythubandhu scheme?

Does this family receive Rythubandhu scheme?	From field study	Secondary data
Kakarvai	100%	100%
Patharlapdu	100%	100%
Pindiprolu	96%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	100%	100%
Bachodu	100%	100%
Thirumalaya palem	100%	100%
Sublaid	98%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data(MAO OFFICE- T.PALEM)

Near Universal Coverage: The data indicates an exceptionally high level of Rythu Bandhu scheme coverage across all the studied villages. Both the field study and secondary data report figures very close to or at 100% for most locations.

Perfect Alignment in Most Villages: For eight out of the ten villages (Kakarvai, Patharlapdu, Beerolu, Thettelapdu, Mahammadapuram, Bachodu, Thirumalaya Palem, and Kokkireni), there is a perfect 100% agreement between the field study and secondary data regarding Rythu Bandhu beneficiary families.

Slight Variations in Two Villages: There are minor discrepancies in Pindiprolu (96% in field study vs. 100% in secondary data) and Sublaid (98% in field study vs. 100% in secondary data). These small differences could be attributed to the timing of data collection or minor variations in the identification of beneficiary families between the two sources.

Table.14. How many individuals were employed out of those who sought employment under MGNREGA?

How many individuals were employed out of those who sought employment under MGNREGA?	From field study	Secondary data
Kakarvai	100%	100%
Patharlapdu	100%	100%
Pindiprolu	98%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	100%	100%
Bachodu	98%	100%
Thirumalaya palem	100%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data (NREGAOFFICE- T.PALEM)

Near Universal Employment for Job Seekers: The data strongly indicates that nearly all individuals who sought employment under MGNREGA in these villages were indeed employed. Both the field study and secondary data show very high percentages, often reaching 100%.

Perfect Alignment in Most Villages: For eight out of the ten villages (Kakarvai, Patharlapdu, Beerolu, Thettelapdu, Mahammadapuram, Thirumalaya Palem, Sublaid, and Kokkireni), there is a perfect 100% agreement between the field study and secondary data, suggesting that everyone who applied for MGNREGA work received it.

Slightly Lower Figures in Two Villages (Field Study): The field study reports slightly lower employment rates in Pindiprolu (98%) and Bachodu (98%) compared to the perfect 100% reported by the secondary data for these villages. This suggests that in the field study, a very small fraction (2%) of those who sought employment in these two villages might not have received it, or there might be minor discrepancies in data collection or reporting.

Overall Effectiveness of MGNREGA: The overwhelmingly high employment rates among job seekers indicate the significant effectiveness of the MGNREGA scheme in providing employment to those who demand it in these rural areas.

Table.15. Does this family have a ration card and are they receiving rations?

Does this family have a ration card and are they receiving rations?	From field study	Secondary data
Kakarvai	98%	80.40%
Patharlapdu	98%	76.50%
Pindiprolu	100%	78%
Beerolu	100%	88%
Thettelapdu	100%	86%
Mahammadapuram	98%	80%
Bachodu	98%	86%
Thirumalaya palem	98%	78.50%
Sublaid	100%	88%
Kokkireni	100%	82%

Source: compiled from field study and Secondary data (CIVIL SUPPLY OFFICE-KHAMMAM)

High Ration Card Ownership (Field Study): The field study indicates a very high level of ration card ownership across all villages, with percentages ranging from 98% to 100%. This suggests that nearly all families in these areas possess a ration card.

Significant Discrepancy in Ration Receipt (Secondary Data): In contrast to the high ownership reported in the field study, the secondary data shows a considerably lower percentage of families actually receiving rations. The range here is from 76.50% to 88%.

Table.16. Does this family receive Kalyana Lakshmi scheme?

Does this family receive Kalyana Lakshmi scheme?	From field study	Secondary data
Kakarvai	98%	100%
Patharlapdu	98%	100%
Pindiprolu	100%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%

Mahammadapuram	98%	100%
Bachodu	98%	100%
Thirumalaya palem	98%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data (MRO OFFICE-T. PALEM)

Very High Coverage: The data indicates a very high level of Kalyana Lakshmi scheme receipt across all the studied villages. Both the field study and secondary data report percentages at or very close to 100%.

Strong Agreement Between Data Sources: There is a strong agreement between the findings of the field study and the secondary data. For eight out of the ten villages (Pindiprolu, Beerolu, Thettelapdu, Sublaid, and Kokkireni), both sources report 100% of families receiving the scheme.

Slightly Lower in Field Study for Some Villages: The field study reports a slightly lower but still very high percentage of 98% for Kakarvai, Patharlapdu, Mahammadapuram, Bachodu, and Thirumalaya Palem. This minor difference could be due to the timing of the survey relative to the disbursement of the scheme benefits or slight variations in identifying beneficiary families during the field study.

Table.17. Does anyone in your family receive benefits of Arogya Lakshmi scheme

Does anyone in your family receive benefits of Arogya Lakshmi scheme ?	From field study	Secondary data
Kakarvai	98%	100%
Patharlapdu	98%	100%
Pindiprolu	100%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	98%	100%
Bachodu	98%	100%
Thirumalaya palem	98%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data (CDPO OFFICE-KHAMMAM)

High Coverage: The data indicates a very high level of Arogya Lakshmi scheme benefit receipt across all the studied villages. Both the field study and secondary data report percentages at or very close to 100%.

Strong Agreement Between Data Sources: There is a strong agreement between the findings of the field study and the secondary data. For eight out of the ten villages (Pindiprolu, Beerolu, Thettelapdu, Sublaid, and Kokkireni), both sources report 100% of families receiving the scheme.

Slightly Lower in Field Study for Some Villages: The field study reports a slightly lower but still very high percentage of 98% for Kakarvai, Patharlapdu, Mahammadapuram, Bachodu, and Thirumalaya Palem. This minor difference could be attributed to the timing of the survey relative to the provision of benefits or slight variations in identifying beneficiary families during the field study.

Table.18. Is access to safe and adequate drinking water within households being provided through piped water supply (PWS)?

Is access to safe and adequate drinking water within households being provided through piped water supply (PWS)?	From field study	Secondary data
Kakarvai	100%	100%
Patharlapdu	100%	100%
Pindiprolu	100%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	100%	100%
Bachodu	100%	100%
Thirumalaya palem	100%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data (Mission Bhagiratha Office-Khammam)

Universal Access Through PWS: The data overwhelmingly indicates that access to safe and adequate drinking water within households, provided through piped water supply (PWS), is universal across all ten surveyed villages.

Perfect Agreement Between Data Sources: There is a perfect 100% agreement between the field study data and the secondary data for every single village. This strong consistency reinforces the finding that all households in these communities have access to drinking water via PWS.

Significant Achievement in Water Supply: The 100% coverage of PWS within households represents a significant achievement in providing essential infrastructure and ensuring access to a basic necessity for all residents in these villages. This likely has positive implications for public health, sanitation, and overall quality of life.

Table.19. Are the Roads and Drainages in your village cleaned daily?

Are the Roads and Drainages in your village cleaned daily?	From field study	Secondary data
Kakarvai	96%	100%
Patharlapdu	94%	100%
Pindiprolu	98%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	98%	100%
Bachodu	96%	100%
Thirumalaya palem	100%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data (MPDO Office-T.PALEM)

High Reported Cleaning Frequency: Both the field study and secondary data indicate a generally high frequency of road and drainage cleaning across the surveyed villages.

Secondary Data Suggests Universal Daily Cleaning: The secondary data reports that in all ten villages, roads and drainages are cleaned daily (100%).

Field Study Shows Slightly Lower but Still High Rates: The field study data presents slightly lower percentages in some villages compared to the secondary data:

- Kakarvai: 96%
- Patharlapdu: 94%
- Pindiprolu: 98%
- Mahammadapuram: 98%
- Bachodu: 96%
- Beerolu, Thettelapdu, Thirumalaya Palem, Sublaid, and Kokkireni align with the secondary data at 100%.

Table.20. This village declared as Open Defecation Free ?

This village declared as Open Defecation Free ?	From field study	Secondary data
Kakarvai	100%	100%
Patharlapdu	100%	100%
Pindiprolu	100%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	100%	100%
Bachodu	100%	100%

Thirumalaya palem	100%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data (MPDO Office-T.PALEM)

Universal ODF Declaration: The data from both the field study and secondary sources unanimously indicates that all ten surveyed villages – Kakarvai, Patharlapdu, Pindiprolu, Beerolu, Thettelapdu, Mahammadapuram, Bachodu, Thirumalaya Palem, Sublaid, and Kokkireni – have been declared as Open Defecation Free (ODF) and The perfect 100% agreement between the field study and secondary data for each village strongly confirms their ODF status. This suggests a high level of reliability in the reported information.

Table.21. Are the members of this family using a toilet that they built?

Are the members of this family using a toilet that they built?	From field study	Secondary data
Kakarvai	100%	100%
Patharlapdu	98%	100%
Pindiprolu	100%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	100%	100%
Bachodu	100%	100%
Thirumalaya palem	100%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: compiled from field study and Secondary data (NREGA Office-T.PALEM)

High Usage of Self-Built Toilets: The data indicates a very high prevalence of families using toilets that they themselves have built across the surveyed villages.

Near Universal Usage (Secondary Data): The secondary data reports that in nine out of the ten villages, 100% of families are using toilets they constructed. In Patharlapdu, the secondary data also indicates 100% usage.

Field Study Shows Near Universal Usage: The field study data also shows very high usage rates, with 100% reported in eight villages. Patharlapdu shows 98% usage, indicating that nearly all families in this village are also using self-built toilets.

Table:22. Are the members of this family using Liquefied Petroleum Gas (LPG) and Piped Natural Gas connections?

Are the members of this family using Liquefied Petroleum Gas (LPG) and Piped Natural Gas connections?	From field study	Secondary data

Kakarvai	100%	100%
Patharlapdu	100%	100%
Pindiprolu	100%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	100%	100%
Bachodu	100%	100%
Thirumalaya palem	100%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: Compiled from field survey & District Civil Supply Office- Khammam

Universal Usage of LPG/PNG: The data from both the field study and secondary sources indicates that 100% of families in all ten surveyed villages (Kakarvai, Patharlapdu, Pindiprolu, Beerolu, Thettelapdu, Mahammadapuram, Bachodu, Thirumalaya Palem, Sublaid, and Kokkireni) are using either Liquefied Petroleum Gas (LPG) or Piped Natural Gas (PNG) connections for cooking.

Complete Agreement Between Data Sources: The perfect 100% agreement between the field study and secondary data for every village strongly confirms the universal adoption of clean cooking fuels in these communities.

Table.24. Household accessible to bank Services or bank Mithra services?

Household accessible to bank Services or bank Mithra services?	From field study	Secondary data
Kakarvai	100%	100%
Patharlapdu	100%	100%
Pindiprolu	100%	100%
Beerolu	100%	100%
Thettelapdu	100%	100%
Mahammadapuram	100%	100%
Bachodu	100%	100%
Thirumalaya palem	100%	100%
Sublaid	100%	100%
Kokkireni	100%	100%

Source: Compiled from field survey & Secondary data (Various bank and post offices -Khammam)

Universal Access to Banking Services: The data from both the field study and secondary sources indicates that 100% of households in all ten surveyed villages

(Kakarvai, Patharlapdu, Pindiprolu, Beerolu, Thettelapdu, Mahammadapuram, Bachodu, Thirumalaya Palem, Sublaid, and Kokkireni) have access to either traditional bank services or Bank Mitra services.

Complete Agreement Between Data Sources: The perfect 100% agreement between the field study and secondary data for every village strongly confirms the universal accessibility of banking services in these communities.

Conclusion and Analysis:

1. SDG 1 (No Poverty):

The surveyed villages in Telangana demonstrate a strong commitment to poverty reduction through the effective implementation of key social welfare and employment generation schemes.

The **Cheyutha** pension scheme exhibits high penetration, providing a safety net for a significant portion of eligible families.

The near-universal coverage of the **Rythu Bandhu scheme** supports agricultural livelihoods, a crucial factor in poverty alleviation in rural economies.

Furthermore, the **MGNREGA** scheme proves highly successful in providing employment to those seeking it, ensuring income and livelihood security. The consistency between field study and secondary data for these indicators reinforces the reliability of these positive trends in addressing poverty within these communities. While some minor variations exist between the data sources for specific villages, the overall picture suggests substantial progress towards reducing poverty and enhancing the economic well-being of the residents.

2. SDG 2 (Zero Hunger)

Key Observations:

- **High Ration Card Ownership, Discrepant Receipt:** A near-universal ownership of ration cards suggests a strong potential for accessing subsidized food. However, a significant gap between ownership and actual ration receipt in the secondary data (ranging from 76.50% to 88%) indicates potential challenges in the effective distribution of food under the public distribution system. This discrepancy warrants further investigation as it could imply that a notable portion of households, despite having the means, are not consistently benefiting from this food security measure.
- **Support for Specific Groups (Kalyana Lakshmi & Arogya Lakshmi):** The very high coverage of the Kalyana Lakshmi scheme (financial assistance at the time of marriage) and the Arogya Lakshmi scheme (nutritional support for pregnant women, lactating mothers, and children) indirectly contribute to food security by alleviating financial burdens and directly addressing nutritional needs of vulnerable populations. The strong agreement between data sources for these schemes suggests effective implementation.

3. SDG 6 (Clean Water and Sanitation)

Key Observations:

- **Universal Access to Piped Water Supply (PWS):** The consistent 100% access to safe and adequate drinking water through PWS across all villages

in both data sources represents a remarkable achievement. This ensures that all households have access to a fundamental necessity for health and well-being.

- **High Frequency of Road and Drainage Cleaning:** Both data sources indicate a high commitment to maintaining cleanliness in public spaces. While the secondary data suggests universal daily cleaning, the field study reports slightly lower but still high rates. This regular cleaning contributes to a hygienic environment and reduces the risk of disease.
- **Universal Open Defecation Free (ODF) Status:** The unanimous declaration of all villages as ODF, confirmed by both data sources, signifies a complete shift away from open defecation. This is a crucial milestone for improving sanitation and public health outcomes.
- **Near-Universal Usage of Self-Built Toilets:** The very high prevalence of families using their own constructed toilets, approaching universality in both datasets, underscores the successful adoption of household-level sanitation practices. This sustained usage is essential for maintaining the ODF status and ensuring long-term sanitation improvements.

4. SDG 7 (Affordable & Clean Energy)

Universal Usage of LPG/PNG: The data from both the field study and secondary sources indicates that 100% of families in all ten surveyed villages (Kakarvai, Patharlapdu, Pindiprolu, Beerolu, Thettelapdu, Mahammadapuram, Bachodu, Thirumalaya Palem, Sublaid, and Kokkireni) are using either Liquefied Petroleum Gas (LPG) or Piped Natural Gas (PNG) connections for cooking.

5. SDG 8 (Decent Work & Economic Growth)

Universal Access to Banking Services: The data from both the field study and secondary sources indicates that 100% of households in all ten surveyed villages (Kakarvai, Patharlapdu, Pindiprolu, Beerolu, Thettelapdu, Mahammadapuram, Bachodu, Thirumalaya Palem, Sublaid, and Kokkireni) have access to either traditional bank services or Bank Mitra services.

Complete Agreement Between Data Sources: The perfect 100% agreement between the field study and secondary data for every village strongly confirms the universal accessibility of banking services in these communities.

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Viksit Bharat 2047: India's Golden Era in Sports Activities

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Abstract:

As India aspires to become a developed nation by 2047, sports play a significant role in fostering national pride, unity, and international renown. In this synopsis, we see the steps that will take India to the next level of athletic dominance. Investing in first-rate infrastructure, incorporating cutting-edge innovation into training and performance evaluation, and fostering young talent through grassroots programs are all parts of the strategy. Reviving traditional Indian games, boosting Para-athletics and women's sports all receive equal attention. The country's goal is to excel in international arenas like the Olympics, and it is cultivating a strong sporting culture through programs like Khelo India and Fit India. Aspiring to build a dynamic, sports-driven culture that prioritizes health, discipline, and national spirit by 2047, India aims to do more than just win medals.

Introduction

India's Viksit Bharat 2047 vision calls for the country to be completely developed by the centennial of its independence. Sports have a crucial role in national identity and soft power, which strongly supports this idea. Sports growth is closely linked to health, foreign diplomacy, youth involvement, and economic advancement (Chakraborty, 2021). India may use sports as a platform to highlight its objectives, achievements, and principles as it takes on a new role in the world.

Significance of the Study

This study looks at the ways that sports may promote and advance India's national development objectives. It examines Olympic performance trends, private-sector involvement in sports development, and strategies such as Khelo India and Fit India Movement with an emphasis on systemic change. It aims to bridge the scholarly and strategic divide in bringing sports policy into line with the country's 2047 objectives. Planning inclusive, sustainable, and significant sports ecosystems requires an understanding of this relationship (Sharma & Desai, 2020).

Objectives

1. To evaluate the current state of Indian sports and identify key challenges and opportunities for growth leading up to 2047.
2. To propose strategic interventions and policy recommendations that can contribute to India in achieving a 'Golden Era' in sports by 2047.

Research Methodology

This study **mixed-methods** research design was adopted. Secondary data was collected from government reports (Ministry of Youth Affairs and Sports, 2023),

Olympic performance datasets, and academic journals. Semi-structured interviews were conducted with 15 stakeholders, including athletes, coaches, policymakers, and sports management experts. Benchmarking India's sports development was done through comparison with nations such as China, the UK, and Brazil.
Key sources include summary:

- Annual Report of the Ministry of Youth Affairs and Sports (2022–23)
- Olympic.org and IOC performance archives
- Peer-reviewed journals on sports policy and management.

Result Discussion

Objectives-1:

India's sports landscape has witnessed notable developments and growth in recent years:

- **Economic Growth of the Sports Industry:** The Indian sports industry is experiencing dynamic growth, with projections to expand from $27 billion in 2020 to $100 billion by 2027. This transformation is driven by factors such as the commercialization of sports leagues, technological advancements, and a growing emphasis on diverse sporting disciplines. FICCI
- **Physical Activity Levels:** Despite these advancements, only 10% of Indian adults engage in sports, with women and girls, especially in urban areas, facing significant barriers to participation.

Challenges:

- **Infrastructure Disparities:** There is a significant gap in sports infrastructure between urban and rural areas, limiting access and opportunities for many aspiring athletes.
- **Talent Identification and Development:** The decline in Olympic rankings and challenges in talent identification highlight systemic issues within India's sports ecosystem.
- **Gender Inequality:** Women and girls face considerable barriers to sports participation, including societal norms and safety concerns.

Opportunities:

- **Economic and Health Benefits:** A fully active India by 2047 could bring immense benefits, including a GDP boost of over USD 185 billion annually, prevention of 110 million non-communicable disease cases, and healthcare savings of around USD 400 billion.
- **Grassroots Development:** Initiatives like Khelo India and Fit India are aimed at promoting sports at the grassroots level, fostering a culture of physical activity and identifying young talent as published in The Times of India

Objectives-2:

Strategic Interventions:

1. **Infrastructure Enhancement:**

- **Public-Private Partnerships:** Encourage collaborations between government bodies and private entities to develop and maintain sports facilities across the country. This is emphasised today.

2. **Talent Identification and Nurturing:**
   - **Structured Pathways:** Implement comprehensive talent identification programs at the school and community levels, ensuring a steady pipeline of athletes.
3. **Gender Inclusivity:**
   - **Targeted Programs:** Develop initiatives specifically aimed at increasing female participation in sports, addressing societal barriers and providing safe environments.
4. **Educational Integration:**
   - **Curriculum Inclusion:** Integrate sports and physical education into the academic curriculum, emphasizing the importance of physical activity from an early age.
5. **Financial Incentives:**
   - **Tax Benefits:** Offer tax incentives to corporations that invest in sports development, encouraging greater private sector involvement. Reuters
6. **Hosting International Events:**
   - **Global Exposure:** Pursue opportunities to host international sporting events, such as the Olympics, to boost infrastructure development and global recognition.
   -

India's sporting future exhibits both potential and structural flaws. In sports like badminton, wrestling, and athletics, Olympic participation and achievement have been steadily increasing (Bose, 2022). However, cricket still commands the majority of resources and public attention, frequently at the expense of other sports. Concerns about uneven coaching quality, lack of long-term athlete support, and infrastructure differences between urban and rural locations persist (Patel & Kumar, 2021).
Initiatives such as Khelo India have increased youth engagement, but challenges remain in scaling and sustaining these efforts nationwide. By include sports in the official curriculum, the National Education Policy 2020 signals a paradigm shift in perception and represents a turning point (NEP, 2020). Additionally, Sports analytics and digital platforms are also becoming revolutionary in the fields of performance improvement and talent scouting.

Decentralized sports academies, corporate sponsorship, and international cooperation are essential for increasing effect and reaching a wider audience. The UK's emphasis on grassroots funding during the 2012 Olympics and China's centralized training approach both offer valuablel essons.

Decentralized sports academies, corporate sponsorship, and international cooperation are essential for increasing effect and reaching a wider audience. The UK's emphasis on grassroots funding during the 2012 Olympics and China's centralized training approach both offer valuable lessons.

Recommendations:

- **National Sports Policy Revision:** Update the existing national sports policy to reflect current challenges and opportunities, setting clear goals for 2047 target.
- **Monitoring and Evaluation Mechanisms:** Establish robust systems to monitor the implementation of sports programs and assess their impact regularly.
- **Capacity Building:** Invest in training and development programs for coaches, administrators, and support staff to enhance the overall quality of sports management.

Conclusion

As part of Viksit Bharat 2047, the goal of a "Golden Era in Sports" is both feasible and timely. Indian systemic reforms must be in line with long-term national objectives if the country is to become a worldwide sporting force. Sports science, inclusive education, infrastructure investment, athlete welfare, and state-by-state policy coherence are among the top priorities. Sports have the potential to represent and facilitate India's ascent in the world order if they are wisely pursued in right – spirit and right Understanding.

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Innovation and Entrepreneurship in India: Role of entrepreneurship in driving economic growth and development.

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Abstract

Innovation and entrepreneurship have emerged as pivotal forces driving India's economic growth and development in the 21st century. With a rapidly growing population, increasing digital infrastructure, and evolving market dynamics, India has become a fertile ground for entrepreneurial ventures. Entrepreneurs contribute significantly by generating employment, introducing innovative products and services, and enhancing the nation's global competitiveness. They also play a crucial role in fostering inclusive growth by addressing socio-economic challenges in rural and underserved areas. Government initiatives such as Start-up India, Digital India, and Atal Innovation Mission have further fueled entrepreneurial activity by providing financial, infrastructural, and policy support. As a result, India's startup ecosystem has become one of the largest in the world, attracting both domestic and international investments. This abstract explores the multifaceted role of entrepreneurship in transforming India's economic landscape, highlighting its impact on job creation, technological progress, rural development, and economic diversification.

India's economic growth and development are increasingly driven by innovation and entrepreneurship. This abstract explores the role of entrepreneurship in fostering economic progress and its impact on the nation's development. Entrepreneurship plays a vital role in driving India's economic growth and development. With the right ecosystem, support, and policies, India can unlock its full potential and become a global innovation leader.

Key Points: Entrepreneurship, Economic Growth, Innovation Hubs, Digital Transformation, Job Creation, and Inclusive Growth.

Introduction:

Entrepreneurship in India

1. Start-up India Initiative: The government launched the Start-up India initiative to promote entrepreneurship, innovation, and job creation.
2. Funding and Investment: India has a growing venture capital and angel investor ecosystem, supporting start-ups and entrepreneurs.
3. Incubators and Accelerators: Many incubators and accelerators are providing resources, mentorship, and support to start-ups.

Impact on Economy and Society

1. Job Creation: Entrepreneurship is generating employment opportunities, especially for the youth.
2. Economic Growth: Innovation and entrepreneurship are contributing to India's economic growth, GDP, and prosperity.
3. Social Impact: Entrepreneurship is addressing social challenges, including healthcare, education, and environmental sustainability.

Challenges and Opportunities

1. Regulatory Framework: A supportive regulatory framework is essential for fostering innovation and entrepreneurship.
2. Access to Funding: Access to funding and investment remains a challenge for many start-ups.
3. Skill Development: Entrepreneurship requires skill development and capacity building to ensure success.

Entrepreneurship has always been with human beings in all aspects of life. It has been the base of human community's development. However, in the process of its evolution, it has been defined in different ways. Entrepreneurship may be defined as "the procedure of innovation and using opportunities with lots of effort and perseverance together with accepting financial, psychological and social risks". It is indeed motivated by earning profit promotion, self-satisfaction and independence" (Hisrich, 2007: 172). Entrepreneurship has long been recognized as a fundamental driver of economic growth and development in nations around the world. While conventional economic models have traditionally attributed economic growth to factors such as labor, capital, knowledge, and government policies, emerging research has suggested that entrepreneurship might play a more substantial and independent role in shaping a nation's economic landscape. Present study seeks to explore the intricate relationship between entrepreneurship and economic growth, challenging the notion that entrepreneurship is merely a by product of these traditional determinants of prosperity. In recent years, the global economic landscape has witnessed a surge in entrepreneurial activity, with startups and small businesses emerging as potent forces in various economies. This phenomenon has led to a revaluation of the significance of entrepreneurship in driving economic development. Rather than viewing entrepreneurship as a derivative of labour, capital, or knowledge, it is increasingly apparent that it can function as a catalyst for growth and development in its own right. This research paper aims to provide empirical evidence supporting the idea that entrepreneurship is a substantial and independent factor in shaping a country's economic growth. By studying the interplay between entrepreneurship and traditional determinants of economic growth, we seek to establish whether entrepreneurship can indeed be considered a stand-alone driver of prosperity, distinct from the more conventional factors.

Review of Literature

1. Theoretical Foundations Joseph Schumpeter is considered the pioneer of the link between innovation, entrepreneurship, and economic development. His concept of

"creative destruction" (Schumpeter, 1934) highlights how entrepreneurs innovate by introducing new products and processes, displacing older technologies and fostering economic dynamism.

Endogenous Growth Theory (Romer, 1990; Aghion & Howitt, 1992) integrates innovation into growth models, arguing that knowledge creation, R&D, and human capital are crucial drivers of long-term economic growth.

2. Innovation and Economic Growth

Innovation as a Growth Engine: Innovation leads to productivity gains, improved efficiency, and technological advancement (OECD, 2005). Countries with robust R&D investment (e.g., South Korea, Germany) often exhibit sustained economic growth. Role of Institutions: Acemoglu & Robinson (2012) stress that institutions fostering property rights, education, and innovation infrastructure are key to leveraging innovation for development.

3. Entrepreneurship as a Catalyst

Entrepreneurship and Job Creation: Empirical studies (Acs & Audretsch, 2005) show that SMEs and start-ups play a vital role in employment generation and market diversification.

Types of Entrepreneurships:

Opportunity-driven entrepreneurship tends to promote innovation and economic progress.

Necessity-driven entrepreneurship (common in developing economies) has a more limited effect on growth (Global Entrepreneurship Monitor reports).

4. Innovation and Development

Innovation in Developing Countries: Innovation here often takes the form of frugal or incremental innovation rather than cutting-edge R&D (Prahalad, 2004). Technology Transfer & Catch-Up: Latecomer economies benefit from adapting and improving existing technologies (Gerschenkron, 1962).

5. Policy Implications

Supportive Ecosystems: Governments play a critical role through education, R&D funding, infrastructure, and reducing regulatory barriers.

Public-Private Partnerships: Collaboration between academia, industry, and government fosters innovation ecosystems (Triple Helix model).

Key Literature Sources

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Objectives:

1. Economic Growth: Encourage startups and innovative ventures to boost GDP and strengthen India's economy.

2. Job Creation: Generate employment opportunities through entrepreneurial ventures, especially among youth.
3. Self-Reliance (Aatmanirbhar Bharat): Promote indigenous solutions and reduce dependence on imports by fostering local innovation.
4. Technological Advancement: Support R&D and the adoption of emerging technologies to improve efficiency and competitiveness.
5. Inclusive Development: Promote entrepreneurship across all regions, including rural and underdeveloped areas, to ensure balanced growth.
6. Global Competitiveness: Encourage startups to innovate at a global scale and make India a hub for innovation and entrepreneurship.
7. Support for MSMEs: Strengthen Micro, Small, and Medium Enterprises (MSMEs) as they are critical to innovation and employment.
8. Education and Skill Development: Foster an entrepreneurial mindset through education, training, and mentorship programs.
9. Ease of Doing Business: Simplify regulations and provide financial support to create a startup-friendly ecosystem.
10. Sustainability: Encourage green innovation and sustainable business practices to address environmental challenges.

Research Questions and Significance

Innovation

1. What are the key drivers of innovation in Indian industries, and how do they impact economic growth?
2. How does India's innovation ecosystem support the development of new technologies and products?
3. What role do government initiatives, such as Make in India and Startup India, play in promoting innovation and entrepreneurship?
4. How do Indian firms leverage innovation to improve competitiveness and sustainability in global markets?
5. What are the challenges and opportunities for innovation in India's rural areas, and how can they be addressed?

Entrepreneurship

1. What are the key factors that influence entrepreneurial success in India, and how can they be replicated?
2. How do Indian entrepreneurs access funding, mentorship, and networking opportunities, and what are the gaps in these areas?
3. What role do incubators, accelerators, and innovation hubs play in supporting entrepreneurship in India?
4. How do social and cultural factors influence entrepreneurial behaviour and success in India?
5. What are the opportunities and challenges for women entrepreneurs in India, and how can they be supported?

Research Design

3.2 Research Objectives

1. To explore the current state of innovation and entrepreneurship in India
2. To identify the key drivers and barriers to innovation and entrepreneurship in India
3. To examine the impact of government initiatives and policies on innovation and entrepreneurship in India
4. To investigate the role of innovation and entrepreneurship in promoting economic growth and sustainable development in India

3.3 Data Collection Methods:

(b) Secondary Data

4. Ethical Considerations
5. Limitations & Future Research Directions

Research Methodology

1. Mixed Methods Approach: Combine qualitative and quantitative methods to gather comprehensive data
2. Literature Review: Review existing research on innovation and entrepreneurship in India to identify gaps and areas for further study
3. Surveys and Interviews: Conduct surveys and interviews with entrepreneurs, innovators, policymakers, and industry experts to gather primary data
4. Case Studies: Conduct in-depth case studies of successful innovation and entrepreneurship initiatives in India
5. Data Analysis: Analyze data using statistical software and qualitative analysis tools

Sampling Strategy

1. Purposive Sampling: Select participants based on their expertise and experience in innovation and entrepreneurship
2. Snowball Sampling: Use referrals and networking to identify additional participants
3. Sample Size: Determine sample size based on research objectives and data saturation

4. Suggestions for innovation and entrepreneurship in India

4.1 Policy and Regulatory Framework

1. Simplify regulatory processes: Streamline regulatory processes and reduce bureaucratic hurdles to encourage entrepreneurship.
2. Tax incentives: Offer tax incentives and exemptions to startups and entrepreneurs.
3. Intellectual property protection: Strengthen intellectual property protection laws and enforcement.

4.2 Education and Training

1. Entrepreneurship education: Integrate entrepreneurship education into school and university curricula.
2. Skill development programs: Offer skill development programs in emerging technologies and industries.
3. Mentorship and coaching: Provide mentorship and coaching programs for entrepreneurs.

Findings

1. Access to funding: Increase access to funding for startups and entrepreneurs through venture capital, angel investors, and crowdfunding.
2. Government funding schemes: Establish government funding schemes and grants for startups and entrepreneurs.
3. Investment in research and development: Encourage investment in research and development in emerging technologies.

4.3 Infrastructure and Resources

1. Incubators and accelerators: Establish incubators and accelerators to support startups and entrepreneurs.
2. Co-working spaces: Provide co-working spaces and innovation hubs for entrepreneurs.
3. Access to technology: Provide access to cutting-edge technology and infrastructure for startups and entrepreneurs.

4.4 Conclusions on innovation and entrepreneurship in India

Strengths

1. Growing startup ecosystem: India's startup ecosystem is growing rapidly, with many successful startups and entrepreneurs.
2. Large talent pool: India has a large pool of skilled and talented individuals, which is a significant advantage for innovation and entrepreneurship.
3. Government support: The Indian government has launched several initiatives to support innovation and entrepreneurship, such as Startup India and Make in India.

Challenges

1. Regulatory hurdles: India still faces significant regulatory hurdles, including complex bureaucracy and red tape.
2. Funding constraints: Access to funding remains a significant challenge for many startups and entrepreneurs.
3. Infrastructure gaps: India's infrastructure, including transportation and internet connectivity, still requires significant improvement.

Opportunities

1. Growing demand for innovation: There is a growing demand for innovation in India, driven by the need for sustainable development and economic growth.
2. Increasing investment: There is increasing investment in innovation and entrepreneurship in India, including from venture capitalists and angel investors.
3. Global opportunities: Indian startups and entrepreneurs have access to global markets and opportunities.

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Enhancing democracy, transparency, and accountability in governance within Telangana

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Abstract

The enhancement of democracy, transparency, and accountability constitutes fundamental principles for effective and trustworthy governance in modern society. These concepts are not merely theoretical; they act as practical instruments that ensure power is exercised responsibly for the benefit of the public, thereby fostering citizen trust, reducing corruption, and enhancing administrative efficiency.

Democracy is fortified when citizens can actively participate in governance and hold their elected representatives accountable. This participation extends beyond simple electoral involvement, encompassing continuous engagement in policy development, monitoring governmental performance, and evaluating results. A well-informed citizenry, empowered with the right to question governmental actions, is essential for a system that prioritizes the needs of the populace.

Transparency denotes openness in governmental decisions, policies, and actions, ensuring that information is not only available but also accessible and understandable to the public. It acts as a crucial deterrent against corruption by making it difficult for illicit activities to thrive in plain sight. Key tools for promoting transparency include the Right to Information (RTI) Acts, open data platforms, and proactive public disclosure of financial statements and budgets.

Accountability pertains to the obligation of those in power to justify their decisions and actions to the citizens they serve. It ensures that officials are held accountable for mismanagement or failure to meet performance targets. Accountability operates through both internal mechanisms (such as judicial review, audits, and vigilance bodies) and external mechanisms (including elections, media scrutiny, social audits, and citizen charters).

The interplay among these three elements is crucial: transparency provides the essential information required for accountability, which in turn improves the democratic process. Challenges to effective execution include a lack of political will, opposition from administrative entities, and insufficient awareness among the general populace. Tackling these challenges requires a holistic approach, employing technology such as e-governance, bolstering independent oversight bodies, and promoting active engagement from civil society to create a robust and responsive governance framework.

Introduction

Improving democracy, transparency, and accountability in governance is vital for establishing a fair and effective government that caters to its citizens. This initiative involves subjecting governmental actions and decisions to public scrutiny (transparency) and ensuring that public officials are held responsible for their actions (accountability). This framework cultivates trust between the government and the citizens, helps mitigate corruption, and empowers individuals to participate fully in the democratic process by equipping them with the necessary information to make informed choices.

Strengthening democracy, transparency, and accountability

- **Transparency:** This principle guarantees that government actions, decisions, and information are available and understandable to the public. It enables citizens to comprehend how decisions are made and how public resources are distributed, allowing them to hold their representatives accountable.
- **Accountability:** This principle ensures that those in authority are responsible for their actions and decisions. It means that public officials are subject to scrutiny and can be held liable for their behavior, creating a system where they must justify their actions to the constituents they represent.
- **The connection:** Transparency and accountability are interdependent. Transparency provides the vital information that renders accountability meaningful, whereas accountability creates a demand for transparency. Together, they lay the foundation for effective governance, fostering trust and enabling a more efficient and responsive government.

Benefits of strengthening these principles

- **Decreased corruption:** Transparency diminishes the likelihood of corruption by shedding light on government actions for the public.
- **Enhanced citizen involvement:** When citizens have access to information, they can engage more effectively in their government and advocate for higher standards.
- **Bolstered trust:** An open and accountable government cultivates a stronger bond with its citizens, based on trust rather than secrecy.
- **More effective policies:** Governments that are responsive to their citizens are more likely to implement policies that genuinely address the community's needs.

Advancing democracy, transparency, and accountability in governance in Telangana

Advancing democracy, transparency, and accountability in Telangana involves leveraging e-governance, ensuring transparent welfare delivery, enhancing access to information, and increasing citizen participation. Initiatives such as the Telangana State Portal, the Dharani land record system, and the execution of direct benefit transfers promote transparency, while civil society organizations and

platforms for citizen feedback are essential for holding the government accountable and encouraging participation.

Enhancing transparency and accountability

- **E-governance platforms:** The Telangana State Portal and Mobile App (T-App Folio) provide citizens with access to government information, including notifications and circulars, thus making governmental actions more transparent and accessible.
- **Digitization of land records:** The Dharani platform aids in the digitization of land records, simplifying transactions and minimizing disputes, which in turn improves transparency and accountability in property dealings.
- **Financial and policy transparency:** The government has made financial records available to the public, expedited the digitization of cabinet meetings, and instituted quarterly audits of policy implementation to bolster accountability and efficiency, as noted by Devdiscourse.
- **Right to Information (RTI):** The RTI Act functions as a vital tool for citizens to acquire government information, ensuring that officials are held responsible for their actions.

Strengthening democracy and citizen participation

- **Direct benefit transfers:** The government is executing direct benefit transfers through secure channels to deliver welfare programs to citizens, ensuring that assistance reaches those in need effectively and transparently.
- **Civil society's role:** Civil society organizations play a crucial role in holding the government accountable, advocating for reforms, and fostering greater citizen engagement in decision-making processes.
- **Grassroots democracy:** The government has emphasized the empowerment of grassroots democracy and the restoration of public trust through its initiatives and policies.
- **Welfare programs:** Initiatives such as free travel for women on state-run buses and enhanced health insurance coverage are designed to benefit citizens and promote their active involvement in society.

Key Achievements and Progress

- **E-Governance as a Catalyst:** Digital platforms like the T-App Folio, MeeSeva, and the Dharani portal for land records have been instrumental in streamlining public services, minimizing the need for manual processes, and reducing opportunities for corruption and arbitrary decision-making. These initiatives have enhanced efficiency and accessibility.
- **Enhanced Transparency:** The government has undertaken significant steps towards open governance, including the release of a white paper on state finances for public examination and the digitization of cabinet meeting agendas and records. The Right to Information (RTI) Act has also promoted greater public oversight, urging officials to be more diligent and responsive.
- **Strengthening Grassroots Democracy:** Initiatives focused on empowering local institutions, such as strengthening Panchayat Raj Institutions and

increasing reservations for Backward Classes in local bodies, aim to establish robust self-governance from the grassroots level. Programs like the Model Youth Gram Sabha also promote civic engagement among students.

- **Accountability Mechanisms:** Online platforms like the T-Grievance portal provide formal channels for citizens to file and track complaints, thus ensuring that departments are held accountable for service delivery within a designated timeframe. Regular audits of progress further set new standards for administrative assessment.

Persistent Challenges

Despite these commendable initiatives, several issues need to be addressed:

- **Digital Divide:** Inequities in access to technology and varying levels of digital literacy, particularly in rural areas, may hinder a segment of the population from benefiting from e-governance programs.
- **Implementation Gaps:** The uneven application of reforms across different departments, along with some bureaucratic resistance or inertia, can lead to inconsistent results.
- **Need for Stronger Oversight:** The effectiveness of mechanisms such as social audits and the State Information Commission varies, highlighting the need for improved oversight and enforcement authority to ensure adherence to transparency and accountability standards.

Suggestions

- To strengthen democracy, transparency, and accountability in Telangana's governance, it is essential to leverage technology, empower local institutions, rigorously enforce existing laws like the RTI Act, and actively promote citizen engagement.
- Leveraging Technology for Transparent and Accountable Governance
- Telangana has already made significant strides in e-governance, yet further enhancements could improve its effectiveness.
- **Expand E-Governance Platforms:** There is an urgent necessity to continue expanding the array of services available on platforms such as MeeSeva and the T-App Folio mobile application. The goal is to ensure universal, non-discriminatory access to all government services, thereby reducing the need for in-person visits and minimizing opportunities for corruption.
- **Enhance Digital Infrastructure:** Address the digital divide by expanding initiatives such as the T-Fiber project to ensure broadband connectivity in all rural and remote regions, and implement digital literacy programs to guarantee that every citizen can proficiently utilize these services.
- **Develop Efficient Grievance Redressal Mechanisms:** Establish and promote accessible digital grievance redressal systems, like the Citizen Services Monitoring System (CSMS), which offer clear timelines, tracking features, and status updates via SMS and app notifications.

- **Protect Data Security and Privacy:** As services move to digital platforms, enforce strong cybersecurity measures and data privacy protocols to safeguard sensitive citizen information and build public trust.

Strengthening Democratic Institutions and Processes

- **Empower Local Self-Governments (PRIs and Municipalities):** Further decentralize authority and resources to Panchayat Raj Institutions (PRIs) and urban local bodies. Clearly define the roles and responsibilities of elected officials and administrative staff to ensure local accountability.
- **Ensure the Independence and Resources of the State Information Commission (SIC):** The effectiveness of the Right to Information (RTI) Act depends on a fully functional SIC. The government must ensure that all vacancies within the Commission are filled without delay, that it is adequately resourced, and that its directives against errant Public Information Officers (PIOs) are strictly enforced.
- **Strengthen Anti-Corruption Agencies:** Support independent investigative bodies and anti-corruption laws to ensure that officials involved in misconduct are promptly prosecuted, thereby fostering an ethical administrative culture.

Promoting Citizen Engagement and Participation

- **Advocate for Proactive Information Disclosure:** Government agencies ought to actively disseminate more information online, including budgets, performance reports, and decision-making processes, in local languages, thus reducing the need for citizens to file formal RTI requests.
- **Mandate Social Audits and Public Hearings:** Foster and institutionalize mechanisms for social audits, especially for welfare programs and infrastructure projects, to involve citizens in the monitoring and evaluation of implementation.
- **Launch Awareness Campaigns:** Execute continuous, targeted awareness campaigns throughout all districts concerning citizen rights, including those under the RTI Act, and how to effectively utilize available e-governance and grievance redressal platforms.
- **Promote Youth Participation:** Create programs within educational institutions to educate students about local governance and the democratic process, nurturing future responsible and engaged citizens.

By implementing these recommendations, Telangana can improve its current initiatives to create a more efficient, responsive, transparent, and ultimately, a more accountable and democratic governance system.

Conclusion

Telangana has achieved significant progress in improving democracy, transparency, and accountability, mainly through effective e-governance initiatives and a renewed focus on grassroots participation. In summary, while considerable advancements have been made towards creating a more citizen-centric

administration, the state must address ongoing challenges to fully harness the potential of these reforms.

Telangana's commitment to leveraging technology and fostering inclusive, participatory governance is clear. The success of its e-governance initiatives demonstrates a strong foundation for establishing a responsive, transparent, and accountable government. The path ahead requires sustained efforts to bridge existing gaps, enhance citizen awareness of their rights (such as RTI), and ensure that the benefits of reform are accessible to all citizens. By continuously refining strategies and strengthening oversight mechanisms, Telangana can solidify its position as a leader in good governance, thereby increasing public trust and fortifying its democratic framework.

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"E-Governance Initiatives of Telangana State: A Study" (JETIR): This paper highlights how the use of Information and Communication Technologies (ICT) in initiatives like "Mee Seva" aims to empower citizens, improve efficiency, and make the government more accountable and transparent. It emphasizes the move toward "SMART" governance (Simple, Moral, Accountable, Responsive, Transparent).

"E-Governance Initiatives of Telangana State" (International Journal of Operations Management & Services): This study examines specific platforms like the Telangana State Portal, T-App Folio, and the "Dharani" land records system as instrumental tools for fostering greater transparency and minimizing disputes in property transactions.

"State of Accountability" (Accountability Initiative): This paper provides a broader analytical narrative of citizen-led accountability efforts in India and explores how institutional gains in accountability translate into practical improvements in service delivery.

"Study on Governance and Participation in the Telangana Region" (Nexus Institut): This working paper, predating the state's formation, explores the potential for forming new institutions and improving local governance and participation in the region.

"Transparency and Accountability in Municipal Governance" (Centre for Good Governance - CGG): This report discusses the institutional frameworks, such as the implementation of the 74th Constitutional Amendment Act, required to improve municipal effectiveness, including establishing clear accountability mechanisms and using technology for efficiency.

Press Information Bureau (PIB): Reports on initiatives like the "People's Plan

Campaign" and "Model Youth Gram Sabha" (Loktantra Ki Pathshala) highlight efforts to deepen transparency and community involvement in grassroots planning and decision-making processes.

Telangana Government's Official Portal and Press Releases: Official documents and press notes detail the government's commitment to restoring institutional integrity and transparency through measures like the release of a White Paper on Finance to expose past financial mismanagement, the establishment of public grievance forums, and strengthening local governance bodies (Panchayat Raj institutions).

The Hindu: News articles detail specific administrative reforms, such as the Telangana government's 2024 plan to reform revenue administration by placing the draft Record of Rights Bill in the public domain for stakeholder views, a move toward people-friendly, transparent processes.

"Data Privacy and Ethical Considerations in the Contemporary Digital Era: Protecting Rights in a Surveillance-Based Society"

Itha Praveen Kumar

Abstract

In the contemporary age of data orientation, collection, analysis, and sharing of personal data have become the foundation of technological innovation and digital advancement. Yet, these developments have also created colossal ethical issues of data privacy, consent, surveillance, and misuse of personal data. This research study examines the intricate relationship between data privacy and ethical issues, with specific reference to the collection, storage, and use of personal data on various digital platforms, with particular emphasis on the challenges of artificial intelligence, big data analysis, and global information networks. The study evaluates the core ethical values of autonomy, transparency, accountability, and justice, which are generally compromised in the interest of corporate interests and government policies.

This present research utilises a qualitative research design, examining case studies, legal precedents, and academic literature to examine the implications of data privacy infringement and ethical deficits. In so doing, it identifies key global events, including the Cambridge Analytical case, and examines the roles played by legal instruments like the General Data Protection Regulation (GDPR) and India's Digital Personal Data Protection Act in safeguarding individuals' rights. Furthermore, it identifies that there is growing disparity between technological developments and ethical responsibility, and therefore organisations must integrate ethical frameworks as part of their data governance practices.

The research concludes by calling for a holistic solution entailing ethically-designed frameworks, improved digital competence, robust enforcement of regulations, and global partnership to enable responsible data management. Data privacy protection goes beyond merely technological or jurisprudential concerns; it is an existential ethical imperative necessitated by safeguarding individual dignity, democratic ideals, and online trust.

Keywords: Data privacy, ethics, surveillance, digital rights, data protection

Introduction

Trust and privacy go hand in hand, just as do ethics and the law. The truth is that trust is crucial for security measures and privacy protections. The proper access, use, and collection of data is the crux of the matter when it concerns data privacy and digital surveillance. Individuals, businesses, and governments throughout the globe are increasingly worried about data privacy in this rapidly developing digital age. Tech advancements have improved our lives, but they have also brought up serious

moral questions. These developments have made it simpler than ever to collect, store, and analyze massive amounts of personal data, which begs the issue of how this data is shared, used, and protected. To successfully traverse the modern digital environment, one must be familiar with the moral dimensions of data privacy. Data privacy, also known as information privacy, refers to people's control over the collection, use, and disclosure of their personal data. Financial records, health information, online activities, and personally identifiable information (such as names and addresses) are all included under this concept. Accountability, transparency, and consent are the cornerstones of data privacy. People should be able to decide who may access their personal information and how it is used when they provide their permission. Businesses should not hide the fact that they collect, use, and store customers' personal information. Entities are held accountable when they ensure compliance with data protection laws and ethical standards and secure information from unauthorized access or violations. Data privacy has expanded in recent years, driven in part by rising public awareness of individuals' right to privacy and technological advancements. Protecting paper documents and basic electronic files was the primary focus of data privacy issues throughout the early days of computers. The proliferation of personal data storage and sharing on the internet over the latter half of the twentieth century heightened concerns about data privacy. With the rise of e-commerce, cloud computing, and social media, individuals' personal data became accessible to several businesses, sometimes without their knowledge or consent, further complicating an already difficult issue.

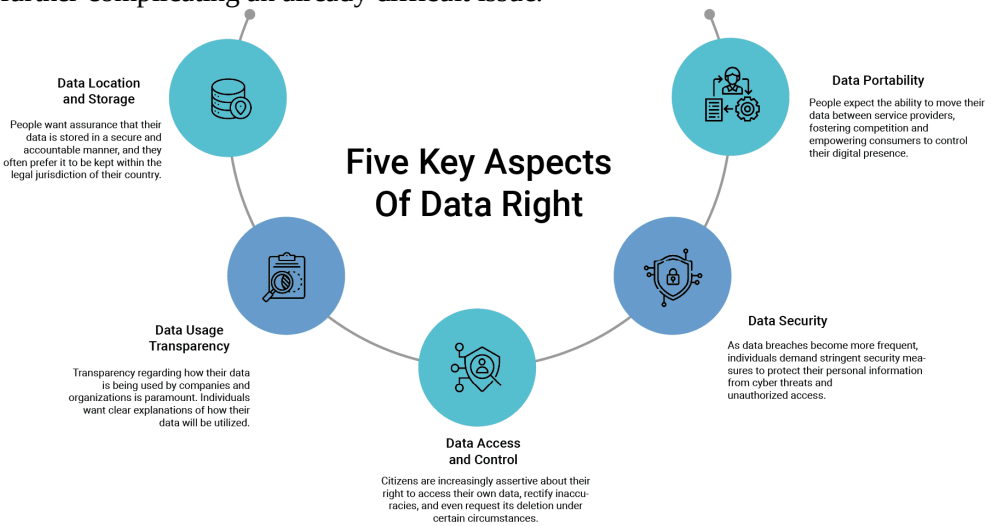


Fig.1. Key Aspects of Data Right

Concerns about data privacy and digital surveillance include the following: protection against unauthorised access or misuse of personal data; reliability of data collected about individuals via technology; accessibility of data content; etc.

There is a general agreement that privacy is valuable in and of itself, even while many cultures place different values on privacy or make it hard to establish a stable and

universal value. Privacy in mass communication includes following the rules and following ethical guidelines.

Objectives

i) To understand the ethical frameworks governing data privacy.
ii) To assess the effectiveness of current data privacy laws and regulations.
iii) To explore the impact of emerging technologies on data privacy
iv) To develop strategies for enhancing public awareness and trust in data privacy.

2.Regulatory Frameworks For Data Privacy

The legal landscape of data privacy is shaped by a patchwork of regulations, spanning national, regional, and international jurisdictions. From the European Union's General Data Protection Regulation (GDPR) to the California Consumer Privacy Act (CCPA) and beyond, this section examines the diverse regulatory frameworks governing data privacy rights and obligations around the globe. Moreover, it explores the challenges of regulatory harmonization and the implications of extraterritorial enforcement for multinational corporations and digital platforms.

The regulatory landscape for data privacy is characterized by a patchwork of laws, regulations, and guidelines enacted at the national, regional, and international levels. These regulatory frameworks aim to establish standards for the collection, processing, storage, and sharing of personal data, while also balancing the interests of individuals, businesses, and governments. Key regulatory developments include:

European Union's General Data Protection Regulation (GDPR):

The GDPR, which came into effect in May 2018, represents one of the most comprehensive and far-reaching data privacy regulations to date. It applies to all organizations processing personal data of individuals residing in the European Union, regardless of the organization's location. The GDPR imposes strict requirements on data controllers and processors, including principles of lawfulness, fairness, and transparency in data processing, as well as requirements for obtaining valid consent, implementing data protection by design and default, and notifying data breaches. Non-compliance with the GDPR can result in hefty fines of up to €20 million or 4% of the organization's global annual turnover, whichever is higher.

California Consumer Privacy Act (CCPA):

Enacted in January 2020, the CCPA is the first comprehensive data privacy law in the United States to grant consumers specific rights over their personal information. Modelled after the GDPR, the CCPA grants California residents the right to know what personal information is being collected about them, the right to access and delete their data, and the right to opt-out of the sale of their personal information. The CCPA applies to businesses that meet certain revenue thresholds or engage in certain data processing activities, regardless of their physical presence in California. Violations of the CCPA can result in civil penalties imposed by the California Attorney General or in private rights of action for data breaches.

Other Regional And National Data Privacy Laws:

Beyond the EU and the US, many other countries and regions have enacted data privacy laws and regulations tailored to their specific legal frameworks and cultural contexts. For example, Canada's Personal Information Protection and Electronic Documents Act (PIPEDA), Japan's Act on the Protection of Personal Information (APPI), and Brazil's General Data Protection Law (LGPD) are among the growing number of jurisdictions with comprehensive data protection regimes. These laws typically prescribe requirements for data processing, consent, security measures, cross-border data transfers, and individual rights, albeit with variations in scope, enforcement mechanisms, and penalties.

International Data Protection Standards:

In addition to regional and national laws, international organizations such as the Organization for Economic Co-operation and Development (OECD) and the Council of Europe have developed guidelines and conventions to promote harmonized approaches to data protection across borders. The OECD's Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, adopted in 1980, set forth principles for the fair and lawful processing of personal data, while the Council of Europe's Convention 108 and its modernized version, the Convention 108+ (Convention for the Protection of Individuals with regard to the Processing of Personal Data), establish legal frameworks for data protection and privacy rights in Europe and beyond.

Data Privacy Protection model

The pervasiveness of a technology-driven and information-intensive world makes the urgent need to preserve data privacy all the more pressing. These days, most organizations run their operations based on technology. The market gets more open and customers gain more knowledge; these are the two main advantages. Responsible data governance for digital technologies in Europe is going to be laid forth in these policy and legislative texts. Digital data is the foundation of all digital technology. These technologies process data, which is usually the end product of such processing. What and how digital technologies operate are largely dictated by data. Therefore, data is equally crucial when thinking about the social and ethical advantages of digital technologies and the challenges, worries, and issues that come with them. In today's digital world, data is crucial. Those in charge of overseeing data use and ensuring its proper and beneficial application, as well as the organizations that depend on and make use of this data, acknowledge its importance.The support vector machine (SVM) is able to produce a collection of tags and a confidence score (classification threshold) for each statement once it has been trained. The confidence score is a measurement of the relative distance of a sample with respect to the hyperplane that separates the classes that the SVM has learned. When the confidence level of a tag is sixty percent or more, we consider it to be quite dependable. To be more specific, we concentrate on tags that indicate a dominating class membership by establishing a number that is more than fifty percent.

For the purpose of determining the level of policy compliance p for a certain objective i, we determined the difference between the number of positive and negative tags that were acquired for that specific objective i. In the event that the difference is positive (negative) for a certain objective, we consider the policy to be complying (non-compliant) with the objective in a degree that is proportionate to the amount of the difference. For each and every objective (G), the scores were normalized by the number of tags that were linked with the policy, and the results were presented proportionally. One is able to directly compare policies in this manner, regardless of the amount of tags that are linked with an individual policy.

Table 1. Distribution of complaint list in the training data set

Complaint name	Number (Percentage)
data minimization compliant	14 (1.9%)
data minimization non-compliant	38 (5.17%)
availability compliant	29 (3.95%)
availability non-compliant	0 (0%)
integrity compliant	19 (2.59%)
integrity non-compliant	0 (0%)
confidentiality compliant	68 (9.25%)
confidentiality non-compliant	109 (14.83%)
unlinkability compliant	12 (1.63%)
unlinkability non-compliant	83 (11.29%)
transparency compliant	150 (20.41%)
transparency non-compliant	45 (6.12%)
intervenability compliant	107 (14.56%)
intervenability non-compliant	61 (8.3%)

But there are also drawbacks, such as the increased opportunity for organized and experienced cybercriminals to exploit and the socio-technical dangers that are inherent in technology and human users. Due to the gravity of the situation, data security has risen to the forefront of the priorities of company executives.

Table 2. Summary of Five Safes framework principle protection against privacy violations.

Scope	Breach Notification	Consent	Fairness	Lawfulness	Transparency	Data Minimisation	Purpose Limitation	Accountability	Confidentiality
Safe People	-	-	-	✓	-	✓	✓	✓	✓
Safe Data	-	-	✓	✓	-	✓	✓	-	✓
Safe Project	-	✓	✓	✓	✓	✓	✓	✓	-
Safe Settings	-	-	✓	✓	✓	-	-	-	✓

Safe Outputs	✓	✓	✓	✓	✓	-	-	✓	-

Table 3. Evaluation of NIST and Five Safes privacy framework

Category	NIST Privacy Framework	Five Safes Privacy Framework
Breach notification	Governance, Control	Safe Output
Consent	Communicate, Governance	Safe Project, Safe Outputs
Fairness	Communicate, Control	Safe Data, Safe Project, Safe Outputs
Lawfulness	Communicate, Governance, Protect, Control	Safe People, Safe Data, Safe Project, Safe Settings
Transparency	Communicate, Control	Safe Project
Data minimisation	Communicate, Protect, Control	Safe People, Safe Data
Purpose limitation	Communicate, Governance, Protect, Control	Safe People, Safe Data, Safe Project
Accountability	Governance, Protect	Safe People, Safe Project, Safe Outputs
Confidentiality	Governance, Protect, Control	Safe People, Safe Data, Safe Settings

Data privacy protection is essential because it plays a key role in formulating and enforcing plans to guarantee data privacy rules, standards, procedures, and policies. All of the regulations and standards in place need to be socially acceptable, morally sound, fiscally sound, and technically efficient. Reason being, information security choices may become complicated, and signing contracts and implementing them are both technical and ethically fraught.

Data Privacy and Digital Surveillance Principles

- **Data Collection and Purpose Principle:** Personal data should be collected lawfully for a purpose that is directly related to a function or activity of the data user. In addition, the data subjects should be notified of the purpose and classes of persons to whom data can be transferred. The data collected should be necessary but never excessive.
- **Accuracy and Retention:** Personal data should always be accurate and should not be kept for a period that is longer than necessary for fulfilling the purpose for which it is being used.
- **Data Use:** It is important to use personal data exactly for the purpose for which it is collected or for a completely related purpose unless voluntary consent for an entirely new purpose is obtained from the data subject.
- **Data Security:** The data user should take reasonably practical steps to safeguard personal data from unauthorised and accidental access while

processing. It is also important to consider the harm that can affect an individual during a breach.

- **Openness Principle:** The data user should also make personal data policies and practices known to the public regarding the kinds of personal data it holds and how the data can be used.
- **Data Access and Correction Principles:** All data subjects should be given access to personal data and allowed to make important corrections if the data is inaccurate.

The DPDP Act pertains to the processing of digital personal data within India, encompassing situations where the personal data is either (i) collected in a digital form or (ii) collected in a non-digitized form and subsequently converted into digital form. Consequently, the DPDP Act does not apply to the processing of personal data in its non-digitized state. The DPDP Act defines 'personal data' broadly to include any data about an individual who is identifiable by or in relation to such data. It also defines 'digital personal data' as personal data in digital form.

While the DPDP Act is applicable to Indian entities which engage in the processing of personal data, it also has extra-territorial applicability, applying to foreign entities who offer goods and services to Data Principals (as defined below) located within the territory of India and process personal data in connection to such activities. The DPDP Act does not apply to (i) personal data utilized by an individual for personal or domestic purposes or (ii) personal data deliberately made publicly accessible by either the Data Principal to whom the personal data relates or any other individual or entity mandated by law to disclose personal data to the public.

This is the right of an individual to control how their personal data is captured, stored, or repositioned. Data privacy ensures that sensitive data, which includes financial details, medical records, online activities, and communications, is kept safe from access or misuse not authorized by them, and that is important in the digital world where every click and transaction leaves a trace. Data privacy, as such, is not so much about information secrecy but people being in charge of their information and ensuring they are used properly and securely. The following are the key elements of Data Privacy:

- Right to Know What's Collected About Them: The right to know what information is being collected about them and how it should be used. Individuals can accept or refuse permission for data collection.
- Preservation of Sensitive Data: Data privacy prevents breaches, identity theft, fraud, and unauthorized use of personal information by hostile entities.
- Legal Frameworks: Most countries have enacted strict data protection laws to regulate how organizations handle personal information.

The DPDP Act assigns restrictions and obligations to organizations that process personal data, including:

- Obtain consent from individuals before processing their personal data: Organizations must obtain consent from individuals before processing their personal data, unless an exemption applies.
- Use personal data only for the purposes for which it was collected: Organizations must use personal data only for the purposes for which it was collected, unless they have obtained consent from the individual for further processing.
- Protect personal data from unauthorized access, use, disclosure, alteration, or destruction: Organizations must take appropriate technical and organizational measures to protect personal data from unauthorized access, use, disclosure, alteration, or destruction.
- Respond to individual's requests for access, correction, deletion, and objection: Organizations must respond to individual's requests for access, correction, deletion, and objection within a reasonable time.
- Report data breaches to the DPB: Organizations must report data breaches to the DPB within 72 hours of becoming aware of the breach.

Findings:

We compared our findings with the relative ratings that Guard (https://useguard.com/ (accessed on 16 February 2021)) has already provided for seven policies. These policies include Instagram, Twitter, AliExpress, Netflix, LinkedIn, Mozilla, and Telegram. In order to carry out a more formal evaluation, we compared our findings with the ratings that Guard has already provided. This application was selected because it is the only work in the field that offers ratings of policies that have been updated in accordance with the legislative framework of the General Data Protection Regulation (GDPR), and that also takes into consideration a set of services that are comparable. According to what was said before, the ratings that Guard offers for each insurance are comprised of a single grade that ranges from A+ to F. This value is based on a combination of several factors, including basic privacy concerns and scandals that have been highlighted by the firm. We examined the correlation between the ranking that was acquired by sorting the same policies according to Guard's ratings and the ranking that was obtained by sorting the same policies according to our global score. This allowed us to quantify the degree of agreement that exists between the two perspectives. For the purpose of determining the degree of correlation, the Spearman's rank correlation coefficient was used. This coefficient evaluates the degree to which the connection between the two scoring criteria can be characterized by terms of a monotonic function, whether it is linear or not. Through this method, we are able to avoid relying on the magnitude of each scoring criterion, and instead concentrate on the relative ranks that are defined by them. Even if the two scores may take into consideration various factors, we were able to acquire a high correlation value of 0.839, which shows that there is a strong direct link between the two values.Our method also offers scores for each individual goal, which contribute to the explanation of the overall score. These fine-grained ratings, in

particular, have the potential to make the user aware of the many sorts of hazards that are related with the use of the service. By concentrating on these ratings, it is possible to demonstrate that every service provider achieves the desired level of transparency. This is to be anticipated due to the fact that the ultimate objective of a privacy policy is to provide an explanation of the management of personal data, regardless of how respectful this may be with regard to the privacy of the individual. The reality of the matter is that we discovered a lot of phrases that made explicit assertions (which are beneficial for openness) about the carelessness with which the corporation handles the data of its customers. Instagram, for example, has a policy that indicates that it "cannot guarantee that information on the Service may not be accessed, disclosed, altered, or destroyed." This policy further adds that Instagram "cannot guarantee the security of any information you transmit to Instagram." For some businesses, the fact that they are open and honest about unethical business activities is an indication that they anticipate their clients would not read or comprehend their rules.

Emerging Regulatory Trends and Challenges:

There are still a number of obstacles in the regulatory environment, even if data privacy standards are everywhere. Problems with regulatory responses and the introduction of new privacy concerns, such as those involving biometric data, face recognition, and the Internet of Things (IoT), are two examples of these issues. Another is the fact that certain laws have an extraterritorial reach, which can make it difficult for multinational corporations to comply with all of the laws in the various jurisdictions in which they operate. Finally, there is a lack of harmonization among the various regulatory regimes, which can cause legal uncertainty and compliance complications.

In light of these concerns, new regulatory tendencies are cropping up, such as rules tailored to certain industries (like healthcare and financial services) to deal with their own specific privacy threats, laws that give individuals more power and make it easier to enforce them to make businesses more accountable and transparent, and initiatives to make data protection authorities work together more closely. As a whole, society hopes for a more fair, inclusive, and rights-respecting digital future, and data privacy regulations are changing to reflect this. Ethical concerns, human rights principles, and algorithmic accountability are getting more and more attention.



Fig.2. Data Privacy Right

A complex interaction between technology innovation, legislative advancements, and public expectations drives the regulatory framework for data privacy, which is dynamic and developing. Efforts must continue to be made to address new threats, promote international collaboration, and preserve basic rights in the digital era, even if strong data protection laws have been established globally. Innovation in technology, changes in legislation, ethical concerns, and social norms all play a role in the intricate development of privacy in the digital era. Strong privacy safeguards are more important than ever as people move through a data-driven and highly linked society. As a result of societal and technological shifts, the idea of privacy is always developing, with new developments such as contextual control and the right to be forgotten.

Data privacy law is complicated, ambiguous, and constantly evolving. The need for strong legislative safeguards to preserve individual privacy rights is more important than ever before due to the ever-increasing prevalence of data-driven innovation and the rapid advancement of technology. A more open, responsible, and privacy-respecting digital ecosystem that encourages innovation, safeguards consumer interests, and preserves basic rights in the digital era can be achieved if legislators, legal practitioners, and industry stakeholders can successfully traverse the complex legal issues surrounding data privacy.

On the other hand, privacy protection possibilities and threats change with the times. Eroding privacy rights and the possibility of discriminatory practices are deep issues brought up by the monetization of personal data, the persistence of algorithmic prejudice, and the growth of surveillance technology. The need of protecting individuals' right to privacy is clearer when we consider the ways in which it interacts with other basic freedoms and concerns of social justice, such as the ability to freely express oneself and the absence of discrimination.

In this light, a comprehensive strategy including the ethical, legal, and technical aspects of privacy is necessary to cultivate a digital future that is more inclusive, egalitarian, and rights-respecting. In order to traverse the complicated world of data privacy and protect basic rights and values in the digital age, it is essential for lawmakers, organizations, and people to embrace ethical standards, openness, and responsibility.

Conclusions

Ultimately, the declaration emphasizes the need for data scientists and analytics to find a middle ground between protecting personal information and being ethical. Protecting individuals' private information is acknowledged in the study as being both obligatory and ethical. Furthermore, it recognizes that data science is inherently fraught with ethical challenges including prejudice, discrimination, lack of transparency, and responsibility. The research also looked at ways to make people more aware of the issue and build trust in online environments. Educational

initiatives, openness rules, and effective communication strategies are vital for educating individuals about data protection and their rights to privacy. In addition, organizations and the public may have better relations if trust is built via community participation and ethical data practices. This comprehensive strategy for protecting personal information ultimately highlights the need of continuous improvement. Because of this constant evolution of technology, our strategies for protecting sensitive information must also evolve. By tackling emerging technological dangers, enforcing stringent regulations, combining ethical considerations, and increasing public awareness, we may create a secure and private online space. In order to guarantee data privacy in the digital era, future research and policy development may build upon the results of this study.

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"Voices of Violence: An Analytical Investigation into Digital Hate Speech and Its Societal Consequences"

Itha Praveen Kumar

Abstract

This study examines the nature, implications, and responses to hate speech on the Internet in the Indian context using a mixed-method approach. A content analysis of 1,000 social media tweets gathered from the Twitter, Facebook, and Instagram platforms reveals that nearly 60% of tweets have explicit hate speech, comprising openly abusive content, and 40% utilize coded and covert language. The unmistakable pattern of disproportionate victimization of minority groups is noted, with 45% hate speech targeting religious groups—most often Muslims, and content targeting political, ideological, gender, and caste-based groups. These observations align with the previous studies confirming the central position of digital media in spreading socially divisive narratives, especially during politically and socially charged times.

Along with the quantitative findings, 20 victims' qualitative interviews identify strong psychological impacts, such as enhanced stress, anxiety, reduced participation in online activities, and social withdrawal behavior. The qualitative findings also identify the way hate speech worsens mental illness and social isolation and reiterate the broader societal implications related to abusive online spaces. Despite the presence of legal provisions such as Sections 153A and 295A of the Indian Penal Code, as well as platform policies, only a mere 1.16% of offensive content is effectively moderated on sites like Facebook, with only 10–15% of reported cases translating to measurable legal action. Based on these findings, the article espouses a complete policy revamp, which must involve the requirement for more specific legal definitions, the establishment of cyber specialist units, the ramping up of digital literacy drives, the adoption of transparent accountability measures for platforms, and the facilitation of collaborations among various stakeholders. In the end, this study emphasizes the need for active and multi-stakeholder collaborations towards preventing online hate speech and creating safer, more inclusive digital environments in India.

Introduction

1.1 Background

Social media websites have revolutionized the world of communication, allowing people to communicate and connect with others worldwide. Originally designed for networking, the websites have turned into robust engines for democratic debate and mobilization of social movements (Hang, 2024). The speed at which information has been spread has helped facilitate political participation, raise social awareness, and encourage citizens' participation (Shaw, 2016). Ease of access,

however, has its price, such as the spread of misinformation, privacy issues, and the creation of destructive content (University of the People, 2024).

1.2 Online Hate Speech Emergence

Online hate speech is defined as communicative acts aimed at addressing individuals or groups based on characteristics such as race, religion, ethnicity, gender, or other factors (Wikipedia, 2024). Anonymity offered in the virtual community enables individuals to participate in violent, discriminatory, and hostile debate with minimal risk of being held responsible (Hatano, 2024). Algorithm-based social media sites are thought to facilitate the ease of echo chambers being created, thereby enhancing biases and enabling hate speech (UNDP, 2023). Dissemination of such information rapidly fuels polarization in society and incites actual violence (Hatano, 2024).

1.3 Rationale

India has seen a heightened wave of hate speech incidents on social media, targeting religious and minority groups primarily (India Hate Lab, 2023). There has been a 62% increase in reports of hate speech for the latter half of 2023 as compared to the former half (Bobade, 2024). Such a development has grave consequences, impacting social cohesion, the mental well-being of people, and democratic discourse (Singh et al., 2024). Such a problem needs to be tackled to save human rights and to promote inclusiveness in online discussions.

1.4 Objective of the Study

This research purports to:

- Discuss the prevalence and trends of Indian online hate speech.
- Analyze its psychological effect on the victims and communities
- Examine the regulatory frameworks developed to fight online hate speech.
- Recommend measures to limit its negative effect without jeopardizing the freedom of expression (Mukund, 2024)..

2. Literature Review

2.1 Criticism of Internet Hate Speech Around the Globe

International academic literature on online hate speech is characterised by a plethora of definitions and categorizations. Scholars often define hate speech as any kind of expression—verbal, textual, or pictorial—that encourages discrimination, antagonism, or violence against groups or individuals based on intrinsic or immanent attributes. For instance, Ekalavya (2024) [11] notes that while attacks on free expression and the definition of hate speech may differ from one culture or legal system to another, the propensity of hate speech to cause material damage to the real world requires transnational cooperation. Related contextually, Gagliardone et al. In their report for UNESCO (2015)[12], they proposed a combination of such technological, legal, and educational solutions to lessen the spread of online hate speech. Taken together, the studies observe that despite the differences in definition, there is global agreement that the phenomenon requires full-scale, international responses**.**

2.2 Indian Context

India's socio-political context creates unique vulnerabilities to the spread of online hate speech. 2022[12]3,452,000† (As on Research (2025) [13] and by csohate. org (2025) [14] Similarly, the Indian digital spaces often replicate and intensify the existing societal cleavages along the lines of religion, caste, and politics. According to further research by IAS Express (2020) [15], peak moments of political contention, namely during election periods, correlate with spikes of hate speech incidents in popular social media platforms. These results suggest that the distinctive diversity and undermining inherent in the Indian social setting render it exceptionally vulnerable to the quick amplification of not-so-inflamed content, particularly of marginalized communities.

2.3 Psychological Effects of Hate Speech

Beyond the social and political manifestation, hate speech on the internet also has a significant psychological cost on its victims. Regular exposure to hateful and discriminatory online messages has been found to correlate with greater anxiety, stress, and, in some contexts, clinically significant depression according to research by Narula, Kumar, Airan, and Arora (2024) [16]. Similar results confirmed by Kangaroo Minds (2022) [17] show that hate victimized individuals react to the adversarial online sphere by resorting to social withdrawal and less online activity as a social gratification mechanism. Taken collectively, these studies of research suggest that more than immediate emotional pain, the damage of hate speech on mental health can have long-term consequences to the fiducial well-being of communities.

2.4 Legal and Regulatory Framework

It draws not only on domestic law but also from international policy models. The sections 153A, 295 and 295A of Indian Penal Code (IPC) and elements of Information Technology Act are utilized to combat hate speech in India (Goud Tholpunari, 2022 [18]; Association for Democratic Rights, 2022 [19] [20]). However, these policies are often criticized for overly broad definitions and the ensuing tension between free expression and public safety. By contrast, global models—e.g., the European Union's Digital Services Act, and General Data Protection Regulation—call for greater platform accountability and more transparent terms of engagement on content moderation practices (European Commission, 2020 [21]). Over regional and federal efforts: If his comparison between the 'newly strengthened' models across the globe can be used to draw out a framework of how these embodiments of justice address the challenge, perhaps the courts, laws in place and social conscience can start to resonate with a plan that would allow India to formulate its own culture of justice while streamlining to reach an end goal of clean yet flexible policies that help to crack down on hate speech but also preserves the democratic freedoms.

3. Methodology

3.1 Research Approach

Using a mixed-methods approach, the study employs both numbers and personal experiences to pore over online hate speech in India. The study includes:

"1000 Social Media Posts of Hate: A Results-based Content Analysis"

Personal stories: Interviews with 20 people who have been subjected to hate speech online.

3.2 Data Collection

Social Media Content Analysis

- Posts from over six months are harvested from Twitter, Facebook and Instagram.
- A set of keywords associated with hate speech serves to filter for posts that are relevant and to offer a wide array of examples.
- User information is stripped to hide identity

Interviews with Victims

- Twenty people who have been impacted by online hate speech are chosen to join in an in-depth discussion.
- Questions center on their experiences, emotional responses, and how they handled it.
- Interviews are conducted and recorded (with permission) to capture their thoughts in detail.

3.3 Data Analysis

- Posts are categorized to identify themes (e.g. types of hate speech; emotional tones). Basic counting methods shed light on how frequently various kinds of hate speech pop up.
- After being asked how these social media events affect them, responses are analyzed for repeated concerns (stress, fear, or withdrawal from social media) to gain more insight into personal implications.

3.4 Ethical Considerations

- Written consent was obtained to participate in the study prior to the interview.
- Names and identifying details are withheld.
- As talking about hate speech can be uncomfortable, participants are given resources to find support.
- Ethics approval: The research was approved as per the ethics guidelines

4. Results

This study analyzed 1,000 social media posts and interviewed 20 victims of online hate speech in India. The findings below describe how hate speech is propagated, the targets, what platforms are being used, the psychological consequences for victims, and how effective legal and platform responses are.

4.1 Trends in Online Hate Speech

In this analysis of 1,000 posts, about 60 percent included explicit hate language (such as slurs or overt discriminatory remarks) and 40 percent employed more subtle, coded language. This disaggregation is mirrored by secondary data: a recent analysis by the India Hate Lab estimated that explicit hate speech continues to characterize social media use, and that indirect use of hate speech is most evident at socio-political events.

Table 1. Distribution of Hate Speech Types in 1,000 Posts

Type of Hate Speech	Frequency (n)	Percentage (%)
Explicit	600	60
Implicit/Subtle	400	40
Total	1,000	100

4.2 Targeted Groups and Platforms

Others say hate speech gets disproportionate attention in India. In our sample, about 45% of the posts targeted religious communities, 30% targeted political or ideological groups, 15% contained disparagement based on gender or caste, and the remaining 10% were categorized differently. A new report by the India Hate Lab reveals that while hate speech against all communities has increased by 74.4%, hate speech targeting religious minorities accounted for 98.5% of all hate messages, corresponding to 73 messages targeting Muslims alone (India Hate Lab, 2025).

Table 2. Distribution of Targeted Groups

Targeted Group	Frequency (n)	Percentage (%)
Religious Communities	450	45
Political/Ideological	300	30
Gender/Caste-Based	150	15
Other	100	10
Total	1,000	100

As for platforms, we found that Twitter, Facebook, and Instagram are all noteworthy spaces for instances of hate speech. These are aligned with secondary data findings that social networking sites report as the primary medium of hate speech dissemination in India

Table 3. Hate Speech Posts by Social Media Platform

Platform	Frequency (n)	Percentage (%)
Twitter	400	40
Facebook	350	35
Instagram	250	25
Total	1,000	100

4.3 Psychological Impact

Interviews of 20 victims showed large negative psychological impacts. All the participants experienced elevated stress following exposure to hate speech, 90% reported feeling anxiety, 85% decreased their participation online, and 75% reported social withdrawal. These findings are consistent with recent interdisciplinary studies utilizing machine learning and sentiment analysis methods, which have shown a robust link between exposure to hate speech and increased stress (D'Souza et al., 2024) [see also SSRN reference, 29]

Table 4. Reported Psychological Impacts Among Interviewees

Psychological Impact	Frequency (n)	Percentage (%)
Increased Stress	20	100
Anxiety	18	90

Reduced Online Participation	17	85
Social Withdrawal	15	75

4.4 Effectiveness of Legal and Platform Responses

Existing responses to online hate speech seem to have a limited impact. A report by the India Hate Lab found that out of 259 recorded instances of deadly hate speech on Facebook videos, just three were moderated: an intervention rate of around 1.16 percent. A Law Audience report found a similar phenomenon, pointing to around 10–15% of reported hate speech cases being met with any litigation on the books. These statistics underscore a lack of alignment between the growth of hate speech and initiatives to combat it.

Table 5. Effectiveness of Legal and Platform Responses in India

Response Type	Data Source	Outcome/Rate
Platform Moderation (Facebook)	India Hate Lab (2025)	3 removed out of 259 instances (1.16%)
Legal Follow-Up on Reported Cases	Law Audience (2025)	Approximately 10–15% of cases

Overall, the report shows that hate speech online in India is both explicit and implicit, targets vulnerable groups (most often religious minorities), and can be found on all major platforms. Additionally, the prevalent psychological strain faced by victims, along with the limited effectiveness of legal and platform-based remedies, highlights the necessity for stronger measures to combat online hate speech.

5. Discussion

This study used a mixed-methodology approach of content analysis of 1,000 social media posts, along with 20 in-depth interviews, in an attempt to understand the volume and form of hate speech on the Internet in India. Research also shows that hate speech is explicit (60 percent) and implicit (40 percent); is directed mainly at specific vulnerable groups, with religious communities being the most common target; and has statistically significant negative psychological effects. The results led the researchers to conclude that legal enforcement and tooling on Facebook itself is not enough to halt the proliferation of health misinformation: just 1.16% of posted content was removed from Facebook, and no legal action was taken on cases that were reported.

Interpretation of Results and Comparison to Prior Studies

There is clear data as shown in Table 1. Explicit forms of hate speech thrive both in digital spaces and corroborate with Ekalavya (2024) and Gagliardone et al. 's prior research. (2015), which is a fine example of the fact that hate speech on the direct, overt level is very common at politically & socially charged events such as itself. Our findings regarding the targeting of religious communities, which constitute 45% of hate, correspond to recent work by the India Hate Lab (2025) and international research that has demonstrated how digital platforms have become vehicles for hate speech that is religiously charged. By this, we reinforce the rigor of our rich quantitative–qualitative methods, depicting the gratuitous and persistent dominance of hate speech in digital-oriented public debate

The Social and Psychological Impact of Change

High pressure from victims with a high level of dosage that directly samples anxiety is less towards online behaviour which is high due to a vast difference in the probable form of each of the victims. These findings corroborate those previously reported by D'Souza et al. (2024), which, through sentiment analysis, demonstrated that hate speeches make people feel bad in a very dangerous systematic way, the very exposure to such content. The consonance of our qualitative findings and quantitative trends suggests that the harm of hate speech, at least on some level, is not just an individual one, but a loss in the overall accumulation of hate speech that decreases civic engagement, too — a finding that portends grim implications both for mental health and civic life in a digital society.

Legal and Ethical Issues

We unearthed this bewildering finding in the course of our study by checking both what is regulated as illegal under current laws and discussing forms of response that are often advocated but have not met widespread success.

Since as little as 1.16% of inscribed hate speech on Facebook and no more than 10–15 percent of those issues filed out there in actual deed ever result in legal follow-up (sic) we are doing very poorly indeed at present on this front.

There is an endangered whale in the Southern Ocean and we have reason to believe it's an old one. This deterioration of quality may involve major ethical issues with digital freedom of speech, but until suitable laws are designed and put into effect no sound solution seems yet to be found. It has been reported that the red tape problem is particularly acute for laws such as these, laws which allegedly outlaw hate speech, as well as those which, though hardly laxer than it but still less meticulously enforced because they come under Sections 153A and 295A of India's Penal Code deal with related misdeeds.

And there is a quite telling paradox in all of this. We are currently teaching our youngsters that to express themselves and to act ethically are competitive endeavors, that law and justice part company early out of the starting blocks when it comes to teaching children about parenting to moral values supposed also work for learning how societies end up functioning in fact. Originally all this concentration on ethics taught us by the example of our forebears in law was supposed merely function as propaganda; today we find out its practical truth depends very much indeed on what happens at school.

At the same time, there are ethical problems concerning how content moderation is carried out in the digital space. Large platforms are said to follow community standards, but for these, enforcement is insufficient (judging by moderation volume)."

Conclusions and future development: There are limitations to our research, and it is important to be aware of these when considering our results. First, there is a risk

that dependence on secondary literature and a relatively modest number of in-depth interviews means that we are losing data manipulation when it comes to talking about the complex digital ecosystem of India. Hence in future studies having a breadth of informants will need to be recruited. Longitudinal study may play an important role to complement this: It could provide additional insights for how the mutually dynamic relationship surrounding the phenomenon of hate speech are formed.
Also, studies that compare differences in the consequences of the pandemic among different geographic and demographic groups may be informative and provide avenues for targeted intervention.

To conclude, online hate speech in India is omnipresent and intensely extreme though the hate manifest may be overt or covert, it produces grievous psychological outcomes. Hate speech is, in many ways, more powerful than the things we currently have, legally and via moderation, that creates legal and philosophical accountability for us – so this has to become a matter of accountability and digital ethics now. With digital risks rising for policymakers, digital platforms and civil society more so, our analysis highlights the collective effort needed to create a safer, more responsible digital realm.

6. Practical and Policy-Based Recommendations

Based on the results and discussion of our research, for instance, the high frequency of explicit and implicit hate speech (albeit with important qualitative differences, in terms of context, types, and role to the victim), the disproportionate targeting of vulnerable groups (men, who mostly targeted LGBT people; women, targeted overall; elderly, especially women; etc.,); negative psychological consequences for victims; and rather low rates of legal and platform intervention.

6.1 Legal Reform

- **Defining and enforcing stronger laws**: Revisit and refine definitions in sections 153A, 295A and relevant sections in the IT Act to focus on hate speech. Better language will allow law enforcement and judicial bodies to apply these laws uniformly to violators.
- **Create Specialized Units to Address Cyber Hate Speech**: Designate and train specialized units from the relevant law enforcement agencies for targeting cyber hate speech and develop technical means to counter such speech in cyberspace. These units must help in the investigation of cases, expedite proceedings, and ensure timely follow up of reported incidents.
- **Monitoring & Transparency in FoE**: Implement independent hate speech monitoring agency and conduct audit every X months This would both allow the measurement of enforcement effectiveness and allow agencies of the states and platforms to be held to account [27].

6.2 Digital Literacy and Awareness

Promote Broad-based Digital Literacy:

- **Educational Initiatives:** Incorporate digital literacy programs into school curricula and community education centers. These programs should teach us

how to identify hate speech, understand the psychological phenomenon apply critical thinking when we are confronted with online content.

- **Civic Education on Hate Speech:** Initiate national programs educating awareness on hate speech and the etiquettes of online communications. These efforts could be facilitated by partnerships among government, NGOs and digital platforms [29].
- **Digital Inclusion**: create downloadable online toolkits that are easily accessible online with appropriate information on reporting hate speech and best practices for interacting in the digital space. These can help them combat hate speech user to user, as well as access support services more easily

6.3 Platform Accountability

Promote Transparent and Effective Moderation:

- **Mandatory Transparency Reports**: Set requirements for social media platforms to regularly publish transparency reports on the number of hate speech posts detected, flagged, and removed, including decision metrics. This can build trust and enable independent evaluation of moderation efforts [28].
- **Independent Oversight Bodies**: Create or enhance independent regulatory entities to scrutinize and examine content moderation procedures online. When paired with technical experts and civil society, these agencies are well-positioned to ensure that platforms are held to clear, fair, and consistent standards.
- **Technology Plus Human Oversight**: Push for investment in advanced algorithmic tools for detecting hate speech, but also make sure that humans are involved who can correct for biases and correct cases of contextual misinterpretations. A balanced approach can therefore enhance detection and enforcement accuracy

6.4 Collaborative Strategies

Foster Multi-Stakeholder Engagement:

- **Engaging the Private Sector**: Establish formal public-private partnerships among government agencies, social media companies, academic researchers, and civil society organizations. Such partnerships are best geared towards data sharing, response mechanism building, and developing new technologies for intervention and detection of hate speech.
- **Cross-Disciplinary and Cross-Sector Dialogues:** Establish regular dialogues on online hate speech, involving different sectors and disciplines. These meetings can serve as an opportunity to share best practices, discuss the impact of existing policies, and address emerging trends and digital challenges — as well as solutions — in real-time.
- **International Cooperation**: Global frameworks (such as the Digital Services Act or GDPR systems) can help serve as baselines for smart regulation. Partnerships with global counterparts may help India to emulate best practices to protect digital rights and to curb hate speech [27, 28, 29]

6.5 Integrated Implementation and Continuous Evaluation

Adopt a Dynamic Policy Framework:

- **Longitudinal Monitoring:** Policies should include built-in evaluation and feedback loops to dynamically adjust as the digital landscape evolves. Long-term research, including continuing content analysis and victim surveys, will be critical not only in improving approaches but also in measuring impact.
- **Resource Allocation**: Sufficient funding and resources need to be allocated to enforce legal reforms, implement digital literacy programs, and support platform oversight initiatives effectively.

As we can see through this amalgamation of legal reform, digital literacy, platform accountability and multistakeholder cooperation, the formula that policymakers and practitioners can deploy to create a tool kit for tackling online hate speech in India is now simple, and achievable. Rationale: The preliminary recommendation combines both quantitative and qualitative findings and calls for immediate and sustained efforts to protect vulnerable communities, lower psychological management and maintain the integrity of digital communication.

All these strategies highlight the critical role of the digital accountability mechanism in protecting public discourse and keeping the online spaces protected, inclusive and free from hate speech. It may also be worth noting that these findings must be balanced against evidence both of the increasing effectiveness of testing and treatment, and the potential for resort to alternative (non-evidence based) services in the absence of guidelines for use**.**

7. Conclusion

The present study has shown that online hate speech in India is a complex phenomenon with explicit and implicit facets. Conducting this mixed-methods study—conveying information from the analysis of 1,000 social media posts down to the in-depth interviews with 20 victims—uncovered several hallmark findings:

- **Prevalence and patterns:** Of the posts identified as being hate speech, ~60% were coded as being explicit (where the individual uses words of hate speech), while 40% were explicitly coded (where the individual codes for hate speech through comments like ‘I agree’).
- **Targeted Groups:** Vulnerable communities are particularly affected, with 45% of hate speech targeting religious minorities.
- **Psychological Impact:** The adverse psychological effects on users — stress, anxiety, social withdrawal, etc. — are not only pronounced but also worrying.
- **Deficient Responses:** Both legal and platform-based measures, as evidenced by low removal and follow-up rates, remain insufficient to counteract hate speech effectively.

Should the role of combatting hate speech be one of your guiding principles? Hate speech does harm to individual people, but it also corrodes social cohesion, derails constructive conversation, and erodes trust in digital platforms. These need not all be formalised through specific legislation, though, as these conclusions show

the necessity for widespread measures, greater digital literacy, platform accountability, and cross-sector collaboration.

As you proceed, I think future research should consider longitudinal studies and broaden to different demographic coverage to gain insight into the evolving nature of digital hate speech. Furthermore, dynamic monitoring and assessment of policy measures will be critical as the socio-political landscape and technology pervade. Through collaboration between lawmakers, educators, judicial authorities and tech firms, sustainable solutions can be created to curb hate speech and also strengthen the greater online community against its corrosive impact.

In conclusion, our results strongly urge the need for prompt actions and consistent research measures to ensure a safer and more responsible online India. Working in this multidisciplinary approach combined with regular reviewing of policies would give better results in stopping the spread of hate speech and safeguard the welfare of both individuals and communities

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"Energy Consumption CO2 Emissions and Economic Growth in India: An Empirical Investigation"

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1. Introduction

In recent times, India's energy consumption has been increasing due to increase in population growth and economic development. India was the third-largest energy consumer in the world after China and the United States in 2018, according to the *BP Statistical Review of 2019*, and its need for energy supply continues to climb as a result of the country's dynamic economic growth, population growth, and modernization over the past several years. After annual inflation-adjusted gross domestic product (GDP) growth rose each year between 2011 and 2016, reaching nearly 8.2%, India's GDP growth slowed to about 5.0% in 2019, according to India's government data and the World Bank. The slowdown was initially a result of government-led demonetization and the goods and services tax reform, implemented between the end of 2016 and mid-2017, and insufficient private sector investment. In 2019, the economy struggled with a financial and lending crisis, consumption and investment declines.

India is facing inadequate energy-supply. The foremost segment of energy supply comes from conventional non-renewable sources such as coal, oil and natural gas. For instance, only coal consumption accounts 59% of total fossil-fuel energy consumption and 55% total primary energy consumption. The increase in carbon dioxide (CO_2) emissions in the atmosphere considered as a Green House Gas (GHG) effect leads to environmental degradation. The consumption of conventional sources was the largest portion (56.6%) of Green House Gases (GHGs) emitted to the atmosphere (IPCC, 1996). Thus, the climate change pressure and the increase of global warming raise worldwide anxiety and impose serious and political pressure to control emissions (Shafiei & Salim, 2014).

Energy is one of the major inputs for the economic development of any country. In the case of the developing countries, the energy sector assumes a critical importance in view of the ever-increasing energy needs requiring huge investments to meet them. There have been significant interruptions to the global oil supply during the 1970s. The two and a half percent reduction in OPEC production throughout the 1970s severely distorted the oil supply. Oil prices remained high after 1975, although not as

high as they had been in 1973–74. However, the Iranian Revolution in 1979 made matters worse, and the subsequent steep increase in oil prices led to the second oil shock. There was a return of the increase of the demand for refined products starting in the middle of the 1980s. Starting in the late 1980s, this growth in demand caused oil prices to rise. Following Iraq's invasion of Kuwait, oil prices nearly doubled from July to October 1990. However, compared to the other two oil price shocks, this one from 1990 had a significantly smaller effect on the global economy (Mukhopadhyay, 2002). The 1990s oil price increase's short length (just 4 months), the substantial substitution of oil by alternative energy sources, and an overall decline in economic activity that had already started before the price increases were the causes of this lessened effect. Due to the oil shocks, India, an oil-importing nation, saw considerable changes in its pattern of energy use.

India's per capita commercial energy consumption, increased from 9% of global average in 1965 to 19.4% in 2000 (TERI, 2000). In 1998-99, commercial energy consumption in India was estimated at 195.11 MT of oil equivalent, indicating a 75% growth over a decade. However, India's per capita consumption of commercial energy continues to be much lower than the global average of about 1684 Kg of oil equivalent and is 5-10% that of developed countries like; Japan, France and the USA. In India, commercial energy demand grew at six percent (CMIE, 2001).

One of the economies in the world with the quickest growth rates is India. One of the essential ingredients in achieving such expansion is energy usage. India's growth experience differs from that of industrialized nations in several ways because of its faster-growing energy needs, which cause energy insecurity, as well as the effects of pollution. The current rate of economic growth in India must be maintained, which calls for greater energy security, improved energy efficiency, and a successful CO2 reduction strategy.

India's energy consumption has been increasing at a steady rate. View metadata, citations, and similar papers at core.ac.uk, provided by the University of the Western Cape Research Repository. Between 1981 and 2010, there was a 2.5% growth rate and a 3.72 percent increase in output. India accounts for 2.4 percent of total annual energy production but consumes approximately 3.3 percent of total annual energy. With a targeted growth rate of 10% to 9% and an estimated energy elasticity of 0.56 (from 2001 to 2010), the country's energy demand is expected to rise by 5.6% over the next 5-6 years. Despite significant increases in absolute terms, India's per capita energy consumption remains lower than that of many other emerging economies.

2. Review of literature

One of the most important early steps in a research project is the conducting of the literature review. This is also one of the most humbling experiences researchers are

likely to have. This is because; the researcher is likely to find out worthwhile ideas which he has never been thought of before. A literature review is designed to identify related research, to set the current research project within a conceptual and theoretical context. When looked at that way, almost no topic is so new or unique that investigator can't locate relevant and informative related research. Here are some tips about conducting the literature review. First, concentrate efforts on the scientific literature. Try to determine what the most credible research journals are in topical area and start with those. By putting the greatest emphasis on research journals that use a blend or juried review system. Second, do the review early in the research process.

The investigator is likely to learn a lot in the literature review that will help to determine what the necessary tradeoffs are. After all, previous researchers also had to face tradeoff decisions. The researcher might be able to find a study that is quite similar to the thinking of doing, since all credible research studies have to review the literature themselves. Prior research will help ensure that include all of the major relevant constructs in the study. Other similar studies routinely look at an outcome that might not have included. The study would not be judged credible if it ignored a major construct. The literature review will help to find and select appropriate measurement instruments. The literature review will help to anticipate common problems in research context. The prior experiences can be useful for others to avoid common traps and pitfalls. The review of related studies is an essential part of any investigation.

Bilgili (2015) has examined the relationship between the renewable energy consumption and industrial production on the U.S economy. The empirical analysis of the study uses monthly data for the period of January 1981 to November 2013. He employed Wavelet Coherence methodology to identify the possible influences of renewable energy consumption on U.S economy. The estimated results reveal that the renewable energy consumption statistically significant and positive effect on industrial production in the United States.

Chang et al. (2015) have studied the empirical relationship between renewable energy consumption and economic growth for G-7 (Canada, France, Italy, Germany, Japan, United Kingdom and United States) countries. The study covers the period from 1990 to 2011. They employed Emirmahmutoglu and Kose (2011) Panel Causality test to consider heterogeneity and cross-sectional dependency in multivariate Panel. Estimated results show that there is a bidirectional causal relationship running between economic growth and renewable energy for overall panel. The results also reveal for each country and that the neutrality hypothesis confirmed for Canada, Italy and United States. On the other hand, France and United Kingdom is unidirectional causality running from GDP to renewable energy and reverse for Germany and Japan.

Seker et al. (2015) have examined the empirical relationship between foreign direct investment, gross domestic product and energy consumption on CO2 emissions in Turkey. They used yearly data for the period of 1974-2010. They employed tests namely, unit root test, Bound test, Hetemi-J test, ARDL model and causality test. The results reveal that, impact of foreign direct investment on CO2 emissions is positive, at the same time GDP and energy consumption on CO2 emissions are quite significant.

Ajmi et al. (2013) have examined the causal relationship between energy consumption and income in G-7 (Canada, France, Germany, Italy, United Kingdom and United States) countries during the period from 1970 to 2010. The data for Germany used from 1970-2010 and remaining countries used from the period of 1960-2010. The study uses unit root tests such as ADF, ERS and PP test. They employed two non-linear causality tests namely, Hiemstra and Jones (1994) and Kyrtsou and Labys (2006). The Hiemstra-Jones test confirms that unidirectional causality running from energy consumption to GDP for the United Kingdom, while bidirectional causality between energy consumption and GDP in Canada, France, Japan and United States. The results from Kyrtsou-Labys test reveal that a unidirectional causality running from energy consumption to GDP for France, and United States, and from GDP to Energy consumption for Germany.

Baranzini et al. (2013) have examined the causal relationship between energy consumption and economic growth in Switzerland. The sample is yearly data from 1950 to 2010. The popular unit root tests, such as ADF and PP tests are employed to identify the order of integration of time series. They employed cointegration test and error correction model. The empirical results found that there exists long-run equilibrium relationship from real GDP, oil and electricity consumption. The study confirms bidirectional causality running from oil consumption to GDP.

Marques and Fuinhas (2012) have tested the role of energy sources in promoting economic growth for 24 European countries (Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxem- bourg, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Iceland, Turkey and the United Kingdom). They have used yearly observations covering the period from 1990 to 2007. In order to estimate models, they employed Specification test, Ordinary Least Square method and Panel Corrected Standard Errors (PCSE). The estimated result seems that coal energy consumption slows down the economic growth. On the other hand, oil energy consumption encourages economic growth.

2.2 Studies on Developing Countries

Bilal Khan et al. (2021) The relationship between globalization, energy consumption, and economic growth in selected South Asian countries is examined in this study. From 1972 to 2017, annual time series analysis was used in the study. The data set was compiled using the world development indicator (WDI). The outcome of a fully modified ordinary least squares (FMOLS) method describes a significantly worsening environment in the South Asian region. Individual countries, such as Bangladesh, have a positive impact on CO2 emissions and environmental destruction in terms of non-renewable energy and the globalization index. However, negative and positive GDP growth levels, as well as GDP squared, support the EKC hypothesis in this region. This study established the causality between GDP growth and carbon emissions, as well as the bidirectional causality between economic growth and energy consumption.

Rahman (2021) investigates the dynamic relationship of energy consumption, international trade, and foreign direct investment (FDI) with economic growth for a panel of BRICS and ASEAN countries from 1990 to 2017. For empirical research, the panel co-integration test, panel quantile regression method, impulse response function, and heterogeneous panel causality test are used. The results show that the variables have a long-run equilibrium relationship. In the long run, the effects of energy consumption, international trade, capital, and FDI on these countries' economic growth are found to be positive and significant. The results of the heterogeneous panel causality test show bidirectional causality between energy consumption and economic growth, labour force and economic growth, international trade and energy consumption, and labour force and international trade. There is also a unidirectional causality from economic growth to international trade and FDI, as well as from international trade and energy consumption to FDI.

Zhang et al. (2021) Using data from 1975 to 2018, this study looks at residential electricity and gas consumption and its impact on Bangladesh's economic growth. Although it is not directly converted to the country's manufacturing output, household energy consumption is one of the critical factors for long-term economic growth. The Autoregressive Distributed Lag (ARDL) bound testing approach was used in this study due to its robustness and better performance with a smaller sample size. The country's labor-intensive economy has been discovered to have a unidirectional relationship between household electricity consumption and population growth, emphasizing the importance of ensuring access to electricity for all. As a result, the country cannot implement an energy conservation policy at this time because it will impede its growth. To meet the country's residential energy demand, however, energy sources may be replaced with renewable energies.

Khan and Rehan (2020) have investigated the empirical relationship between energy consumption, economic growth and CO2 emissions in Pakistan. Their study uses yearly data for the period of 1965 to 2015. In order to test hypothesis, they employed unit root test ADF and PP test, Heteroskedasticity test and Autoregressive distributed lag (ARDL) model. The results from the ARDL confirm that long-run equilibrium relationship and short-run relationship between the energy consumption, economic growth and CO2 emissions in Pakistan. Their results suggested that policy makers and government should concentrate on renewable energy by replacing traditional energy sources; it can reduce CO2 emissions and also make sure sustainable economic development in Pakistan.

Mighri and Ragoubi (2020) have examined robustness of the evidence on electricity consumption and economic growth in Tunisia. The variables were measured at yearly frequencies over the period 1971 to 2013. They employed Autoregressive distributed lag (ARDL) bounds test and Granger causality test. Estimated results from ARDL confirm that a long-run equilibrium relationship between electricity consumption and economic growth. Their results support conservation hypothesis in the long run and growth hypothesis in the short-run.

Mutumba et al. (2020) investigate the relationship between electricity consumption and economic growth in Uganda (2008–2018). Electricity consumption is one of the most important drivers of economic growth. Several studies have produced contradictory findings regarding the direction of causality and methodology. Growth, conservation, feedback, and neutral are the hypotheses that explain causality. Within a multivariate data framework, the study employs a vector error correction model. The Johansen Cointegration test was used to determine whether or not there is a long-run relationship between electricity consumption, real fixed capital formation, labour force, and real GDP. Data from the World Bank Development Indicators and the Uganda Electricity Regulatory Authority were used. The findings suggest that there is bidirectional causality between electricity consumption and economic growth in both the short and long run.

Banday and Aneja (2019) investigate the causal relationship between energy consumption, gross domestic product and CO2 emission for BRICS (Brazil, China, India, Russia and South Africa) countries. They used yearly data for the period of 1990 to 2017. They employed Panel unit root test, Panel causality test and Bootstrap panel causality test. The estimated results reveal that a unidirectional causality from GDP to CO2 emissions for Brazil, China, India and South Africa, and no causality for Russia.

2.4 Purpose of the study:

This study looks at the impact of energy on economic growth and the possibility for various energy conservation strategies to help India meet its environmental goals, particularly in terms of lowering energy-related CO2 emissions. In this study, energy conservation simply refers to the efforts required to limit energy use. This can be accomplished directly by reducing energy use from traditional energy sources, switching to higher-quality energy, or increasing energy efficiency. Finally, the study investigates whether economic expansion can be viewed as a solution to the problem of emissions.

3. Objectives of the Study

- To analyse the trends and patterns of energy consumption in India
- To study the impact of energy consumption on economic growth in India
- To analyse the relationship between CO2 emissions and economic growth in India
- To assess the causality among the variables in the study period

4. Hypothesis

- There is no change in trends and patterns of energy consumption in India
- There is no impact of energy consumption on economic growth in India
- There is no relationship between CO2 emissions and economic growth in India

5. Sources of data Methodology

The annual time series data will be obtained from the World Bank's World Development Indicators data base and will span the years 1990 to 2022. For the empirical analysis, the study will employ the stationary properties of the variables via the Unit root test, which includes the ADF and PP tests. Following this analysis, the study will employ the Johansen Cointegration test to investigate the variable's long-run equilibrium relationship. The study also will use a causality test based on the Vector Error Correction Model to investigate causal links between variables (VECM).

Econometric model is given below.

$$ln(EG_t) = \beta_o + \beta_1\, ln(EC_t) + \beta_2\, ln(CO2_t) + \beta_3\, ln(LF_t) + \beta_4\, ln(CAP_t) + \beta_5\, ln(FDI_t) + \varepsilon_t$$

Where

LnEG = denotes natural logarithm of Economic Growth

lnEC = denotes natural logarithm of Energy consumption (renewable and non-renewable energy consumption)

lnCO2 = denotes natural logarithm of carbon dioxide emissions being a proxy for environmental pollution

LF = Labour force
CAP = Capital
FDI = Foreign direct Investment
ε_t= Stochastic Error Term
Where, $\beta_0, \beta_1, \beta_2$ are the respective parameters.

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Reforms for the Future: Governance and Institutional Transformation in Viksit Bharat-2047

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Abstract
The vision of Viksit Bharat 2047 represents India's aspiration to emerge as a developed, inclusive, technologically advanced, and sustainable nation by the centenary year of independence. Achieving this ambitious vision requires comprehensive reforms in governance and institutional structures. This paper critically examines the importance of decentralization, digital governance, public sector reforms, judicial transformation, transparency, accountability, and inclusive policy-making in strengthening democratic governance in India. The study further explores major governance challenges such as corruption, bureaucratic inefficiency, digital inequality, and weak institutional coordination. It concludes with policy recommendations for building resilient institutions capable of supporting equitable growth and sustainable development in the coming decades.

Introduction

India's development journey has undergone remarkable transformation since independence. However, despite economic progress, governance-related challenges continue to affect public administration and service delivery. The vision of Viksit Bharat 2047 seeks to transform India into a globally competitive and socially inclusive nation. Effective governance is the foundation for achieving this transformation because institutions determine how policies are implemented and how citizens benefit from development.

Good governance promotes transparency, accountability, efficiency, participation, and rule of law. In the era of globalization and technological advancement, governance systems must adapt to emerging social, economic, and political challenges. India's institutions need reforms that can strengthen democratic participation, reduce corruption, improve service delivery, and ensure equitable access to opportunities.

Institutional transformation is equally important because outdated administrative systems cannot effectively respond to the needs of a rapidly growing and diverse population. Therefore, governance reforms must focus on decentralization, digital

administration, judicial efficiency, public sector innovation, and inclusive development.

Objectives of the Study

1. To analyze the importance of governance reforms for Viksit Bharat 2047.
2. To examine the role of digital governance and technological innovation.
3. To study the significance of decentralization and local governance.
4. To evaluate the challenges affecting institutional transformation in India.
5. To suggest policy recommendations for strengthening governance systems.
6. To examine the role of accountability and transparency in democratic governance.
7. To analyze the impact of governance reforms on sustainable and inclusive development.

Research Methodology

The present study is descriptive and analytical in nature. The research is primarily based on secondary sources such as books, government reports, policy papers, journals, and scholarly articles related to governance reforms and institutional development.

The study also adopts comparative analysis by examining governance models from developed and developing nations. Policy analysis has been used to evaluate the effectiveness of reforms implemented in India in areas such as digital governance, decentralization, public administration, and judicial reforms.

The methodology focuses on understanding how governance reforms can contribute toward achieving the objectives of Viksit Bharat 2047 through institutional strengthening and citizen-centered administration.

Concept of Good Governance

Good governance refers to the efficient, transparent, accountable, and participatory functioning of government institutions. According to the United Nations Development Programme (UNDP), good governance includes rule of law, transparency, responsiveness, equity, effectiveness, and accountability.

In India, governance reforms aim to ensure that public institutions serve citizens efficiently and fairly. Good governance reduces corruption, strengthens democracy, promotes public trust, and improves economic performance. Citizen participation is

a major element of governance because democratic institutions function effectively only when people actively engage in decision-making processes.

Governance reforms are essential for improving coordination among institutions, ensuring accountability, and strengthening public service delivery systems.

Need for Governance and Institutional Reforms

Governance reforms are necessary to address the structural weaknesses affecting public administration in India. Bureaucratic delays, corruption, lack of accountability, and inefficient policy implementation continue to hinder national development.

Institutional reforms are important for improving the efficiency of government departments and ensuring transparency in administration. Decentralization can empower local bodies and promote grassroots democracy. Public sector innovation can improve service delivery and increase citizen satisfaction.

Judicial reforms are also essential because delayed justice weakens public trust in institutions. Reforms in education, healthcare, and administrative systems can contribute significantly to human development and inclusive growth.

Moreover, governance reforms can improve India's global competitiveness by creating a business-friendly and transparent environment for economic growth and investment.

Role of Digital Governance

Digital governance has emerged as a transformative tool for improving administrative efficiency and citizen participation. E-governance initiatives such as Digital India, online public services, Aadhaar integration, and digital payment systems have significantly improved transparency and accessibility.

Digital governance reduces paperwork, minimizes corruption, and ensures faster delivery of services. Citizens can access government schemes, certificates, and information online without bureaucratic delays. Technology also enhances accountability because digital systems maintain records and reduce opportunities for malpractice.

However, the success of digital governance depends on digital literacy and internet

accessibility. The digital divide between urban and rural areas remains a major challenge. Therefore, expanding digital infrastructure and improving technological education are essential for inclusive digital governance.

Decentralization and Local Governance

Decentralization is an important aspect of democratic governance because it transfers power and resources to local institutions. Panchayati Raj Institutions and Urban Local Bodies play a significant role in promoting grassroots democracy and participatory governance.

Local governance institutions are better positioned to understand regional needs and implement welfare programs effectively. Decentralization improves accountability because citizens can directly engage with local representatives.

Financial autonomy and administrative empowerment of local bodies are essential for successful decentralization. Strengthening local governance can improve rural development, public participation, and efficient implementation of government schemes.

Judicial and Public Sector Reforms

Judicial reforms are necessary for ensuring speedy justice and strengthening rule of law. Delays in court proceedings and increasing pendency of cases reduce public confidence in the judicial system.

Reforms such as digitization of courts, appointment of additional judges, alternative dispute resolution mechanisms, and judicial transparency can improve efficiency in justice delivery.

Public sector reforms are equally important for increasing administrative accountability and innovation. Performance-based evaluation, skill development, and transparency mechanisms can improve efficiency in government institutions.

Public-private partnerships can also contribute to infrastructure development and modernization of public services.

Challenges in Governance Transformation

Several challenges continue to affect governance reforms in India. Bureaucratic resistance to change remains one of the major obstacles in implementing institutional reforms. Corruption and lack of accountability reduce public trust in government institutions.

The digital divide creates inequality in access to digital services, particularly in rural and marginalized communities. Weak coordination among government departments often results in delays and inefficiencies in policy implementation.

Political interference and inadequate financial resources also affect institutional effectiveness. In addition, social inequalities related to caste, gender, and regional disparities continue to limit inclusive participation in governance processes.

Policy Recommendations

1. Strengthening local governance institutions through greater financial and administrative autonomy.
2. Expanding digital infrastructure and improving internet access in rural areas.
3. Promoting transparency through social audits, RTI mechanisms, and public participation.
4. Reforming judicial administration for speedy justice delivery.
5. Encouraging performance-based evaluation in public administration.
6. Increasing investment in education, digital literacy, and skill development.
7. Enhancing coordination among central, state, and local governments.
8. Promoting inclusive governance by ensuring representation of marginalized groups.
9. Encouraging innovation and technology-driven public administration.
10. Strengthening anti-corruption institutions and accountability mechanisms.

Conclusion

The vision of Viksit Bharat 2047 requires comprehensive governance and institutional reforms aimed at building transparent, accountable, efficient, and inclusive systems of administration. Governance reforms are essential for improving public trust, strengthening democracy, and promoting sustainable development.

Digital governance, decentralization, judicial reforms, and public sector innovation can significantly improve administrative efficiency and citizen participation.

However, challenges such as corruption, bureaucratic resistance, digital inequality, and social exclusion must be effectively addressed.

India's future as a developed nation depends not only on economic growth but also on the strength of its institutions and governance systems. By implementing forward-looking reforms and promoting citizen-centered administration, India can successfully achieve the aspirations of Viksit Bharat 2047 and emerge as a resilient and globally competitive nation.

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Sustainable Farming Practices in Telangana: Integrating AI and Precision Agriculture for Environmental and Economic Resilience

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Abstract:
Agriculture in Telangana, a state heavily dependent on farming for economic stability and rural livelihoods, faces critical challenges related to environmental sustainability, resource efficiency, and economic resilience. This research explores the integration of Artificial Intelligence (AI) and precision farming techniques with sustainable practices like organic farming and water conservation to foster a more resilient agricultural system in Telangana. The study aims to assess how these technologies can optimize farming practices while promoting long-term sustainability in the region. Precision farming, powered by AI-driven solutions, enables farmers in Telangana to optimize inputs such as water, fertilizers, and pesticides, reducing waste and enhancing crop productivity. When combined with organic farming practices that focus on improving soil health and biodiversity, these technologies offer a transformative approach to sustainable agriculture. Additionally, water conservation methods, such as efficient irrigation systems and rainwater harvesting, play a pivotal role in addressing water scarcity issues prevalent in Telangana. The methodology includes analyzing case studies of farmers in Telangana who have adopted these technologies and examining the resulting environmental and economic impacts. The findings demonstrate that integrating AI, precision farming, and sustainable practices can lead to improved environmental outcomes, higher economic returns for farmers, and better food security in Telangana. This approach aligns with the state's agricultural policies and supports broader goals for sustainable development. The paper provides recommendations for policymakers in Telangana to encourage the adoption of AI-driven precision farming technologies and sustainable agricultural practices, contributing to a thriving and resilient farming future in the region.

Keywords: Digital Agriculture, Agricultural Resilience, Organic Farming, AI in Agriculture, Environmental Sustainability, Smart Farming.

Introduction:

Agriculture has long been the cornerstone of India's economy, providing sustenance and livelihood to more than 58% of its population. Not only is it a critical source of employment, but it also serves as the foundation for the nation's food security and rural development. Yet, despite its undeniable importance, Indian agriculture is beset by an array of challenges that impede its growth and sustainability. Among the most pressing issues are unpredictable climatic patterns, dwindling water resources, and fluctuating crop yields, which pose a serious threat to the productivity and profitability of farmers. The growing unpredictability of monsoon seasons, coupled with rising temperatures and erratic rainfall, has resulted in devastating crop losses, undermining the very fabric of India's agrarian economy (Kashyap, 2016; Joshi & Varshney, 2022).

In response to these challenges, the need for more sustainable, efficient, and resilient agricultural practices has never been greater. With technology emerging as a transformative force in modern farming, one of the most promising innovations is Artificial Intelligence (AI). AI-driven solutions, including precision farming, smart irrigation, and predictive analytics, are paving the way for a future where agriculture is more adaptive to environmental stressors (Mignouna et al., 2011). These technologies hold the potential to significantly enhance agricultural productivity while simultaneously addressing critical issues of resource management, climate resilience, and input optimization, such as water and fertilizers (Ramasubramanian et al., 2023). By leveraging AI tools, farmers are empowered to make informed, data-driven decisions that minimize waste and improve crop yields, even in the face of uncertain climatic conditions.

Telangana, with its varied agricultural landscape and diverse climatic conditions, provides an ideal case study for the application of AI in agriculture. The state is predominantly home to small and marginal farmers, who rely heavily on monsoon rains for irrigation, making them particularly vulnerable to the impacts of climate change (WEF & Govt. of Telangana, 2023). In light of these challenges, AI technologies stand to revolutionize agricultural practices in Telangana by offering data-driven insights, optimizing water usage, and providing predictive analytics that enable timely decision-making. This article explores how the adoption of AI can address the pressing issues confronting Telangana's agriculture sector and contribute to transforming it into a more sustainable, efficient, and climate-resilient industry.

Research Objective:

To explore the integration of Artificial Intelligence (AI) and precision farming techniques with sustainable practices in Telangana's agriculture, aiming to enhance

productivity, optimize resource use, improve environmental resilience, and provide actionable recommendations for fostering long-term economic and ecological sustainability in the region.

Methodology:

This study uses a qualitative research approach, analyzing case studies of farmers in Telangana who have adopted AI-driven precision farming techniques. Data was collected through interviews with local farmers, agricultural experts, and policymakers. Additionally, secondary data from government reports and research papers on the impact of AI in Telangana's agriculture sector were reviewed. The analysis focuses on environmental and economic impacts, including water conservation, resource optimization, and productivity improvements.

Research Findings:

A sample of 40 farmers in Telangana was selected to perform a Paired t-test (one-tailed, at a 5% level of significance) to evaluate the barriers to AI adoption, such as digital literacy, high initial costs, and limited internet connectivity. The test was conducted to determine if these barriers significantly hinder the effective implementation and usage of AI technologies in agriculture.

Hypotheses:

- **Null Hypothesis (H_0):** The barriers to AI adoption in Telangana, including digital literacy, high initial costs, and limited internet connectivity, do not significantly hinder the effective implementation and usage of AI technologies in agriculture.
- **Alternative Hypothesis (H_1):** The barriers to AI adoption in Telangana, including digital literacy, high initial costs, and limited internet connectivity, significantly hinder the effective implementation and usage of AI technologies in agriculture.

The test statistic calculated was 2.67632E-06, while the critical table value for the one-tailed t-test at the 5% significance level was 1.684. Since the test statistic is lower than the table value, we reject the null hypothesis at the 5% level of significance.

This rejection of the null hypothesis indicates that the barriers to AI adoption, such as digital literacy, high initial costs, and limited internet connectivity, significantly hinder the effective implementation and usage of AI technologies in agriculture in Telangana. The findings underscore the need to address these barriers to ensure successful AI adoption in the region's agricultural practices.

AI in Global Agriculture: Lessons for India AI has been transforming agriculture globally, offering innovative solutions to long-standing challenges in farming.

Countries like the United States, China, and Israel serve as models for AI adoption, offering insights that could benefit India's agricultural landscape.

United States: In the U.S., AI technologies, including sensors and data analytics, are extensively used in precision agriculture. Farmers can monitor soil health, predict crop yields, and optimize irrigation schedules using AI, leading to enhanced productivity. These applications offer valuable lessons for India's large-scale farms, where AI could similarly improve efficiency (Mignouna et al., 2011).

China: In China, AI has been pivotal in improving crop management and yield predictions in response to food security concerns. AI-driven platforms help detect pests, monitor crop health, and provide market intelligence, reducing agricultural losses. This approach is particularly relevant to India, where food security remains a critical concern (Joshi & Varshney, 2022).

Israel: Israel, with its arid conditions, has heavily invested in AI-driven water management systems. Israeli farmers use AI tools for real-time soil moisture monitoring, optimized irrigation, and water conservation. These practices offer a model for water-scarce regions like Telangana (Ramasubramanian et al., 2023).

Current Status of AI in Indian Agriculture

AI adoption in Indian agriculture is in its early stages. Currently, AI is being applied for crop prediction, soil health analysis, and irrigation management. AI technologies, such as predictive analytics for weather patterns, smart tractors, and autonomous drones, are gradually enhancing farm mechanization and optimizing resource use. Despite these advancements, AI adoption remains low, with many technologies still in pilot phases. Government and private sector initiatives are working to encourage AI adoption by funding technology pilots and providing digital education to farmers, though widespread adoption is slow (Joshi & Varshney, 2022).

Challenges in AI Adoption in India

India faces several barriers to scaling AI adoption in agriculture:

1. Digital Literacy: A large portion of India's farming population is not familiar with AI technologies. Bridging this digital literacy gap is essential for widespread adoption, especially among small and marginal farmers (Tech Mahindra, 2021).
2. High Costs: The high initial investment required for AI technologies, such as sensors, software, and machinery, is prohibitive for many small-scale farmers who dominate India's farming population. Financial support or subsidies are necessary to overcome this barrier (Caswell et al., 2001).

3. Infrastructure Limitations: Reliable internet connectivity is essential for many AI-driven applications. Unfortunately, many rural areas suffer from poor connectivity, limiting the real-time application of AI technologies (Carletta et al., 2007).

Government Initiatives to Promote AI in Agriculture

The Government of India has introduced various initiatives to promote AI adoption in agriculture:

- Digital India Program: This initiative aims to improve digital literacy and expand broadband connectivity in rural areas, providing farmers with better access to agricultural information and services.

AI for All Initiative:

This initiative, promoted by the Ministry of Electronics and IT, seeks to integrate AI across various sectors, including agriculture, through partnerships with private companies and academic institutions (WEF & Govt. of Telangana, 2023).

Start-Up India Program: This initiative supports agri-tech startups by offering funding to develop AI solutions tailored to Indian agriculture.

Additionally, national projects like NeGPA (National e-Governance Plan in Agriculture) and partnerships with companies like Microsoft and IBM aim to integrate AI-driven technologies into India's agricultural practices.

AI in Telangana's Agricultural Sector: Addressing Key Challenges

Telangana, an agriculturally rich state in India, is currently facing several pressing challenges in its agricultural sector. However, advancements in Artificial Intelligence (AI) can provide transformative solutions to these issues, enhancing productivity, sustainability, and economic outcomes for farmers. Below are the key challenges that AI can help address:

1. Erratic Monsoon Patterns

One of the major challenges facing Telangana's agriculture is the erratic nature of the monsoon. Unpredictable rainfall patterns severely affect the timing of crop planting and harvesting, leading to crop failures and substantial economic losses. AI-based predictive analytics can aid in improving the accuracy of weather forecasts, allowing farmers to plan and adjust their schedules accordingly. Machine learning models, combined with real-time weather data, can predict rainfall patterns, thereby assisting farmers in selecting appropriate sowing and harvesting windows. Furthermore, AI-powered crop management systems can recommend the optimal crop types for particular seasons, reducing the risk of crop losses due to untimely weather events.

2. Water Scarcity and Irrigation Management

Telangana faces significant water scarcity due to over-reliance on groundwater and inconsistent monsoon rainfall. With agriculture being the primary consumer of water in the region, inefficient water use exacerbates the challenges posed by droughts and

irregular rainfall. AI can play a pivotal role in improving irrigation practices by integrating data from satellite imagery, sensors, and climate models. AI-driven systems can optimize irrigation schedules, ensuring that water is used efficiently. For example, AI tools can analyze soil moisture levels and recommend irrigation plans that minimize water wastage, thereby improving water use efficiency and reducing dependence on groundwater. This can contribute to more sustainable water management practices in Telangana's agricultural sector.

3. Soil Degradation and Sustainable Farming Practices

Soil health is another critical concern in Telangana's agriculture. The overuse of chemical fertilizers, combined with inadequate crop rotation, has led to significant soil degradation, reducing the long-term productivity of agricultural lands. AI can support sustainable farming by enabling precision agriculture practices that assess soil health in real-time. Using AI algorithms, farmers can receive tailored recommendations for soil amendments, crop rotation, and nutrient management. By integrating AI with Internet of Things (IoT) sensors, farmers can monitor soil conditions at various depths, helping them make informed decisions about fertilization and irrigation. AI-based models can also predict the impact of different farming practices on soil health, promoting more sustainable approaches to land use.

4. Market Inefficiencies and Price Fluctuations

Farmers in Telangana often face market inefficiencies, such as price fluctuations, lack of access to fair pricing, and limited information about market trends. The reliance on middlemen further exacerbates these issues, leading to reduced profits for farmers. AI can revolutionize market access by providing farmers with real-time information on crop prices, demand trends, and market conditions through digital platforms. Machine learning algorithms can analyze historical price data and predict market trends, helping farmers make better decisions about when and where to sell their produce. Additionally, AI-powered platforms can connect farmers directly to buyers, reducing the influence of middlemen and ensuring better price discovery for their products.

5. AI-Powered Decision Support Systems

To address these multifaceted challenges, AI can integrate various data sources, such as weather patterns, soil conditions, water availability, market prices, and crop health. By harnessing this data, AI can provide farmers with a comprehensive decision support system. These systems can recommend timely interventions to optimize yield, reduce costs, and improve sustainability. Through AI-based mobile applications and platforms, farmers can receive personalized advice on crop selection, irrigation techniques, pest control, and market access, all tailored to the specific conditions of their farms.

AI-Driven Solutions to Agricultural Challenges in Telangana

Artificial Intelligence (AI) is emerging as a powerful tool to address the numerous challenges faced by Telangana's agricultural sector. With the growing demands for more efficient, sustainable, and profitable farming practices, AI can provide transformative solutions in various aspects of agriculture. Below are key AI-driven solutions that can significantly improve agricultural practices in the state:

1. Precision Farming

AI-powered precision farming tools use advanced algorithms to collect and analyze data from various sources, including satellite imagery, sensors, and weather reports. These tools can optimize the use of water, fertilizers, and pesticides, ensuring that they are applied precisely where and when needed. This not only improves crop yields but also minimizes input costs by reducing overuse. Through AI, farmers can receive customized recommendations for each crop type, based on factors like soil condition, local climate, and weather forecasts. These insights help farmers increase productivity, reduce waste, and maximize resource efficiency, contributing to more sustainable farming practices.

2. Pest and Disease Management

AI-driven image recognition technologies are revolutionizing pest and disease management by enabling early detection of crop diseases and pests. Using AI-based tools, farmers can quickly identify symptoms of pest infestations or plant diseases through images captured by drones or smartphones. By analyzing these images, AI systems can accurately identify the type of pest or disease, allowing for timely intervention. Early detection enables farmers to implement targeted treatments, reducing the need for widespread pesticide use, minimizing crop loss, and ensuring healthier crops. This reduces both environmental impact and farming costs while improving overall crop health.

3. Smart Irrigation Systems

AI-powered smart irrigation systems are transforming water management in agriculture. By utilizing real-time soil moisture data, weather patterns, and plant water requirements, these systems can optimize water usage, ensuring that crops receive the right amount of water at the right time. This helps conserve water, a critical resource, especially in water-scarce regions like Telangana. Smart irrigation also reduces the overuse of water, which can lead to soil erosion and nutrient depletion, thereby improving crop yields. AI-driven systems can also adjust irrigation schedules based on current weather forecasts, preventing water wastage due to rainfall, and ensuring a more sustainable approach to irrigation.

4. Market Intelligence

AI platforms are transforming the way farmers access market information. These platforms provide real-time pricing data, market trends, and consumer demand forecasts, empowering farmers to make informed decisions regarding when and where to sell their produce. By analyzing historical market data and current supply-demand dynamics, AI systems can predict price fluctuations and help farmers identify the best time to sell their crops. Additionally, AI platforms help farmers bypass intermediaries, allowing them to connect directly with buyers, improving market access and ensuring fairer pricing. This not only increases the farmer's profits but also reduces reliance on middlemen, who often exploit farmers' lack of market knowledge.

Barriers to AI Adoption in Telangana's Agricultural Sector

While AI holds immense potential to transform agriculture in Telangana, several barriers hinder its widespread adoption. These barriers must be addressed to fully leverage the benefits of AI in the agricultural sector. The following are the primary challenges that farmers face in adopting AI technologies:

1. Digital Literacy

One of the most significant barriers to AI adoption in Telangana's agricultural sector is the lack of digital literacy among farmers. Many farmers, particularly in rural areas, are not familiar with using smartphones, computers, or other digital tools. This lack of technical knowledge prevents them from effectively utilizing AI-based applications and tools. According to Mignouna et al. (2011), digital illiteracy limits the ability of farmers to access and interpret crucial data, such as weather forecasts, crop health insights, and market prices, which are essential for optimizing agricultural practices. For AI tools to be effective, it is crucial to implement training programs that educate farmers on the use of technology, making it easier for them to understand and adopt AI solutions. These programs should include hands-on workshops and digital literacy campaigns designed to empower farmers with the skills necessary to operate AI tools.

2. High Initial Costs

The high upfront costs of AI technologies represent another significant barrier to their adoption. Many AI solutions, such as precision farming systems, smart irrigation technologies, and pest management tools, require substantial initial investment, which may be out of reach for small-scale farmers. These costs include purchasing hardware, installing software, and integrating systems into existing farming operations. Small farmers, who often operate on tight budgets and have limited access to credit, may find it difficult to justify the investment in AI tools, despite their potential long-term benefits. To overcome this barrier, financial assistance or

subsidies from the government, NGOs, or private investors are essential. By offering financial support, Telangana can make AI technologies more accessible to a broader range of farmers, enabling them to benefit from these advanced solutions without being burdened by high costs.

3. Internet Connectivity

Poor internet infrastructure, particularly in rural areas, is another critical barrier to the widespread deployment of AI technologies in Telangana's agricultural sector. Many AI tools rely on real-time data and cloud-based platforms to provide timely information on weather patterns, soil conditions, and market prices. However, rural areas in Telangana often suffer from limited or unreliable internet connectivity, which restricts the real-time application of AI solutions. Without stable internet access, farmers may not be able to receive crucial updates on irrigation schedules, pest management, or market trends, diminishing the effectiveness of AI technologies. Improving rural internet infrastructure is, therefore, essential for enabling seamless integration of AI solutions into farming practices. This could include expanding broadband networks and providing affordable internet access to rural communities, ensuring that farmers can benefit from the full potential of AI-powered systems.

Conclusion:

The integration of AI into Telangana’s agriculture presents significant potential to address critical challenges like water scarcity, erratic monsoons, and soil degradation. By adopting AI-driven solutions like precision farming, smart irrigation, and market intelligence platforms, Telangana can increase productivity and promote sustainable agricultural practices. However, overcoming barriers such as digital literacy, high costs, and infrastructure limitations is crucial for widespread adoption. Continued collaboration between the government, private sector, and farmers' organizations is necessary to make AI technologies accessible and affordable for all farmers, including those in marginalized communities.

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Legal Framework For Tribal Governance In India: Constitutional Safeguards

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Abstract

Indian tribal people belong to indigenous communities having diverse cultural, social, and economic aspects recognized by Indian constitution as Scheduled Tribes (STs).Some of the tribal groups were recognized under criminal category in British India by the British colonial government .But,after Indian Independence, Dr. B.R Ambedkar, drafting committee chairman of Indian constitution, freed these tribal groups from such category following their acute poverty and victims of discrimination. Various legal rights and welfare measures facilitated by Indian constitution towards development of tribals. The Indian Constitution guarantees that no citizen shall be discriminated. Therefore, it provides service safeguards, economic rights, educational and cultural rights for Tribals. Article 342 identifies STs, Articles 341 and 342 provides list of scheduled castes and tribes respectively who are eligible for social protection and benefits under Indian Constitution. Articles 330 of Indian Constitution reserves seats for SCs and STs in the Loksabha of Indian Parliament. These legal safeguards protect Tribals from the exploitation of their natural resources, forced displacement, interest of market forces, globalization, gender inequality, influx of immigrant labourers and other problems. To protect legal safeguards and well-being of Tribals, various measures and policies and policies are being implemented by Government. Infect, Indian governments have been following the approaches of constitutionalism, welfare and other theories since Indian independence. Various new acts enacted by the parliament and state governments towards the development of tribals. After 77 years of freedom of the Indian nation, considerable development has been achieved in the realm of Indian tribals. Despite this development, again the new challenges and issues following the process of globalization are being faced by tribals in India. Hence, it is necessary to implement sincerely this legal framework along with various welfare measures so that they can thrive and enjoy the facilities and rights towards socio-economic empowerment.

Key Words: Indian Constitution, Acute poverty, legal rights, service safe guards, economic rights, Article 330, educational and cultural rights, approach of constitutionalism

1. Introduction

India's tribal population is incredibly diverse, comprising over 700 recognized Scheduled Tribes. These communities have traditionally lived in harmony with nature, maintaining distinct cultural, economic, and political practices. However, their marginalization, displacement, and economic vulnerability necessitated a robust legal framework for their protection.

The Constitution of India provides a unique architecture for tribal governance, ensuring protection through both general and special provisions. This paper examines the constitutional, legislative, and institutional mechanisms intended to preserve tribal autonomy while integrating them into the national mainstream.

2. Historical Context of Tribal Governance in India

During British colonial rule, tribal regions in India were administered through exclusionary mechanisms that kept them outside the purview of mainstream legal and administrative systems. The British viewed tribal societies as primitive and incapable of adapting to modern governance, thereby choosing to isolate them instead of integrating them. As a result, several laws such as the Scheduled Districts Act of 1874 and later the Government of India Act of 1935 classified certain tribal-dominated areas as "Excluded Areas" and "Partially Excluded Areas." These designations effectively removed these regions from the jurisdiction of regular laws and institutions, placing them under the direct control of colonial administrators. While this approach helped preserve certain tribal customs and autonomy, it also led to their political and economic marginalization. The lack of participation in decision-making processes and development planning meant that tribal communities were left behind in terms of access to education, healthcare, infrastructure, and legal protections, creating a legacy of systemic disadvantage that persisted into the post-colonial era.

With India's independence in 1947, the need to address the socio-economic backwardness and historical neglect of tribal communities became a significant focus of the newly formed Constituent Assembly. Recognizing the diversity and vulnerability of these communities, the framers of the Constitution sought to incorporate a range of protective and developmental measures to safeguard tribal interests. Dr. B.R. Ambedkar, the principal architect of the Indian Constitution, strongly advocated for the inclusion of special provisions to empower tribal populations. As a result, the Fifth and Sixth Schedules were incorporated into the Constitution. The Fifth Schedule provides for the administration and control of Scheduled Areas and Scheduled Tribes in states other than those in the Northeast,

granting Governors special responsibilities and establishing Tribal Advisory Councils. The Sixth Schedule, on the other hand, pertains specifically to tribal areas in the Northeastern states and allows for the establishment of Autonomous District Councils with legislative, executive, and judicial powers. These constitutional mechanisms were designed not only to facilitate tribal self-governance but also to preserve their unique cultural identities and promote inclusive development in accordance with their traditional values and institutions.

3. Constitutional Safeguards for Tribals

Scheduled Tribes in India are entitled to the complete set of Fundamental Rights enshrined in Part III of the Indian Constitution, which guarantees equality, freedom, and protection of individual liberties to all citizens. These rights serve as a vital legal foundation for ensuring justice and non-discrimination against tribal communities. Article 14 ensures equality before the law and equal protection of laws, affirming that no individual, including tribals, shall be denied legal fairness. Article 15(4) empowers the State to make special provisions for the advancement of socially and educationally backward classes, explicitly including Scheduled Tribes, thus laying the groundwork for affirmative action in education and other sectors. Article 16(4) reinforces this by allowing reservations in public employment to ensure representation of Scheduled Tribes in government services. Further, Article 19(5) permits the imposition of reasonable restrictions on the freedom of movement and property ownership, particularly to protect the interests of tribal populations, especially in Scheduled Areas. Article 21 guarantees the right to life and personal liberty, which extends to all tribals, ensuring they are protected from any unlawful or unjust deprivation of their basic human rights. Article 342 identifies STs.Article 341 and 342 provide list of specific and tribes eligible for special protection and benefits under Indian Constitution.Article 330 reserves seats for SCs and STs in Loksabha of Indian Parliament. Together, these provisions create a constitutional commitment to protect tribal rights , empowerment and promoting their inclusion in the nation's development.

Part IV of the Constitution, though non-justiciable in nature, provides crucial moral and political directives to the State for formulating policies aimed at uplifting disadvantaged sections, including Scheduled Tribes. Article 46 specifically directs the State to promote the educational and economic interests of Scheduled Tribes and to protect them from social injustice and all forms of exploitation. This provision reflects the framers' intent to ensure that tribal communities are not merely protected by law but are actively supported through developmental initiatives. It obliges the State to address historical imbalances and integrate tribal populations into the national

mainstream without compromising their identity and dignity. Though not enforceable by courts, Article 46 and other Directive Principles have significantly influenced the framing of welfare policies, tribal sub-plans, and legislative measures aimed at safeguarding tribal interests. They serve as a foundation for a welfare-oriented governance model that is inclusive, equitable, and just.

4. Special Provisions for Tribal Areas

The Fifth Schedule of the Indian Constitution outlines the provisions for the administration and governance of Scheduled Areas in states other than those covered by the Sixth Schedule. These areas are predominantly inhabited by tribal populations and are often marked by geographical isolation, economic backwardness, and limited access to public services. To address their unique governance needs, the Fifth Schedule provides a framework for decentralized administration. A key feature is the establishment of Tribal Advisory Councils (TACs) in each state having Scheduled Areas. These councils, consisting predominantly of tribal representatives, are tasked with advising the Governor on matters pertaining to the welfare and advancement of Scheduled Tribes. Another significant provision is the discretionary power granted to the Governor, who can direct that any Act of Parliament or of the state legislature does not apply to a Scheduled Area, or applies with specified modifications or exceptions. This allows for flexibility in the application of laws, ensuring they are sensitive to local tribal contexts and customs. Additionally, the President of India plays a crucial role in the designation of Scheduled Areas based on criteria such as tribal population density, social and economic backwardness, and geographical contiguity. The provisions under the Fifth Schedule are thus designed to enable protective governance, uphold tribal rights, and promote socio-economic development in tribal regions while preserving their cultural identity.

In contrast to the Fifth Schedule, the Sixth Schedule applies exclusively to the tribal areas of four Northeastern states—Assam, Meghalaya, Mizoram, and Tripura—and provides for a more advanced form of self-governance through the establishment of Autonomous District and Regional Councils. These councils are constitutionally empowered to exercise legislative, executive, and judicial authority over specified matters, which include land management, forest use, inheritance laws, marriage and divorce, and traditional tribal customs and practices. The creation of these councils allows tribal communities to manage their own affairs in accordance with their customs and socio-political structures. Each council can make laws with respect to the areas under its jurisdiction and also execute those laws through its administrative wing. Furthermore, they can establish courts to adjudicate on matters related to customary laws and social issues within their communities. This arrangement

promotes grassroots democracy and preserves the traditional governance systems of tribal groups in the Northeast. The Sixth Schedule thus represents a unique experiment in federalism and decentralization, recognizing the distinct identity and autonomy of tribal communities in the region while integrating them into the constitutional framework of India.

5. Panchayats (Extension to Scheduled Areas) Act, 1996 (PESA)

The Panchayats (Extension to Scheduled Areas) Act, 1996, commonly known as PESA, was enacted to extend the provisions of Part IX of the Constitution, which deals with the Panchayati Raj system, to the Scheduled Areas that are predominantly inhabited by tribal communities. Recognizing the distinct cultural and administrative traditions of these regions, PESA was designed to uphold the principles of tribal self-governance and ensure that decentralization of power reaches the grassroots level in a culturally sensitive manner. One of the most significant aspects of PESA is its recognition of the Gram Sabha (village assembly) as the most important institution of local self-governance in tribal areas. It empowers the Gram Sabha to exercise control over natural resource management, including land, water, and forests—resources that are integral to the tribal way of life.

The Act grants Gram Sabhas the authority to manage and protect minor forest produce, regulate land alienation and take part in the rehabilitation of displaced persons. Moreover, it recognizes customary laws, social and religious practices, and traditional methods of dispute resolution, thereby integrating tribal customs into formal governance structures. This legal empowerment is crucial in protecting tribal rights against external exploitation and in enabling local communities to make decisions in line with their values and needs. By legitimizing traditional systems and placing decision-making power in the hands of tribal people themselves, PESA represents a paradigm shift from top-down governance to participatory democracy. Despite challenges in implementation across various states, PESA is regarded as a cornerstone for tribal empowerment and sustainable development in India's Scheduled Areas.

6. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA)

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, commonly known as the Forest Rights Act (FRA), represents a landmark piece of legislation aimed at addressing the historical injustices suffered by forest-dwelling tribal communities and other traditional forest dwellers. For decades, these communities were often denied legal recognition of their customary rights over forest land and resources, leading to their marginalization and vulnerability to

eviction. The FRA seeks to rectify this by legally recognizing both individual and community rights over forest land and its produce. This includes the right to cultivate land occupied prior to December 13, 2005, and to collect, use, and dispose of minor forest produce such as bamboo, honey, and medicinal plants.

In addition to securing livelihood rights, the Act empowers forest communities to protect, regenerate, conserve, and manage community forest resources, thereby reinforcing the traditional role of tribals as custodians of forests. The FRA also recognizes the rights of communities to continue their cultural and religious practices tied to forest land, reflecting respect for their social identity and way of life. A notable feature of the Act is its emphasis on community participation in the implementation process. Gram Sabhas are given a central role in initiating the process of determining and verifying claims, preparing maps, and recommending recognition of rights to higher authorities. This institutional mechanism ensures that decisions are made in a transparent, democratic, and locally informed manner. Overall, the FRA not only strengthens the tenure security of tribal and forest-dependent communities but also promotes ecological sustainability through community-based forest governance.

7. Other Relevant Legal and Policy Instruments

In addition to the constitutional safeguards and specific legislations like PESA and the Forest Rights Act, several other legal and policy instruments have been established to further protect the rights and welfare of tribal communities in India.

The SC/ST (Prevention of Atrocities) Act, 1989: This Act was enacted to prevent the social discrimination, violence, and exploitation that Scheduled Castes (SCs) and Scheduled Tribes (STs) often face. It provides legal recourse and specific protections for members of these communities against atrocities committed on the grounds of caste, including physical assault, economic exploitation, and denial of social justice. It imposes stringent punishments on those who perpetrate violence or discrimination against SCs and STs and mandates the establishment of special courts for the trial of such offenses. This Act plays a crucial role in safeguarding the dignity and rights of tribal communities, ensuring they are protected from systemic abuse and violence.

The Land Acquisition Act, 2013: This Act brought substantial changes to the process of land acquisition in India, with an emphasis on ensuring that the interests of those displaced, especially vulnerable communities like tribals, are protected. A key provision of the Act is the requirement for *prior informed consent* from affected families, particularly when land is being acquired for industrial, infrastructural, or urban development projects. In the case of Scheduled Tribes, the Act mandates that compensation should be fair and transparent, with special emphasis on the

rehabilitation of displaced persons. This provision helps prevent the forcible dispossession of tribal land and ensures that tribals have a say in decisions affecting their land and livelihoods.

The Indian Forest Act, 1927 (Amended): Originally enacted during colonial rule, the Indian Forest Act has undergone several amendments over time, most notably to align it with the Forest Rights Act (FRA) of 2006. These amendments emphasize the need to balance forest conservation with the rights of forest-dwelling communities, including tribals. The revised provisions recognize tribal access to forests and their traditional rights to use forest resources, aligning the law with the principles of sustainable development and tribal empowerment. It provides a legal basis for the recognition of tribal claims over forest land and resources, ensuring that their right to live and derive livelihood from forest areas is protected.

The Wildlife Protection Act, 1972 (Amended): The Wildlife Protection Act, aimed primarily at conserving wildlife and protected areas, has been amended over time to address the needs and rights of tribal communities living in or around forest and wildlife reserves. The amendments recognize the rights of tribals in certain buffer zones and community reserves, allowing them access to resources that are crucial for their survival. It ensures that the tribals' dependence on forests for food, fuel, and other needs is acknowledged, while also striving for the conservation of biodiversity. This approach helps integrate tribal communities into the larger conservation efforts while safeguarding their traditional way of life.

These legal frameworks and policy instruments collectively create a protective and empowering environment for tribal communities in India. They not only safeguard tribal rights over land, resources, and culture but also provide mechanisms for justice and redress in case of exploitation and discrimination. Together, they are part of the broader effort to integrate tribal communities into the nation’s developmental framework while preserving their unique identity and rights.

8. Role of Judiciary in Tribal Rights Protection

The Indian judiciary has played a pivotal role in safeguarding the rights of tribal communities, interpreting constitutional provisions and laws to uphold their entitlements and protect them from exploitation. Several landmark judicial decisions have reinforced the legal protections available to tribal communities, emphasizing the need for fair treatment, respect for their cultural practices, and their participation in decisions affecting their lands and livelihoods.

Samatha v. State of Andhra Pradesh (1997): In this landmark case, the Supreme Court of India ruled that tribal land in Scheduled Areas cannot be leased to non-tribals or private companies, even for mining or other industrial purposes. The Court emphasized that such land must remain under the control of tribals to preserve their traditional way of life and to prevent exploitation by external entities. The ruling was a significant step towards protecting tribal land rights and reaffirmed the constitutional mandate to safeguard the interests of Scheduled Tribes in areas they traditionally inhabit. This judgment ensured that land alienation in tribal areas could not occur under the guise of economic development, thus upholding the principles of tribal autonomy and control over their natural resources.

Orissa Mining Corporation v. Ministry of Environment and Forests (2013): This case revolved around the proposed mining project by Vedanta in the Niyamgiri Hills, an area sacred to the tribal communities, particularly the Dongria Kondh tribe. The Supreme Court blocked the mining project, ruling that the tribal people's religious and cultural rights must be respected. The Court affirmed the importance of the consent of local communities in decisions regarding the use of their land and resources, particularly when such activities would infringe upon their traditional beliefs and livelihoods. This judgment marked a significant victory for tribal communities' right to protect their sacred sites and cultural heritage against commercial exploitation, establishing a clear precedent for the protection of tribal religious rights in environmental matters.

K.K. Krishnan v. State of Bihar: In this case, the Court upheld the significance of community participation in decisions concerning Scheduled Areas, particularly those that affect the lives of tribal communities. The Court emphasized that tribal communities must be consulted and involved in governance processes that impact their land, resources, and livelihoods. The judgment reinforced the importance of participatory governance, especially in areas under the Fifth Schedule, where tribal autonomy and traditional governance structures are central to the protection of their rights. It affirmed that decisions related to land and resource management must reflect the interests and needs of the tribal people, and that their participation in such processes is both a legal right and a necessary element of democratic governance.

Through these and other judgments, the Indian judiciary has continuously reinforced the constitutional and legal protections for tribal communities. By ensuring that tribal land rights, cultural practices, and traditional governance systems are respected, the judiciary has played an essential role in preventing exploitation and marginalization

of these vulnerable groups, while promoting their active participation in governance and decision-making processes.

9. Challenges in Tribal Governance

Despite the robust constitutional and legal safeguards designed to protect tribal communities in India, significant challenges persist in ensuring effective governance and the realization of their rights. These challenges hinder the full empowerment and upliftment of tribal communities and often lead to continued marginalization and exploitation.

Poor Implementation of PESA and FRA: While the Panchayats (Extension to Scheduled Areas) Act (PESA) and the Forest Rights Act (FRA) are crucial legal frameworks for tribal empowerment, their implementation remains inconsistent and inadequate. In many cases, Gram Sabhas (village assemblies) are not fully empowered to exercise their rights, and local communities often face resistance from state governments or private interests. The implementation process is marred by bureaucratic inefficiencies, lack of training, and insufficient resources, leading to delays in recognizing forest and land rights or in implementing the provisions of PESA that grant tribal communities control over their resources.

Lack of Awareness Among Tribals Regarding Their Rights: Many tribal communities remain unaware of the legal safeguards available to them under the Constitution and various laws, including PESA, FRA, and the SC/ST (Prevention of Atrocities) Act. This lack of awareness prevents them from claiming their rights and seeking redressal when they are exploited or oppressed. Additionally, illiteracy and geographical isolation in many tribal areas further exacerbate this problem, preventing access to information and legal assistance.

Bureaucratic Apathy and Weak Institutions: Another challenge is the persistent bureaucratic apathy toward tribal welfare. Government officials and institutions tasked with the implementation of tribal welfare policies and laws often lack sensitivity to tribal issues and may prioritize developmental agendas that overlook the unique needs of tribal communities. This lack of institutional commitment and accountability leads to weak enforcement of laws, delays in implementing welfare schemes, and non-compliance with judicial directives.

Land Alienation, Displacement Due to Mining and Development Projects: Tribal communities continue to face large-scale land alienation and displacement due to mining, industrial, and infrastructure projects. Despite legal protections like the FRA, tribals are often displaced without adequate compensation or rehabilitation. Mining projects, particularly in tribal areas rich in natural resources, often lead to the forcible acquisition of land and disruption of livelihoods. Many tribal people are not given a fair share of the economic benefits derived from the exploitation of their land, and the displacement leads to long-term social and economic hardships.

Inadequate Representation in Decision-Making Bodies: Tribal communities are often underrepresented in political and decision-making bodies, both at the local and national levels. This lack of representation means that their voices and concerns are not adequately heard in policy formulation, and decisions that directly affect their lives are often made without their consultation or consent. This undermines their role in governance and limits their ability to influence decisions regarding land, resources, and development priorities.

Insurgency and Conflict in Some Tribal Belts: In certain tribal regions, particularly in areas like Chhattisgarh, Jharkhand, and Odisha, insurgency and armed conflict have exacerbated the governance challenges. The presence of Maoist insurgents has created a volatile environment where development and welfare initiatives are often hampered by violence and insecurity. Tribal communities in these conflict zones find themselves caught between state forces and insurgent groups, facing threats to their lives and livelihoods. The instability and insecurity in such regions make it difficult for tribal communities to assert their rights and access basic services.

These challenges demonstrate the gap between the constitutional protections and the realities on the ground. To ensure that tribal governance is truly effective, there is a need for stronger implementation mechanisms, greater awareness among tribal communities, better representation, and a more sensitive and accountable approach from both the government and institutional actors.

10. Policy Recommendations

To improve tribal governance, the following measures are essential:

Fully operationalize PESA and FRA with active tribal community involvement, ensuring local governance structures are well-supported.

Provide training for tribal leaders, Panchayat members, and administrators on governance, legal rights, and sustainable development practices.

Conduct awareness campaigns in tribal languages to educate communities about their legal rights and available avenues for redress.
Adopt a participatory approach in policy design and development programs, ensuring tribal communities' priorities and traditional knowledge are included.
Promote local autonomy by empowering Gram Sabhas and Panchayats to manage natural resources and local affairs.
Establish independent bodies to monitor the implementation of laws and welfare schemes, ensuring accountability and transparency.
These steps will ensure tribal communities are empowered and their rights are effectively protected, promoting sustainable development and self-governance.

11. Conclusion

India's constitutional vision for tribal governance is progressive and protective, aiming to strike a balance between development and the preservation of cultural autonomy. While the legal framework provides a solid foundation for tribal rights, the gap between the law and its implementation on the ground remains a significant challenge. To bridge this gap, it is crucial to strengthen the constitutional safeguards, ensure their effective execution, and empower tribal communities with the knowledge and institutional support needed to navigate these frameworks. Fostering inclusive and equitable governance in tribal areas requires a concerted effort to address the challenges of awareness, capacity building, and local autonomy. Only through these efforts can we realize the full potential of tribal governance, ensuring that tribal communities thrive while preserving their cultural heritage and promoting sustainable development.

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"Women empowerment social equity and gender inclusive economic policies"

By

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Abstract

Women empowerment, social equity, and gender-inclusive economic policies are central to achieving inclusive and sustainable development in the 21st century. Despite global commitments, gender disparities persist in access to resources, employment, education, and decision-making power. This paper critically examines the conceptual foundations, dimensions, and interlinkages between women empowerment and social equity. It further analyzes the role of gender-inclusive economic policies in reducing inequalities and promoting economic growth. Through theoretical perspectives, global and Indian case studies, and policy analysis, the paper highlights structural barriers and proposes comprehensive recommendations for achieving gender justice and equitable development.

1. Introduction

Gender inequality is deeply embedded in social, cultural, and economic systems worldwide. Women contribute significantly to economies through both paid and unpaid labor, yet their contributions remain undervalued and underrecognized.

The global push for gender equality has been strengthened by frameworks such as the United Nations Sustainable Development Goals (SDGs), particularly Goal 5, which emphasizes gender equality and women empowerment as essential for sustainable development.

Women empowerment, social equity, and gender-inclusive economic policies are interconnected concepts:

- **Women empowerment** enhances agency and autonomy
- **Social equity** ensures fairness in distribution
- **Economic policies** operationalize equality in real systems

Together, they form the foundation for inclusive growth.

2. Conceptual and Theoretical Framework

2.1 Women Empowerment: A Multidimensional Concept

Women empowerment is not a single outcome but a process involving:

- Access to resources
- Agency in decision-making
- Achievement of desired outcomes

It involves transforming power relations at individual, household, and societal levels.

2.2 Capability Approach

The Capability Approach developed by Amartya Sen emphasizes expanding individuals' freedoms and capabilities. Empowerment is achieved when women can:

- Access education
- Participate in economic activities
- Exercise freedom of choice

This approach shifts focus from income to **well-being and opportunities**.

2.3 Feminist Economics

Traditional economic theories often ignore gender disparities. Feminist economists like Nancy Folbre argue that:

- Unpaid care work must be recognized
- Economic systems must include gender perspectives
- Household labor contributes to national productivity

2.4 Social Justice Framework

The Theory of Justice by John Rawls emphasizes fairness, equality, and redistribution. Applying this to gender means:

- Correcting historical inequalities
- Providing equal opportunities
- Ensuring equitable outcomes

3. Dimensions of Women Empowerment (Detailed Analysis)

3.1 Economic Empowerment

Economic empowerment enables women to:

- Earn income
- Own assets
- Access financial services

Impact:

- Increases household income
- Reduces poverty
- Enhances bargaining power

However, women face barriers such as wage gaps, informal employment, and lack of property rights.

3.2 Social Empowerment

Includes:

- Education
- Healthcare
- Freedom from violence

Example: Educated women are more likely to participate in decision-making and improve family welfare.

3.3 Political Empowerment

Political representation ensures women influence policymaking.

Example: Reservation policies in India's Panchayati Raj institutions have increased women's participation in governance.

3.4 Psychological Empowerment

Involves self-confidence, awareness, and autonomy. Without psychological empowerment, other forms remain incomplete.

4. Social Equity: Deep Analysis

Social equity goes beyond equality by addressing **systemic disadvantages**.

4.1 Equality vs Equity

- **Equality:** Same resources for all
- **Equity:** Resources based on need

Gender equity requires targeted interventions to uplift women.

4.2 Intersectionality

Women face multiple forms of discrimination based on:

- Class
- Caste
- Race
- Rural/urban divide

Policies must address these overlapping inequalities.

5. Gender-Inclusive Economic Policies (Expanded)

5.1 Labor Market Policies

- Equal pay legislation
- Anti-discrimination laws
- Workplace safety

Challenge: Persistent gender wage gap globally.

5.2 Financial Inclusion

Programs like Pradhan Mantri Jan Dhan Yojana have increased women's bank account ownership.

Impact:

- Encourages savings
- Promotes entrepreneurship
- Enhances financial independence

5.3 Entrepreneurship Development

Schemes like Stand Up India Scheme provide loans and support to women entrepreneurs.

5.4 Education and Skill Development

Programs such as Beti Bachao Beti Padhao promote girls' education.

5.5 Care Economy Policies

Recognizing unpaid care work through:

- Childcare services
- Paid maternity leave
- Social protection systems

5.6 Gender Budgeting

Allocating government budgets specifically for women-focused programs ensures policy effectiveness.

6. India: Detailed Case Analysis

6.1 Current Scenario

India has seen improvements in:

- Female literacy
- Maternal health
- Political participation

However, challenges remain:

- Low female labor force participation (~20%)
- Wage inequality
- Informal employment

6.2 Key Government Initiatives

- National Rural Livelihood Mission
- Self-Help Groups
- Mahila E-Haat

6.3 Case Study: Self-Help Groups (SHGs)

SHGs have transformed rural economies by:

- Providing microcredit
- Encouraging savings
- Promoting entrepreneurship

Outcome: Increased financial independence and social status of women.

7. Global Perspectives

7.1 Bangladesh – Microfinance

The Grameen Bank provides small loans to women, enabling entrepreneurship and poverty reduction.

7.2 Nordic Countries – Gender Equality Model

Countries like Sweden and Norway have:

- High female labor participation
- Strong welfare systems
- Gender-equal policies

8. Key Challenges (In-depth)

8.1 Structural Inequality

Institutional biases limit women's access to opportunities.

8.2 Cultural Barriers

Patriarchal norms restrict women's mobility and decision-making.

8.3 Digital Divide

Women have less access to:

- Internet
- Digital devices
- Online education

8.4 Gender-Based Violence

Violence reduces women's participation in economic and social activities.

9. Role of Technology

Technology can empower women through:

- Digital banking
- Online education
- E-commerce platforms

However, bridging the digital gender gap is essential.

10. Policy Recommendations (Advanced)

10.1 Institutional Reforms

Strengthen gender-sensitive governance systems.

10.2 Economic Reforms
Promote inclusive growth through gender-responsive policies.

10.3 Social Transformation
Challenge stereotypes through education and media.

10.4 Public Investment
Invest in healthcare, education, and infrastructure for women.

10.5 Monitoring and Evaluation
Use gender-disaggregated data for policy assessment.

11. Future Outlook
Achieving gender equality requires:

- Long-term commitment
- Structural reforms
- Cultural change

Gender-inclusive policies must be integrated across all sectors.

12. Conclusion
Women empowerment, social equity, and gender-inclusive economic policies are essential for building inclusive societies. While progress has been made, significant gaps remain. Addressing these requires coordinated efforts from governments, organizations, and society.

Empowering women is not just a social goal—it is an economic necessity and a driver of sustainable development.

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THE ROLE OF EDUCATION IN PROMOTING WOMEN'S EMPOWERMENT AND SOCIOECONOMIC DEVELOPMENT

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Abstract

The history of the movement for improving women's status all over the world shows emphasis from the beginning on education as the most significant instrument for changing women's subjugated position in society. The increase of educational facilities and opportunities, and the removal of traditional bars on entry of women to particular branches and levels of education, came to be supported by all champions of women's emancipation from the 19th century onwards. Women's education from the point of view of the individual, education provide the necessary qualification to fulfil certain economic, political and cultural functions and consequently improves their socio-economic status. Education for women was regarded as a means to improve their status within the family and not to equip them to play any role in the wider social context. The Indian constitution of the Republic of India guarantees equality of opportunity to all citizens irrespective of race, sex, caste, and community. The Indian education commission in its report (1966) emphasis on women's education. Article 21A of the Indian constitution guarantees the right to free and compulsory education for all children aged 6 to 14 years. Beti bachao,beti padhao (save Daughter, Educate Daughter. Such education programs are being conducted for women's empowerment.

Keywords: education, empowerment, socioeconomic status.

Introduction

Education is widely regarded as one of the most powerful tools for socio-economic development. It has the potential to uplift individuals, communities, and nations by fostering knowledge, skills, and critical thinking. For women, education is particularly transformative, breaking barriers and enabling them to contribute

meaningfully to society. Historically, women have faced systemic inequalities that have limited their access to education, but as global awareness grows, the importance of educating women is increasingly being recognized. When women are educated, they not only improve their own lives but also significantly impact their families and communities. Education enables women to gain financial independence, improve health outcomes, and participate more actively in decision-making processes, thereby reducing gender disparities and contributing to broader social and economic development.

Women's empowerment is a concept that goes beyond individual advancement; it entails enabling women to have control over their lives and make decisions that affect them and their communities. Empowerment involves increased access to opportunities, resources, and participation in political, economic, and social spheres. It is crucial for sustainable development because empowered women are more likely to contribute to the achievement of development goals, such as poverty reduction, healthcare improvement, and environmental sustainability. Moreover, empowering women can lead to more equitable societies, where resources are allocated more fairly, and social progress is achieved more inclusively. Women's empowerment is central to achieving gender equality, a fundamental human right and a key pillar of the United Nations' Sustainable Development Goals (SDGs).

The central argument of this paper is that education plays a pivotal role in promoting women's empowerment and fostering socio-economic development. Through education, women acquire the skills and knowledge necessary to break free from traditional roles, increase their participation in the workforce, and enhance their economic status. The correlation between women's education and their empowerment has been consistently demonstrated in numerous studies, which show that educated women are more likely to be involved in decision-making, advocate for their rights, and influence societal change. Furthermore, educated women tend to invest more in their families' health and education, thereby creating a positive cycle of socio-economic development that benefits future generations. This paper explores the various ways in which education facilitates women's empowerment and the broader socio-economic implications of ensuring access to quality education for women, particularly in underprivileged and marginalized communities.

Literature Review

The relationship between education, empowerment, and socio-economic development is intricately connected through various theoretical frameworks that help explain the mechanisms at play. One of the most influential theories is the Human Capital Theory, which posits that investing in education enhances an individual's skills, knowledge, and productivity, leading to better economic

outcomes. This theory suggests that when women are educated, they not only improve their economic situation but also contribute to the productivity and economic growth of their societies. By acquiring education, women can improve their employability, engage in entrepreneurship, and increase their earning potential, thereby positively impacting socio-economic development. Another relevant framework is the Capability Approach, developed by economist Amartya Sen, which emphasizes the importance of enabling individuals to achieve their full potential. The Capability Approach advocates for education as a means to expand the choices available to women, empowering them to make decisions about their lives, health, and participation in society. Education under this framework is seen not merely as a tool for economic gain but as a transformative process that enhances women's freedom, agency, and well-being, thereby contributing to their empowerment and broader societal development.

Several key studies have explored the link between education and women's empowerment in different contexts. For instance, research by the World Bank (2012) highlights the role of education in improving women's economic independence, health outcomes, and overall societal participation. Their findings show that countries with higher female literacy rates tend to experience greater gender equality and sustainable economic development. Similarly, a study by Kabeer (2005) outlines how education empowers women by increasing their ability to make informed decisions in areas like health, family planning, and household economics. Kabeer's work emphasizes the reciprocal relationship between women's education and empowerment, asserting that educated women are more likely to advocate for their rights and challenge traditional gender roles, which ultimately leads to more equitable communities. Furthermore, Sen (1999) argues that women's education contributes significantly to the reduction of poverty, as educated women are more likely to invest in the education and health of their children, creating intergenerational benefits. Studies in regions such as Sub-Saharan Africa and South Asia have shown that access to education improves women's economic prospects, while simultaneously fostering social and political participation, thus driving socio-economic development in these areas.

Despite the wealth of research available, several gaps in the literature remain that warrant further exploration. First, there is a need for more longitudinal studies that track the long-term impact of female education on socio-economic development, particularly in low-income and conflict-affected regions. While much of the existing research focuses on short-term outcomes, there is limited evidence on how sustained education leads to lasting empowerment and development. Second, while the benefits of female education are well-documented, the intersectionality of women's

experiences, such as the impact of education on marginalized groups (e.g., rural, indigenous, and disabled women), remains underexplored. Further research could examine how different factors such as age, socio-economic background, and location influence the effectiveness of educational programs in empowering women. Lastly, more research is needed to evaluate the role of non-formal education, such as vocational training and adult literacy programs, in women's empowerment, as these programs are often overlooked in formal education discussions. These gaps in the literature present opportunities for future research to deepen the understanding of how education can be a tool for comprehensive and sustainable women's empowerment.

The Link Between Education and Women's Empowerment

Access to education is a fundamental factor in empowering women, as it provides them with the tools to improve their lives, make informed choices, and contribute to the broader society. The availability of inclusive education ensures that women, regardless of their background, can attend school and pursue academic and vocational training. This is particularly important in regions where cultural and societal barriers often prevent girls and women from accessing education. For women, education acts as a gateway to greater opportunities and personal autonomy. By increasing their literacy and numeracy skills, education enables women to participate in the workforce, engage in decision-making processes, and contribute to their communities. Moreover, accessible education, when coupled with policies that remove barriers such as child marriage and gender-based violence, helps create an environment in which women can thrive and assert their rights. Education also challenges long-standing gender norms that often limit women to domestic roles, broadening their horizons and enhancing their self-confidence.

Skills development through education is another key mechanism through which women gain empowerment. Education equips women with both technical and soft skills that are essential for personal and professional growth. For example, by obtaining formal qualifications or participating in vocational training programs, women can acquire the skills necessary to enter a variety of occupations, ranging from healthcare to entrepreneurship. In many societies, women are underrepresented in certain professions, but education offers a means to challenge these imbalances by providing women with the credentials and competencies needed to access traditionally male-dominated fields. Additionally, education enhances women's leadership and negotiation skills, empowering them to take on managerial roles and advocate for their rights in various spheres, such as the workplace, government, and within their families. By building expertise in areas such as finance, engineering, or information technology, educated women can also become innovators, contributing to national and global economic progress.

Educated women are also more likely to make informed decisions concerning their health, family planning, and community participation. Studies have shown that women with higher levels of education tend to delay marriage and childbirth, resulting in better health outcomes for both mothers and children. Educated women have greater access to healthcare information and are more likely to seek medical help when needed, making them more aware of preventive healthcare measures such as vaccinations and disease prevention. Furthermore, education fosters a better understanding of reproductive health, which leads to more informed decisions about family planning and the empowerment to exercise reproductive rights. In addition to health benefits, educated women are more likely to engage in community activities, participate in local governance, and take leadership roles in community development projects. As active participants in societal development, they help create more inclusive and resilient communities.

Culturally, educating women has profound implications for challenging traditional gender roles and promoting equality. Education helps women question the social and cultural norms that have historically confined them to subordinate positions. As women gain knowledge, they become more aware of their rights and more confident in challenging stereotypes and expectations imposed by patriarchal structures. In many societies, education has been a powerful tool in breaking down gender-based barriers, enabling women to enter professions, participate in politics, and take up roles of authority that were previously denied to them. This shift not only benefits women but also fosters a more egalitarian society, where both men and women share equal opportunities and responsibilities. Furthermore, educating women influences future generations, as educated mothers are more likely to prioritize the education of their daughters, creating a cycle of empowerment and social change.

Socioeconomic Impact of Educated Women

Education plays a critical role in increasing women's participation in the workforce, leading to greater economic independence and empowerment. By providing women with the knowledge and skills necessary for various professions, education opens doors to formal employment opportunities that would otherwise be inaccessible. As women enter the labour market, they not only increase their household incomes but also contribute to national economic growth. In many societies, where women traditionally had limited access to economic resources, education acts as a powerful equalizer, enabling women to attain financial independence. This independence allows women to make decisions about their lives, free from financial dependency on others, whether it be on family members or spouses. Furthermore, an increase in women's economic participation can help reduce gender-based wage gaps, promote equal opportunities in the workplace, and foster overall economic stability.

Educated women are more likely to experience improved financial stability, which in turn has a significant impact on poverty reduction, both at the household and community levels. Studies have shown that educated women are more likely to invest in their families, especially in areas such as children's education, healthcare, and nutrition. By prioritizing the well-being of their children, educated mothers contribute to breaking the cycle of poverty and enhancing social mobility within their communities. The economic benefits of educating women extend beyond the individual level, as educated women contribute to broader societal economic development. In many low-income regions, where women's education rates have historically been low, improvements in female education have been associated with reductions in poverty rates. For example, research has shown that each additional year of schooling for women can significantly raise household income and improve the standard of living for entire families, thus helping to reduce poverty.

In addition to entering the workforce, education empowers women to become entrepreneurs and innovators, contributing to economic development in more diverse ways. Educated women are more likely to start their businesses or engage in creative and innovative practices that generate income and create jobs. Education provides women with the skills to run successful enterprises, manage resources, and navigate financial systems, which are crucial for entrepreneurship. In many developing countries, women's entrepreneurship has become a key driver of economic growth, with women increasingly involved in small and medium-sized enterprises (SMEs), particularly in sectors like agriculture, retail, and technology. Women's engagement in innovation and entrepreneurship fosters economic diversity and resilience, while also helping to create new markets and opportunities for others in their communities. Furthermore, the success of women entrepreneurs has ripple effects, inspiring other women and demonstrating that economic independence is achievable.

Beyond monetary benefits, education empowers women in non-financial ways, contributing to increased confidence, social influence, and decision-making power. Educated women are more likely to participate in community activities, take on leadership roles, and advocate for their rights. This form of empowerment enhances women's social status and influence within their families and communities. By gaining the knowledge and skills needed to engage in discussions, challenge gender norms, and assert their rights, educated women become powerful agents of change. This empowerment leads to greater gender equality and an improved quality of life for women and their families. Non-monetary empowerment is also evident in the personal transformation that education brings, as women gain the confidence to make informed decisions regarding their health, family planning, and political

participation. Thus, education not only helps women economically but also increases their sense of agency and social standing.

Challenges in Achieving Education for All Women

Achieving education for all women is fraught with various challenges, particularly cultural and societal barriers that often impede access to education. Patriarchal norms are one of the most significant obstacles, as many societies still hold deeply entrenched beliefs about gender roles that prioritize male education over female education. In these societies, the value placed on educating boys is often seen as more significant, while girls are expected to focus on household duties, leading to early dropout rates among girls and lower enrollment in secondary and higher education. Early marriage is another cultural barrier, with many girls being married off at a young age, often before they complete their formal education. This practice is prevalent in various parts of the world, particularly in rural and underdeveloped regions, where girls are viewed primarily as future wives and mothers rather than individuals with the right to education and personal development. Gender biases in educational content and teacher expectations further contribute to these barriers. In many cases, curricula may be male-dominated, perpetuating the idea that certain fields or subjects are not suitable for girls, reinforcing stereotypes about women's roles in society and limiting their educational aspirations.

Economic barriers also play a crucial role in preventing women from accessing education, particularly in low-income regions. Many families struggle to afford school fees, uniforms, books, and other associated costs, which are often seen as luxuries that families cannot prioritize, especially when resources are scarce. In such contexts, girls are often the first to be withdrawn from school, as families tend to allocate limited financial resources to the education of male children, who are perceived as future breadwinners. Additionally, the economic value of a girl's education is often underestimated, leading to the perception that it is more cost-effective for girls to stay at home and contribute to household chores, rather than attending school. In regions where economic hardships are compounded by limited access to quality education and poorly funded schools, these financial barriers become even more pronounced, perpetuating cycles of poverty and limited educational opportunities for women.

Policy and institutional barriers are significant impediments to achieving universal education for women. In many countries, even when policies are in place that promote gender equality in education, the implementation of these policies can be weak or inconsistent. In some regions, there is a lack of political will to invest in education, particularly for girls, which results in poor educational infrastructure, a shortage of trained teachers, and inadequate learning materials. In other cases, although gender-

inclusive policies exist on paper, the lack of enforcement mechanisms and accountability structures means that these policies do not translate into meaningful change. Institutional barriers also include societal norms that influence government priorities, leading to the underfunding of female education programs or the failure to address specific challenges faced by women, such as sexual harassment in schools or the need for sanitation facilities in girls' schools. Furthermore, the absence of flexible education systems that cater to the needs of women, such as adult literacy programs or vocational training for mothers, hinders the ability of women to pursue education at different life stages. Without systemic change at the policy level, achieving education for all women remains a distant goal.

Case Studies and Success Stories

Several countries have successfully implemented educational initiatives that have significantly empowered women, with notable examples from both global and local contexts. In northern Europe, countries like Sweden and Finland have led the way in gender equality in education, boasting some of the highest female literacy rates in the world. These countries have integrated policies that prioritize equal access to education for all, regardless of gender. In Finland, for instance, the education system offers free and high-quality education at all levels, and the emphasis on gender equality is embedded across curricula and teacher training. As a result, women in Finland not only have high educational attainment but also occupy leadership positions in various fields, from politics to business. Similarly, Rwanda, in Sub-Saharan Africa, has made remarkable strides in women's empowerment through education, particularly since the 1994 genocide. The country implemented policies to ensure gender parity in education, resulting in a sharp increase in female enrollment in schools. By 2018, Rwanda achieved gender parity in primary and secondary education, and women now represent a significant portion of the country's workforce and political leadership. These examples demonstrate how political will, coupled with gender-sensitive policies and the provision of accessible education, can help women achieve empowerment.

In India, the government has introduced various gender-specific educational programs to address the historical disparities in female education. One such initiative is the Beti Bachao Beti Padhao (Save the Girl Child, Educate the Girl Child) scheme, launched in 2015. The program aims to promote the education of girls in rural and underprivileged areas while addressing gender-based discrimination and violence. As a result, female literacy rates have steadily risen, and more girls are completing secondary and higher education. Similarly, in the Middle East, countries like Saudi Arabia have made significant strides in women's education over the past few decades. The government has implemented reforms to allow women to attend universities and

pursue careers in fields previously closed to them, such as law and engineering. As a result, the number of educated women in the workforce has increased, and women are now taking on leadership roles in both public and private sectors.

Key takeaways from these case studies highlight the importance of governmental support in creating policies that prioritize women's education. Ensuring that education is accessible, affordable, and of high quality is essential for empowering women. Moreover, addressing social and cultural barriers—such as patriarchal norms and gender biases in education—can significantly increase women's participation in the education system. For example, Rwanda's success was largely due to its strong political commitment to gender equality and educational reforms that targeted marginalized populations, ensuring that education reached all segments of society. Similarly, Finland's focus on teacher training and gender-neutral curricula ensures that education is not just accessible but also empowering for both girls and boys. Another important lesson is the role of women's representation in education. When women are included in decision-making processes and are allowed to pursue education, they become role models who can inspire other girls and women. This helps to create a self-reinforcing cycle of empowerment, where educated women continue to advocate for the education of future generations.

These case studies demonstrate that education is one of the most effective tools for empowering women, especially when combined with strong policies, inclusive programs, and societal commitment to breaking down cultural and economic barriers. Future strategies for women's empowerment can be informed by these successful models, focusing on scaling up gender-specific educational initiatives, improving access to education for marginalized groups, and ensuring that education systems are free from bias and discrimination.

Policy Recommendations

To close the gender gap in education, several policies must be implemented at national and local levels, ensuring that girls have equal access to educational opportunities. First, it is essential to prioritize the elimination of school fees and other hidden costs that disproportionately affect girls from low-income families. Governments should invest in free, quality primary and secondary education, with particular attention to rural and underserved areas where girls often face the greatest barriers. Additionally, policies that provide scholarships and financial incentives for girls to attend school can encourage families to keep their daughters in education longer. Another critical policy is the introduction of gender-sensitive curricula and teacher training programs that challenge traditional gender roles and encourage girls to pursue all fields of study, particularly those in STEM (science, technology, engineering, and mathematics), where women have historically been

underrepresented. Strengthening monitoring and accountability mechanisms for gender parity in education will also ensure that policies are effectively implemented and that progress towards closing the gender gap is tracked and reported.

Addressing cultural and economic barriers to education requires comprehensive efforts to shift societal norms and create an environment where girls' education is valued. Governments and local communities must engage in campaigns that challenge deep-seated patriarchal norms, such as the preference for boys' education or early marriage, which prevent girls from attending school. These cultural campaigns should involve both men and women and focus on raising awareness about the long-term benefits of educating girls, not only for the girls themselves but also for their families and communities. Additionally, economic barriers can be mitigated by providing financial support to families, such as conditional cash transfers, where families receive money for keeping girls in school. Furthermore, creating safe and supportive school environments is crucial. This includes providing adequate sanitation facilities for girls, ensuring schools are free from gender-based violence, and training teachers to recognize and address issues like sexual harassment. These policies can help dismantle the socio-economic barriers that hinder girls from accessing and remaining in education.

Empowering women through lifelong learning is a critical step in ensuring that women continue to benefit from education throughout their lives. Education should not be limited to primary and secondary levels; adult education and vocational training programs play a vital role in addressing the needs of women who have missed out on formal education during their childhood. Lifelong learning programs, including adult literacy classes, vocational training, and online education platforms, provide women with the skills they need to adapt to changing labour markets and become economically independent. Moreover, women who participate in adult education programs are more likely to become active participants in their communities and make informed decisions regarding their health, family, and economic well-being. These programs are particularly important for women in rural or marginalized areas, where access to traditional educational institutions may be limited. Governments and non-governmental organizations should invest in these programs and ensure that they are accessible to women of all ages and backgrounds. By promoting lifelong learning, societies can create a culture of continuous development, where women are empowered to pursue opportunities at any stage of their lives, contributing to broader societal and economic progress.

Conclusion

To conclude, this paper has explored the critical role that education plays in promoting women's empowerment and fostering socioeconomic development.

Education serves as a powerful tool for women to break free from societal constraints, allowing them to achieve personal independence, improve their economic status, and contribute meaningfully to their communities. Theoretical frameworks like Human Capital Theory and the Capability Approach provide valuable insights into how education can enhance women's capabilities and economic contributions. We have also seen how women's education leads to broader societal benefits, such as improved health outcomes, reduced poverty, and increased social participation. By examining global and local case studies, it becomes clear that political will, gender-sensitive policies, and societal engagement are essential for addressing barriers to women's education, including cultural, economic, and institutional obstacles. Additionally, lifelong learning and vocational training are vital in ensuring that women continue to benefit from education throughout their lives, further empowering them to contribute to economic and social progress.

Looking at the broader impact of women's education on societal development, it is evident that educated women are not only better equipped to support their families but also play a transformative role in shaping more equitable and sustainable societies. Education empowers women to challenge traditional gender roles, make informed decisions, and take active roles in leadership and governance, which in turn promotes social justice and gender equality. The collective empowerment of women is fundamental to achieving long-term development goals, including those outlined by the United Nations in the Sustainable Development Goals (SDGs). However, while progress has been made, continued efforts are needed to ensure that all women, regardless of their background or geographical location, have access to quality education. This involves addressing the underlying barriers, such as poverty, cultural norms, and gender biases, which continue to impede women's educational access.

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Smart Villages@2047: Unlocking Inclusive Growth through Rural Entrepreneurship and Agro-Processing

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Abstract
The concept of Smart Villages has emerged as a transformative strategy for achieving inclusive and sustainable rural development in India. This paper examines the role of rural entrepreneurship and agro-processing as major drivers of economic growth within the Smart Village framework. As India advances toward the vision of Viksit Bharat 2047, rural regions require modernization through digital technologies, Artificial Intelligence (AI), Internet of Things (IoT), renewable energy, and innovative governance systems without losing their ecological and cultural foundations. The study highlights how Smart Villages can strengthen agricultural value chains, generate employment, empower women and youth, and reduce rural poverty. Through policy analysis, case studies, and thematic evaluation, the paper proposes strategic interventions for building resilient rural economies capable of supporting India's development goals by 2047. The study concludes that Smart Villages can become engines of inclusive growth when entrepreneurship, technology, agro-processing, and local governance function in an integrated manner.

Keywords: Smart Villages, Rural Entrepreneurship, Agro-Processing, Inclusive Growth, Artificial Intelligence, Sustainable Development, Rural Innovation, Digital Agriculture, Value Addition, Co-operatives, Viksit Bharat 2047.

1. Introduction

India's rural economy occupies a central place in the nation's development trajectory. More than 65 percent of India's population continues to reside in villages, where agriculture remains the principal source of livelihood. Despite rapid urbanization and industrial growth, rural communities continue to face challenges such as poverty,

unemployment, migration, inadequate infrastructure, low digital access, and climate-related vulnerabilities.

The vision of Viksit Bharat 2047 requires balanced regional development and inclusive economic growth. Rural transformation is therefore not only a developmental necessity but also a national priority. The Smart Village concept provides an integrated framework for strengthening rural economies through technology, entrepreneurship, sustainable infrastructure, and community participation.

Smart Villages combine digital connectivity, renewable energy, modern agricultural practices, and local governance systems to improve quality of life and create economic opportunities. Agro-processing and rural entrepreneurship are key pillars of this transformation because they generate local employment, reduce post-harvest losses, and increase income through value addition.

In recent years, technological advancements such as AI-driven agriculture, drone technology, blockchain-based traceability systems, and IoT-enabled irrigation have opened new possibilities for rural modernization. At the same time, policy initiatives such as Digital India, PM Formalisation of Micro Food Processing Enterprises (PMFME), Startup India, and Farmer Producer Organizations (FPOs) have created an enabling ecosystem for rural entrepreneurship.

This paper explores the significance of Smart Villages in promoting inclusive rural growth and examines how entrepreneurship and agro-processing can contribute to sustainable development in India by 2047.

2. Literature Review

The concept of Smart Villages has gained increasing attention in recent years due to advancements in digital technologies and rural development strategies. Pasupuleti (2025) emphasized the role of Artificial Intelligence and Internet of Things technologies in transforming agriculture, healthcare, and governance systems in rural areas. According to the study, digital technologies improve resource management, productivity, and citizen participation.

NITI Aayog (2023) highlighted the potential of agri-tech innovations such as precision farming, drone technology, and smart irrigation systems in reducing water usage and improving agricultural productivity. The report also emphasized that digital agriculture can improve income stability for farmers.

NABARD (2024) stressed the importance of Self-Help Groups (SHGs) and Farmer Producer Organizations (FPOs) in strengthening collective entrepreneurship and financial inclusion. Community-driven institutions were found to be highly effective in mobilizing rural savings and supporting micro-enterprises.

Khan et al. (2021) examined agro-processing clusters in Bangladesh and found that access to modern equipment, credit facilities, and digital platforms significantly improved rural incomes and employment generation. Similar findings were presented by FAO and IFAD (2022), which reported that investment in local agro-processing infrastructure reduced post-harvest losses and enhanced food security.

Sarma and Kumar (2020) focused on digital platforms and mobile applications in vernacular languages, which improved farmers' access to information, markets, and e-commerce services. Mehta (2022) argued that Smart Village initiatives become successful when they integrate modern technologies with traditional knowledge systems and environmentally sustainable practices.

Although substantial research exists on digital agriculture and entrepreneurship, there remains a gap in integrating smart infrastructure, agro-processing, and entrepreneurship within a unified Smart Village framework.

3. Research Gap

1. Most studies examine digital agriculture, entrepreneurship, or agro-processing separately rather than within an integrated Smart Village framework.
2. Limited longitudinal studies exist to evaluate the long-term socio-economic impact of Smart Village initiatives.
3. There is insufficient analysis of policy effectiveness regarding programs such as PMFME, Digital India, and Smart Village pilot projects.
4. Research focusing on gender and youth-specific outcomes in rural entrepreneurship remains inadequate.
5. There is limited evidence regarding the scalability of successful Smart Village models across tribal and underdeveloped regions.

4. Objectives of the Study

1. To define and explain the Smart Village framework in rural India.
2. To analyze the role of rural entrepreneurship in promoting inclusive growth.
3. To study the significance of agro-processing in strengthening rural economies.
4. To identify successful models of Smart Villages and rural co-operatives.
5. To examine the challenges affecting rural transformation.
6. To suggest policy recommendations for achieving Smart Villages by 2047.

5. Research Methodology

The present study is descriptive and analytical in nature. It is based primarily on secondary data collected from government reports, research journals, policy documents, and publications by organizations such as NABARD, NITI Aayog, FAO, and IFAD.

Case studies of Farmer Producer Organizations, agro-processing units, and Smart Village initiatives in states such as Telangana, Andhra Pradesh, and Maharashtra have been analyzed. The study also uses thematic analysis and SWOT analysis to examine strengths, weaknesses, opportunities, and threats associated with Smart Village initiatives.

The methodology focuses on understanding how digital infrastructure, entrepreneurship, and agro-processing can collectively contribute toward sustainable rural development.

6. Concept of Smart Villages

A Smart Village refers to a rural community that uses modern technologies, innovation, and participatory governance systems to improve economic opportunities and quality of life. Smart Villages integrate digital infrastructure, renewable energy, sustainable agriculture, healthcare, education, and transparent governance systems.

Major Components of Smart Villages

- Digital connectivity and internet access
- Renewable energy systems
- Smart agriculture and irrigation technologies
- Rural entrepreneurship and co-operatives
- Digital governance and financial inclusion
- Sustainable infrastructure and resource management

The Smart Village model seeks to bridge the rural-urban divide while preserving local traditions, ecological balance, and community values.

7. Rural Entrepreneurship as a Driver of Inclusive Growth

Rural entrepreneurship plays a critical role in generating employment opportunities, reducing migration, and strengthening local economies. Entrepreneurship in villages often emerges from agriculture, handicrafts, dairy farming, food processing, eco-tourism, and renewable energy activities.

Smart Villages promote entrepreneurship by providing access to digital technologies, training programs, financial services, and market linkages. Farmer Producer Organizations and Self-Help Groups are important institutional mechanisms for promoting collective entrepreneurship.

Tech-enabled enterprises such as drone services, digital agri-platforms, and online marketing systems are creating new opportunities for rural youth. Green entrepreneurship involving organic farming, bio-fertilizers, and waste recycling also contributes toward sustainable development.

Women entrepreneurship is another emerging area within Smart Villages. SHGs and co-operatives provide women with financial independence, leadership opportunities, and participation in economic activities.

8. Agro-Processing and Value Addition

Agro-processing is one of the most important components of rural industrialization. It involves converting agricultural raw materials into value-added products such as packaged food, dairy products, fruit pulp, spices, and processed grains.

Benefits of Agro-Processing

- Reduces post-harvest losses
- Increases farmers' income
- Generates local employment
- Promotes export opportunities
- Encourages industrial growth in rural areas

Technologies such as cold storage systems, solar dryers, blockchain-based traceability systems, AI-driven quality control, and digital supply chains are transforming agro-processing industries.

By improving value addition and market access, agro-processing can significantly enhance rural prosperity and economic resilience.

9. Case Study: Tomato Processing Unit in Telangana

A Farmer Producer Organization consisting of 1,500 tomato growers in Telangana established a solar-powered tomato processing unit with government support. The project successfully converted surplus tomatoes into pulp and packaged products.

Outcomes of the Initiative

- Farmers received 30 percent higher prices for their produce.
- Women gained employment opportunities in grading and packaging activities.
- Post-harvest losses were significantly reduced.
- Processed products were marketed through digital platforms and exports.

The case study demonstrates how Smart Village initiatives can combine entrepreneurship, renewable energy, and agro-processing to improve rural incomes and strengthen local economies.

10. Integration of Technology with Rural Development

Technology plays a transformative role in Smart Villages. Artificial Intelligence, Internet of Things, cloud computing, and blockchain technologies are improving productivity, transparency, and decision-making in rural areas.

AI-based systems provide farmers with real-time information regarding weather conditions, pest management, soil health, and market prices. IoT devices monitor irrigation systems and improve resource efficiency.

Mobile applications in regional languages help farmers access banking services, government schemes, agricultural advisories, and digital marketplaces. Blockchain

technology enhances transparency in land records, subsidy transfers, and food traceability systems.

Successful Smart Villages integrate advanced technologies with local knowledge systems and community participation to ensure sustainable and inclusive development.

11. Challenges in Developing Smart Villages

Several challenges continue to affect the development of Smart Villages in India.

1. Infrastructure Deficiencies

Many villages lack roads, electricity, cold storage, internet connectivity, and transport facilities.

2. Digital Divide

Rural populations often face technological illiteracy and limited internet access.

3. Financial Constraints

Small entrepreneurs, MSMEs, and SHGs frequently face difficulties in accessing institutional credit.

4. Policy Fragmentation

Lack of coordination among government departments reduces implementation efficiency.

5. Market Dependence

Rural producers often depend on middlemen and lack direct market access.

6. Climate Change

Environmental uncertainties affect agricultural productivity and sustainability.

7. Social Inequalities

Gender disparities and regional inequalities continue to limit inclusive participation.

12. Findings of the Study

The study identifies several important findings:

- Smart Villages can become engines of inclusive growth when supported by digital infrastructure and entrepreneurship.
- Agro-processing significantly increases rural income and employment opportunities.
- Co-operative institutions such as SHGs and FPOs improve resilience and collective bargaining power.
- Technology integration improves productivity, transparency, and market access.
- Youth and women participation are essential for sustainable rural transformation.
- Convergence of infrastructure, finance, training, and governance is necessary for long-term success.

13. Policy Recommendations

1. Introduce a comprehensive National Smart Village Policy integrating rural development, digital infrastructure, and entrepreneurship.
2. Expand PMFME and agri-processing schemes with zero-interest loans and subsidies for rural entrepreneurs.
3. Establish Digital Panchayat Centers for training, e-governance, banking, and e-commerce services.
4. Promote agri-tech incubators in collaboration with universities and research institutions.
5. Improve rural infrastructure including roads, cold storage, renewable energy, and internet connectivity.
6. Strengthen Farmer Producer Organizations and women-led Self-Help Groups.
7. Encourage blockchain-based traceability systems for agricultural exports.
8. Promote AI-based rural learning platforms in vernacular languages.
9. Develop Smart Agro-Export Clusters to connect rural producers with global markets.
10. Enhance policy coordination among central, state, and local governments.

14. Future Scope of Research

Future research should focus on developing long-term frameworks for evaluating Smart Village initiatives. Studies examining the impact of AI-based agriculture, digital governance, green entrepreneurship, and blockchain systems on rural livelihoods are particularly important.

There is also a need for gender-sensitive and youth-focused research on entrepreneurship and economic mobility. Comparative studies between successful Smart Village models across different states and tribal regions can provide valuable insights for policy replication and scalability.

15. Conclusion

India's vision of becoming a developed nation by 2047 depends significantly on the transformation of rural economies. Smart Villages provide a sustainable and inclusive framework for strengthening rural development through entrepreneurship, agro-processing, digital infrastructure, and community participation.

Rural entrepreneurship and agro-processing can generate employment, improve farmer incomes, reduce migration, and strengthen food security. However, achieving Smart Villages requires coordinated policy support, technological innovation, financial inclusion, and institutional strengthening.

By integrating modern technologies with local knowledge systems and participatory governance, India can build resilient rural communities capable of contributing

significantly to national development. Smart Villages can therefore become the foundation for inclusive growth and sustainable prosperity in Viksit Bharat 2047.

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