

**Navigating Women's Empowerment: Reflections on Indian Feminist  
Writings**

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**IJMER**, Journal of Multidisciplinary Educational Research, concentrates on critical and creative research in multidisciplinary traditions. This journal seeks to promote original research and cultivate a fruitful dialogue between old and new thought.





*Two Day National Seminar*

on

# **Strategies & Challenges of Women Empowerment in India**

**28-29, January 2026**



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Vivekananda Government Degree College (A), Vidyanagar.**

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## About Hyderabad

Hyderabad is important as a major center for information technology and pharmaceuticals, earning it the nicknames "Cyberabad" and "Vaccine Hub of India". Historically, it was a global center for trade in pearls and diamonds and is known for its rich culture, monuments like the Charminar, and a vibrant food scene. Today, it is also the capital of Telangana, a key economic hub, and a city known for its diverse culture, food, and a thriving arts scene, having attracted many performers and artists over the centuries.

## About Vivekananda Govt. Degree College (A), Vidyanagar

The college was established in the year 1955 as an evening college, Swami Vivekananda Education Society (SVES) Telugu Kolasala (Evening) under the chairmanship of Dr. Mami Chenna Reddy, former Chief Minister of Andhra Pradesh, and Acharya Khandavali Lakshmi Ranjanam, Professor of Telugu in Omania University (1938-1964) as the secretary.

The SVES, Telugu Kolasala was a composite college offering PUC and UG courses in Arts and Commerce. It was taken over by the Government in 1982 and named as SVES Government Telugu Kolasala (Evening). In compliance with the Government of Andhra Pradesh's policy, the college was converted into Day College in 1990 and renamed Vivekananda Government College, Vidyanagar.

In 2002, the Jr. College was bifurcated from it and was renamed Vivekananda Government Degree College and B.Sc. (MScS) was introduced to the existing BA and B.Com streams. The college was accorded recognition under 2(i) and 2(b) of the UGC Act 1956. The College was accredited by NAAC with CGPA of 2.10 with 'B' grade in the year 2015. Re-accredited by NAAC with 'A' grade (5.14 CGPA) in 2022. The College adopted the Choice Based Credit System (CBCS) from the academic year 2018-19. The College is granted Autonomy in the year 2024-25.

New UG programs in BA, BA (L), BA (PPG), B.COM, B.Sc, BBA and BCA with many combinations were introduced in the college now. Presently the college is offering UG programs in BA, BA (L), BA (PPG), B.Com, BBA, B.Sc., BCA with different combinations and MDP (B.Com (BFSI)), BBA (R.O), B.Sc (Health care management) courses.

The college is in two blocks (old and new), with spacious classrooms, laboratories and a library with a reading room and an e-corner. Additional classrooms are also under construction in new block. The Telangana Skill Knowledge Centre (TSKC), the Women Empowerment Cell (WEC), NCC, NSS, etc., are some of the support services provided by the college. There are 58 experienced teaching staff, a librarian, a Physical Director and 20 members of non-teaching staff to help in the maintenance and smooth functioning of the college.

## About the Department:

The Department of Political Science was established in 1985 with Telugu as the medium of instruction in the college. Political Science is one of the undergraduate courses with the combination of History, Economics, Public Administration, Computer Applications and Mass Communication and Journalism. The Department offers SEC and GE courses like Contemporary Political Economy, Citizenship Laws, Rights and Duties, Legislative Procedures and Practices, Human Rights.

## About the Seminar:

Women's empowerment has been an issue of immense discussions over the last few decades worldwide. This has been added in most government plans and programs as well. Efforts have been made on a regular basis across nations to address this issue and enhance the socio-economic status of women. However, it has been observed that most of the policies and programs view empowerment in the economic sense only, working in the belief that economic self-reliance empowers women. Five-year plans in India have taken several initiatives towards women's development through plans, policies, and schemes. Socio-economic prospects for women have been exercised through different training programmes, sensitization programmes, and capacity-building measures.

The concern of gender equality has been focused on the plan period. The report "Towards Equality" submitted by the Committee on the Status of Women in India made tremendous changes in the status of women in India and it fostered socio-economic empowerment of women. The inclusion and continuation of Women's Studies as a subject in the academic curriculum has been considered a significant achievement through five-year plan efforts. The gender budgeting system in India is another significant initiative.

Aspects towards economic empowerment of women in India, at the workplace, women often face barriers which include wage gaps, little career advancement, and occupational segregation. Promoting equal access to education, training, and entrepreneurship can empower women economically, fostering independence and reducing poverty.

## Objectives of the Seminar:

The overall objective of the seminar is to present the current scenario in women's empowerment in relation with economic development as well as political participation. There are many changes occurring in rural and urban areas in the status of women and their socio-economic empowerment. The academic discourse will be highlighting the issues pertaining to women empowerment and economic sustenance. The experts in the field of gender and women's studies shall make a debate and discussion for an alternative approach towards revealing issues of women empowerment in general and Telangana State in particular.

The seminar has to document the learning outcomes from participants and professionals from different sectors, and the same will be an indispensable approach towards suggesting appropriate authorities and stakeholders for women empowerment.

The secondary objective of the seminar is to make people aware about the rights of women which are vitally necessary in society. The fact remains that even today, women's rights are often violated in various forms. So, it is high time to seek a pragmatic discourse on various aspects – seeking the causes, consequences, and solutions towards a positive gender justice.

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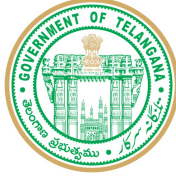
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**Prof. M. Kodandaram,  
Member of the Legislative Council, Telangana**

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### **MESSAGE**

It is a matter of immense privilege for me to be associated with this two-day ICSSR-SRC-sponsored National Seminar on “Strategies and Challenges of Women Empowerment in India,” organised by the Department of Political Science, Vivekananda Government Degree College (Autonomous), Vidyanagar, Hyderabad, on 28-29 January 2026. I warmly congratulate the Principal, Dr. K. Prabhu, the Head of the Department and Convener, Dr. S. Rama Devi, the Co-Convener, Dr. I. Thirupathi, and the entire organising committee for their commendable initiative in bringing this vital discourse to the national stage.

Women’s empowerment is not merely a policy imperative — it is the moral cornerstone of a just and democratic society. Despite constitutional guarantees and legislative advances, millions of women in India continue to contend with inequality in economic participation, political representation, educational access, and social dignity. True empowerment demands not only rights on paper but their meaningful realisation in everyday life.

The seminar’s themes — Economic Empowerment, Educational and Skill Development, Political and Legal Empowerment, Social and Cultural Transformation, Digital and Technological Inclusion, and Institutional and Policy Frameworks — together form a comprehensive and timely agenda. The rich diversity

of over a hundred research contributions from across the country promises deliberations of lasting academic and policy value.

I urge all participants to engage with rigour, empathy, and purpose. May this seminar illuminate pathways toward a truly equitable India where every woman stands empowered in every sphere of life.



Prof. M. Kodandaram  
Member of the Legislative Council,  
Telangana



**Dr. DANASARI ANASUYA SEETHAKKA**  
Minister for PR, RD & RWS  
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Government of Telangana



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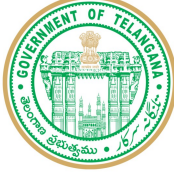
### **MESSAGE**

I am glad to note that the Vivekananda Government Degree College Vidyanagar conducting a two-day national seminar "Strategies and Challenges of Women Empowerment in India" on 28, 29 January 2026.

This would be an opportunity to review and evaluate the ongoing policies and progress, aiming to achieve women empowerment. The deliberations this national level seminar hopefully identifies the strategies and challenges for course correction and expedites the process of women empowerment.

I extend all my good wishes for the grand success of this seminar with a request to record the proceedings and success stories.

  
(Dr. Danasari Anasuya Seethakka)



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**Commissioner**  
**DEPARTMENT OF COLLEGIATE EDUCATION AND TECHNICAL**  
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### **MESSAGE**

It is a matter of profound pride that the Department of Political Science of Vivekananda Government Degree College (Autonomous), Vidyanagar, Hyderabad, is organising an ICSSR-SRC sponsored National Seminar on "Strategies and Challenges of Women Empowerment in India" on 28-29 January 2026. I extend my heartfelt congratulations to the Principal, the Head of the Department and Convener, the Co-Convener, and the entire organising team for steering this timely and important academic initiative.

Women's empowerment is not merely a policy imperative — it is the cornerstone of a just, inclusive, and progressing society. While decades of national planning and legislative reforms have brought meaningful improvements in the status of women in India, the journey toward true gender equality remains unfinished and urgent. The seminar's themes reflect a comprehensive understanding of women's empowerment — encompassing Economic Empowerment, Educational and Skill Development, Political and Legal Empowerment, Social and Cultural transformation, Digital and Technological Inclusion, and Institutional and Policy strategies. These domains are deeply interlocked, and progress in one reinforces gains in all others. Enriched by over a hundred research papers from academicians, researchers, and policymakers across the country, the deliberations will generate insights of both scholarly and policy significance. The Commissioner's Office for Collegiate Education remains committed to fostering an enabling environment where women students are inspired, supported, and equipped to lead. The seminar's focus on documenting outcomes and channelling them as recommendations to relevant stakeholders is a commendable approach. I urge all participants to engage with openness, rigour, and genuine inquiry. I convey my best wishes for the success of this seminar and trust it will serve as a beacon of transformative action in the pursuit of gender justice.

A. Sridevasena, IAS



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**PROF. V. BALAKISTA REDDY**  
LL.M; M.Phil; Ph.D.(JNU)  
CHAIRMAN



### MESSAGE

It gives me immense pleasure to convey my heartfelt greetings on the occasion of the Two-Day National Seminar on **“Strategies & Challenges of Women Empowerment in India”**, organized by the Department of Political Science, Vivekananda Government Degree College (Autonomous), Vidyanagar, Hyderabad, **on January 28–29, 2026**.

Women empowerment today stands at the core of India’s developmental narrative. It is not only about ensuring equal rights, but about creating equal opportunities for women to participate meaningfully in economic growth, governance, innovation, and nation-building. Despite notable progress, challenges such as access to quality education, skill gaps, workforce participation, and leadership representation continue to demand focused attention.

Higher education institutions are uniquely positioned to address these challenges. They serve as catalysts for change by nurturing confidence, critical thinking, and leadership among young women. By integrating multidisciplinary learning, skill-oriented education, and gender-sensitive practices, our institutions can empower women to emerge as drivers of social and economic transformation.

I congratulate the organizers on this commendable initiative and extend my best wishes to all participants for productive and enriching deliberations.

Warm regards,

(Prof. V. Balakista Reddy)

भारतीय सामाजिक विज्ञान अनुसंधान परिषद्  
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**Prof. B. Sudhakar Reddy, Ph.D.**  
Honorary Director

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## Message

It is a matter of great privilege and satisfaction to extend my warm greetings on the occasion of the two-day National Seminar on “Strategies and Challenges of Women Empowerment in India,” sponsored by ICSSR-SRC and organised by the Department of Political Science, Vivekananda Government Degree College (Autonomous), Vidyanagar, Hyderabad, during 28-29 January 2026. I place on record my sincere appreciation of the efforts of the Principal,



Dr. K. Prabhu, the Head of the Department and Convener, Dr. S. Rama Devi, the Co-Convener, Dr. I. Thirupathi, and the entire organising committee for conceptualising and convening this important academic forum.

Women’s empowerment continues to be a critical developmental priority in contemporary India. Notwithstanding constitutional safeguards and sustained policy interventions, deep-rooted structural constraints—emanating from patriarchy, socio-economic inequalities, and cultural norms—persist in impeding the full realisation of women’s capabilities. Addressing these challenges necessitates a holistic and interdisciplinary approach encompassing education, economic participation, legal safeguards, political representation, and digital inclusion. In this context, the thematic focus of the seminar is both timely and intellectually significant.

The six thematic areas—Economic Empowerment, Educational and Skill Development, Political and Legal Empowerment, Social and Cultural

Transformation, Digital and Technological Inclusion, and Institutional and Policy Strategies—aptly capture the multidimensional nature of gender equity and inclusive development. The participation of a large number of scholars and researchers from diverse regions of the country is expected to enrich the deliberations with empirical depth, methodological rigour, and policy relevance.

The ICSSR-SRC remains steadfast in its commitment to promoting high-quality research and academic engagement on issues of national importance, particularly those about equity, inclusion, and social justice. I am confident that this seminar will generate meaningful scholarly discourse and contribute valuable insights for policy formulation and implementation.

I extend my best wishes to all participants for fruitful deliberations and the successful conduct of the seminar.



(Sr. Prof. B. Sudhakar Reddy)  
Honorary Director



**Commissionerate of Collegiate  
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**Prof. P.Bala Bhaskar, M.Sc., Ph.D.  
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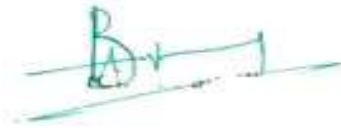
## **MESSAGE**

It gives me great pleasure to convey my warmest greetings on the occasion of the two-day ICSSR-SRC-sponsored National Seminar on “Strategies and Challenges of Women Empowerment in India,” organised by the Department of Political Science, Vivekananda Government Degree College (Autonomous), Vidyanagar, Hyderabad, on 28-29 January 2026. I appreciate the Principal, Dr. K. Prabhu, the Head of the Department, and Convener Dr. S. Rama Devi, the Co-Convener, Dr. L. Thirupathi, and the entire organising committee for their dedication to creating this meaningful national platform.

Women’s empowerment encompasses a woman’s full right to education, political participation, social dignity, cultural freedom, legal protection, and technological access. Despite significant strides through legislation and social movements, women across India continue to face deeply entrenched structural barriers. Academic deliberation, grounded in research and lived experience, is therefore indispensable. The seminar’s themes are truly commendable — Economic Empowerment, Educational and Skill Development, Political and Legal Empowerment, Social and Cultural Transformation, Digital and Technological Inclusion, and Institutional and Policy Frameworks — capturing the interconnected, multi-layered nature of gender justice. Over a hundred research contributions from scholars, practitioners, and experts across India will enrich these deliberations with empirical depth and comparative perspective. As an institution under the Office of the Commissioner of Collegiate Education, Telangana, Vivekananda Government Degree College has consistently demonstrated its commitment to academic excellence and social

relevance. The collegiate education system plays a pivotal role in nurturing empowered, socially conscious young women. This seminar rightly addresses the digital divide, barriers to entrepreneurship, underrepresentation in political institutions, and the need for gender-sensitive public policies — translating rigorous inquiry into concrete recommendations for policymakers.

I urge every participant to engage fully with these proceedings and extend my best wishes for an intellectually stimulating and socially purposeful seminar. May it serve as a meaningful step forward in the journey toward the full empowerment of women in every sphere of Indian life.



Prof. P. Bala Bhaskar  
Joint Director, Collegiate Education,  
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## **MESSAGE**

It is with great honour that I convey my heartfelt greetings on the occasion of the two-day ICSSR-SRC-sponsored National Seminar on “Strategies and Challenges of Women Empowerment in India,” organised by the Department of Political Science, Vivekananda Government Degree College (Autonomous), Vidyanagar, Hyderabad, on 28-29 January 2026. I commend the Principal, Dr. K. Prabhu, the Head of the Department and Convener, Dr. S. Rama Devi, the Co-Convener, Dr. I. Thirupathi, and the entire organising committee for their vision and commitment.

Women’s empowerment remains a continuous, multi-fronted endeavour. Despite constitutional guarantees and transformative legislation, structural barriers persist across economic, social, political, and digital domains — reminding us that legal rights must be matched by effective enforcement and sustained collective will.

The seminar’s six themes — Economic Empowerment, Educational and Skill Development, Political and Legal Empowerment, Social and Cultural Transformation, Digital and Technological Inclusion, and Institutional and Policy Frameworks — comprehensively capture the gender question in contemporary India. Over a hundred research contributions from scholars across the country will ensure empirically grounded and policy-relevant deliberations.

I hope these two days yield actionable recommendations that bridge scholarship with policy and bring the voices of marginalised

women to the centre of national discourse. I extend my warmest felicitations to all participants and wish the seminar every success.

A handwritten signature in black ink, appearing to read 'D.S. Rajender Singh', with a horizontal line underneath.

Prof. D.S. Rajender Singh  
Joint Director,  
Collegiate Education,  
Government of Telangana



**VEKANANDA GOVERNMENT DEGREE COLLEGE**  
**(AUTONOMOUS) - AFFILIATED TO OSMANIA UNIVERSITY**  
**VIDYANAGAR, HYDERABAD, TELANGANA STATE - 500 044.**

Re-Accredited by NAAC with A Grade, ISO 9001:2015 Certified College

Principal: Prof. K. Prabhu, M.A., Ph.D.

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## MESSAGE

As the Principal of Vivekananda Government Degree College (Autonomous) and Chairperson of this ICSSR-SRC-sponsored National Seminar, it is my distinct privilege to welcome all dignitaries, academicians, and delegates. The Department of Political Science has taken a highly commendable step in convening this vital two-day discourse on “Strategies and Challenges of Women’s Empowerment in India.”

Higher educational institutions play a transformative role in building an equitable society. True empowerment extends beyond mere economic independence; it necessitates a holistic dismantling of systemic barriers and the cultivation of strong, inclusive frameworks. At our institution, we remain deeply committed to fostering an academic environment where young women are equipped with the knowledge, resilience, and leadership skills required navigating and excelling in the modern world.

With over a hundred research contributions expected, I am certain that the deliberations across various technical sessions—spanning digital inclusion, legal rights, and policy frameworks—will yield pragmatic solutions and enrich existing academic literature.

I commend the Convener, the Head of the Department, and the entire organizing committee for their tireless efforts in bringing this event to fruition. I wish the seminar a resounding success.

Dr. K. Prabhu  
Principal & Seminar Chairperson  
Vivekananda Government Degree College (Autonomous)  
Vidyanagar, Hyderabad



Dr. Soundarya Joseph  
Project Officer, PM-USHA

### **Message**

It gives me immense pleasure to convey my greetings on the occasion of the two-day ICSSR-SRC-sponsored National Seminar on "Strategies and Challenges of Women Empowerment in India," organised by the Department of Political Science, Vivekananda Government Degree College (Autonomous), Vidyanagar, Hyderabad, on 28–29 January 2026. I commend the Principal, Dr. K. Prabhu, the Head of the Department and Convener, Dr. S. Rama Devi, the Co-Convener, Dr. L. Thirupathi, and the organising committee for their commendable initiative in hosting this timely national forum.

Women's empowerment remains one of the most urgent imperatives of our times. Access to quality education, economic opportunity, and institutional representation are not merely policy goals — they are the foundations of a just and equitable society. RUSA's mandate to strengthen higher education across Telangana is deeply aligned with this vision, recognising that empowered women are both the beneficiaries and the architects of social transformation.

The seminar's broad thematic sweep — spanning Economic Empowerment, Educational and Skill Development, Political and Legal Empowerment, Social and Cultural Transformation, Digital and Technological Inclusion, and Institutional and Policy Strategies — offers a comprehensive lens through which scholars and practitioners can together address the structural challenges women continue to face.

I wish the seminar every success and trust that its deliberations will yield meaningful insights and policy-relevant recommendations in the service of women's full and equal participation in national life.

A handwritten signature in blue ink, appearing to read 'Soundarya Joseph'.

Dr. Soundarya Joseph  
Project Officer, PM-USHA



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**Dr.S.Rama Devi,**

**Assistant Professor & Head, Department of Political Science,**

**Conference Convenor**



### **CONVENER MESSAGE**

It is with great pride and privilege that I welcome you all to the Two-Day National Seminar on "Strategies and Challenges of Women Empowerment in India," organized by the Department of Political Science at Vivekananda Government Degree College, Hyderabad.

At this critical juncture, addressing gender inequalities and fostering women's empowerment is more important than ever. Women's empowerment is a multidimensional issue that encompasses economic independence, educational access, political participation, legal protection, social change, and digital inclusion. Over the next two days, our seminar will explore these crucial areas through six comprehensive thematic streams: Economic Empowerment, Educational and Skill Development, Political and Legal Empowerment, Social and Cultural Transformation, Digital and Technological Inclusion, and Institutional and Policy Strategies. Our goal is to engage in open discussions, share evidence-based findings, and produce practical recommendations relevant to India's diverse contexts.

Putting together a seminar of this magnitude is a collaborative effort, and I am deeply indebted to the many individuals and organizations who have made this possible.

I am sincerely grateful to the Former MLC, Prof. M. Kodandaram (Retd.), whose presence and blessings have greatly honoured this seminar.

I extend my gratitude to Dr. Danasari Anasuya Seethakka, Hon'ble Minister for PR, RD & RWS, and Women and Child Welfare, Government of Telangana, for her kind blessings and support in making this seminar truly meaningful.

I am especially grateful to Smt. A. Sridevasena, IAS, Hon'ble Commissioner, Collegiate Education, Telangana, for her invaluable guidance, which has been instrumental in shaping this event.

I am especially grateful to Prof. P. Bala Bhaskar, Joint Director, CCE, Telangana and Prof. D.S. Rajender Singh, Joint Director, CCE, Telangana. for their presence and guidance, which have played a crucial role in this event.

I extend my heartfelt thanks to Prof. V. Balakista Reddy, Chairperson, TGCHE; Prof. B. Sudhakar Reddy, Honorary Director, ICSSR-SRC and Dr. Soundarya Joseph, State Project Officer, RUSA, T.G. for their guidance and support.

A special word of thanks to our esteemed Key Note Speaker, Dr. Vanishree Joseph, NIRDPR, Hyderabad and Resource Persons, Chair and Co-chairs: Prof. K. Laxmi (retd), Dept. of Political Science, Osmania University; Prof. Naidu Ashok (retd), Dept. of Political Science, Osmania University; Dr. Aruna Pariti, Head, Department of History, Veeranari Chakali Iamma Women's University, Koti, Hyderabad; Dr. Madhulatha Alexander, MD, Professor, Osmania Medical College, Consultant Obstetrician & Gynaecologist, Hyderabad; Dr. Beena Chintalapuri Emeritus professor Department of Prisons, Telangana State; Dr. G. Angela, Centre for Sahayam, Osmania University, Hyderabad; Prof. Aparna Rayaprol, Department of Sociology, Central University, University of Hyderabad; who have graciously agreed to share their time and profound expertise with us.

We owe a special debt of gratitude to our funding agencies, particularly the ICSSR-SRC, PM-USHA, and TGCHE, for their generous sponsorship and belief in the importance of this academic discourse.

I would like to express my profound gratitude to our Principal, Prof. Dr. K. Prabhu, for his visionary leadership and unwavering support. My sincere thanks go out to Dr. L. Thirupathi, Co-Convener, Lecturer in Political Science, and all the teaching staff, office staff, students, and every member of our college family for their dedicated cooperation and untiring efforts.

Finally, a very warm and personal thank you to all my Gurus and encouraging friends who have been a constant source of motivation and strength throughout this endeavour.

I wish the seminar a grand success and hope these two days will be highly enriching and productive for everyone involved.



Dr. S. Rama Devi  
Convener & Head, Department of Political Science  
Vivekananda Government Degree College (Autonomous), Hyderabad  
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**Dr. K. VICTOR BABU**

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**Editorial.....**

It is heartening to note that our journal is able to sustain the enthusiasm and covering various facets of knowledge. It is our hope that IJMER would continue to live up to its fullest expectations savoring the thoughts of the intellectuals associated with its functioning .Our progress is steady and we are in a position now to receive evaluate and publish as many articles as we can. The response from the academicians and scholars is excellent and we are proud to acknowledge this stimulating aspect.

The writers with their rich research experience in the academic fields are contributing excellently and making IJMER march to progress as envisaged. The interdisciplinary topics bring in a spirit of immense participation enabling us to understand the relations in the growing competitive world. Our endeavour will be to keep IJMER as a perfect tool in making all its participants to work to unity with their thoughts and action.

The Editor thanks one and all for their input towards the growth of the **Knowledge Based Society**. All of us together are making continues efforts to make our predictions true in making IJMER, a Journal of Repute

**Dr.K.Victor Babu**  
Editor-in-Chief

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## CHAPTER – 141

### Women's Empowerment Through STEM Education: Breaking Barriers in India's Technology

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#### Abstract

This research Paper is to investigate the effects of STEM (Science, Technology, Engineering, and Mathematics) education on gender equality and national development in India. This study will zero in on obstacles in the innovation and technology industries with a particular emphasis on their removal. The elimination of obstacles that are now existent in the technology and innovation sectors will be the means by which this objective will be attained. Because of this, it will be feasible to study the impact that education in STEM subjects has on the process of bringing about transformation. Regardless, despite India's progress toward technical powerhouse status, women continue to remain underrepresented in STEM disciplines. Even if India has achieved a lot recently, this is still the case. The present situation is the result of a confluence of factors, some of which have persisted for a long time and pertain to social, cultural, and institutional difficulties. This study examines women's participation, educational programs, and inclusion measures. This investigation covers all of them. In order to do this, tools such as statistical data, case studies, and policy analysis are utilized. Publicly available information suggests that a STEM (science, technology, engineering, and mathematics) education can help students become economically self-sufficient, foster an environment conducive to creativity, and advance gender equality. The systemic structure, the underlying framework of India's system, is also open to potential modification as a result of these developments.

**Keywords:** STEM, obstacles, powerhouse, statistical data, assist, creativity, gender equality, framework.

#### Introduction

Even though India is at the forefront of technical innovation on a global scale, women are still notice ably under represent ed in STEM fields. Projections show that the country's IT sector will have reached a total value of \$350 billion by 2025.

Individual possibilities are restricted, and the expansion of the nation is hampered in an economy that is driven by information. Gender inequality is a concern in an information-driven economy. Providing women with the skills essential to navigate and prosper in high-demand fields such as artificial intelligence, biotechnology, and software engineering is made possible via the application of STEM education, which also serves as a potent tool for empowering women. Some examples of industries that come within this category are computer software engineering, biotechnology, and artificial intelligence. But there are also major challenges, such as biases in the workplace, limited educational possibilities, and cultural norms. Women in India's IT and innovation industries have unique challenges, and this article seeks to address that by examining how STEM education could help them succeed. What are some of the ways that this may be accomplished? The study investigates the most recent tendencies, examines the activities that are currently in place, and provides prospective solutions that may be put into action. This is accomplished via the usage of both quantitative data and qualitative insights. By bridging this gap, India would be able to unleash the full potential of fifty percent of its people, which will, in turn, encourage economic growth and create social equality. This would be a win-win situation for everyone involved.



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## Background and Context

There has long been a gender bias in India's STEM (science, technology, engineering, and mathematics) fields. For quite some time, this form of prejudice has persisted. This limitation likely originates from patriarchal traditions, which value domestic duties more highly than the achievement of one's professional goals. Patriarchal traditions may have been the driving force behind this restriction. There is no denying that educational opportunities in the early 20th century were severely constrained. As evidence, consider the fact that by 1950, just 2% of women were participating in programs that provided access to higher education. A mere 29% of STEM degree recipients are female, according to the All-India Survey on Higher Education (AISHE)2023–24. But this is the truth, even though women constitute 43% of all college and university students. Despite efforts to advance the case, this is the result that has materialized. Also, as compared to the rest of the nation, rural towns' development rates are getting worse and worse. Because of rampant cultural biases and poor infrastructure, people in these regions are less likely to pursue jobs in the STEM fields. In contrast, a poll conducted and published by NASSCOM in 2023 found that women made up just19% of the IT industry's workforce. The technical sector in India is responsible for the 7.5% of GDP that comes from the technology industry, which employs more than five million people. That being said, nothing has changed regarding the situation over the years. In this segment, we track the rise of women's involvement, high lighting water shed moments like the1980sgovernment scholar ship program and the founding of women's universities. This section specifically highlights such events. In addition, a description of the history of women's participation is included in this section. Additionally, it sets India's rise to prominence as a worldwide hub for technology into its context, underlining the necessity of gender diversity in order to maintain innovation and competitiveness in fields like as artificial intelligence, robots, and renewable energy. This is an important aspect of the setting. This course of action is pursued in order to guarantee that India will continue to have a significant position in the global technology industry.

## Barriers to Women’s Participation in STEM

Many barriers exist in India that prevent women from pursuing STEM occupations. Various types of obstacles impact various surroundings, including social, educational, and professional spheres.

**Societal and Cultural Norms:** Young women are discouraged from pursuing careers in mathematics and science due to these persistent preconceptions that portray STEM as a male-dominated field. Math, science, technology, and engineering make up STEM. The four main parts of the STEM acronym are math, science, technology, and engineering. The focus changes from a young person's education to their new responsibilities at home once they get married. This is because of the combination of circumstances. Twenty-three percent of the population, namely rural women between the ages of twenty and twenty-four, exhibit this tendency(NFHS5,2021). Parents sometimes have the belief that "safer" jobs, such as teaching, are more desired than careers in engineering or technology. This is a prevalent misconception.

**Educational Access:** The United Nations Educational, Scientific, and Cultural Organization (UNESCO) 2023 reports that about 40% of public schools are tasked with teaching science to secondary school pupils. A significant amount of the total is made up of this. Most of the time,

Rural school slack certain resources like scientific labs, computers, and instructors with degrees in math, science, and engineering. Due to budgetary constraints, families are compelled to prioritize their sons' education more heavily. During the academic years, this is particularly the case. One of the many factors contributing to the persistent underrepresentation of women in STEM fields is the dearth of positive role models in these fields. Due to a lack of interest, the problem persists. Due to the inherent disparities between rural and urban settings, resolving this problem in the former is far more challenging than in the latter. Compared to their urban counterparts, girls living in rural regions had a significantly lower likelihood of participating in STEM programs. This discrepancy is significant enough to merit consideration.



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## Role of STEM Education in Empowerment

They possess the technical expertise, self-assurance, and problem-solving skills necessary to thrive in a constantly changing industry. Due to the fact that these women have acquired degrees in STEM topics, they are able to participate in this dynamic market. Computer science and engineering are two examples of fast-growing fields where degree programs have opened doors for women. More opportunities exist for women now than in the past. The number of women working in software development has grown by 20% from 2018 to 2024, according to LinkedIn's India Workforce Report. This is an increase of 20% from the previous year. The report is where we got this data. The Department of Science and Technology's Vigyan Jyoti Scheme and similar programs have resulted in a fifteen percent rise in the number of female students majoring in STEM subjects. This increase in population has been documented in over 100 distinct districts. Participation in these programs provides participants with mentorship experiences in addition to opportunities to gain laboratory skills. Scholarships from private players, such as Tata Trusts and Google's Women in Technology program, have been allocated to more than 10,000 women. These women have been allowed to pursue further education. These scholarships have been of assistance in reducing some of the difficulties that women encounter in terms of their financial situation. Education in the STEM fields makes it feasible for women to innovate in a variety of fields, including but not limited to the field of economics. For example, women may innovate by developing applications for healthcare or discovering solutions for sustainable energy. This is because working in these fields equips women to be economically independent and gives them the confidence to start their own businesses. In the next section, we'll go over some of the numerous ways that technical, data analysis, and engineering skills could benefit startup companies. There has been a 25% increase in the percentage of women leading IT companies since 2020 (Inc42 2020). The information technology sector also had a role in this growth. Also, it considers the power of education to change minds and encourage they outh of today to pursue careers in STEM fields and beyond.

## Case Studies and Success Stories

Girls in Tech India: Through its online classes and boot camps, this foundation has enabled

### This section profiles transformative examples of women in STEM:

Over 5,000 women will gain training in data science, cybersecurity, and computer science. They have been granted access to these training opportunities. They have had the opportunity to participate in this training program from 2018. Sixty percent of the people who took part in the study in Telangana found jobs in the tech industry, with average yearly salaries of six lakh Indian rupees. This is at estament to the importance of education in driving economic progress.

This number shows that education is crucial to a country's economic growth.

Kiran Mazumdar-Shaw, Biocon: After Shaw finished his schooling and research in the area of biotechnology in 1978, he chose to start Biocon. This incident happened after Shaw had completed his high school education and was studying for his final exams. He built a biotechnology enterprise worth two billion dollars thanks to his considerable knowledge and skill in science, mathematics, and technology. He was able to effectively accomplish this objective by making use of both his own expertise and his own experience from previous endeavours. The work she has done in the field of easily accessible, fairly priced insulin and cancer drugs is an example of the innovativeness that is driven by education. She has done work like this before. This is an illustration of some of the work she has completed previously.

Rohini Srivathsa, Microsoft India: Srivathsa, who holds a degree in engineering and is currently working in this capacity, is currently serving in his current post as Chief Technology Officer. The technical department reports to him as well. In



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addition, he oversees the division that deals with technical issues. It is his responsibility to manage the activities related to cloud computing and artificial intelligence, as per the criteria of his current job. On top of that, she is an inspiration to younger women since she champions Microsoft's diversity initiatives. For younger women, she is an inspiration. One of the most important things she offers is this contribution, which she is offering. She is a terrific example of the many different kinds of leadership jobs that are available in the technology industry. She is an excellent demonstration of this. She is a wonderful illustration.

### Policy and Institutional Initiatives

The Indian government and private sector have developed STEM women's initiatives. The NEP 2020 promotes gender balance in schools through STEM camps and incentives for girls. AISHE forecasts a 12% increase in women enrolled in technical schools by 2024. The GATI project promoted inclusive policies to boost metropolitan female STEM faculty by 10%. More than 20,000 young women are given the chance to attend coding courses and get mentorship each year by private groups like STEM for Girls at IBM. Meanwhile, Adobe's Women in Technology Awards pay tribute to trailblazing female tech executives. But this doesn't mean there aren't obstacles: Scholarship funding is insufficient, and only 5% of eligible students receive it; rural outreach remains poor, with just 30% of project targeting far away regions. Likewise, there are still difficulties to overcome. An analysis of the implications is carried out in this section by making use of data and feedback from various stakeholders. One of the positives that has been highlighted is the momentum of the policy, while one of the drawbacks that has been noted is the implementation in tier-2 and tier-3 cities.

### Strategies for Breaking Barriers

This section offers suggestions to encourage more women to pursue technical, scientific, and mathematical careers:

**Awareness Campaigns:** It is necessary to initiate and coordinate media initiatives on a national scale across the whole nation. The objective is to dispel common misunderstandings about women who are working in STEM professions and to raise awareness about women who are employed in these industries through the use of various media such as television, social media, and community seminars. Parents and instructors need to take an active position in the process of assisting females in achieving their goals.

**Workplace Reforms:** It is recommended that audits be conducted to verify that equal pay is being provided, with the aim of reaching parity by the following year, 2028. Offering flexible working hours and child care services to employees is crucial for organizations functioning in the technology industry. The goal of increasing the ratio of women in senior positions to 30% can be advanced by the establishment of mentorship programs that connect women with leaders.

**Partnerships:** Joining forces between the state, NGOs (like GirlsWhoCode), and IT firms like Infosys is crucial if we are to meet our target of 2 million women by 2030. With outdoing this, no other task can be considered essential. For the simple reason that reaching the goal calls for a trifecta of these kinds of things. In order to begin, this is the sole method that will allow you to finish the prerequisite chores. Because of this, more options for internships, innovation labs, and professional development programs will become available. This is the inevitable result of this, given the circumstances.

### Literature Review

**Gupta, N. (2012):** "Women in Science and Technology in India: A Status Report." Namrata Gupta examines the plight of women in India's STEM fields and the disparity between their levels of education and their engagement in the workforce. Published in Current Science (Vol. 102, No. 3), the research finds that women constitute about 40% of STEM graduates but



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only 12% of the scientific workforce, a disparity attributed to cultural norms, lack of mentorship, and work-life balance challenges. Through an analysis of enrollment data, workforce statistics, and interviews with female scientists and engineers, Gupta underscores the need for policy interventions, gender-sensitive curricula, and mentorship programs to bridge this gap and empower women in STEM fields.

**UNESCO(2017):** "Cracking the Code: Girls' and Women's Education in STEM" UNESCO's 2017 report, "Cracking the Code: Girls' and Women's Education in STEM," provides a global perspective on female participation in STEM, with a dedicated section on India. It reveals that 35% of STEM students in India are women, but societal stereotypes and limited access to quality education, especially in rural areas, hinder progress.

**All India Survey of Higher Education (AISHE, 2020):** "Gender Statistics in Higher Education" The All-India Survey of Higher Education (AISHE) 2020, conducted by the Ministry of Education, India, examines gender statistics in higher education, including STEM fields. It reports that women make up 43% of STEM graduates, with strong representation in biosciences (50%), but only 16.6% of research positions in STEM are held by women, far below the global average. Using statistical analysis of university enrollment and graduation data, the study highlights a "leaky pipeline" where women exit STEM careers due to societal pressures and workplace bias.

**Kurup, A., & Maithreyi, R. (2011):** "Beyond Family and Societal Attitudes: Women in Science Education in India." Anuradha Kurup and R. Maithreyi's 2011 study, published in the International Journal of Science Education (Vol. 33, No. 10), investigates factors influencing women's persistence in STEM education and careers in India. It notes that mentorship and scholarships improve retention. The study calls for career counselling, awareness campaigns, and targeted interventions to shift societal attitudes and support women in STEM.

**Prasad, K. (2019):** "Gender Bias in India's STEM Workforce: A Case Study." K. Prasad's 2019 case study, published in Economic and Political Weekly (Vol. 54, No. 12), investigates gender bias in India's STEM workforce. Interviews with women in tech and research reveal discrimination in promotions and funding, with only 14% in senior roles.

**Nair, S., & Thomas, G. (2020):** "Women-Led Tech Startups in India: Challenges and Opportunities." S. Nair and G. Thomas's 2020 study, published in Entrepreneurship Development Review (Vol. 8, No. 1), explores women-led tech startups in India. Analysis of funding data and interviews reveals women receive less than 10% of venture capital, limited by bias and networks. The study recommends training, incubators, and policy support to empower women in innovation and entrepreneurship.

**Mehta, A.(2018):** "STEM Education for Girls in Rural India: A Pilot Study." Mehta's 2018 pilot study, published in Rural Education Journal (Vol. 39, No. 3), tests STEM programs for rural girls in India. Through workshops and surveys, it finds increased interest and skills, though access to labs and teachers is limited. The study advocates for mobile labs, scholarships, and NGO partnerships to empower rural women in STEM and tech fields.

**Banerjee, R.(2023)** -"Women in AI and Robotics: India's Emerging Frontier" R. Banerjee's 2023 study, published in Journal of Emerging Technologies (Vol. 15, No. 2), examines women's roles in India's AI and robotics sectors. Data and interviews show women make up less than 10% of these fields, facing skill and bias barriers. The study calls for up-skilling, diversity policies, and research opportunities to boost women's innovation contributions.

**Reddy, L.(2021):** "Impact of STEM Scholarship on Women in India" L.Reddy's 2021 study, published in Higher Education Quarterly (Vol. 75, No. 4), assesses STEM scholarships for women in India. Tracking recipients, it finds that scholarships increase enrollment (45% rise) and retention, empowering women for tech careers.



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## Research Methodology

This mixed-methods study examines how STEM education empowers women in India's technology and innovation businesses. For the purpose of conducting an all-encompassing study, the research utilizes both quantitative and qualitative approaches:

**Quantitative Data Collection:** For the purpose of acquiring the information that we want, we relied on a broad variety of secondary sources. Throughout the course of this inquiry, a variety of sources were utilized. The All-India Survey on Higher Education(AISHE2023-24), reports from the National Association of State Communication Organizations(2023), and the National Family Health Survey (NFHS-5, 2021) were some of the sources that were utilized in this study. Here are some statistics on the percentage of women who are employed in the field of technology (19%), the percentage of women who are employed in STEM disciplines (29%), and cultural issues such as early marriage (23% in rural areas). The data is laid forth in the paragraphs that follow. The use of descriptive statistics allowed for an investigation of the shifts in the rates of workforce enrollment and participation.

**Qualitative Data Collection:** Fifty people were interviewed in this study using semi-structured interviews. Educators, female STEM students, and legislators from the Indian states of Rajasthan and Bangalore took part. The participants came from all walks of life. A number of the attendees were Rajasthani. Conducting semi-structured interviews was done. We did this to make sure the interview went well. Neither the zone nor the metropolitan region excluded Bangalore. Research interviews were conducted with the conscious agreement of those who were actively participating in the study. Ultimately, we were able to achieve our goal with the cooperation of everyone we questioned. The places where interviews were conducted included Bangalore, Rajasthan, and others. There were also other areas added. Our travels took us to Bangalore, Rajasthan, and beyond. Document analysis and participant narratives were used to generate case studies of Kiran Mazumdar-Shaw and Girls in Tech India. Methods outlined above were implemented. Making use of the answers that were already outlined allowed this task to be accomplished. This task could be well-executed if the methods outlined in the preceding paragraph are followed. After reading this text, we felt more confident in our ability to do the task. With these strategies, hitherto impossible goals were achieved.

**Data Analysis:**The quantity, rate, and type of the education-employment relationship were determined by quantitative analysis using SPSS. We used this method to find the links. The major purpose was to determine the irrelation ship. This was to investigate job and educational opportunities. This technique allowed us to explore the link between the two themes. We did this activity to grasp the two-way street and classify it. Each participant sought to understand the other's relationship to better understand their relationship. All participants agreed on how to achieve the goals. Prior goals must be considered for this decision to succeed. Data classification may reveal urgent issues and tasks. A practical conclusion would have made sense. Making this happen started with finding educational possibilities, cultural obstacles, and rewards for empowerment. Things happened because of that. This made identifying urgent situations easy. A theme strategy to categorize qualitative data revealed these previously unknown issues. This was achieved utilizing a theme approach. With theme technology, this became possible. Since the topic approach determines the outcome, this explains it. We'll expand on this later. Please allow me to clarify. Using many data items improved research validity. This helped make the study more valid. Being part of and contributing to the rise affected growth and was a cause. Alternatively, this was merely one of numerous variables that boosted validity.

**Scope and Limitations:** Throughout its whole, this research covers the years 2015–2025 with India serving as its predominant target. One country gets a lot of attention and scrutiny as the inquiry progresses. The scope of this analysis is narrowly defined to include the many commercial enterprises involved in the discovery and advancement of new



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technology. The inquiry covers 2015–2025 because they are part of the specific time period being investigated. The years in question are part of the era under review. Interviews with people recounting their experiences may be biased. It is possible to accomplish this. We were able to get this conclusion because we interviewed the people who took part in the study. The scarcity of up-to-date, relevant information for rural areas is already bad enough, and this just makes things worse. Furthermore, data specifically about rural areas is very lacking. This specific information source is only accessible in a limited capacity. There is always the possibility of bias occurring because both of these factors are present. For the simple reason that bigotry will always exist. Using this technique, it is conceivable to construct a firm foundation for the purpose of assessing difficulties, determining the extent of the effect that STEM education has, and suggesting solutions that are achievable in the real world. Everything described here is possible. This idea, outlined below, might be implemented.

### Suggestions and Recommendations

It is advocated that the following measures be implemented to optimize the impact that STEM education plays in empowering women in India's technology and innovation sectors:

**Government Action:** The provision of laboratories and computers to seventy-five percent of the educational institutions in rural areas by the year 2030 is a goal that should be prioritized in order to improve funding for STEM infrastructure in rural schools. To reach our goal of providing two million young women with mentorship and scholarship opportunities, we must expand programs like Vigyan Jyoti and WISE-KIRAN.

**Educational Institutions:** One strategy to accommodate diverse students would be to implement a STEM curriculum that is sensitive to gender issues. Another option would be to hire more female faculty members, with the goal of having 25% by 2030. Lastly, offering online courses with more flexibility would also be helpful. You will be able to attend practical seminars in rural regions by establishing connections with non-governmental organizations (NGOs).

**Private Sector:** It is anticipated that businesses operating in the technology sector, such as TCS and Wipro, would make investments in training programs that are solely devoted to women and will also provide 50,000 internships on an annual basis. According to this criterion, women are guaranteed to have access to employment possibilities. When it comes to retaining exceptional people, it is essential to establish standards that are both transparent and sympathetic to families inside the organization. The provision of childcare services and the provision of the ability for employees to work from home are two examples of such policies.

**Community Engagement:** To dispel misconceptions about STEM jobs, grassroots campaigns in regional languages should be used on television, radio, and social media. We hope this clarifies any misconceptions. With this ambition, we shall achieve the maximum amount that is practically possible in our pursuit of 100 million houses by 2028. of promoting the cause of educating young women, if you include influential members of the community. So long as you get these people involved, it should work.

**Monitoring and Evaluation:** To guarantee accountability and success, a national task force should be established to track the number of women working in STEM fields. This is what should be one. To put it simply, this is something that should be done. The activity in question is unquestionably one that ought to be carried out.

### Conclusion

In order to break down obstacles to innovation and technology, more women in India should pursue STEM degrees. For India, this would be a boon. Women may gain power through STEM education, which is why we are in this predicament.



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The survey points out problems that must be solved, even while enrollment is on the rise, programs are doing well, and role models are motivating. Additional study might be conducted based on these early findings. Even though this data is available to the public, there are additional concerns that need resolving. Inequitable access, long-standing cultural norms, and workplace prejudice are everyday challenges for employees. Some typical problems are these. Everything that has been said thus far is only the top of the iceberg. With the help of women's imaginations, India's technology sector may grow from its current \$350 billion valuation. Do not forget to evaluate the probability. The rapid improvement of India's technological capacity is a positive outcome of this. We may do this by modifying laws, increasing our understanding, and adjusting our actions. A multi-stakeholder approach to support women's success in STEM fields is proposed in the article. Cooperation among the government, corporations, and communities would be required by this approach. It is believed that this method will assist women in achieving their goals in the scientific and academic fields. This plan can only be put into action if the three of you work together. To guarantee prosperity, equity, and new ideas, we are putting this plan into action.

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## CHAPTER – 142

### Women and mental health: An overview

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#### Abstract

Gender is a critical determinant of mental health and mental illness. The patterns of psychological distress and psychiatric disorder among women are different from those seen among men. Women have a higher mean level of internalizing disorders, while men show a higher mean level of externalizing disorders. Gender differences occur particularly in the rates of common mental disorders, where women predominate. Differences between genders have been reported in the age of onset of symptoms, clinical features, frequency of psychotic symptoms, course, social adjustment, and long-term outcome of severe mental disorders. Women who abuse alcohol or drugs are more likely to attribute their drinking to a traumatic event to stress, and are more likely to have been sexually or physically abused than other women. Girls from nuclear families and women married at a very young age are at a higher risk for attempted suicide and self-harm. Social factors and gender specific factors determine the prevalence and course of mental disorders in female sufferers. Low attendance in hospital settings is partly explained by the lack of availability of resources for women. Around two-thirds of married women in India were victims of domestic violence. Concerted efforts at social, political, economic, and legal levels can bring change in the lives of Indian women and contribute to the improvement of the mental health of these women.

**Keywords:** Common mental disorder, disorder, domestic violence, mental health, substance abuse, suicide, women.

#### INTRODUCTION

Women and men are different not only in their obvious physical attributes, but also in their psychological makeup. There are actual differences in the way women's and men's brains are structured and “wired,” and in the way they process information and react to events and stimuli. Women and men differ in the way they communicate, deal in relationships, express their feelings, and react to stress. Thus, the gender differences are based on physical, physiological, and psychological attributes. There are psychological theories that present a gender sensitive viewpoint called alpha bias, and there are others that are gender neutral, representing beta bias. Alpha bias proposes that men and women are different and opposite, and in beta bias, differences between men and women are ignored. Alpha bias is seen in psychodynamic theories and therapies where, according to the Freudian viewpoint, male anatomy and masculinity are the most desired and cherished goal and female anatomy and femininity are seen as a deviation. In contrast, the cognitive theories, behavioral theories, and humanistic- existential theories have beta bias. [1] Alpha bias could be rooted more in the social conditioning and power structure of societies. Gender roles have been culturally prescribed from prehistoric cultures to more civilized societies. In hunter-gatherer societies, women were generally the gatherers of plant foods, small animal foods, and fish, and learned to use dairy products while men hunted meat from large animals. In more recent history, the gender roles of women have changed greatly. Traditionally, middle -class women are typically involved in domestic tasks, emphasizing child care. For poorer women, economic necessity compels them to seek employment outside the home. The occupations that are available to the female, however, are lower in pay than those available to men, leading to exploitation. Gradually, there has been a



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change in the availability of employment to more respectable office jobs where more education is demanded. Thus, although larger sections of women from all socioeconomic classes are employed outside the home, this neither relieves them from their domestic duties nor does it change their social position significantly. For centuries, the differences between men and women have been socially defined and distorted through a lens of sex is min which men assumed superiority over women and maintained it through domination. This has led to underestimating the role a woman plays in the dyad of human existence. It is necessary to understand and accept that women and men differ in biological attributes, needs, and vulnerabilities.

## MENTALHEALTHANDMENTALDISORDERS

Mental health is a term used to describe either a level of cognitive or emotional well-being or an absence of a mental disorder. From perspectives of the discipline of positive psychology or holism, mental health may include an individual’s ability to enjoy life and procure a balance between life activities and efforts to achieve psychological resilience. On the other hand, a mental disorder or mental illness is an involuntary psychological or behavioral pattern that occurs in an individual and is thought to cause distress or disability that is not expected as part of normal development or culture. Gender is a critical determinant of mental health and mental illness. The morbidity associated with mental illness has received substantially more attention than the gender specific determinants and mechanisms that promote and protect mental health and foster resilience to stress and adversity. [2] Analysis of mental health indices and data reveals that the patterns of psychiatric disorder and psychological distress among women are different from those seen among men. Symptoms of depression, anxiety, and unspecified psychological distress are 2–3times more common among women than among men; where as addictions, substance use disorders, and psychopathic personality disorders are more common among men. The World Health Organization report [2] lays out these facts effectively. It has further been suggested that observed gender differences in the prevalence rates originate from women and men’s different average standings on latent internalizing and externalizing liability dimensions, with women having a higher mean level of internalizing, while men show a higher mean level of externalizing. [3]

## WOMEN’S MENTAL HEALTH: THE FACTS (WORLD HEALTH ORGANIZATION REPORT, 2001)<sup>[2]</sup>

Depressive disorders account for closeto41.9%of the disability from neuropsychiatric disorders among women compared to 29.3% among men. Leading mental health problems of the elderly are depression, organic brain syndromes, and dementias. A majority are women. An estimated 80% of the 50 million people affected by violent conflicts, civil wars, disasters, and displacement are women and children. The lifetime prevalence rate of violence against women ranges from 16% to 50%. At least one in five women suffers rape or attempted Rape in their lifetime.

## COMMON MENTAL DISORDERS

Gender differences occur particularly in the rates of common mental disorders(CMDs)-, depression, anxiety, and somatic complaints, wherein women predominate. Unipolar depression, which is predicted to be the second leading cause of global disability burden by 2020, is twice as common in women. Furthermore, the lifetime risk of anxiety disorders (e.g., generalized anxiety disorder)is 2–3times higher in females as compared to males. [4] Moreover, depression is not only the most common women’s mental health problem, but it may be more persistent in women than in men. [5] Although depressive symptoms in men and women have generally been found to be similar overall, women are more likely to present with typical or “reverse vegetative” symptoms, such as increased appetite and weight gain. In case of anxiety disorders, females have greater severity of symptoms, are more often comorbid with depression, and have a more complicated course. [4] As across the world, studies in India have shown that CMD, such as depression and anxiety, are strongly associated with the female gender besides poverty. Both community -based studies and studies of treatment seekers indicate that women are, on



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average, 2-3 times, at greater risk to be affected by CMD. [6] In light of this convincing evidence that CMD is more common in women, the next most intriguing question is what makes females apparently more vulnerable. Hormonal factors related to their productive cycle may play a role in women's increased vulnerability to depression. [7] Another answer may be that the factors independently associated with the risk for CMD are factors indicative of gender is an advantage. These factors include excessive partner alcohol use, sexual and physical violence by the husband, being widowed or separated, having low autonomy in decision-making, and having low levels of support from one's family. [8-10] Furthermore, stressful Life events are closely associated with the occurrence of depression in vulnerable individuals. During their lifetimes, females are faced with various life stressors, including childbirth and maternal roles, caring for and nurturing the old and sick of the family. In addition, women are less empowered due to fewer opportunities for education and respectable employment. Moreover, even those who are financially secure fear crossing social lines and, therefore, are also apparently vulnerable.

### SEVERE MENTAL ILLNESS

The female gender is associated with a favorable outcome, but social consequences such as abandonment by marital families, homelessness, vulnerability to sexual abuse, and exposure to HIV and other infections contribute to the difficulties of rehabilitation of women. The prevalence rates for sexual and physical abuse of women with severe mental illnesses are twice those observed in the general population of women. In India, the absence of any clear policies for the welfare of severely ill women, and the social stigma, further compound the problem. [6] Stigma has been reported to be more toward ill women than men, and also, women caregivers become the target of stigma. [13,14]

### Suicide

Studies of suicide and deliberate self-harm have revealed a universally common trend of more female attempters and more male completers of suicide. However, in contrast to the data from many other countries, except China, which records the highest female suicide rate, women outnumber men in completed suicides in India, although the gap between them is narrow. [15] Biswas et al. [16] found that girls from nuclear families and women married at a very young age are at a higher risk for attempted suicide and self-harm. The suicide rate by age for India reveals that the suicide rate speaks for both men and women between the age 18 and 29 while in the age group 10-17, the rate for females exceeded the male figure. In his seminal studies, Emile Durkheim had vividly demonstrated over a century ago that sociocultural factors are significant determinants of suicide behavior, and perhaps these impact men and women differently. In an Indian study, the 1-year incidence of attempted suicide was 0.8%, and seven of these women (37%) had baseline CMDs. CMD, exposure to violence, and recent hunger were the strongest predictors of the attempted suicide cases. [17] A large degree of attempts is as a response to failures in life, difficulties in interpersonal relationships, and dowry-related harassment. [16] The precipitants for suicide, according to Indian government statistics, among women compared to men are as follows: Dowry disputes (2.9% versus 0.2%); love affairs (15.4% versus 10.9%); illegitimate pregnancies (10.3% versus 8.2%); and quarrels with spouse or parents-in-law (10.3% versus 8.2%). The common causes for suicide in India are disturbed interpersonal relationships, followed by psychiatric disorders and physical illnesses. [15] Spousal violence is specifically associated as an independent risk factor for attempted suicide in women. [18]

### Violence and abuse

According to an eye-opening United Nations report, around two-thirds of married women in India were victims of domestic violence, and one incident of violence translated into women losing 7 working days in the country. Furthermore, as many as 70% of married women between the ages of 15 and 49 years are victims of beating, rape, or coerced sex. [19] The common forms of violence against Indian women include female feticide (selective abortion based on the fetus's gender or sex selection of a child), domestic violence, dowry death or harassment, mental and physical torture, sexual trafficking, and



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public humiliation. The reproductive roles of women, such as their expected role of bearing children, the consequences of infertility, and the failure to produce a male child, have been linked to wife-battering and female suicide. [20,21] Sexual coercion is a serious and prevalent concern among female Indian psychiatric patients. Sexual coercion was reported by 30% of the 146 women in an Indian study. The most commonly reported experience was sexual intercourse involving threatened or actual physical force (reported by 14% of women), and the most commonly identified perpetrator was the woman’s husband or intimate partner (15%), or a person in a position of authority in their community (10%). [22] The consequences of gender-based violence are devastating, including life-long emotional distress, mental health issues, including post traumatic stress disorder, and poor reproductive health. Common mental health problems experienced by abused women include depression, anxiety, posttraumatic stress, insomnia, and alcohol use disorders, as well as a range of somatic and psychological complaints. Battered women are much more likely to require psychiatric treatment and are much more likely to attempt suicide than non-battered women. [23] The cross-sectional data from our cent study, in India, show the association between violence and a range of self-reported gynecological complaints, low body mass index, depressive disorder, and attempted suicide. [18] In summary, women are subjected to an alarming amount of violence in childhood and adulthood, and the effects of this violence are often profound and long-term.

## REPRODUCTIVE HEALTH

Mood and behavioural changes have been observed to be associated with the menstrual cycle since ancient times. The symptoms, such as irritability, restlessness, anxiety, tension, migraine, sleep disturbances, sadness, dysphoria, and lack of concentration, occur more frequently during the premenstrual and menstrual phase. A premenstrual dysphoric disorder consisting of extremely distressing emotional and behavioural symptoms is closely linked to the luteal phase of the menstrual cycle. Mental disturbances frequently occur during late pregnancy and in the postpartum period. Postpartum blues is the most common and least severe postpartum illness affecting between 50% and 80% of new mothers [24], whereas postpartum depression constitutes a major depressive episode with an onset within 6 weeks postpartum in a majority of cases. In India, depression occurs as frequently during late pregnancy and after delivery as in developed countries, but there are cultural differences in risk factors. In a study in rural Tamil Nadu, [25] the incidence of postpartum depression was 11%. Low income, birth of a daughter when one was desired, relationship difficulties with mother-in-law and parents, adverse life events during pregnancy, and lack of physical help are all risk factors for the onset of postpartum depression. In addition, the postpartum period carries the potential for exacerbation of psychiatric symptoms in women with preexisting mental illness. Similarly, a recent systematic review [26] on nonpsychotic common perinatal disorders (CPMD) among women from low and middle income countries estimated that about one in six pregnant women and one in five women who have recently given birth experience a CPMD. The risk is highest among the most socially and economically disadvantaged women. The other important risk factors include gender-based factors such as the bias against female babies; role restrictions regarding housework and infant care; and excessive unpaid workloads, especially in multi-generational households in which a daughter-in-law has little autonomy, and gender-based violence. [26] Also, menopause is a time of change for women not only in their endocrine and reproductive systems, but also in their social and psychological circumstances. It has long been known that menopause is accompanied by depression and other mental disturbances. Reproductive health factors, particularly gynecological complaints such as vaginal discharge and dyspareunia, are independently associated with the risk for CMD. More importantly, gynecological symptoms may actually be somatic equivalents of CMD in women in Asian cultures. [8]

## SUBSTANCE USE

Although there are variations between countries, rates of substance abuse – particularly abuse of alcohol, tranquillizers, and analgesics – are increasing around the world. [5] Women are more likely to attribute their drinking to a traumatic event or



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stress, and women who abuse alcohol or drugs are more likely to have been sexually or physically abused than other women. [27] Significantly more major depression and anxiety disorders are found in females with alcoholism. Thus, the profile of women with substance use problems differs from that of male abusers. However, despite increasing rates, services to assist women are limited. [5]

## **WOMAN-ALIFE CYCLE OF VULNERABILITIES**

As mentioned earlier, in many of the disorders, social factors and gender specific factors determine the prevalence and course in female sufferers. In fact, the numbers are meaningless without considering the socio-cultural factors. Thus, depression, anxiety, somatic symptoms, and high rates of comorbidities are significantly related to interconnected and co-occurring risk factors such as gender-based roles, stressors, and negative life experiences and events. Gender determines the differential power and control that men and women have over the socioeconomic determinants of their mental health and lives, their social position, status, and treatment in society, and their susceptibility and exposure to specific mental health risks. A strong inverse relationship exists between social position and physical and mental health outcomes. Hence, the effect of the biological vulnerability is increased by the social disadvantages that women have. Pressures are created by their multiple roles and the unremitting responsibility of caring for others. In addition, gender specific risk factors such as gender discrimination and associated factors of poverty, hunger, malnutrition, overwork, domestic violence, and sexual abuse combine to account for women’s poor mental health. There is a positive relationship between the frequency and severity of such social factors and the frequency and severity of mental health problems in women. In addition, severe life events that cause a sense of loss, inferiority, humiliation, or entrapment can predict depression. Furthermore, the expectation about what constitutes illness is gender biased. Thus, the somatic complaints that form the most prominent presentation of CMD may not be taken into account by the care providers. A gender bias more often than not ensures that the symptoms are taken less seriously than they are for men. The impact of mental health problems also shows a gender differential. For example, whereas women are required to be the primary caregivers if their husbands are mentally ill, it is they who still need to carry on with the role of caregiving to the family despite their problems. The socio-political scene in South-East Asia, including India in the mildest of terms, is bleaker when compared to the Western world. [6,28] Wrath of dowry practices, a firm patriarchal family system with the woman having little say, lesser opportunities for education, and employment add to the plight of women. Women’s mental health tends to suffer as they are faced with stressors and are ill-equipped to cope with the same. Furthermore, when a woman becomes mentally ill, services are sought infrequently and late. Rather, she is blamed for the illness. The mentally ill woman may be socially stigmatized and abandoned by her husband and her own family. Hence, being a “woman” and being “mentally ill” is a dual curse. Even though some authors feel that marriage protects against psychological breakdown, it is not always true. Several studies show that there is greater distress in married women as compared to married men. The birth of a child, abortion or miscarriage, economic stresses, and major career changes are some of the stressful events in married life; many of these are gender specific. [29] The responsibility of care for the mentally ill woman is often left to her own family rather than to her husband or his family. In a study of women with schizophrenia and broken marriages, Thara et al. [13,14] found that the stigma of being separated/divorced is often felt more acutely by families and patients than the stigma of having a mental illness. Feelings of disruption, loss, guilt, frustration, grief, and fear about the future of their daughter make the caregivers miserable.

## **SERVICE PROVISION AND UTILIZATION**

Psychiatric epidemiological data cite a ratio of one woman for every three men attending public health psychiatric outpatients’ clinics in urban India. Indian state officials view this as “under-utilization” by suffering women, attributing it to the greater stigma attached to women’s mental illness that restricts help-seeking in public health facilities and/or to the lower importance accorded to women’s health generally. [30] Gender heightens the discrepancy between prevalence and



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utilization. This low attendance is partly explained by the lack of availability of resources for women in the hospital settings. The mental hospitals appear to cater primarily to men in distress, and there is sex-based discrimination in the availability of beds. The male: female ratio for the allotment of beds in government mental hospitals with only service was 73%: 27%, while those with service, research, and training was 66%:34%.<sup>[20]</sup>

## WHAT NEEDS TO BE DONE?

It is therefore amply clear that women’s mental health cannot be considered in isolation from social, political, and economic issues. A woman’s health must incorporate mental and physical health across the life cycle and should reach beyond the narrow perspective of reproductive and maternal health, which is often the focus of our policies. In the discussion of the determinants of poor mental health of women, the focus needs to be shifted from individual and “lifestyle” risk factors to the recognition of the broader, social, economic, and legal factors that affect women’s lives. It is essential to recognize how the socio-cultural, economic, legal, infrastructural, and environmental factors that affect women’s mental health are configured in the given community setting. If the efforts to promote women’s mental health focus solely on the reduction of individual “lifestyle” risk factors, they may neglect the very factors that bringth at lifestyle into being. Moreover, if the individual factors are focused on in isolation, ignoring the socio-cultural factors, there is an additional risk of placing the responsibility of change on the women alone. However, the truth is that largely the change is beyond the control and lies in the bigger social change. Inadvertently, the failure to change and improve mental health may be misattributed to the women. Education, training, and intervention targeting the social and physical environment are crucial for addressing women’s mental health. Identification of significant persons in government departments and other relevant groups in the community, to obtain and document data indicating the extent of women’s problems and the burden associated with women’s mental problems, and the development of policies to protect and promote women’s mental health are extremely crucial. Interventions at various levels, aiming at both individual women and women as a large section of society, are essential. These should be implemented at primary care delivery as well on the legal and judicial fronts. The primary care providers must be aware of the major mental health problems affecting women, routinely enquire about common mental health problems, provide the most appropriate intervention and support, and provide education to the community on issues related to the mental health of women. Women are increasingly joining the workforce, and there is great potential to intervene at this level too. There are many reasons why women are reluctant to report incidents of assault and abuse to police. These include: A belief that the incident is a “normal” part of life; feeling responsible for the violent incident; intimidation by the partner; fear of reprisal; financial dependence; continuing love or affection for the partner; inability to respond as a result of the psychological and emotional trauma arising from repeated abuse; and intimidation by the whole legal process. Barriers to an effective criminal justice response also relate to the attitudes and beliefs of those people working within the criminal justice system. Taking into account the above, it is imperative to improve the criminal justice response to violence against women. The initiative of the Government of India asking citizen store port any incident of domestic violence that they might have witnessed is commendable and may go along way to provide security to women. The more fundamental need is the woman/girl’ seducation. Being educated provides awareness of rights and resources, the capability to fight exploitation and injustice. Education will also lead to better chances of economic independence, which is so crucial. It is essential to develop and adopt strategies that will improve the social status of women, remove gender disparities, provide economic and political power, increase awareness of their rights, and so on. Although much depends upon the policy makers and planners, women must also learn to speak for themselves. Women must act as social activists to fight against the social evils, which are responsible for their woes. Women’s anti-alcohol movement in Andhra Pradesh, where they destroyed the liquor shops to fight the drunkenness of their husbands, is a historical landmark. Similar movements to fight prostitution, sexual abuse, and domestic violence could be historical leading steps. In summary, concerted efforts at social, political, economic, and legal levels can bring change in the lives of Indian women and contribute to the improvement of the mental health of these women.



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## CHAPTER – 143

### From Panchayath to Parliament: Tracing the Journey of Women’s Representation in India

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#### Abstract:

India, a huge democratic country, has provided an equal opportunity to all its citizens to participate in the political domain of the country as per Article 326 of the Indian Constitution. From the first parliament elections 1952 to till the completion of 18<sup>th</sup> Lok Sabha elections in 2024, the women participation has not been crossed not more than 10 percent. There was a huge gap in relation to their political participation and their population.

As part of the centralization to the decentralization of Indian politics, the 73<sup>rd</sup> and 74<sup>th</sup> Amendment Acts were passed by the parliament to introduce local bodies i, i.e., Panchayats (Rural local bodies) and Municipalities (Urban local bodies). These two Amendment Acts mandated a reservation of 1/3 (33.3%) of seats for women in Panchayats and Municipalities, including reserved seats for SC/ST women within this quota. Significantly boosting women's political participation at the grassroots level in India. This groundbreaking provision aimed to bring women into public life and the decision-making process by ensuring their representation in local governance across all levels, from Grampanchayats to Municipal Corporations.

In addition to this, the Indian Parliament has passed women reservation bill -2023 (Nari Shakti Vandan Adhiniyam) to provide 33 % reservation in the Lok Sabha, State legislative Assemblies, and the Delhi Assembly, which will be effective only after the first census after the act's commencement and the subsequent delimitation process. Keeping in view of reservations in Local and Central bodies, my paper is going to track the women's participation in politics from independence to date and also analyze how far political reservations for women from Panchayats to parliament are really helping women's empowerment in India.

**Keywords:** Decentralization, Delimitation, Empowerment.

**Introduction:** Women’s political representation is a crucial pillar of a democratic and inclusive political system. In India, the participation of women in politics has evolved from marginal involvement during the colonial period to constitutionally guaranteed representation at the grassroots level after Independence. The framers of the Indian Constitution ensured political equality by granting universal adult franchise, enabling women to vote and contest elections on an equal footing with men.

A major turning point came with the 73rd and 74th Constitutional Amendments (1992), which mandated 33 per cent reservation for women in Panchayati Raj Institutions and Urban Local Bodies. This reform transformed local governance by bringing millions of women into decision-making roles at the village, block, and municipal levels. From Panchayat members and Sarpanches to Mayors and Zilla Parishad heads, women have increasingly influenced local development, social justice, and welfare policies.

At the national and state levels, women’s representation in State Legislatures and parliaments has grown gradually, though it remains lower compared to grassroots institutions. The passage of the Women’s Reservation Act, 2023, which provides



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33 per cent reservation for women in the Lok Sabha and State Legislative Assemblies, marks a historic step toward gender-balanced political participation.

Thus, women’s political representation in India reflects a journey from empowered grassroots participation to emerging national leadership, highlighting both significant progress and continuing challenges in achieving substantive gender equality in governance.

Before the 73rd Amendment, women's participation in local governance was minimal, and the system was overwhelmingly dominated by men. The absence of any institutional mechanisms to ensure women’s political representation, along with societal norms that viewed politics as a male domain, resulted in minimal involvement of women. Local governance structures reflected patriarchal biases, which led to policies that often neglected the specific needs and concerns of women, further perpetuating gender inequality. The women's representation at various levels in democratic India has been shown in the table before and after the 73rd Constitutional Amendment.

Table – 1: Women's Representation in pre-& post 73rd Various levels

Category	Pre-73rd Amendment (%)	Post-73rd Amendment (%)	Current (%) (Approx. 2024-25)
Women in Panchayati Raj Institutions (PRIs)	2-3%	33% (Mandated by law)	46% in some states (National Average: 44%)
Women in Urban Local Bodies (ULBs)	Less than 5%	33% (Mandated by law)	36% (with variations across states)
Women in State Legislative Assemblies	2-5%	Slowly Progressed	9% (Average across states)
Women in Lok Sabha (Lower House of Parliament)	5%	Slowly Progressed	13.5 %

The representation of women in India has been very low until 1993 at all levels of Indian political institutions. It is less than 5% from local bodies to the Parliament of India. The participation of women has grown steadily after the implementation of the 73rd and 74th constitutional amendments, 1993-94.

Table:2: Percentage of women's participation in all the levels of Indian democratic Institutions

Period / Election Year	Avg. % of Women MPs in Parliament	Across all State Legislative Assemblies	Women in Urban Local Bodies (ULBs)	Women in Panchayati Raj Institutions (PRIs)
1952	5.5%	Between 2 % to 5%	Less than 5 %	In between 2% to 3%
1957	6.5%			
1962	7.0%			
1967	7.0%			
1971	6.0%			
1977	7.0%			



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1980	7.5%			
1984	9.5%			
1989	7.5%			
1991	11.0%			
1996	10.0%	5 - 6 %		33 % (Constitutional Minimum)
1998	10.5%		33 %	
1999	11.0%			
2004	9.0%	7 - 9 %	34 - 36 %	In between 36% to 38 %
2009	11.5%			
2014	12.0%	9 - 11 %	38 - 43 %	In between 40 % 45 %
2019	14.0%			
2024	13.5%	10 – 12 %	42 - 46 %	45 to 46%

The political participation of women is up to 1993 was very minimal its is just below 5 % in all the levels such as Panchayat Raj institutions, Urban Local Bodies and State Legislative Assembly except in Parliament With the implementation of 73<sup>rd</sup> and 74<sup>th</sup> Constitutional Amendments which have provided 33% reservations for women in Panchayat institutions like Gram parishads, Mandal Parishads & Zilla Parishads and Urban Local bodies like Municipalities and Corporations. The percentage of women's participation has gone up to 45 % from the 5 % which was at pre 73<sup>rd</sup> & 74<sup>th</sup> Amendments. Now there is a huge gap in the women's representation in Local Governments and the Centre and State assemblies.

#### The Struggle for 33% Reservation for Women in Lok Sabha and State Legislative Assemblies

The demand for 33 per cent reservation for women in legislatures has been one of the longest democratic struggles in independent India, spanning nearly five decades. Despite constitutional equality and universal adult franchise, women remained grossly underrepresented in Parliament and State Legislative Assemblies, prompting sustained political and social mobilization.

#### Early Demands and Background (1970s–1980s)

- The issue gained national attention with the Report of the Committee on the Status of Women in India (1974), titled *Towards Equality*.
- The report highlighted that women’s representation in legislatures was below 10%, exposing the failure of formal equality to ensure substantive participation.
- Women’s movements, academics, and civil society organizations began demanding affirmative action for women in politics.

#### Breakthrough at the Grassroots Level (1992–93)

- A historic milestone was achieved with the 73rd and 74th Constitutional Amendment Acts (1992).
- These amendments provided 33½% reservation for women in Panchayati Raj Institutions and Urban Local Bodies.
- The success of these reforms—bringing millions of women into local governance—strengthened the argument that reservations should be extended to State Assemblies and Parliament.



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## **Introduction of the Women’s Reservation Bill (1996)**

- In 1996, the 81st Constitutional Amendment Bill (popularly known as the Women’s Reservation Bill) was introduced in the Lok Sabha.
- It proposed 33% reservation for women in the Lok Sabha and State Legislative Assemblies.
- However, the bill faced strong resistance, leading to repeated adjournments and lapses.

## **Political Resistance and Stalemate (1996–2010)**

### **Key Objections Raised:**

- Fear that reservation would benefit only elite or upper-caste women
- Demand for sub-quotas for OBC and minority women
- Reluctance of male politicians to surrender political space
- The bill was introduced multiple times (1998, 1999, 2002, 2003, 2008) but never passed in the Lok Sabha.
- In 2010, it was passed in the Rajya Sabha, yet stalled again in the Lok Sabha due to a lack of consensus.

## **Role of Women’s Movements and Civil Society**

- Women’s organizations, activists, and scholars continuously mobilized through:
  - Protests and campaigns
  - Media advocacy
  - Legal and policy debates
- The success of women leaders at the grassroots level was often cited as evidence of women’s leadership capacity.

## **Renewed Momentum and Historic Passage (2023)**

- The Act provides 33% reservation for women in the Lok Sabha and State Legislative Assemblies, including seats reserved for SCs and STs.
- Implementation is linked to delimitation after the Census, but the passage itself marked a historic victory for women’s political empowerment.

## **Significance of the Struggle**

- The struggle reflects the tension between formal equality and substantive equality.
- It exposed patriarchal resistance within democratic institutions.



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- It demonstrated how grassroots empowerment can influence national policy, even if slowly.

## Conclusion

Women’s political participation in India demonstrates a significant transformation from grassroots governance to national politics. The introduction of reservations through the 73rd Constitutional Amendment Act and 74th Constitutional Amendment Act created a historic opportunity for women to enter politics at the local level. As a result, millions of women today actively participate in Panchayats and Urban Local Bodies, making India one of the countries with the largest number of elected women representatives in the world. However, despite this success at the grassroots level, women’s representation significantly declines in higher political institutions, such as State Legislative Assemblies and Parliament. Structural barriers like patriarchal political culture, limited party nominations, financial constraints, and lack of political networks continue to restrict women’s participation at these levels.

The passage of the Nari Shakti Vandan Adhiniyam, which proposes 33% reservation for women in the Lok Sabha and State Legislative Assemblies, has the potential to bridge this gap and strengthen women’s representation in higher decision-making bodies. Therefore, the journey of women’s political participation in India reflects a bottom-up empowerment process, beginning with local governance and gradually moving toward national politics. Strengthening this pathway through effective implementation of reservations, political training, and greater party support will be crucial for achieving inclusive and gender-balanced democratic governance.

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## CHAPTER – 144

### Digital Infrastructure, Demographic Opportunity and Women’s Entrepreneurship: A Pathway to Socio-Economic Mobility in Viksit Bharat 2047.

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#### Abstract

India’s demographic dividend represents a major opportunity for long-term economic transformation. With the working-age population expected to reach nearly **980 million by 2035**, the coming decade will play a decisive role in determining whether this demographic advantage can be converted into sustainable economic growth. A critical component of this process is the **economic participation of women**, who constitute almost half of the country’s working-age population but remain significantly underrepresented in formal economic activities.

This paper examines the role of **Digital Public Infrastructure (DPI)**, including Aadhaar, UPI, ONDC, and related digital systems in enabling women’s entrepreneurship and improving socio-economic mobility. The study reviews recent policy initiatives, demographic trends, and government programmes that support women’s participation in the digital economy. It also highlights structural challenges such as time poverty, caregiving responsibilities, and limited access to financial and digital resources.

Using a conceptual research framework, the paper explores how digital infrastructure can strengthen women’s entrepreneurship and contribute to the broader vision of **Viksit Bharat 2047**. The study concludes with policy recommendations aimed at strengthening digital inclusion, expanding entrepreneurial opportunities, and ensuring that women fully benefit from India’s demographic transition.

**Keywords:** Digital Public Infrastructure, Demographic Dividend, Women Entrepreneurship, UPI, Jan Dhan, ONDC, Female Labour Force Participation, Viksit Bharat 2047.

#### 1. Introduction

India is currently undergoing two major transformations: a **demographic transition** and a **digital revolution**. The country has one of the largest working-age populations in the world, which creates significant potential for economic growth and development. However, a substantial portion of this population, especially women, remains outside the formal labour market.

Women account for nearly half of India’s working-age population, yet their participation in economic activities continues to be relatively low compared to global standards. Increasing women’s participation is therefore not only a matter of social justice but also an important driver of economic productivity and national development.



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In recent years, the Government of India has developed **Digital Public Infrastructure (DPI)** to improve financial inclusion, digital governance, and service delivery. Platforms such as **Aadhaar, UPI, Jan Dhan accounts, and ONDC** have transformed how citizens interact with financial systems and markets.

These digital systems provide new opportunities for women to access financial services, start businesses, and participate in digital markets. However, the presence of digital infrastructure alone does not automatically translate into economic empowerment. Social norms, caregiving responsibilities, and limited digital literacy often restrict women’s ability to fully utilise these opportunities. In this paper, I would like to examine how DPI can support women’s entrepreneurship and contribute to **inclusive economic growth during India’s demographic window**.

## 2. Digital Public Infrastructure and Women’s Economic Participation

Digital Public Infrastructure refers to foundational digital systems that enable large-scale public and private service delivery. In India, DPI has developed rapidly through several key components:

- **Aadhaar** provides digital identity verification for accessing banking and government services.
- **Unified Payments Interface (UPI)** enables instant digital payments.
- **Open Network for Digital Commerce (ONDC)** expands digital marketplace access.
- **Jan Dhan Yojana** promotes financial inclusion through bank account access.

These systems collectively reduce entry barriers for individuals and small businesses. For women entrepreneurs, digital identity, financial access, and digital payments can simplify the process of starting and managing businesses.

The expansion of **Jan Dhan accounts**, particularly among women, has been a significant step toward financial inclusion. However, access to financial services must be accompanied by **digital literacy, entrepreneurship support, and market opportunities** to translate into meaningful economic empowerment.

## 3. India’s Demographic Dividend

A demographic dividend occurs when the proportion of working-age individuals in a population becomes larger than the dependent population. This demographic structure can generate economic growth if the workforce is productively employed.

India is currently experiencing such a demographic phase.

**Table 1**  
**India’s Demographic Dividend – Key Indicators and Timeline**

Indicator	Current Status	Projected / Peak
Working-age population	~902 million (2023–24)	980 million by 2035
Youth population peak	—	Around 2025



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Indicator	Current Status	Projected / Peak
Demographic dividend peak	—	Around 2030
Female LFPR	41.7% (2023–24)	Target: 70% by 2047
Working-age women outside labour force	~60%	Reduce substantially by 2035
Potential GDP gain from women’s inclusion	—	25%+ increase

### Interpretation

Table 1 highlights the scale and timing of India’s demographic opportunity. The working-age population is expected to continue growing until the mid-2030s, with the demographic dividend projected to peak around **2030**. This indicates that the current decade is crucial for creating productive employment opportunities.

The table also shows that **female labour force participation remains relatively low**, despite recent improvements. Approximately **60 percent of working-age women are still outside the labour force**, which represents a significant underutilisation of human capital. Economic studies suggest that increasing women’s participation could raise India’s GDP substantially.

Therefore, expanding women’s access to employment, entrepreneurship, and digital platforms is essential for ensuring that the demographic dividend translates into sustainable economic growth.

### 4. Government Schemes Supporting Women’s Entrepreneurship

The Government of India has introduced several programmes to promote women’s economic participation. These initiatives focus on financial inclusion, skill development, and entrepreneurial support.

**Table 2**  
**Government Schemes Supporting Women’s Entrepreneurship (2025–26)**

Scheme	Focus Area	Women’s Reach
PM Mudra Yojana	Micro enterprise finance	68% of beneficiaries are women
Stand-Up India	SC/ST & women entrepreneurs	2.01 lakh women accounts
Startup India	Innovation ecosystem	75,000+ women-led startups
PMKVY	Skill development	45% female participants



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Scheme	Focus Area	Women’s Reach
DAY-NRLM	SHG-based rural livelihood	10 crore women in SHGs
Lakshpati Didi Programme	Income enhancement	3.01 crore women achieved
Women Entrepreneurship Platform	Mentorship and innovation	150 AI startups supported

### Interpretation

Table 2 shows that women are increasingly participating in government-supported entrepreneurship programmes. A large proportion of beneficiaries under **Mudra Yojana** and **Self-Help Group initiatives** are women, indicating that micro-finance and community-based programmes have been particularly effective in reaching them.

The table also demonstrates the growing presence of women in **innovation ecosystems**, as seen in the increasing number of women-led startups under the Startup India initiative. At the same time, skill development programmes such as PMKVY are helping women build the capabilities needed for modern economic activities. However, the distribution of participation across schemes also reveals an important pattern. Many women are concentrated in **micro-enterprises and rural livelihood programmes**, while their representation in high-technology sectors and larger business ventures remains comparatively limited. This suggests the need for policies that support women in scaling their enterprises and accessing broader markets.

### 5. AI, DPI, and Women-Led Innovation

Recent technological developments indicate that women entrepreneurs are increasingly contributing to **AI-driven innovation and digital solutions**. Several emerging ventures demonstrate how women are using technology to address social challenges.

Examples include:

- AI platforms for **special-needs education**
- **Cyber security solutions** for digital safety
- AI applications for **water governance and climate resilience**
- **Voice-based learning platforms** for rural communities

These initiatives show that women are not only beneficiaries of digital systems but also active creators of technology-based solutions. Their participation strengthens the inclusiveness and social relevance of digital innovation.

### 6. Structural Barriers to Women’s Economic Participation

Despite policy progress, several structural barriers continue to affect women’s participation in economic activities.

#### 6.1 Time Poverty



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Women spend a large share of their time on unpaid domestic and caregiving responsibilities. Time-use surveys indicate that women devote significantly more time to household work than men, leaving less time for paid employment or entrepreneurial activities.

### 6.2 Limited Representation in Technology Sectors

Although women constitute a large share of STEM graduates, their presence in professional technology roles remains limited. Women occupy a relatively small percentage of positions in engineering, research, and startup leadership.

### 6.3 Institutional and Social Constraints

Social norms, safety concerns, and limited access to finance often discourage women from pursuing entrepreneurial opportunities. Addressing these structural barriers is essential for achieving meaningful gender equality in economic participation.

## 7. Research Framework and Methodology

This paper proposes a research framework to examine the relationship between Digital Public Infrastructure and women’s entrepreneurship.

### Research Questions

1. How does digital financial inclusion influence women’s entrepreneurial activity?
2. Can DPI help increase female labour force participation?
3. How do outcomes vary across rural and urban areas?
4. Does digital access reduce time poverty or create additional digital labour?
5. What role do digital platforms play in enabling women-led businesses?

### Methodology

The proposed study adopts a **mixed-method approach** involving:

- Quantitative analysis using national datasets such as **NFHS and PLFS**
- Digital transaction data from **UPI and Jan Dhan accounts**
- Qualitative interviews with **Self-Help Group members and women entrepreneurs**
- Geospatial analysis of digital infrastructure and enterprise density

This approach allows for a comprehensive understanding of both statistical trends and lived experiences.

## 8. Viksit Bharat 2047 – Targets for Women’s Economic Inclusion



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Table 3  
Key Indicators and Inspirational Targets

Indicator	Current Status	Target (2047)
Female Labour Force Participation	41.7%	70%+
Women Jan Dhan Accounts	56% share	Universal active use
Lakshpati Didis	3.01 crore	6 crore
Women-led Startups	75,000+	5,00,000+
Women’s share of labour income	~18% of GDP	30%+
Women in the STEM workforce	14–27%	50%

### Interpretation

Table 3 presents the long-term goals for women’s economic inclusion within the **Viksit Bharat 2047 vision**. The targets indicate a strong policy emphasis on expanding women’s participation across multiple sectors.

Increasing female labour force participation to around **70 percent** would represent a major structural shift in India’s labour market. Similarly, expanding women-led startups and increasing representation in STEM sectors would strengthen women’s role in the innovation economy.

These targets are ambitious and will require sustained efforts in education, digital inclusion, financial access, and social policy. Achieving them will also depend on addressing structural challenges such as unpaid care work and gender bias in labour markets.

### 9. Policy Recommendations

Based on the analysis, several policy actions can strengthen women’s economic participation:

1. Develop a national DPI-Gender Dashboard to monitor women’s digital participation.
2. Collect gender-disaggregated data across major digital platforms.
3. Design flexible digital work platforms that accommodate caregiving responsibilities.
4. Expand digital literacy programmes for women entrepreneurs.
5. Strengthen digital marketplaces for women-led enterprises.
6. Reduce unpaid care burdens through social infrastructure such as childcare services.
7. Establish cyber-safety awareness programmes for women entering digital platforms.



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## 10. Conclusion

India’s demographic transition offers a unique opportunity for accelerating economic growth. However, the success of this transition depends largely on the productive participation of women in the economy.

Digital Public Infrastructure has created a strong foundation for financial inclusion, digital transactions, and market access. These systems can play a crucial role in supporting women’s entrepreneurship and improving socio-economic mobility.

## 11. Suggestions

1. **Improve Digital Literacy:**  
Training programs should be conducted to help women learn how to use smartphones, digital payments, and online platforms.
2. **Increase Financial Support:**  
Banks and government schemes should provide easy loans and financial support for women who want to start businesses.
3. **Promote Women Entrepreneurship:**  
Special programs should encourage women to start small businesses and participate in digital markets.
4. **Provide Skill Development Training:**  
Women should be given training in entrepreneurship, marketing, and digital skills to improve their employment opportunities.
5. **Strengthen Market Access:**  
Digital platforms and e-commerce networks should help women entrepreneurs sell their products in wider markets.
6. **Reduce Household Work Burden:**  
Support systems such as childcare facilities can help women spend more time on economic activities.
7. **Ensure Cyber Safety Awareness:**  
Awareness programs should educate women about online safety and protection from digital fraud.
8. **Encourage Government and Private Partnerships:**  
Collaboration between government institutions, private companies, and NGOs can support women entrepreneurs.

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## CHAPTER – 145

### EMPOWERING THROUGH INNOVATION:

#### The Role of AI, Computing, and E-Commerce in Shaping

#### Women Entrepreneurship and Development for Viksit Bharat 2047

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### ABSTRACT

India's goal of becoming a developed nation by 2047 — the Viksit Bharat vision — calls for the meaningful participation of all sections of society, particularly women. This paper explores how Artificial Intelligence (AI), computing technologies, and e-commerce platforms can support women's entrepreneurship and development across India. Drawing on data and initiatives from 2025 to 2026, the paper examines programmes such as the IndiaAI Mission's Casebook on AI and Gender Empowerment, the Meri Saheli App and She Leads Bharat initiative, the AI 4 SURE programme, and the proposed SHE-Mart platform. The study discusses a notable gap in India's STEM ecosystem: while women account for approximately 43% of STEM graduates, only about 14% go on to work in STEM fields. E-commerce platforms have shown encouraging results for rural women entrepreneurs, with measurable income improvements in pilot programmes.

**Keywords:** Women Entrepreneurship, Artificial Intelligence, E-Commerce, STEM Education, Viksit Bharat 2047, Digital Empowerment, Self-Help Groups, IndiaAI Mission, Gender Equity

### 1. INTRODUCTION

India is at an important stage in its development. The Viksit Bharat 2047 vision — a developed and self-reliant India by the centenary of its independence — requires the broad participation of its citizens, and women form a central part of this effort.

Three areas — Artificial Intelligence (AI), computing technologies, and e-commerce — offer practical pathways for improving women's access to livelihoods, skills, and markets. These are no longer distant aspirations; several government-backed and civil society programmes are already deploying these tools at the grassroots level with encouraging results.

The Gender Budget for 2026 has been increased to approximately Rs. 5 lakh crore, signalling a continued policy commitment to women-centric programmes. At the same time, long-standing challenges such as limited workforce participation in STEM and unequal access to markets for women entrepreneurs require sustained attention.

### 2. WOMEN IN STEM AND ENTREPRENEURSHIP: THE CURRENT PICTURE

#### 2.1 Educational Participation



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India's record on women's enrolment in STEM education at the undergraduate level is noteworthy. Women account for approximately 43% of STEM enrolments at the college level. In absolute terms, around 29.8 lakh women are studying science, compared to 27.4 lakh men.

However, the transition from education to employment tells a different story. Only around 14% of women STEM graduates enter STEM careers. Women hold about 16.7% of STEM faculty positions nationally, and at premier institutions such as IISc Bengaluru, women occupy around 6% of science professorships. In engineering, women make up roughly 12 to 15% of the workforce.

Research suggests that a combination of factors contributes to this pattern: limited institutional support such as the absence of creche facilities or flexible working arrangements, social expectations around family and caregiving responsibilities, and workplace cultures that do not always accommodate the needs of women at different life stages. These are areas where policy attention and institutional reform can make a meaningful difference.

**Table 1: Women in STEM — Education, Workforce, and Faculty Participation in India (2025)**

Stage / Category	Women's Share (%)	Key Observation
STEM College Enrolment	~43%	Broadly on par with or above men
Annual STEM Graduates (Women)	~42%	Strong pipeline at entry level
Entry-Level STEM Employment	~27%	Notable drop from graduation rate
STEM Workforce (Overall)	14–27%	Wide variation across disciplines
Engineering Workforce	12–15%	Relatively low in core branches
STEM Faculty (National)	16.7%	Underrepresentation in academia
Science Professors at IISc	~6%	Significant gap at premier institutes
R&D Establishment Personnel	16.6%	Limited presence in research labs

Source: FICCI-FLO Women in STEM Report, October 2025; Department of Science and Technology, 2025

## 2.2 Women's Entrepreneurship and the SHG Ecosystem

Women's entrepreneurship represents one of the more tangible economic opportunities within the Viksit Bharat framework. Studies suggest that supporting women's entrepreneurship more actively could contribute to the creation of 150 to 170 million jobs by 2030 in India.



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The Self-Help Group (SHG) ecosystem is an important part of this picture. Nearly 10 crore women across India are linked to SHGs. Of these, over 2 crores have become Lakhpati Didis — women earning more than Rs. 1 lakh annually — and the government has set a target of reaching 6 crore Lakhpati Didis.

### **3. AI AND COMPUTING TECHNOLOGIES IN SUPPORT OF WOMEN'S EMPOWERMENT**

#### **3.1 The IndiaAI Mission**

The IndiaAI Mission, led by the Ministry of Electronics and Information Technology (MeitY), is the government's main effort to build an inclusive AI ecosystem in India. A notable output of this mission is the Casebook on AI and Gender Empowerment, launched at the India AI Impact Summit in February 2026. Developed jointly by MeitY, UN Women, and the Ministry of Women and Child Development, the casebook documents 23 AI solutions from over 50 countries in the Global South.

The casebook is a useful reference for researchers, policymakers, and practitioners seeking evidence-based approaches to gender-responsive AI. Its significance lies not only in documenting what is possible but also in providing a common knowledge base for ensuring that AI systems are designed to be fair and accessible to women from varied backgrounds.

#### **3.2 The She Leads Bharat Initiative and Meri Saheli App**

Among the more widely noticed grassroots programmes is the She Leads Bharat initiative, built around the Meri Saheli App. The initiative has supported more than 40,000 rural women entrepreneurs — referred to as Sahelis — across five states: Uttar Pradesh, Rajasthan, Andhra Pradesh, Maharashtra, and Gujarat.

Through a partnership with Microsoft, around 25,000 women entrepreneurs are completing 60 hours of AI training, learning to use AI tools for practical purposes such as overcoming language barriers, identifying market demand, setting prices, and expanding their customer base. More than 96% of onboarded entrepreneurs are actively transacting through the platform, which is a positive indicator of engagement. In Gujarat, a three-month pilot saw 193 women generate over Rs. 5.50 lakh in orders, with digital income exceeding Rs.

#### **3.3 Other Noteworthy Initiatives**

The AI 4 SURE programme in Andhra Pradesh's NTR district offers SHG women practical training in using AI for brand building, promotional content creation, and short-form video marketing. The programme is aligned with the state government's 'One Family–One Entrepreneur' initiative and helps women develop a digital presence for their products.

On the STEM side, the government's WISE-KIRAN and GATI programmes offer fellowships and institutional reform support for women scientists. IIT Gandhinagar hosted Women Force 2026, a conclave for mid-career women scientists, and the theme of National Science Day 2026 was 'Women in Science: Catalysing Viksit Bharat.' The government has also announced plans to set up one hostel per district to support girls pursuing STEM education — a step toward addressing an important infrastructural gap.

International recognition for these efforts came when UN Secretary-General António Guterres visited the UN Women stall at the JanAI Expo during the India AI Impact Summit 2026, where he met young women from rural communities pursuing STEM careers under the WeSTEM project, implemented in collaboration with the governments of Madhya Pradesh, Gujarat, and Maharashtra.



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## 4. E-COMMERCE AS A TOOL FOR WOMEN ENTREPRENEURS

### 4.1 How Digital Platforms Can Help

E-commerce platforms can reduce some of the longstanding barriers that women entrepreneurs face in accessing markets. Physical mobility constraints, limited information about distant buyers, dependence on intermediaries, and restricted access to financial services can all be partially addressed through digital commerce.

The SHE-Mart initiative, announced by Union Minister Annapurna Devi, proposes a dedicated marketing platform for women entrepreneurs under the 'Local for Global' vision. If carried out effectively, it has the potential to deliver a marketplace much more specifically designed for small women-led enterprises than conventional e-commerce sites, aligning closely with their typical size and range of offerings.

### 4.2 Connecting SHGs to Digital Markets

The integration of e-commerce with the SHG framework is a practical and already partially underway approach. SHGs bring social trust, collective organisation, and peer support — qualities that are valuable for scaling digital adoption. E-commerce, in turn, brings market access, transparent pricing, and digital payments.

Table 2: Key E-Commerce and Digital Programmes Supporting Women Entrepreneurs (2025–26)

Programme / Platform	Key Feature	Reported Outcome
Meri Saheli App (She Leads Bharat)	AI tools, e-commerce, and financial services	40,000+ Sahelis; >96% active transaction rate
AI 4 SURE (Andhra Pradesh, NTR Dist.)	AI brand-building and video content training	SHG women with digital brand presence
SHE-Mart (Proposed)	Dedicated women's product marketplace	Under development: 'Local for Global' vision
Lakshpati Didi Programme	Income linkage via SHG digital commerce	2 crores achieved; target of 6 crores set
Apollo Tyres Foundation Partnership	On-ground support, 40 Super Sahelis trained	Expanded from 40 to 62 villages organically
ONDC Integration (ongoing)	Open network for digital commerce	Potential to onboard SHG sellers at scale

Source: Frontier Markets Programme Report 2026; Ministry of Rural Development 2025–26; She Leads Bharat Documentation



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## 5. ILLUSTRATIVE CASE STUDIES

### 5.1 Ruchi Singh, Varanasi

Ruchi Singh, from Nawahanipur village in Varanasi district, is one of the participants in the She Leads Bharat initiative. Starting with limited familiarity with digital tools, she has progressed to using smartphones and AI-enabled platforms for her work as an SHG member and Frontier Markets Saheli.

### 5.2 Apollo Tyres Foundation Partnership, Gujarat

A collaboration between Saral Jeevan Foundation, Frontier Markets, and Apollo Tyres Foundation in Waghodia Block, Vadodara District, provides a useful example of private sector involvement in this space. The initiative onboarded 200 rural women entrepreneurs and trained 40 Super Sahelis as certified facilitators.

### 5.3 Individual Achievement in Technology

A graduate of KodNest, a coding institution outside the IIT/IIM tier, received a placement offer of Rs. 34.4 lakh from PayPal. While a single example, this points to the value of skill-focused training pathways that can help women from non-elite educational backgrounds access competitive opportunities in the technology sector.

## 6. POLICY CONSIDERATIONS AND RECOMMENDATIONS

### 6.1 Observations on the Current Policy Framework

India's existing policy framework for women's empowerment in technology and entrepreneurship is reasonably broad. The Gender Budget of approximately Rs. 5 lakh crores, the IndiaAI Mission, WISE-KIRAN, GATI, the Lakhpati Didi programme, and the proposed SHE-Mart initiative together form a multi-layered structure of support.

The FICCI Ladies Organisation (FLO) report on Women in STEM (2025) and various expert consultations identify several areas where further attention would be useful.

### 6.2 Suggested Areas for Attention

#### A. Addressing the Education-to-Employment Gap

- Collect and publish gender-disaggregated data on STEM employment and salary levels to allow evidence-based policymaking
- Develop structured mentorship and internship pathways connecting women STEM graduates with industry and research roles
- Consider re-entry support programmes for women who have taken career breaks for caregiving

#### B. Improving Institutional Conditions

- Review the feasibility of mandating creche facilities in research institutions and larger technology organisations
- Develop clearer guidelines on flexible and remote working options for women scientists



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- Ensure that institutional health and well-being policies account for the needs of women across different career stages

### C. Strengthening Financial and Market Access

- Explore the creation of a dedicated fund for women-led ventures in deep technology and innovation
- Fast-track the implementation of SHE-Mart and consider integrating it with existing platforms such as ONDC
- Expand the AI and digital literacy curriculum from pilot states to all districts

### D. Ensuring Gender-Responsive Technology Design

- Encourage AI developers and government procurers to assess gender bias in AI systems before deployment
- Prioritise vernacular language support in digital platforms intended for rural women
- Involve women from diverse backgrounds in the design and testing of technology products aimed at them

## 7. LOOKING AHEAD: WOMEN AND VIKSIT BHARAT 2047

Broader participation of women in STEM and entrepreneurship is not only a matter of equity — it also has practical implications for India's innovation capacity and long-term economic growth. As India pursues leadership in areas such as biomedical engineering, semiconductor materials, artificial intelligence, and climate science, the underrepresentation of women in these fields means that a significant portion of potential talent is not being fully utilised.

At the same time, it is worth approaching targets and projections with some care. The goal of 6 crore Lakhpati Didis, for instance, is ambitious and will require not just policy intent but sustained investment in digital infrastructure, skilling, and market linkages. Similarly, increasing women's share in STEM careers from 14% to 50% by 2047 will require addressing structural barriers that have persisted for decades, and progress is likely to be gradual.

Table 3: Selected Indicators: Current Status and Aspirational Targets for 2047

Indicator	Current Status (2025–26)	Aspirational Target (2047)
Women in STEM Education	~43% of graduates	Maintain and improve the quality of outcomes
Women in the STEM Workforce	14–27%	~50% (gradual, sustained effort needed)
Women in the Engineering Workforce	12–15%	30%+ (long-term structural change)
Lakhpati Didis	2 crores	6 crores (requires digital market scale-up)



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Indicator	Current Status (2025–26)	Aspirational Target (2047)
AI-Empowered Women Entrepreneurs	40,000+ trained (5 states)	Coverage across all districts
SHG Digital Transaction Rate	~30%	80%+ (infrastructure-dependent)
Women-led Tech Startups	~19% of total	35%+ (ecosystem support needed)
Gender Budget Allocation	~Rs. 5 lakh crores (2026)	Progressive increase in real terms

Source: FICCI-FLO Report 2025; MeitY 2026; Ministry of Rural Development 2025–26; IndiaAI Mission

Progress toward these goals will depend on the consistency of policy attention, the quality of implementation, and the degree to which women themselves — particularly those from rural and lower-income backgrounds — are involved in shaping the programmes meant to serve them.

## 8. CONCLUSION

This paper has attempted to provide a grounded account of the role that AI, computing, and e-commerce can play in supporting women's entrepreneurship and development in India. The evidence from 2025 and 2026 points to some encouraging developments: over 40,000 rural women entrepreneurs have received AI-based training, early e-commerce pilots have generated measurable income for participants, and national policy frameworks are increasingly recognising the importance of gender-responsive technology.

At the same time, the challenges are real and should not be understated. The gap between women's educational participation and career entry in STEM remains wide. Institutional cultures in research and technology organisations have been slow to adapt.

The Viksit Bharat 2047 vision provides a useful horizon for this work — not as a set of guaranteed outcomes, but as a shared direction of travel. Realising even a portion of the economic and social potential of women's participation in India's innovation and entrepreneurship ecosystem would be a meaningful contribution to national development.

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## CHAPTER – 146

### Empowering the Engine of Growth: The Vital Role of Women in India’s Journey toward a \$5 Trillion

#### Economy

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### 1. Abstract

India’s aspiration to become a **\$5 Trillion Economy** by 2026-27 is a monumental goal that necessitates a paradigm shift in its socio-economic fabric. Central to this vision is the **empowerment of women**, who constitute nearly 50% of the nation's human capital. Central to this transformation is the "Engine of Growth"—the women of India. Currently, women contribute approximately **18% to India’s GDP**, significantly lower than the global average of 48%. This paper explores the vital role of women in accelerating India's growth trajectory. By analyzing recent trends in the **Female Labour Force Participation Rate (FLFPR)**, which rose to **35.1% in early 2026**, the study identifies digital literacy, financial inclusion, and entrepreneurship as key catalysts. By analyzing data from the **Periodic Labour Force Survey (PLFS) 2025-26** and the rise of women-led unicorns like **Nykaa and Mamaearth**, this study highlights the shift from "women's development" to "**women-led development**." It further discusses government interventions such as **Mudra Loans** and the **Lakshpati Didi** scheme, while addressing critical bottlenecks like the **gender pay gap** and **digital exclusion**. The paper concludes that empowering women is not merely a social objective but a non-negotiable economic strategy to unlock an additional **\$770 billion in GDP** by bridging the gender gap.

**2. Keywords:** \$5 Trillion Economy, Female Labour Force Participation Rate (LFPR), Gender Parity, Women-led Development, Digital Inclusion, Entrepreneurship, Unpaid Care Work, Sustainable Development Goal 5 (SDG 5)

### 3. Introduction

- India stands at a pivotal juncture in its economic history. To reach the \$5 trillion milestone, the nation requires an annual growth rate of 8-9%. Historically, economic narratives often focused on infrastructure and manufacturing through a male-centric lens. However, modern economics dictates that "**no nation can fly on one wing.**"
- Empowering women is the catalyst that converts potential into productivity. In India, women represent nearly half of the population but remain an "under-tapped" resource. Transitioning from "women’s development" to "**women-led development**" marks the shift where women are not just beneficiaries of growth but the drivers of it. This introduction sets the stage for a deep dive into how increasing female participation in STEM, corporate leadership, and rural entrepreneurship is the fastest route to national prosperity.
- Historically, the Indian economy was driven by male-dominated sectors like manufacturing and heavy industry. Today, the focus has shifted to the **Services Sector, Gig Economy, and Tech-driven Startups**, where women are proving to be more efficient and innovative. Empowering women leads to a "**Multiplier Effect**"—when a woman



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earns, she invests 90% of her income back into her family’s health and education, creating a more productive future generation.

#### 4. Data and Statistical Analysis (2024-2026)

The following data points highlight the current landscape of women's contributions as of **January 2026**:

##### A. Labour Force Trends

- **Female Labour Force Participation Rate (FLFPR):** As of early 2026, India's FLFPR has shown a steady climb to **35.1%** (National) and nearly **47.6%** in rural areas.
- **Rural vs. Urban:** Rural female participation reached **39.7%**, driven by agricultural modernization and SHGs (Self-Help Groups), while urban participation stands at **25.5%**.
- **The Gender Gap:** Despite the rise, the male LFPR remains significantly higher at approximately 75-77%, indicating a vast reserve of untapped human capital.

##### B. Economic Impact

- **GDP Contribution:** Currently, women contribute only **18% to India’s GDP**, compared to the global average of 37%. Increasing this to even 30% would accelerate the \$5 trillion goal by two years. McKinsey Global Institute estimates that achieving gender parity could add **\$770 billion** to India's GDP by 2026-2027.
- **The "Motherhood Penalty":** Data shows a "leaky pipeline" where women drop out of the workforce at mid-management levels (ages 28-35) due to caregiving responsibilities.

##### C. Entrepreneurship & Education

- **MSME Ownership:** Over **20% of MSMEs** in India are now owned by women.
- **STEM Education:** 43% of STEM graduates in India are women—one of the highest ratios globally—yet only 14% of these graduates find their way into senior tech roles.
- **Startup Ecosystem:** Out of India's 100+ unicorns, several are led or co-founded by women.

#### 5. Pillars of Empowerment & Government Schemes: Fueling the Engine

##### I. Financial Inclusion & "Lakhpati Didis"

- The government's goal to create 3 crore "Lakhpati Didis" (women earning over ₹1 lakh annually) through Self-Help Groups (SHGs) is a game-changer for the rural economy. These women move from subsistence farming to micro-enterprises.

##### II. Pradhan Mantri Mudra Yojana (PMMY)

Mudra loans provide collateral-free credit to small businesses.



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- **Impact on Women:** Approximately **70% of Mudra loan beneficiaries are women.**
- **Outcome:** This has empowered millions of rural and semi-urban women to start tailor shops, grocery stores, and small-scale manufacturing units, fostering financial independence.

### III. Stand-Up India Scheme

This scheme facilitates bank loans between **₹10 lakh and ₹1 crore** to at least one woman borrower per bank branch.

- **Target:** Specifically aimed at "Greenfield Enterprises" (new projects).
- **Result:** It has helped women enter male-dominated sectors like logistics, food processing, and hardware manufacturing.

### IV. Digital Literacy and the "Drone Didi" Scheme

- Training 15,000 women as drone pilots for agricultural purposes (pesticide spraying, crop monitoring) is shifting women into high-tech, high-value service roles, breaking traditional occupational segregation.

### V. Addressing the "Time Poverty" Trap

- Women in India perform nearly **84% of unpaid care work.** This labor, valued at roughly 15-17% of GDP, is often ignored. Policies focusing on childcare infrastructure (Creches) and flexible work are essential to convert "unpaid" work into "recognized" economic contribution.

### VI. Corporate Leadership and the "Glass Ceiling"

- While women's representation on boards has improved to ~17-18% due to regulatory mandates, the next step is moving beyond "tokenism" to genuine decision-making roles in the \$5 trillion journey.

### VII. Nykaa (Falguni Nayar)

Falguni Nayar founded Nykaa at the age of 50, proving that age and gender are no barriers to entrepreneurship.

- **Economic Impact:** Nykaa became India's first woman-led unicorn to go public (IPO). It created thousands of jobs and revolutionized the beauty e-commerce market.
- **Key Lesson:** It shifted the consumer focus toward "authentic beauty products," creating a new multi-billion dollar niche in the Indian market.

### VIII. Mamaearth (Ghazal Alagh)

Ghazal Alagh co-founded Mamaearth to solve a personal problem: finding toxin-free products for babies.

- **Economic Impact:** Mamaearth reached a valuation of over \$1 billion (Unicorn status) in a short span.
- **Key Lesson:** It highlights the power of the **D2C (Direct-to-Consumer)** model and how women entrepreneurs are leading the way in sustainable and eco-friendly business practices.



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## 6. Challenges: The Roadblocks

### A. The Gender Pay Gap

In India, women earn approximately **27% less than men** for the same roles. In the tech sector, this gap can be as high as 30-40%.

- **Economic Cost:** This disparity discourages high-skilled women from staying in the workforce, leading to a "Brain Drain" of female talent.

### B. Unpaid Care Work

Indian women spend nearly **5-6 hours a day** on unpaid domestic work (cooking, cleaning, childcare), while men spend less than an hour.

- **Solution:** Investing in "Care Economy" infrastructure (Creches, elderly care) is essential to free up women's time for paid work.

## 7. Conclusion

The road to a \$5 trillion economy is paved with the aspirations of 600 million women. The data of 2026 shows a positive upward trend in participation, but structural barriers like the gender pay gap and social norms still act as "speed breakers."

To ensure the "Engine of Growth" runs at full capacity, India must focus on:

1. **Formalizing** the rural female workforce.
2. **Bridging** the urban female employment gap through re-entry programs.
3. **Investing** in care-economy infrastructure.

Ultimately, women's empowerment is not a "welfare" issue; it is the single most powerful **economic multiplier** available to the Indian state.

## 8. Strategic Takeaways for India's \$5 Trillion Path

By comparing India with countries like **Norway** and **China**, your paper can suggest these "Global Best Practices":

1. **The "Nordic Model":** Investing in public childcare and elderly care to reduce the "Unpaid Care" burden on Indian women.
2. **The "Bangladesh Model":** Creating specialized industrial zones (like garments/electronics) that prioritize female hiring.
3. **The "US/Tech Model":** Implementing "Returnship" programs for women who took career breaks for marriage or motherhood (this is very relevant for professional roles like **Accounting** and **Data Entry**).

## 9. References



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## CHAPTER 147

### "Physical Exercise and Yoga as Regenerative Medicine for the Elderly: Perceptions, Demographic Influences, and Implications for Active Aging"

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**Abstract:** Exercise plays a significant role in regenerative medicine by promoting tissue regeneration and improving stem cell function. Studies have shown that exercise can enhance the regeneration of muscle, neural, and other tissues by activating and mobilizing stem cells. Furthermore, exercise can help rejuvenate aged stem cells, improving their ability to repair and regenerate damaged tissues. Exercise can increase the number and activity of stem cells in various tissues, including muscle, bone, and brain. Yoga, with its blend of physical postures, breathing techniques, and meditation, offers a promising avenue for regenerative medicine in the elderly, promoting healthy aging and addressing age-related decline. Consistent practice can lead to improved joint function, increased flexibility, and enhanced overall mobility, supporting active and fulfilling lives. Yoga is often recommended for arthritis, improving flexibility, balance and functional mobility. Yoga can help manage cardiovascular risk factors like high blood pressure and contributing for healthier heart. Yoga is suitable for seniors and elderly persons to suit different levels of physical ability to improve fitness levels. Yoga is generally considered a safe and low-impact exercise to improve physical health. In conclusion, yoga offers a holistic approach to regenerative medicine for the elderly, addressing physical, mental, and emotional well-being while potentially supporting regenerative processes at the cellular level. Keywords: Exercise, Yoga, fitness, etc.

**Keywords:** Exercise, Yoga, Regenerative Medicine, Elderly Health, Stem Cells, Physical Fitness, Aging, Flexibility, Joint Mobility, Cardiovascular Wellness.

## I. INTRODUCTION

Aging is associated with deterioration of physiological and cognitive functions, which results in immobility, chronic diseases, and emotional fragility among the aged. Although medical science has moved forward in treating age-related disorders, there is a rising demand of holistic and non-invasive treatment options, which in addition to treating symptoms, help the body to heal and regenerate itself. Physical exercise and yoga have therefore come out as strong measures in fostering active aging and countering the functional limitations that time causes in this regard. The practices are an extension of the conventional health practices as they support the body, facilitate movement, and foster resiliency through movement, breath, and mental concentration.

Exercise is also important to independence and quality of life in older people, because it helps to maintain muscle strength, circulation, metabolism, and bone density. However, recent findings by the regenerative medicine research teams have indicated that physical exercise could provide the gross activation of the stem cells and hence aid in repairing the tissues and in delaying the degenerative reactions. Conversely, yoga, which is an integrative practice that involves physical poses (asanas), breathing (pranayama) as well as meditation, provides distinctive benefits since it works on both the physical and psychological aspects of aging. Yoga can be practiced within a wide range of mobility so even people with poor mobility can also practice it.



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With the increasing life expectancy around the world, there is a necessity to reorganize the perception of aging as not the period of diminishment but as the time of growth, equilibrium, and vigor. Regenerative modalities such as exercise and yoga are in line with this vision, as they also have preventive and restorative properties, helping people to live healthily long lives. The current research is intended to investigate how older people interpret the role of physical exercise and yoga in enhancing physical mobility, mental health, and life satisfaction. It also discusses whether such perceptions differ among the different demographic groups like age and gender, thus forming part of the larger debate on inclusive and sustainable health aging among senior citizens.

## II. REVIEW OF LITERATURE

Langhammer, B., et al. (2018). This special issue was dedicated largely to the lifestyle field and more so to physical activity as a stimulus to a healthy, long life for older adults. "The editors have chosen this special issue to include a series of articles addressing the aging process and PA from a broader perspective, which consider various aspects of PA, exercise, elderly people, and aging." The articles set out to show that PA and exercise have been seen to be practiced for primary, secondary and tertiary prevention, for management of diseases, to oppose sarcopenia and falls and also to improve physical performance and activities in daily living. Promotion of physical activity in older adults is an important issue of health promotion and clinical concern. One of the biggest questions in best practice lies in how to encourage older adults with comorbidities to keep fit.

Choudhary, A., et al. (2019). Aging is in process that is natural and comprises diverse and innumerable functional and structural changes. Such changes may involve loss of self-control and alteration of tissues and organs. The other consequences of aging concern mood, physical status and social activity. It has bad effect on cognitive behavior, sensation, and the thinking process. Most of the health problems can be cured by moderate exercise; however, some older people are not physically active. Yoga is a scientific and popular lifestyle practice comprising a synthesis of mind, body and soul. Results from previous studies have revealed that yoga has positive effects on various health parameters of elderly people. Yet, much scientific information is lacking as to how yoga is studied with regard to over well-being and various health outcomes of aged individuals at the same time. The current protocol presents a 12-week yoga intervention aiming to evaluate the effects of yoga on well-being in physically inactive older adults living in communities. Methods and analysis: This study consists of a two-group parallel single-blinded RCT to be conducted in a designated premise of R.D. Gardi Medical College, Ujjain, Madhya Pradesh, Central India. This yoga intervention consists of three sessions per week, with each session lasting 60 min for 12 weeks. Participants in the comparison intervention will be engaged in a 60-min program consisting of light exercise focused on conventional stretching to increase mobility. Post screening, 144 participants aged 60-80 years will be recruited. Primary impact measurement is subjective well-being. Secondary effects comprise mobility, perceived risk of falls, cognition, anxiety and depression, mood and stress, sleep quality, pain, physical activity/sedentary behavior, and cardio-metabolic risk factors. Outcome measures will be conducted at baseline (0 weeks), post-intervention (12 ± 1 week), and follow-up (36 ± 1 week). Mixed linear modeling and intention-to-treat analysis will be used. In discussion: This trial will determine whether well-being (primary outcome) and secondary outcomes will improve among older adults who practice yoga in comparison to the light exercise group focusing on conventional stretching. We assume that yoga can maintain well-being, reduce particular symptoms that can accompany skeletal-muscular pain, relieve pain and improve mood. We anticipate that yoga will promote well-being and mental health, while possibly catalyzing significant changes in depression, pain, and sleep quality.

Krejci, et al. (2020). Body balance control is one of the significant physical functions among elderly people of 65 years and above. Yoga-based intervention, biologically and psychosocially, seems to assist the maintenance of the ability to balance as well as other mental functions of health in this age group. Purpose: To find out the influence of the 4-week yoga-based



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program on balance, body composition, and the mental aspect of aging in men. Methods: The elderly aged 67 to 80 years (N 234, mean age  $72.5 \pm 7.7$  years) were tested with the Tinetti Balance Assessment Tool, bioimpedance body composition analyser InBody 230, and the Health Survey SF-36 administered in pre-post-tests. The experimental group's (n = 122) intervention was yoga-based for a period of 4 weeks, while the control group (n = 112) went through their normal daily program in their senior homes or centers. Results: This intervention of yoga had a significant impact on improving the statics and gait balance scores compared with control, with medium effect sizes,  $\eta^2 = .070$  and  $.080$ . The intervention also favored reducing body fat percentage (by 1.7%) and muscle mass gain (by 1.3 kg) with large effects,  $\eta^2 = .214$  and  $.301$ . Findings of the Health Survey did not reveal any noticeable changes in the overall mental health but did show positive changes in two components concerning emotional problems. Conclusions: Short-term yoga-based intervention might positively affect physical functioning, i.e., control of balance and body composition; however, it will not affect the mental health parameters of elderly males above 65 years old.

Militello, R., et al. (2024). Healthy aging is impacted by public health via biological aging, manifested by disturbances in metabolism and physicochemical features of the cells. Lifestyle and environment, comprising diet and exercise, seem to be especially vital for a healthy old age. Many studies have shown that regular exercise can activate antioxidant defense systems: functioning of enzymes, superoxide dismutase (SOD), catalase, and glutathione peroxidase. On the other hand, high-intensity or very long-duration training sessions may induce, at least temporarily, the increased formation of reactive oxygen species (ROS), leading to oxidative stress—a condition known as exercise-induced oxidative stress. Physical activity has a complex relationship with oxidative stress in the aging process and depends on several factors, including but not limited to type, intensity, duration, and frequency of exercise and interindividual variation in antioxidant potential and adaptation to exercise. We have discussed this article on the basis of what other authors find about how physical activity works in oxidative stress during the aging process and the role of hormesis and physical exercise in preventing and treating sarcopenia, which is an aging disease. Lastly, the article will present recent research on the impact of physical activity and sport in aging in women.

### III. OBJECTIVES OF THE STUDY

The primary goals of the research are as follows:

1. To determine the ideas of aged people about the importance of physical exercise in improving physical health and mobility.
2. To determine how useful yoga is in producing a state of mental calmness and emotional well-being in elderly individuals.
3. To test the faith spread among older adults that physical activity and yoga can help in slowing the effects of aging and enhance their lifestyles.
4. To examine the role of demographic variables (age and gender) in determining the perceptions of the elderly to the safety, suitability and regenerative capacity of exercise and yoga.

### IV. RESEARCH METHODOLOGY

#### 4.1 Research Design



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The research design used in this study is descriptive as well as analytical to find out the perception of the old people on the significance of physical exercise and yoga as regenerative medicine. This study intends to evaluate the physiological and psychological effects of these practices, besides examining how the perception is affected by demographic factors, including age and gender.

#### 4.2 Population and Sample

In this study, the population is the old people of 60 years and over. The sample of 200 respondents was chosen through a stratified random sampling technique to represent five age groups of 6065, 6670, 7175, 7680, and 81 and older. In the sample, there were 91 males, 102 females, and 7 people who identified as other or did not want to specify their gender, which makes the sample inclusive and demographically diverse.

#### 4.3 Data Collection Tool

The main data instrument was to be a structured questionnaire, which would be composed of two parts. Section A consisted of demographic information including gender and age bracket whereas Section B contained four opinion statements which were responded to using a five-point Likert scale with 1 equal to Strongly Disagree and 5 equal to Strongly Agree. These statements assessed respondents' perceptions about the effectiveness of exercise and yoga in improving physical mobility, mental calmness, delaying aging, and being suitable and safe for the elderly.

#### 4.4 Statistical Tools and Techniques

Statistical Package for the Social Sciences (SPSS) was utilized in analyzing data. Demographic data and the general trends in perception were summarized with the help of descriptive statistics, frequencies, and percentages. "To perform inferential analysis, a Chi-square test was used to see the relation between the age group and the belief on regenerative effect of exercise or yoga." Gender-wise difference in the perception of the effect of yoga on the mental and emotional well-being was determined using an independent samples t-test. All the tests were done at the level of significance of 5 percent.

### V. ANALYSIS AND INTERPRETATIONS

Table 1: Gender of the Respondents

Gender	F	%
Male	91	45.5%
Female	102	51.0%
Other / Prefer not to say	7	3.5%
<b>Total</b>	<b>200</b>	<b>100.0%</b>

As Table 1 shows, there is significance in gender distribution amongst the 200 respondents. Most of the respondents were women (102 people or 51.0 percent of the sample). The number of males comprised 91 participants, which is 45.5 percent of the participants. Only a minor faction, 7 respondents (3.5%), chose the option of ‘Other’ or did not want to specify their gender. This equal gender participation means that the study will take a large pool of perceptions and experiences of exercise



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and yoga among the older adult population with a small female bias that can alter the trends in the mental and emotional health aspects of the older adult population especially those involving yoga.

Table 2: Age of the Respondents

Age Group	F	%
60–65 years	58	29.0%
66–70 years	49	24.5%
71–75 years	42	21.0%
76–80 years	30	15.0%
81 years and above	21	10.5%
<b>Total</b>	<b>200</b>	<b>100.0%</b>

Table 2 indicates the age-distribution of the respondents, through which one can understand the demographic distribution of the aged respondents. The highest number is of those who are in the bracket of 60 65 years, and they are 58 (29.0%) as well as those in the 66 70 years bracket with 49 respondents (24.5%). There are 42 people (21.0%) in the 71 75 years group and 30 respondents (15.0%) in the 76 80 years group. Finally, there are 21 persons (10.5%) who are in the category of 81 and more years. This allocation is indicative of a positive representation of different brackets of the elderly and thus the study will be able to determine the perceptions of the older people at different stages of senior adulthood with a slight bias in the younger elderly (60 70 years).

Table 3: Perceptions on Physical Exercise Improving Physical Health and Mobility

Response Category	F	%
SD	6	3.0%
D	14	7.0%
N	29	14.5%
A	81	40.5%
SA	70	35.0%
<b>Total</b>	<b>200</b>	<b>100.0%</b>

Table 3 weighs the responses agreeing with the fact that a good physical exercise contributes to physical health and mobility. The responses are very much on the positive side with 40.5 percent (81 respondents) agreeing and 35.0 percent (70 respondents) strongly agreeing to it, giving a collective 75.5 percent responding on the positive side. The most neutral position was adopted by 29 respondents (14.5%), 7.0% (14 respondents) of the respondents disagreed and only 3.0% (6 respondents) strongly disagreed. Such a huge consensus highlights a commonplace feeling among the older people that exercise plays a vital role in improving their physical functionality and contributes greatly to the validity of exercise as a regenerative ritual to aging bodies.



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**Table 4: Perceptions on Yoga Enhancing Mental Calmness and Emotional Well-being**

Response Category	F	%
SD	4	2.0%
D	11	5.5%
N	31	15.5%
A	84	42.0%
SA	70	35.0%
<b>Total</b>	<b>200</b>	<b>100.0%</b>

Table 4 represents the participants' responses to whether yoga contributes to mental calmness and emotional balance. A good number, 42.0% (84 respondents) responded agree to the statement and 35.0 % (70 respondents) highly agreed making up a total of 77.0 % of the sample. In the meantime, a considerably high number of 15.5 percent (31 respondents) were neutral, whilst only 5.5 percent (11 respondents) of the respondents disagreed with 2.0 percent (4 respondents) strongly disagreeing. These findings are a clear indication of an existent perception of mental health advantages of yoga among the elderly, which confirms its application not only as a physical rehabilitation practice but also as a form of meditation and emotional stabilization in old age.

**Table 5: Belief That Exercise or Yoga Delays Aging and Enhances Quality of Life**

Response Category	F	%
SD	5	2.5%
D	13	6.5%
N	25	12.5%
A	79	39.5%
SA	78	39.0%
<b>Total</b>	<b>200</b>	<b>100.0%</b>

Table 5 investigates the idea that a person can slow down the aging process and lead a better life by practicing exercise or yoga on a regular basis. A wonderful 39.5% (79 respondents) of the respondents held this belief and 39.0% (78 respondents) of the respondents strongly held this belief amounting to 78.5% positive responses. What is more, 12.5% (25 respondents) had neutral opinion, 6.5% (13 respondents) disagreed, and only 2.5% (5 respondents) strongly disagreed. This information indicates that long-term regenerative and preventive effects of moving your body are known to a vast majority of the elderly members of the population, which proves the main idea of the research active aging through movement and mindfulness.



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Table 6: Perception of Yoga/Exercise Being Safe and Suitable for Age

Response Category	F	%
SD	3	1.5%
D	9	4.5%
N	33	16.5%
A	88	44.0%
SA	67	33.5%
<b>Total</b>	<b>200</b>	<b>100.0%</b>

Table 6 demonstrates information on the perception of the aged people about the suitability and safety of yoga and exercise to people of their age. Most of the respondents, 44.0 percent (88 individuals) responded that such practices suit their physical state, and 33.5 percent (67 respondents) of the people strongly agreed. "A fair number of 16.5% (33 respondents) responded with neutral, 4.5% (9 respondents) responded with disagree and only 1.5% (3 respondents) vehemently disagreed." These results demonstrate the wide acceptance, and the confidence of the elderly in using exercise and yoga as a part of their daily routine without the fear of any harm, which reflects their feasibility and non-hazardous nature as an intervention to age-related issues.

**Hypothesis Testings:**

**H<sub>0</sub> (Null Hypothesis):** There is no significant association between the age group of elderly individuals and their belief that exercise or yoga helps delay aging and improve quality of life.

**H<sub>1</sub> (Alternative Hypothesis):** There is a significant association between the age group of elderly individuals and their belief that exercise or yoga helps delay aging and improve quality of life.

Table 7: Crosstabulation of Age Group and Belief That Exercise or Yoga Delays Aging

Age Group	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
60–65 years	1	2	6	25	24	58
66–70 years	1	3	8	20	17	49
71–75 years	1	3	6	17	15	42
76–80 years	1	3	3	10	13	30
81+ years	1	2	2	7	9	21
<b>Total</b>	<b>5</b>	<b>13</b>	<b>25</b>	<b>79</b>	<b>78</b>	<b>200</b>



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Table 8: Chi-square Test Results

Test Statistic	Value	df	p-value
Chi-square ( $\chi^2$ )	12.987	16	0.68

We do not reject the null hypothesis since the p-value (0.68) is more than 0.05. It implies that the relationship between the age group and the perception that exercise or yoga can slow down the aging process and enhance the quality of life is not found to be significant.

**H<sub>0</sub> (Null Hypothesis):** There is no significant difference in perception between male and female elderly individuals regarding yoga’s contribution to mental calmness and emotional well-being.

**H<sub>2</sub> (Alternative Hypothesis):** There is a significant difference in perception between male and female elderly individuals regarding yoga’s contribution to mental calmness and emotional well-being.

Table 9: Group Statistics for Perception Scores by Gender

Gender	N	Mean Score	Std. Deviation
Male	91	3.92	0.91
Female	102	4.21	0.81

Table 10: Independent Samples t-Test Results

Test Statistic	t-value	df	p-value
t-test	-2.31	191	0.022

The p-value (0.022) is below 0.05; this leads to the rejection of the null hypothesis. It means that the difference between the perceptions of male and female elderly people of the contribution of yoga practice to their mental peace and emotional balance is statistically significant, but females tend to agree a little bit more..

## VI. CONCLUSION

The given research states the essentiality of physical exercise and yoga to preserve regenerative health in older people. Since aging is associated with certain changes in physical strength, flexibility, and mental resilience, it is necessary to engage in preventive and restorative practices that would be capable of maintaining the quality of life. "The findings also highlight that a significant percentage of the older subjects who took part in the study feel that frequent physical exercise makes them feel better in terms of mobility, physical functioning, as well as adding value to their overall well-being." That is why it is again emphasized that exercise is not only a measure of fitness, but it is one of the pillars of healthy aging and regenerative care. Yoga is seen as a particularly promising practice, since it is holistic in nature; it focuses on the physical, emotional, and psychological needs of the elderly in a balanced and gentle way. Perception data of the study depicts that there is a positive attitude of both male and female elderly toward the yoga capabilities of calmness of the mind and elimination of



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emotional stress. Interestingly, the research observed a statistically significant difference in the gender-wise perception, wherein the women respondents displayed a marginally higher rate of appreciation of the mental advantages of yoga. However, no significant difference was observed in beliefs across age groups regarding yoga or exercise's ability to delay aging, suggesting a shared understanding of its regenerative potential among all elderly cohorts. To sum up, systematic physical activity and the availability of yoga practices in the everyday routine of elderly people can provide them with regenerative effects in the long term. The practices are not only beneficial to the strength of the body and the joints' mobility, but also to the emotional balance and the feeling of empowerment. With the world getting older and older, these non-invasive, affordable, and flexible methods should be promoted both in the community and the health care environment. Not only do they prolong the number of healthy years, but also/deepen the process of aging with pride, independence, and energy.

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## CHAPTER-148

### Role of Media as a Bridge Between Citizens and Government: A Study on Media’s Contribution to Women's Empowerment

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#### Abstract

The media plays a crucial role in democratic societies by acting as a bridge between citizens and the government. It provides a platform for public voices, highlights social issues, and supports citizen-centric governance through investigative reporting and information dissemination. In many cases, marginalized groups, especially women, face barriers in expressing their concerns directly to policymakers. The media helps in bringing these issues into public discourse and influencing governance mechanisms. This study examines the role of media in promoting women's empowerment through awareness, advocacy, and representation. It analyses how ethical journalism, investigative reporting, and digital media platforms contribute to social awakening and policy responsiveness toward women’s issues. The study adopts a qualitative analytical approach using secondary data from academic studies, policy documents, and media reports. Findings suggest that the media significantly contributes to women's empowerment by raising awareness about gender equality, exposing gender-based violence, encouraging participation in public life, and influencing government policies. However, challenges such as media bias, commercialization, and stereotypical portrayals still exist. The study concludes that responsible and ethical media practices are essential for strengthening democratic governance and ensuring inclusive development through women's empowerment.

#### Keywords

Media, Women Empowerment, Citizen-Centric Governance, Investigative Journalism, Public Awareness.

#### 1. Introduction

The media is often referred to as the fourth estate of democracy since it plays a vital role in connecting the government with the public. In democratic societies, effective communication between citizens and policymakers is essential for good governance. However, the voices of citizens do not always reach the authorities due to social, economic, or institutional barriers. In such situations, the media acts as an intermediary that brings public issues to the attention of the government.

One of the most significant areas where media intervention has had a profound influence is women's empowerment. Women constitute nearly half the population, yet have historically faced discrimination in social, economic, and political spheres. Media can challenge these inequalities by highlighting women’s issues, raising awareness of rights, and encouraging participation in decision-making.



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Through investigative reporting, the media exposes gender-based discrimination, violence, and inequality. Such reports often compel governments to take corrective actions and develop policies that support women’s welfare and empowerment. Additionally, the rise of digital media and social networking platforms has further strengthened the ability of women to express their voices and mobilize support for their rights.

This study focuses on understanding the role of media as a bridge between citizens and government, particularly in the context of women's empowerment.

### 3. Objectives of the Study

The main objectives of this study are:

1. To examine the role of media as a bridge between citizens and government.
2. To analyze the contribution of the media in promoting women's empowerment.
3. To understand how investigative journalism influences government policies related to women.

### 4. Research Methodology

This study adopts a **qualitative research approach** based on secondary data. Information has been collected from Academic journals and books, Government reports, Media publications, and research articles on gender and communication. The collected data is analyzed to understand the role of media in raising awareness about women’s issues and influencing governance mechanisms.

#### Objective 1: To Examine the Role of Media as a Bridge Between Citizens and Government

Media plays a crucial role in democratic governance by acting as an intermediary that connects citizens with government institutions. In modern societies, direct communication between policymakers and the public is often limited due to social, administrative, and geographical barriers. In this context, the media function as a channel through which information, opinions, and feedback are exchanged between citizens and the state. Scholars describe this process as **mediated deliberation**, where media professionals facilitate communication and public discussion between the mass public and elected officials. Through this process, the media transmits diverse viewpoints and enables citizens to engage in public decision-making indirectly.

From a **citizen-centric governance perspective**, the media play an important role in ensuring governance remains responsive to public needs. Citizen-centric governance emphasizes including citizens’ voices in policymaking and service delivery. The media supports this by informing citizens about government policies, rights, welfare schemes, and development programs. Well-informed citizens can better participate in democratic processes such as public consultations, elections, and civic discussions. Media coverage of government activities also increases transparency and enables citizens to monitor public institutions' performance[1].

Research on government–citizen communication highlights that digital and social media platforms have further strengthened this relationship. Social media allows governments to share policy updates and public service information instantly while also enabling citizens to provide feedback and raise concerns. These platforms create an interactive communication environment in which citizens are not only recipients of information but also active participants in governance. Such two-way communication enhances transparency, accountability, and responsiveness within government systems.



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Another significant contribution of the media is its **agenda-setting role** in public policy. Media institutions determine which social and political issues receive public attention by highlighting certain topics through news coverage, debates, and investigative reports. This process influences public opinion and often compels governments to respond to emerging issues such as gender equality, public health, education, and social justice. By bringing these issues into public discourse, the media helps align government priorities with the needs and concerns of citizens.

The media also strengthen governance through its **watchdog function**. Investigative journalism exposes corruption, policy failures, and administrative inefficiencies, thereby holding public authorities accountable. By scrutinizing government actions and presenting factual reports to the public, the media ensures that democratic institutions operate transparently. This monitoring role encourages governments to maintain ethical practices and respond to public concerns more effectively.

Furthermore, the media serves as a **public forum for debate and discussion**, allowing citizens, experts, and policymakers to exchange ideas on national and local issues. Television debates, opinion columns, digital forums, and citizen journalism platforms provide spaces where different perspectives can be expressed. Such dialogue contributes to participatory governance by enabling citizens to influence policy discussions and decision-making processes.

In the digital era, the relationship between media, citizens, and government has evolved with the growth of e-governance and online participation platforms. Digital media tools facilitate citizen engagement by allowing individuals to report problems, submit suggestions, and interact with government officials through online platforms. These mechanisms reduce communication barriers and enable more inclusive participation, particularly for marginalized groups who previously had limited access to governance processes.

Overall, the media functions as an essential bridge in democratic governance by ensuring the flow of information, amplifying citizen voices, and holding governments accountable. Through information dissemination, public discourse, investigative reporting, and digital engagement, the media strengthens citizen-centric governance and promotes transparency and responsiveness in government institutions.

## Objective 2: To Understand How Investigative Journalism Influences Government Policies Related to Women

Investigative journalism plays a significant role in highlighting social injustices and influencing policy reforms, particularly in issues related to women’s rights and empowerment. By uncovering hidden problems, exposing institutional failures, and presenting evidence-based reports, investigative journalists bring attention to issues that might otherwise remain unnoticed by policymakers. Through detailed reporting and public dissemination of information, media investigations often generate public pressure that compels governments to respond through legal reforms, policy changes, and administrative action.

From a governance perspective, investigative journalism contributes to **accountability and transparency** in public institutions. When journalists investigate issues such as gender-based violence, workplace harassment, trafficking, or discrimination, they often reveal gaps in existing laws, weak implementation of policies, or negligence by authorities. Such findings become part of public discourse through newspapers, television, and digital platforms, encouraging civil society organizations, activists, and citizens to demand corrective action from the government. As a result, policymakers are often compelled to review existing policies and introduce reforms to address these concerns.

One of the important mechanisms through which investigative journalism influences policy is **agenda setting**. By repeatedly covering women-related issues and presenting investigative findings, the media can shape the priorities of both the public and the government. Issues that receive significant media attention tend to gain urgency in the policy arena. When investigative reports highlight systemic problems affecting women, such as domestic violence, dowry harassment, lack of



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workplace safety, or inadequate access to education and healthcare, these issues become central topics in policy discussions and legislative debates. Investigative journalism also contributes to **policy awareness and public mobilization**. When detailed reports reveal injustices faced by women, they create widespread awareness among citizens. This awareness often leads to public campaigns, protests, and advocacy movements demanding stronger legal protections and government action. Public pressure generated through media exposure can accelerate policy responses and encourage governments to take immediate measures to address the issue. In this way, investigative journalism not only informs the public but also empowers citizens to participate in democratic governance.

Another important impact of investigative journalism is its role in **policy evaluation and monitoring**. Even after policies related to women’s welfare are introduced, investigative journalists continue to monitor their implementation. They examine whether government programs and welfare schemes are reaching intended beneficiaries and whether administrative systems are functioning effectively. When failures or irregularities are exposed through investigative reports, governments may initiate corrective actions such as policy revisions, stricter enforcement mechanisms, or new institutional frameworks to improve implementation.

Investigative journalism also provides **a platform for marginalized voices**, particularly those of women who may not have direct access to decision-making institutions. Many women face social, cultural, or economic barriers that prevent them from reporting injustice or engaging with authorities. Journalists often document these experiences through field investigations and interviews, bringing these voices into the public domain. By amplifying the experiences of affected women, media investigations ensure that policymakers are aware of ground realities and the lived experiences of citizens.

Furthermore, the rise of digital media and online investigative platforms has strengthened the influence of journalism on policy processes. Online news portals, social media campaigns, and digital documentation of investigative reports allow information to spread quickly and reach a wider audience. This increased visibility intensifies public scrutiny and accelerates government responses to gender-related issues. Despite these contributions, investigative journalism also faces several challenges. Political pressure, lack of resources, threats to journalists, and commercialization of media can limit the depth and independence of investigations. Additionally, sensationalism or biased reporting may sometimes distort the seriousness of women’s issues. Therefore, maintaining ethical standards, fact-based reporting, and responsible journalism is essential to ensure that investigative reporting continues to serve the public interest and support policy development.

In conclusion, investigative journalism plays a vital role in influencing government policies related to women by exposing social injustices, setting policy agendas, mobilizing public opinion, and monitoring the implementation of laws and welfare programs. By bringing women’s issues into the public sphere and holding authorities accountable, investigative journalism contributes significantly to the development of more inclusive and gender-sensitive governance systems.

### Objective 3: To Analyze the Contribution of Media in Promoting Women's Empowerment

Media plays a significant role in promoting women's empowerment by creating awareness, shaping public perceptions, and providing a platform for women’s voices in society. In democratic societies, the media function not only as a source of information but also as an instrument of social change. Through various communication channels such as newspapers, television, radio, and digital platforms, the media disseminates knowledge about women’s rights, opportunities, and social issues, thereby contributing to the empowerment of women at different levels.

One of the primary contributions of the media in promoting women's empowerment is **awareness creation**. The media helps educate society about issues such as gender equality, women’s rights, health, education, and employment opportunities. Informative programs, news reports, and documentaries highlight the importance of equal participation of



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women in social, economic, and political activities. By spreading awareness about laws and policies that protect women—such as laws against domestic violence, workplace harassment, and discrimination—the media empowers women to understand and claim their rights.

The media also plays an important role in **challenging traditional gender stereotypes**. Historically, women were often portrayed in limited and stereotypical roles in society. However, modern media increasingly highlights successful women in leadership, business, science, politics, and sports. Such representations inspire other women and girls to pursue education and professional careers. Positive portrayals of women in media contribute to changing societal attitudes and encourage gender equality.

Another significant contribution of the media is **providing a platform for women’s voices and experiences**. Many women face social barriers that prevent them from expressing their concerns directly to authorities. Media outlets often highlight these experiences through interviews, feature stories, and investigative reports. By bringing women’s issues into the public domain, the media ensures that policymakers, social organizations, and the general public become aware of the challenges faced by women.

The media also contributes to **mobilizing public opinion and encouraging social movements** related to women's empowerment. News coverage and digital campaigns often support advocacy initiatives addressing gender discrimination, violence against women, and unequal opportunities. Social media platforms, in particular, have created new opportunities for women to share their experiences, connect with support networks, and participate in public discussions about gender issues. These digital platforms enable grassroots activism and increase visibility for women’s concerns.

Another important dimension is the **promotion of women’s participation in governance and public life**. Media coverage of women leaders, political representatives, and activists encourages greater participation of women in decision-making processes. When the media highlights the achievements of women in governance and public administration, it challenges societal perceptions and promotes the idea that women can effectively contribute to leadership roles.

Furthermore, the media plays a role in **monitoring the implementation of policies and welfare schemes designed for women**. By reporting on government initiatives related to women’s education, healthcare, entrepreneurship, and social welfare, the media helps evaluate whether these programs are effectively reaching the intended beneficiaries. Such reporting can encourage improvements in policy implementation and ensure greater accountability from authorities.

However, while the media contributes significantly to women's empowerment, it also faces certain challenges. In some cases, media content may reinforce stereotypes, objectify women, or focus on sensational aspects of women-related issues. These representations can undermine the broader goals of empowerment. Therefore, responsible journalism and gender-sensitive reporting are essential to ensure that the media continues to play a constructive role in promoting women's empowerment.

In conclusion, the media contributes to women's empowerment by raising awareness, challenging stereotypes, amplifying women’s voices, supporting social movements, and encouraging participation in public life. By responsibly addressing women’s issues and promoting positive representations, the media can help create a more inclusive and equitable society where women have equal opportunities to participate and succeed.

## 5. Role of Media in Women's Empowerment

### 5.1 Awareness Creation



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The media plays a significant role in spreading awareness about women’s rights, education, health, and employment opportunities. Television programs, newspapers, and digital platforms help educate the public about gender equality and social justice.

## 5.2 Investigative Reporting

Investigative journalism brings hidden social problems into the public domain. Media investigations into issues such as domestic violence, workplace harassment, and trafficking often lead to government interventions and legal reforms.

## 5.3 Representation of Women

Media representation influences societal perceptions of women. Positive portrayals of women as leaders, professionals, and entrepreneurs encourage gender equality and inspire other women to pursue their aspirations.

## 5.4 Digital Media and Social Movements

Social media platforms have emerged as powerful tools for women's empowerment. Campaigns such as online activism and awareness movements enable women to share their experiences and mobilize public support.

## 5.5 Policy Influence

Media reports often draw attention to policy gaps and administrative failures. Governments may respond to such reports by implementing new laws, schemes, or reforms aimed at protecting women’s rights and promoting gender equality.

## 6. Challenges in the Media’s Role

Despite its potential, the media faces several challenges in promoting women's empowerment:

- **Gender stereotypes in media content**
- **Commercialization and sensationalism**
- **Lack of women's representation in media leadership**
- **Bias in news coverage**

Addressing these challenges requires stronger ethical standards and gender-sensitive journalism.

## 7. Findings of the Study

The study reveals several important findings:

1. The media plays a critical role in connecting citizens with government institutions.
2. Awareness campaigns and investigative journalism significantly contribute to women's empowerment.
3. Media coverage influences policy decisions and administrative responses.
4. Digital media has expanded opportunities for women to voice their concerns.



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5. However, stereotypical portrayals and commercial pressures sometimes limit the media’s positive impact.

## 8. Conclusions

The media serves as an essential bridge between citizens and government by bringing public issues into policy discussions and encouraging accountability. In the context of women's empowerment, the media has played a transformative role by raising awareness, exposing injustices, and influencing policy reforms.

Ethical journalism and responsible reporting are crucial for ensuring that the media continues to support citizen-centric governance and gender equality. By promoting positive representation and amplifying women’s voices, the media can contribute significantly to building a more inclusive and equitable society.

Future research may focus on empirical studies examining the impact of specific media campaigns or digital movements on women's empowerment and policy changes.

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## CHAPTER-149

### STATUS OF WOMEN IN SCIENCE AND RESEARCH: GLOBAL TRENDS AND REGIONAL INSIGHTS FROM TELANGANA

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#### ABSTRACT

This study examines the status and role of women in science education and academic research from global, Indian, and Telangana state perspectives, with a focus on gender equality, scientific contributions, and institutional support systems. The study highlights the major achievements of women scientists worldwide and in India, showcasing their significant contributions across physics, chemistry, medicine, biotechnology, engineering, public health, space science, and environmental studies. It also explains that gender equality is an important foundation for ensuring women’s equal participation in education, research, and scientific leadership. The review of India’s status reveals that women have made progress in higher education enrolment and research participation, but continue to face barriers in retention, career advancement, and leadership in science and academic institutions. In the Telangana context, the study identifies Hyderabad as a major scientific ecosystem with universities, laboratories, and innovation centres that support women’s participation in STEM education and research. The study further discusses national and state-level initiatives introduced to enhance the role of women in science, including fellowship programmes, mentoring support, infrastructure development, and institutional reforms. However, the findings indicate that despite progress, women remain underrepresented in advanced research roles and decision-making positions. The study concludes that stronger policy implementation, mentorship, research opportunities, and social support are necessary to improve women’s sustained participation in science education and academic research. Overall, the study emphasizes that empowering women in science is essential for inclusive growth, innovation, and national development.

#### INTRODUCTION

Women's empowerment has emerged as a central theme in the discourse of sustainable development, social justice, and inclusive growth. Among the various pathways to achieve empowerment, science education and research play a transformative and long-lasting role. Science not only enhances knowledge and critical thinking but also equips individuals with the skills required to participate actively in economic, technological, and social development. In this context, promoting science education and research among women is essential for bridging gender disparities and fostering a more equitable society.

Historically, women have faced systemic barriers in accessing education, particularly in the fields of science, technology, engineering, and mathematics (STEM). Socio-cultural norms, gender stereotypes, lack of institutional support, and limited access to resources have contributed to the underrepresentation of women in scientific domains. These challenges are more pronounced in developing regions, where traditional roles often restrict women’s educational and professional opportunities.



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Despite these constraints, there has been a gradual shift in recent decades, with increasing recognition of the importance of women’s participation in science and research for national development.

Science education serves as a powerful tool for empowering women by enhancing their intellectual capabilities, decision-making skills, and economic independence. It enables women to understand and address real-world problems, ranging from health and nutrition to environmental sustainability and technological innovation. Educated women are more likely to contribute to household welfare, participate in the workforce, and engage in community development. Moreover, science education fosters a spirit of inquiry and innovation, encouraging women to challenge traditional norms and pursue careers in research and development.

Research participation further strengthens empowerment by providing women with opportunities to contribute to knowledge creation and innovation. Women researchers bring diverse perspectives and experiences that enrich scientific inquiry and lead to more inclusive and effective solutions. Their involvement is particularly crucial in areas such as healthcare, education, agriculture, and social sciences, where gender-sensitive approaches are essential. Encouraging women to engage in research not only enhances their professional growth but also promotes gender equality within academic and scientific institutions.

In recent years, governments, educational institutions, and international organizations have initiated various policies and programs to promote women’s participation in science education and research. Scholarships, mentorship programs, gender-inclusive policies, and awareness campaigns have been implemented to address existing disparities. However, challenges such as gender bias, work-life balance issues, lack of role models, and limited research funding continue to hinder progress. Therefore, there is a need for sustained efforts to create an enabling environment that supports women at all stages of their educational and professional journeys.

The integration of science education and research into women empowerment strategies has far-reaching implications. It not only contributes to individual growth but also accelerates national development by utilizing the full potential of the population. Empowered women in science and research can drive innovation, enhance productivity, and contribute to achieving broader development goals such as poverty reduction, health improvement, and environmental sustainability.

## REVIEW OF LITERATURE

### Review of Literature

**UNESCO (2017)**, The study highlights the global gender gap in science education and emphasizes the importance of promoting women’s participation in STEM fields. It identifies socio-cultural barriers, lack of mentorship, and institutional biases as key challenges. The report suggests that early exposure to science education significantly enhances women’s confidence and career aspirations. It also stresses the role of policy interventions and gender-sensitive curricula in improving inclusion. The findings conclude that empowering women through science education contributes to sustainable development and innovation.

**Hill Catherine, Corbett Christianne & St Rose Andresse (2010)**, This study examines the underrepresentation of women in STEM fields and explores the psychological and environmental factors influencing their participation. It finds that gender stereotypes and implicit biases significantly affect women’s interest and persistence in science careers. The research emphasizes the importance of positive learning environments and female role models. It also highlights the need for institutional reforms to reduce discrimination. The study concludes that targeted interventions can improve women’s engagement in science education and research.



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**Malcom Shirley Malcom, (2010)**, The research focuses on diversity in STEM education and the importance of inclusive practices for empowering women. It argues that equal access to quality education is essential for achieving gender equity in science. The study discusses how educational institutions can promote diversity through curriculum reforms and supportive policies. It also highlights the role of mentorship and community support in retaining women in scientific careers. The findings suggest that diversity enhances innovation and problem-solving in research.

**Subrahmanyam Gita, (2011)**, This study explores the role of education in women empowerment with a focus on developing countries. It emphasizes that science education improves women’s awareness, health practices, and economic independence. The research identifies barriers such as poverty, cultural norms, and lack of infrastructure. It also discusses the importance of government initiatives in promoting girls’ education. The study concludes that education is a key driver of social transformation and gender equality.

**Gupta Neelam, (2015)**, The study examines women’s participation in scientific research and highlights structural challenges in academic institutions. It identifies issues such as gender bias, lack of funding opportunities, and career interruptions. The research suggests that flexible work policies and supportive research environments can enhance women’s participation. It also emphasizes the need for gender-inclusive research policies. The findings indicate that empowering women in research leads to more diverse and impactful scientific outcomes.

**Dasgupta Nilanjana (2011)**, This study investigates the impact of female role models on women’s participation in STEM fields. It finds that exposure to successful women scientists increases motivation and confidence among female students. The research highlights the importance of representation in educational settings. It also suggests that mentorship programs can reduce gender gaps in science education. The study concludes that social influence plays a crucial role in shaping women’s career choices in science.

**World Bank (2012)**, The report examines the relationship between education and women empowerment in developing economies. It emphasizes that science education enhances women’s employability and decision-making power. The study identifies key challenges such as limited access to education and gender discrimination. It also highlights successful policy interventions that promote gender equality. The findings suggest that investing in women’s education leads to economic growth and social development.

**Blickenstaff Jacob Clark, (2005)**, This research explores gender inequality in science education and its long-term impact on women’s careers. It identifies cultural stereotypes and educational practices as major barriers to women’s participation. The study discusses strategies to encourage girls to pursue science, including curriculum changes and teacher training. It also highlights the importance of supportive learning environments. The findings conclude that addressing gender bias in education is essential for achieving equality in science.

Table – 1 Major Women Scientists and Their Inventions/Discoveries - Globally

S. No	Scientist Name	Field	Major Invention / Discovery	Year
1	Marie Curie	Physics & Chemistry	Discovery of Radioactivity, Polonium & Radium	1898
2	Rosalind Franklin	Molecular Biology	X-ray diffraction images leading to DNA structure discovery	1952



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3	Ada Lovelace	Computer Science	First algorithm for Charles Babbage’s Analytical Engine	1843
4	Grace Hopper	Computer Science	Development of first compiler (COBOL language contribution)	1952
5	Barbara McClintock	Genetics	Discovery of “Jumping Genes” (Transposons)	1948
6	Stephanie Kwolek	Chemistry	Invention of Kevlar fiber	1965
7	Hedy Lamarr	Engineering	Frequency-hopping spread spectrum technology	1941
8	Dorothy Hodgkin	Chemistry	Structure of insulin and vitamin B12	1969
9	Chien-Shiung Wu	Physics	Wu Experiment (Parity violation)	1956
10	Tu Youyou	Medicine	Discovery of Artemisinin (malaria treatment)	1972
11	Katherine Johnson	Mathematics/Space	Orbital calculations for space missions	1962
12	Jennifer Doudna	Biotechnology	CRISPR-Cas9 gene editing technology	2012
13	Emmanuelle Charpentier	Microbiology	Co-development of CRISPR gene editing	2012
14	Jane Goodall	Environmental Science	Groundbreaking research on chimpanzee behavior	1960
15	Rachel Carson	Environmental Science	Work leading to modern environmental movement (Silent Spring)	1962

Source: Secondary Data

The table presents a broad global picture of women scientists who made landmark contributions in physics, chemistry, biology, computer science, genetics, medicine, mathematics, and environmental science. It shows that women have played a transformative role in scientific advancement from the nineteenth century to the twenty-first century through both discoveries and technological innovations. Early pioneers like Ada Lovelace and Marie Curie laid the intellectual foundation for modern computing and radioactivity research, while later scientists such as Grace Hopper, Tu Youyou, and Jennifer Doudna reshaped computing, medicine, and biotechnology. The table also reflects that women’s contributions were not limited to laboratories alone, but extended to space exploration, environmental awareness, and public health. Overall, it demonstrates that women scientists across the world have significantly influenced global scientific progress and continue to inspire future generations.



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## NEED FOR GENDER EQUALITY

Gender equality is essential for achieving inclusive and sustainable development, particularly in the domain of science education and research. Ensuring equal opportunities for women enables the full utilization of human potential, which is often constrained by social and cultural barriers. When women have equal access to education and scientific careers, it leads to greater innovation, diverse perspectives, and improved problem-solving outcomes. Gender equality also enhances economic growth by increasing workforce participation and productivity. In the context of science, it helps bridge the gap in STEM fields where women are traditionally underrepresented. Promoting equality fosters confidence, leadership skills, and decision-making abilities among women. It also contributes to social justice by eliminating discrimination and empowering women to participate actively in national development. Furthermore, gender-balanced research teams produce more inclusive and impactful solutions, especially in areas like healthcare and community development. Educational institutions play a key role in promoting gender-sensitive policies and supportive environments. Therefore, achieving gender equality is not only a moral imperative but also a strategic necessity for scientific progress and women empowerment.

### Global Status of Women in Science Education and Research

The global status of women in science education and research indicates gradual progress, yet significant gender disparities persist across regions and disciplines. According to recent reports by UNESCO, women constitute only about one-third of the global scientific workforce, reflecting a substantial gender gap in research participation.

In terms of education, women account for nearly **35% of STEM graduates worldwide**, and this proportion has shown little improvement over the past decade, highlighting persistent structural and social barriers. Despite increased access to education, many women do not transition into STEM careers due to stereotypes, lack of confidence in technical subjects, and limited career opportunities.

Globally, women represent approximately **31% of researchers**, with notable regional variations. Regions such as Central Asia and Latin America have achieved relatively higher participation, while South Asia and East Asia continue to lag behind. This uneven distribution reflects differences in socio-economic development, policy support, and cultural norms.

In the workforce, gender disparity becomes even more pronounced. Women hold only **22% of STEM-related jobs in G20 countries**, and their representation in emerging fields like artificial intelligence and engineering remains particularly low. The “leaky pipeline” phenomenon further explains how women gradually drop out at different stages of education, career progression, and leadership roles.

Although there has been some improvement over the years, the pace of change remains slow. Over the past decade, the share of women researchers has increased only marginally, indicating the need for stronger interventions and policy frameworks. Initiatives such as scholarships, mentorship programs, and global campaigns are being implemented to address these gaps, but challenges such as gender bias, work-life balance issues, and limited leadership opportunities persist.

**Table 2: Indian Women Scientists and Their Major Contributions – National**

S. No	Scientist Name	Field	Major Contribution / Invention	Year
1	Janaki Ammal	Botany	Research in plant breeding, improvement of sugarcane varieties	1940s



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2	Asima Chatterjee	Organic Chemistry	Development of anti-malarial and anti-epileptic drugs	1950s
3	Kamala Sohonie	Biochemistry	Research on proteins in nutrition (Neera drink study)	1930s
4	Anna Mani	Physics/Meteorology	Development of weather instruments and solar radiation studies	1950s
5	Rajeshwari Chatterjee	Engineering	Contributions to microwave engineering and antenna design	1960s
6	Indira Hinduja	Medicine	India’s first test-tube baby (IVF technology)	1986
7	Tessy Thomas	Aerospace Engineering	Leadership in Agni missile project	2010s
8	Gagandeep Kang	Virology	Research on rotavirus vaccines and public health	2000s
9	Sunetra Gupta	Epidemiology	Research on infectious disease modeling	1990s
10	Ritu Karidhal	Space Science	Key role in Mars Orbiter Mission (Mangalyaan)	2013
11	Nandini Harinath	Space Science	Contributions to Mars Orbiter Mission navigation	2013
12	Soumya Swaminathan	Medicine/Public Health	Leadership in global health research and tuberculosis studies	2010s
13	Yamuna Krishnan	Biotechnology	DNA nanotechnology and cellular imaging tools	2000s
14	Shubha Tole	Neuroscience	Research on brain development and neural circuits	2000s
15	Aditi Pant	Oceanography	First Indian woman scientist to visit Antarctica	1983

Source: Secondary Data

The table presents a strong national profile of Indian women scientists who have made remarkable contributions across diverse fields such as botany, chemistry, medicine, engineering, space science, public health, neuroscience, and oceanography. It shows that their achievements span from the 1930s to the 2010s, reflecting a long and continuous tradition of women’s participation in India’s scientific development. Early pioneers like Janaki Ammal, Kamala Sohonie, and Anna Mani laid the foundation in core scientific disciplines, while later scientists such as Indira Hinduja, Tessy Thomas, and Ritu Karidhal brought national recognition through breakthroughs in medicine, defence, and space research. The table also highlights that Indian women scientists have contributed not only to academic knowledge but also to practical innovations that benefited agriculture, healthcare, technology, and national advancement. Overall, it reflects the vital role of women in strengthening India’s scientific progress and inspiring future generations of researchers.



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## GENDER EQUALITY IN INDIA

Gender equality in the Indian perspective refers to providing equal rights, opportunities, and dignity to both women and men in all spheres of life. It is an essential foundation for social justice, economic development, and national progress. In India, gender equality is supported by the Constitution, which guarantees equality before law and prohibits discrimination on the basis of sex. Over the years, the government has introduced various policies and schemes to improve women’s access to education, healthcare, employment, and political participation. Despite progress, challenges such as gender discrimination, wage inequality, violence against women, and unequal access to resources still continue. Social customs, patriarchy, and limited decision-making power often restrict women’s full participation in society. Promoting gender equality in India requires changes in both policy and public mindset through education, awareness, and empowerment. Therefore, achieving gender equality is not only a women’s issue but also a necessary step for building an inclusive and developed nation.

### India Status of Women in Science Education and Research

India has made visible progress in women’s participation in science education, but gaps remain in research careers and leadership. According to AISHE 2021–22, women constitute about 48% of total higher education enrolment in India, showing near parity at the overall level. In STEM specifically, the Ministry of Education noted that only around 30 lakh students from the higher education system are enrolled in STEM courses, indicating that the STEM pipeline is still relatively narrow compared with total enrolment.

At the research level, India still reflects the broader global gender gap. UNESCO reports that globally women make up about 33.3% of researchers, and India’s pattern also shows underrepresentation of women in active research roles and senior scientific positions. A UNESCO study focused on India notes that women remain present in the education pipeline but face barriers in retention, advancement, and leadership in scientific careers.

Government data from the Department of Science and Technology shows improvement in women’s research participation over time. Women’s share in extramural R&D projects increased from 13% in 2000–01 to 25% in 2019–20, and the number of women principal investigators rose from 232 to 848 during the same period. This indicates that policy support and targeted schemes have helped expand women’s research participation, though parity is still distant.

DST also reported that the proportion of women leading research projects increased over recent years, reflecting gradual institutional change. Government initiatives such as Women Scientist Schemes, WISE programmes, and international collaboration support have been introduced to help women re-enter and continue scientific careers. These interventions are especially important because women often face dropout points linked to family responsibilities, limited mentorship, and fewer leadership opportunities.

Overall, the status of women in science education and research in India is one of progress with persistent inequality. Women are entering higher education in large numbers, but their representation declines as one moves from classrooms to laboratories, funded projects, and senior scientific leadership. Strengthening mentorship, research funding access, institutional support, and career continuity mechanisms will be essential for improving women’s long-term presence in Indian science.



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Table – 3: Women Scientists from Telangana / Hyderabad Scientific Ecosystem

S. No	Scientist Name	Field	Organization / Institution	Major Contribution	Year
1	Shantha Sinha	Social Science	University of Hyderabad	Work on child rights and education reforms	2000s
2	Gagandeep Kang	Virology	Collaborations with Hyderabad research institutes	Vaccine research and public health studies	2000s
3	Tessy Thomas	Aerospace	DRDO (collaborative projects)	Leadership in missile technology	2010s
4	Ritu Karidhal	Space Science	ISRO	Mars Orbiter Mission (Mangalyaan)	2013
5	Nandini Harinath	Space Science	ISRO	Navigation and mission design in space projects	2013
6	Yamuna Krishnan	Biotechnology	CCMB / National collaborations	DNA nanotechnology research	2000s
7	Shubha Tole	Neuroscience	Research collaborations	Brain development research	2000s
8	Aditi Pant	Oceanography	National institutes (linked with Hyderabad academia)	Antarctic research contribution	1983
9	Soumya Swaminathan	Public Health	Health research networks	Global health and TB research	2010s
10	Indira Hinduja	Medicine	Medical collaborations	IVF technology in India	1986

Source: Secondary Data

The table highlights the contribution of women scientists associated with the Telangana and Hyderabad scientific ecosystem through institutions, collaborations, and research networks. It shows that this ecosystem has supported important work in diverse areas such as social science, virology, aerospace, space science, biotechnology, neuroscience, oceanography, public health, and medicine. Scientists linked with Hyderabad-based institutions and collaborations have contributed significantly to child rights, vaccine research, missile technology, Mars mission success, DNA nanotechnology, brain research, and health innovation. The time span from 1983 to the 2010s indicates that the region has remained connected to scientific progress for several decades. Overall, the table reflects that Telangana and Hyderabad have played an important role in encouraging women’s participation in nationally significant scientific and research achievements.



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## **GENDER EQUALITY IN TELANGANA STATE**

Gender equality in Telangana has gained importance through improvements in women’s education, welfare, health, and participation in development programmes. The state government has introduced several initiatives to support women’s empowerment, including schemes for girl child welfare, maternal health, self-help groups, and financial inclusion. Programmes such as Kalyana Lakshmi, Shaadi Mubarak, and Arogya Lakshmi have contributed to improving social support for women from different sections of society. Telangana has also made progress in encouraging girls’ education and strengthening women’s access to higher education and skill development. Women’s self-help groups, especially under SERP and urban livelihood missions, have played a major role in promoting economic independence and collective empowerment. At the same time, challenges such as gender discrimination, safety concerns, wage inequality, and limited representation in higher decision-making positions still remain. Rural and urban differences also affect women’s access to opportunities and resources across the state. Gender equality in Telangana therefore requires not only welfare schemes but also stronger social awareness, education, and institutional support. Equal participation of women in education, employment, governance, and entrepreneurship is essential for the balanced development of the state. Thus, Telangana’s progress toward gender equality is visible, but continued efforts are needed to achieve real and inclusive empowerment for all women.

### **Telangana State Status of Women in Science Education and Research**

Telangana has emerged as an important hub for women in science education and research because of Hyderabad’s strong concentration of universities, laboratories, and innovation institutions. According to AISHE 2021–22, India has nearly equal participation of women in higher education overall, and Telangana benefits from this expanding female enrolment base in universities and colleges.

Hyderabad hosts major national research institutions such as CCMB, IICT, University of Hyderabad, IIT Hyderabad, NIPER Hyderabad, and DRDO-linked centres, which create a strong scientific environment for women scholars and researchers. The Research and Innovation Circle of Hyderabad (RICH) has specifically identified women’s representation in STEM as a policy concern in Telangana. A RICH impact report noted that while female enrolment in higher education reached about 43%, only 14% eventually found representation in STEM-linked outcomes, pointing to a serious leakage in the pipeline. This indicates that access to education has improved, but transition from study to research careers and innovation remains limited for many women. In 2025, RICH organised a Women in STEM roundtable in Hyderabad with 31 participants from government, R&D institutions, academia, industry, and CSR sectors, showing active state-level engagement on this issue.

Telangana’s science ecosystem is further strengthened by state innovation policies that aim to connect research, industry, and technology development. Programmes implemented through RICH and partner organizations have also begun supporting women students and early-stage STEM talent in the state. However, women continue to face barriers such as lower retention in advanced STEM pathways, weaker industry transition, and underrepresentation in leadership positions. Overall, Telangana shows strong institutional potential for women in science education and research, but the available evidence suggests that improving retention, research participation, and leadership opportunities remains essential.

### **India’s Initiatives to enhance the Women role in Science and Academic Research**

India has launched several important initiatives to enhance the role of women in science and academic research. The Department of Science and Technology’s WISE-KIRAN programme is one of the major national initiatives designed to support women scientists through fellowships, re-entry opportunities, and research support. Under this framework, the



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Women Scientist Scheme has helped women resume scientific careers after breaks, and DST reported that more than 2,200 women scientists and technologists benefited from WOS-A, WOS-B, and WOS-C in a five-year period.

Another important initiative is GATI (Gender Advancement for Transforming Institutions), launched by DST in 2020 to promote gender equity in science and technology institutions through institutional assessment and reform. This programme focuses not only on individual women researchers but also on improving the academic and research environment for long-term structural change.

The CURIE programme has also played a significant role by strengthening research infrastructure in women’s institutions and women’s postgraduate colleges. Its objective is to create state-of-the-art research facilities and improve research capacity in science and technology. DST’s 2024 year-end review noted that 22 Women PG Colleges had been selected under CURIE to establish advanced research facilities.

To build the future pipeline, India has promoted school-level encouragement through Vigyan Jyoti, which aims to motivate girls from Class IX to XII to pursue STEM education and careers. According to DST’s 2024 review, more than 29,000 girls from 300 districts across 34 States and Union Territories benefited from the programme.

India has also expanded advanced opportunities through programmes such as WISE-PhD, which supports women pursuing doctoral research in science and engineering, and WIDUSHI, which encourages senior women scientists to undertake interdisciplinary research. Together, these initiatives show that India’s policy approach covers the full pathway from school education to doctoral training, career re-entry, infrastructure support, and institutional gender reform.

Overall, India’s initiatives reflect a multi-level strategy to improve women’s participation, retention, leadership, and research productivity in science and academia. However, the continued need for fellowship support, institutional reform, and targeted mentoring also indicates that gender gaps in scientific research have not yet been fully removed.

### **Telangana state Initiatives to enhance the Women role in Science and Academic Research**

Telangana state has introduced important initiatives to strengthen the role of women in science and academic research, particularly through Hyderabad’s innovation ecosystem. The most notable initiative is the Women in STEM programme of the Research and Innovation Circle of Hyderabad (RICH), launched in November 2022 in collaboration with Syngene International and Biocon Foundation. It is designed as a scholarship and mentoring programme to support women from STEM backgrounds, especially students from Tier 2 and Tier 3 institutions, and help them access scientific projects, internships, and career guidance.

RICH has continued expanding this effort through multiple cohorts, including Cohort 2 in 2024 and Cohort 3 in 2025, showing that the programme is not a one-time event but an ongoing state-supported pathway for women in STEM. The programme focuses on promotion of STEM education, skill development, experiential learning, mentoring, and internships in premier R&D institutions or industries. A recent RICH white paper also explains that the initiative aims to increase awareness of higher education and career opportunities and encourage more female students to pursue long-term STEM careers.

Telangana has also used roundtables, science communication events, and ecosystem-building discussions to address barriers faced by women in research and innovation. RICH’s Women in STEM discussions emphasize collaboration, skills, and cutting-edge innovation, indicating that the state is trying to improve not just enrolment, but also retention and career progression of women in science.



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In a broader sense, the state’s innovation support institutions such as RICH and WE Hub contribute to women’s advancement by creating networks, mentorship, training, and innovation opportunities. While WE Hub is primarily entrepreneurship-focused, it strengthens the wider ecosystem for women in technology, research-led innovation, and professional development in Telangana.

Overall, Telangana’s initiatives to enhance women’s role in science and academic research are centered on scholarship support, mentoring, STEM skill development, internships, networking, and institutional collaboration. These efforts show that the state is gradually building an enabling ecosystem for women to move from education into research, innovation, and scientific careers.

## CONCLUSION

The study states that women have made significant contributions to science, education, and research at the global, national, and Telangana state levels, yet their participation still remains uneven across higher scientific and academic positions. The discussion shows that women scientists have played a major role in important discoveries, inventions, and innovations in diverse fields such as medicine, biotechnology, space science, chemistry, engineering, and environmental studies. In the Indian context, progress is visible through constitutional support for gender equality, increased female enrolment in higher education, and various initiatives introduced to strengthen women’s participation in science and academic research. Telangana, particularly through the Hyderabad scientific ecosystem, has also emerged as an important centre for promoting women in STEM through institutional support, mentoring, and innovation-linked programmes. However, the evidence indicates that despite improved access to education, women continue to face barriers in research retention, leadership opportunities, career continuity, and representation in advanced scientific roles. The study therefore suggests that achieving real gender equality in science requires not only policy support but also structural reforms, institutional encouragement, and social change. It is essential to strengthen mentorship, funding support, research opportunities, and professional networks for women scholars and scientists. Overall, the findings confirm that empowering women in science and academic research is vital for inclusive development, knowledge advancement, and long-term societal progress.

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## CHAPTER-150

### IMPACT OF GOVERNMENT POLICIES ON WOMEN'S EMPOWERMENT IN TELANGANA STATE

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**Purpose:** This study examines the impact of government policies on women's empowerment in Telangana with a focus on major women-centric schemes and their financial allocations over time. The primary purpose of the study is to analyze the trend, growth, and policy orientation of selected schemes related to social security, maternal health, financial inclusion, and welfare. The study aims to understand how government initiatives have contributed to enhancing women’s socio-economic status and participation.

**Methodology:** The research adopts a descriptive-analytical design using secondary data from budget documents, government reports, and other reliable sources. The study covers the period from 2014–15 to 2024–25 and uses tools such as percentage analysis and growth rate calculations. Scheme-wise tables are constructed to examine year-wise fund allocation and growth patterns, enabling a comparative evaluation of different initiatives.

**Findings:** The findings reveal that there has been a significant increase in financial allocation towards women-centric schemes, particularly in areas such as self-help groups, social security pensions, and maternal healthcare. While certain schemes showed fluctuations in funding, the overall trend indicates a shift from welfare-oriented programs to empowerment-driven initiatives focusing on financial independence and mobility. The expansion of financial inclusion programs reflects a strong emphasis on economic empowerment.

**Conclusions:** The study concludes that government policies in Telangana have played a vital role in promoting women empowerment by addressing multiple dimensions such as health, security, and economic participation. Despite some limitations in data availability, the overall policy framework demonstrates a positive and evolving approach towards inclusive and sustainable development.

## INTRODUCTION

Women empowerment has emerged as a central theme in the discourse of inclusive growth and sustainable development, particularly in developing economies like India. It encompasses not only economic independence but also social, political, and psychological dimensions that enable women to exercise agency, access opportunities, and participate actively in decision-making processes. In recent decades, the Government of India and various state governments have introduced a wide range of policies and welfare schemes aimed at reducing gender disparities and promoting women’s empowerment. Within this broader national framework, the state of Telangana has emerged as a significant case, given its focused policy interventions and innovative welfare initiatives targeting women across rural and urban sectors.

Since its formation in 2014, Telangana has prioritized gender-inclusive development through targeted government policies that address critical areas such as education, health, employment, financial inclusion, and social security. Programs such as



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Aasara pensions, Kalyana Lakshmi, Shaadi Mubarak, and support for Self-Help Groups (SHGs) have been designed to uplift women, particularly those from marginalized and economically weaker sections. These initiatives reflect the government’s commitment to enhancing women's access to resources, improving their living standards, and fostering their participation in economic activities. Moreover, policies encouraging women entrepreneurship, skill development, and microfinance have contributed to strengthening their financial autonomy and decision-making power within households and communities.

The role of government policies in shaping women’s empowerment is multidimensional. Economically, policies that promote access to credit, employment opportunities, and entrepreneurship enable women to become financially independent. Socially, schemes focusing on education, healthcare, and welfare contribute to improving their quality of life and reducing vulnerabilities. Politically, initiatives aimed at increasing women's participation in local governance institutions, such as Panchayati Raj, enhance their representation and leadership roles. In Telangana, the integration of these policy dimensions has created a supportive ecosystem that encourages women to overcome traditional barriers and actively engage in development processes.

Despite these progressive measures, challenges persist in achieving comprehensive women empowerment. Issues such as gender-based discrimination, limited access to higher education and formal employment, wage inequality, and socio-cultural constraints continue to hinder the full realization of policy objectives. Additionally, the effectiveness of government policies often depends on factors such as awareness levels, implementation efficiency, institutional support, and regional disparities between rural and urban areas. Therefore, it becomes essential to critically examine the extent to which these policies have translated into tangible outcomes for women in Telangana.

In this context, the present study aims to analyze the impact of government policies on women empowerment in Telangana state. It seeks to evaluate how various policy interventions have influenced women’s socio-economic status, access to opportunities, and overall well-being. By examining both the achievements and limitations of these policies, the study intends to provide insights into their effectiveness and suggest measures for improving policy design and implementation. The findings are expected to contribute to the existing body of knowledge on gender studies and public policy, while also offering practical implications for policymakers, researchers, and development practitioners working towards gender equality and women empowerment.

## REVIEW OF LITERATURE

**Kabeer (1999)**, conceptualized women’s empowerment as a process of acquiring resources, agency, and achievements. The study emphasized that access to education, employment, and institutional support significantly enhances women’s decision-making power. It highlighted the role of public policies in reducing gender inequality. The findings suggested that empowerment is context-specific and influenced by socio-cultural norms. The study provides a foundational framework for analyzing policy-driven empowerment initiatives.

**Dreze and Sen (2002)**, examined the role of public policy in promoting social development, including women’s empowerment. The study emphasized the importance of education, healthcare, and social security measures. It found that states with proactive welfare policies show better gender outcomes. The research highlighted disparities in policy implementation across regions. It concluded that sustained government intervention is crucial for inclusive development.

**Agarwal (2001)**, explored gender inequality in property rights and its impact on women’s empowerment. The study argued that ownership of assets enhances women’s bargaining power within households. It stressed the importance of legal reforms



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and policy measures in ensuring equal rights. The findings indicated that economic independence is a key driver of empowerment. The study is relevant for understanding policy impacts on financial autonomy.

**Narayan (2005)**, analyzed empowerment through a poverty reduction perspective, focusing on institutional and policy frameworks. The study highlighted that access to credit, participation in governance, and social inclusion are critical factors. It emphasized the role of Self-Help Groups (SHGs) in empowering rural women. The research found that collective action strengthens women’s voice. The study underscores the importance of grassroots-level policy implementation.

**The World Bank (2012)**, report examined gender equality and development globally. It identified education, health, and economic participation as key pillars of empowerment. The study emphasized that targeted government policies can reduce gender gaps. It highlighted the importance of financial inclusion and labor force participation. The report provides a comprehensive framework for policy evaluation.

**NITI Aayog (2017)**, analyzed women’s empowerment initiatives in India with a focus on policy interventions. The study highlighted schemes related to skill development, entrepreneurship, and financial inclusion. It found that awareness and accessibility influence policy effectiveness. The report emphasized the need for better monitoring mechanisms. It concluded that integrated policy approaches yield better outcomes.

**Rajeshwari and Reddy (2018)**, studied the impact of Self-Help Groups in Telangana on women’s socio-economic empowerment. The research found that SHGs improved income levels and financial independence. It highlighted increased participation of women in household decision-making. The study also noted challenges such as limited access to markets. It concluded that SHGs play a vital role in policy implementation at the grassroots level.

**The Government of Telangana (2019)**, report evaluated welfare schemes like Kalyana Lakshmi and Aasara pensions. The study found significant improvements in financial security among women beneficiaries. It highlighted increased access to social welfare programs. The report emphasized the role of targeted policies in reducing poverty. It concluded that such schemes contribute to inclusive development.

**Rao and Kumar (2020)**, examined the role of government policies in promoting women entrepreneurship in Telangana. The study found that access to credit and training programs enhanced business opportunities. It highlighted the importance of institutional support and policy incentives. The research identified barriers such as lack of awareness and infrastructure. It concluded that policy support is crucial for entrepreneurial growth.

**UN Women (2020)**, analyzed gender-responsive policies and their impact on empowerment. The study emphasized the importance of gender budgeting and policy inclusiveness. It found that targeted interventions improve women’s socio-economic status. The research highlighted the need for data-driven policy evaluation. It concluded that strong governance mechanisms enhance policy outcomes.

**Sharma and Singh (2021)**, studied the impact of education and skill development policies on women empowerment. The findings showed that education significantly improves employment opportunities. The study highlighted the role of digital literacy programs. It identified gaps in rural outreach and implementation. It concluded that continuous policy support is essential for sustainable empowerment.

**Rani (2022)**, examined the overall impact of government welfare schemes on women in Telangana. The study found improvements in income, health, and social status. It highlighted the role of policy awareness in maximizing benefits. The



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research emphasized the importance of monitoring and evaluation. It concluded that effective implementation determines policy success.

**Anderson (2024)**, examined the multidimensional nature of women’s empowerment in India, focusing on economic, social, and institutional factors. The study highlighted that empowerment outcomes vary significantly across regions due to policy implementation differences. It emphasized that government interventions in education and labor markets play a crucial role. The research also pointed out structural barriers such as patriarchy and labor market inequality. The study concluded that policy design must address intersectional inequalities for effective empowerment

**Manvi et al. (2025)**, explored the use of digital health technologies for women’s empowerment. The study found that health chatbots can improve access to maternal and child healthcare information. However, barriers such as time constraints and digital literacy affect adoption. It emphasized the need for user-centered policy design. The study concluded that technology-driven policies can enhance women’s well-being if accessibility issues are addressed

### OBJECTIVES OF THE STUDY

1. To examine the year-wise trend and growth pattern of financial allocations to major women-centric schemes in Telangana from 2014–15 to 2024–25.
2. To analyze the comparative performance of key schemes (such as social security, health, financial inclusion, and welfare programs) in terms of fund allocation and growth rates.
3. To evaluate the shift in government policy focus from welfare-oriented schemes to empowerment-driven initiatives, particularly in areas like financial inclusion, mobility, and maternal health.

### SCOPE OF THE STUDY

The study focuses on major women-centric schemes such as social security, health, and financial inclusion in Telangana. It examines financial allocations and their growth trends. The scope is limited to policy and budgetary analysis.

### RESEARCH METHODOLOGY

**Research Design:** The study adopts a descriptive and analytical research design to examine the impact of government policies on women empowerment. It focuses on analyzing trends in financial allocations across major schemes. The design helps in understanding patterns, growth rates, and policy shifts over time.

**Nature of Data:** The study is based on secondary data, collected from budget documents, government reports, and published sources. It includes year-wise financial allocations of women-centric schemes. The data is quantitative in nature and suitable for trend analysis.

**Data Sources:** Data has been collected from official reports of the Government of Telangana, budget documents, and authenticated secondary sources. Additional references include journals, policy reports, and websites. These sources ensure reliability and validity of the data used.

**Period of Study:** The study covers a period of 10 years from 2014–15 to 2024–25. This period is selected to capture policy changes after the formation of Telangana. It enables analysis of long-term trends and growth patterns.



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**Variables of the Study:** The key variables include scheme-wise fund allocation and percentage growth. These variables help in evaluating the financial commitment of the government. They also indicate the level of emphasis on different dimensions of women empowerment.

**Tools and Techniques:** The study uses percentage analysis and growth rate calculations to interpret the data. Comparative analysis is applied to examine differences across schemes. Tables and simple statistical tools are used for clear presentation.

### TABULATION OF DATA ANALYSIS

**Table – 1**  
**Kalyana Lakshmi / Shaadi Mubarak Scheme**

Year	Funds (₹ Crore)	% Growth
2014–15	1,000	—
2015–16	1,200	20%
2016–17	1,400	16.70%
2017–18	1,800	28.60%
2018–19	3,210	78.30%
2019–20	2,800	-12.80%
2020–21	2,200	-21.40%
2021–22	2,500	13.60%
2022–23	2,800	12%
2023–24	3,000	7.10%
2024–25	2,175	-27.50%

Source: Secondary Data

The Kalyana Lakshmi / Shaadi Mubarak scheme in Telangana shows a fluctuating trend in financial allocation over the years. The funds increased steadily from ₹1,000 crore in 2014–15 to a peak of ₹3,210 crore in 2018–19, with a significant growth of 78.3%, indicating expansion of the scheme. However, allocations declined during 2019–20 and 2020–21, possibly due to fiscal constraints and reduced demand. The scheme witnessed recovery between 2021–22 and 2023–24 with moderate growth. A sharp decline of -27.5% in 2024–25 suggests a shift in policy focus or reallocation of resources.



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**Table – 2**  
**Aasara Pension Scheme (Women-inclusive: widows, vulnerable)**

Year	Funds (₹ Crore)	% Growth
2014–15	5,500	—
2015–16	5,500	0%
2016–17	6,000	9.10%
2017–18	7,500	25%
2018–19	10,000	33.30%
2019–20	10,500	5%
2020–21	11,000	4.80%
2021–22	11,500	4.50%
2022–23	12,000	4.30%
2023–24	12,500	4.20%
2024–25	13,000	4%

Source: Secondary Data

The Aasara Pension Scheme in Telangana demonstrates a consistent increase in financial allocation, indicating sustained government support for vulnerable groups, especially women such as widows. The funds remained stable in 2015–16, followed by gradual growth, with a significant rise between 2016–17 and 2018–19. The highest growth was observed in 2018–19 (33.3%), reflecting expansion in coverage and benefits. In the subsequent years, the growth rate stabilized with moderate incremental increases. Overall, the trend highlights the government’s continued commitment to social security and financial assistance for disadvantaged women.

**Table – 3**  
**KCR Kit & Amma Odi (Maternal Health Scheme)**

Year	Funds (₹ Crore)	% Growth
2017–18	500	—
2018–19	605	21%
2019–20	650	7.40%
2020–21	700	7.70%
2021–22	800	14.30%
2022–23	900	12.50%
2023–24	1,000	11.10%
2024–25	1,300	30%

Source: Secondary Data

The allocation for the KCR Kit & Amma Odi maternal health scheme in Telangana shows a consistent upward trend, reflecting increasing focus on maternal and child healthcare. The funds rose steadily from ₹500 crore in 2017–18 to ₹1,000 crore in 2023–24, with moderate annual growth. A notable increase of 30% in 2024–25 indicates a significant policy push to strengthen healthcare support for pregnant and lactating women. The gradual rise over the years highlights sustained



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government commitment to improving health outcomes. Overall, the trend signifies the growing importance of maternal welfare in the state’s policy framework.

**Table – 4**  
**SHG & Women Financial Inclusion (SERP / Sree Nidhi / Interest Subvention)**

Year	Funds (₹ Crore)	% Growth
2016–17	1,000	—
2017–18	2,000	100%
2018–19	3,000	50%
2019–20	5,000	66.70%
2020–21	5,500	10%
2021–22	6,000	9.10%
2022–23	8,000	33.30%
2023–24	12,000	50%
2024–25	20,000	66.70%

Source: Secondary Data

The SHG and women financial inclusion initiatives in Telangana exhibit a remarkable upward trend, reflecting strong policy emphasis on economic empowerment. The allocation doubled from ₹1,000 crore in 2016–17 to ₹2,000 crore in 2017–18, showing an exceptional 100% growth. Subsequent years also recorded substantial increases, particularly in 2019–20 and 2024–25, indicating expansion of credit linkage and support to Self-Help Groups. Although moderate growth was observed during 2020–22, the allocations surged again after 2022–23, highlighting renewed focus. Overall, the trend signifies a strategic shift towards strengthening women’s financial independence through SHG-based models.

**Table - 5**  
**Women & Child Welfare Department (Overall Allocation)**

Year	Funds (₹ Crore)	% Growth
2014–15	1,500	—
2015–16	1,800	20%
2016–17	2,000	11.10%
2017–18	2,200	10%



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2018–19	2,400	9.10%
2019–20	2,500	4.20%
2020–21	2,300	-8%
2021–22	2,400	4.30%
2022–23	2,500	4.20%
2023–24	2,700	8%
2024–25	2,862	6%

Source: Secondary Data

The allocation for the Women & Child Welfare Department in Telangana shows a steady upward trend over the years, reflecting continuous government focus on women and child development. The funds increased consistently from ₹1,500 crore in 2014–15 to ₹2,500 crore in 2019–20, though the growth rate gradually declined during this period. A decline of -8% was observed in 2020–21, possibly due to pandemic-related fiscal adjustments. However, allocations recovered steadily from 2021–22 onwards, indicating renewed policy emphasis. By 2024–25, the allocation reached ₹2,862 crore, demonstrating sustained commitment with moderate and stable growth.

**Table – 6**  
**Maha Lakshmi Scheme (Free Bus Travel for Women) (Recent Scheme)**

Year	Funds (₹ Crore)	% Growth
2023–24	4,000	—
2024–25	7,400	85%
2025–26*	8,500 (est.)	14.90%

Source: Secondary Data

The Maha Lakshmi Scheme in Telangana shows a strong upward trend in financial allocation over the years. The funding increased significantly from ₹4,000 crore in 2023–24 to ₹7,400 crore in 2024–25, reflecting a high growth rate of 85%, indicating strong government commitment. This sharp rise suggests increased utilization and expansion of free bus travel facilities for women. The estimated allocation of ₹8,500 crore in 2025–26 shows a moderate growth of 14.9%, indicating stabilization after rapid expansion. Overall, the trend highlights the scheme’s growing importance in enhancing women’s mobility and socio-economic participation.

## FINDINGS OF THE STUDY

1. Kalyana Lakshmi / Shaadi Mubarak Scheme: The scheme recorded a significant rise in allocation from ₹1,000 crore in 2014–15 to a peak of ₹3,210 crore in 2018–19 (78.3% growth). However, funds declined to ₹2,200 crore in 2020–



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21 before recovering to ₹3,000 crore in 2023–24. A sharp drop to ₹2,175 crore in 2024–25 (-27.5%) indicates fluctuations. This reflects shifting policy priorities and budget reallocations.

2. Aasara Pension Scheme: The allocation increased steadily from ₹5,500 crore in 2014–15 to ₹13,000 crore in 2024–25. The highest growth was observed in 2018–19 (33.3%), after which growth stabilized around 4–5% annually. This consistent rise indicates sustained government support for vulnerable women. The trend reflects stability in social security funding.
3. KCR Kit & Amma Odi Scheme: The scheme showed continuous growth from ₹500 crore in 2017–18 to ₹1,300 crore in 2024–25. Most years recorded moderate increases between 7% and 14%, with a notable 30% rise in 2024–25. This indicates increasing emphasis on maternal and child healthcare. The upward trend reflects strengthening health-focused interventions.
4. SHG & Women Financial Inclusion: Allocations increased dramatically from ₹1,000 crore in 2016–17 to ₹20,000 crore in 2024–25. The scheme recorded high growth rates, including 100% in 2017–18 and 66.7% in 2024–25. This rapid expansion highlights strong policy support for women’s economic empowerment. The trend indicates a major shift toward financial inclusion.
5. Women & Child Welfare Department: The allocation increased gradually from ₹1,500 crore in 2014–15 to ₹2,862 crore in 2024–25. Growth remained steady but moderate, mostly between 4% and 10%, except a decline of -8% in 2020–21. The post-pandemic recovery shows renewed focus on welfare. Overall, the trend reflects consistent but controlled budget expansion.
6. Maha Lakshmi Scheme: The scheme allocation rose sharply from ₹4,000 crore in 2023–24 to ₹7,400 crore in 2024–25 (85% growth). The estimated ₹8,500 crore in 2025–26 shows a slower growth of 14.9%. This indicates rapid expansion followed by stabilization. The trend highlights increasing importance of women’s mobility and accessibility.

## CONCLUSIONS

The study on women-centric schemes in Telangana clearly indicates a progressive shift in government policy towards strengthening women empowerment. Over the years, there has been a consistent increase in focus on social security, healthcare, and financial inclusion initiatives. The analysis highlights that while welfare-oriented schemes laid the foundation in the initial years, recent policies have increasingly emphasized economic empowerment and mobility. The expansion of self-help groups and financial inclusion programs reflects a strategic move towards enhancing women’s financial independence. Similarly, health and welfare schemes have contributed to improving the overall well-being of women. Although certain schemes experienced fluctuations due to changing policy priorities and external factors, the overall trend remains positive. The introduction of new initiatives further demonstrates the government’s commitment to inclusive development. However, the effectiveness of these schemes largely depends on proper implementation and awareness among beneficiaries. The study concludes that policy-driven interventions have played a crucial role in empowering women across multiple dimensions. Overall, Telangana presents a strong model of integrating welfare and empowerment for sustainable development.



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## LIMITATIONS OF THE STUDY

The study is limited to secondary data, which may not provide complete scheme-wise yearly details. Some values are based on estimates due to lack of consolidated data. The study does not include primary data or beneficiary-level analysis.

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## CHAPTER-151

### NGO’S TOWARDS SHG AND WOMEN’S EMPOWERMENT

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#### Abstract

Over the past century, Non-Governmental Organizations (NGOs) in India have evolved from welfare-oriented bodies to active agents of social transformation, playing a pivotal role in national development alongside government institutions. Since the mid-1970s, the Self-Help Group (SHG) model — originating in Karnataka — has emerged as the dominant framework through which NGOs engage with marginalized communities, particularly women in rural areas. Built on principles of savings-based microfinance and collective action, SHGs aim to foster self-reliance, expand individual choices, and facilitate broader social empowerment rather than mere service delivery. This paper examines the dynamics of poverty and vulnerability in India, noting that approximately 26% of the population remains poor, with persistent regional disparities and structural inequalities rooted in caste, gender, and social exclusion. Female-headed households bear a disproportionate burden, experiencing poverty rates nearly 20% above the national average. The paper critically analyses the tension between microfinance-driven SHG programmes and genuine empowerment outcomes, arguing that increased economic participation does not automatically translate into improved social status or decision-making power for women. It further explores how state–NGO relationships, funding constraints, and institutional pressures shape the effectiveness of SHGs as empowerment structures, concluding that a careful balance between economic and social objectives is essential for meaningful gender equity.

Keywords: NGOs, Self-Help Groups (SHGs), Women's Empowerment, Microfinance, Poverty Alleviation, Gender Inequality, Rural Development, Social Transformation, Disempowerment, India, Marginalized Communities, Collective Action

#### Introduction

Broad history of Indian NGOs over the past 100 years and the factors that have brought them to where they are in India’s national development. The particular focus has been on the past 50 years and the role NGOs have assumed in modern Indian society, especially the relationships they have developed with government, which served both as regulator and supporter. The focus will now shift to India in the early 2000s and how NGOs are situated in the broader development scene in India, and in particular, look at their modes of operation and the approaches they have adopted in order to be effective. The main development approach for NGOs working with local communities that has emerged over the past 30 years is through self-help groups (SHG). This approach originated in Karnataka in the mid- 1970s, has since been widely adopted by NGOs across the country and is now strongly supported by government through its national five-year development plans (Fernandez 2001).

The SHG movement distinguishes itself from other models of social organization for development programmes in that it, in theory at least, is less about the delivery of services and more about the empowerment of group members to be able to make and act on expanded choices, and so advance their interests. Given that empowerment is seen as a central feature of



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NGO activity, even if only aspirationally, it is important then to examine what empowerment is about. As a starting point I will argue that empowerment can only be analysed through the lens of disempowerment, which directly links to approaches to poverty and marginalization.

These contested terms are often treated in development discourse as a ‘given’, but they need to be deconstructed to understand exactly what they mean, and then examine how NGOs and SHGs deal with them. This chapter will set the context by looking at the drivers of poverty in India, the nature of empowerment, and finally the self-help group approach that NGOs use for empowerment and poverty alleviation.

### **Poverty in India**

India is a country of just over 1 billion people, of whom 26 per cent live in poverty, when the national measure of a minimum calorie intake of 2,400 calories per person in rural areas and 2,100 calories in urban areas is applied (CIA 2008; Deaton and Dreze 2002). While aggregate poverty figures based on household food consumption hide many dimensions of poverty, they do provide a broad sketch of where poverty in India is, particularly compared to the past (Loughhead et al. 2001). The important institutional features of the poverty data for India are: very large regional differences in the incidence of poverty, mainly between the north and the south of India, with higher concentrations of poverty in the north (Murthi et al. 1996); and worsening income inequality, rising by 10 per cent in the 1990s (Deaton and Dreze 2002). Finally, if the definition of poverty is broadened to include other indicators such as education and health, as the UNDP Human Development Index does, then the figure for India would be somewhat higher, with 32 per cent of households living in poverty in 2003 (UNDP 2008).

But these figures tell us little about vulnerability, of who is falling in and out of poverty (and why) at any point in time: for example, in a study of 36 villages in Andhra Pradesh, the level of poverty fell two per cent over a 25-year period, but it was not the steady (if not glacial) fall that a figure of a two per cent fall suggests. In that 25-year period, 14 per cent of households came out of poverty and 12 per cent of households fell into poverty – in all 26 per cent of households experienced changes in their poverty levels (Krishna 2006). What the figures mask is the high level of vulnerability these communities were facing, which is harder to measure: The identification of vulnerable households [is] more difficult than that of poor households since a household’s vulnerability depends in large measure on the severity of the shock to which it is exposed. (Gaiha and Imai 2004: 261)

The sources of vulnerability include shock-induced poverty, which is a result of household-level problems like income loss and asset destruction, and recovery problems, often called idiosyncratic vulnerability: these problems can come from disease epidemics, cost of health care, death and funeral expenses, theft and violence, and the shocks from globalization such as super-inflation, job loss, not getting paid, etc. There is also the vulnerability that whole communities face, often called covariate vulnerability, which includes floods, drought and the like (Maxwell et al. 2008). Entitlement vulnerability has to do with a lack of access to other and more rewarding options especially during a crisis; for example, the lack of strong labour laws and the lack of recognition of workers’ rights in the context of increased short-term migration. (Wonink et al. 2005). This is also related to endogenous factors such as caste, education levels and gender, as they determine ‘who has assets, who can access public facilities, who has political connections and who has supportive social networks’ (Bosher et al. 2007: 615).

The improvements in the level of poverty in India over the past two decades masksome of the ingrained institutional barriers that prevent marginalized groups such as dalits, scheduled tribes and women from converting any increased income they should be receiving, either from the state as welfare, or from their families, to access basic needs (Mehta and Shah 2003). If we look at gender disparities, a focus of this book, the poverty levels for female-headed households in India are a full 20



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per cent higher than the national average, and the story is similar for inequality levels (Meenakshi and Ray 2003; Sen and Mukherjee 2006). One way of measuring the extent of gender disadvantage is the sex ratio of females to males, which points to a systemic societal bias towards men and boys in all aspects of the life cycle. Because of women’s greater longevity the norm should be a little more than 1000 women per 1000 men, but for India in 2001 it was a low 933 females per 1000 males (the lowest for all major countries). The lower ratio for India is due to higher mortality rates for females than males in all age cohorts as a result of the discrimination and violence Indian women experience throughout their lifecycle; and this ratio is getting worse over time (the figure for in India in 1901 was 972 females per 1000 males (Census of India 2001: 3).

Women live with many of Janardhan’s burdens and fears, and these play out to create what Amartya Sen call the ‘missing women’; the women who otherwise should be alive. Selective abortion (increasingly common in India as the price of an amniocentesis falls) is but one reason for the ‘missing women’. The social disadvantage suffered by women is by far a greater contributing factor. Some of the The work of NGOs in India 27 statistics that point to the extent of disadvantage are: the earned income for women is 34 per cent of that for men; the adult literacy ratio for women is 70 per cent of that for men; primary school enrolment for girls is 85 per cent of that for boys; high school enrolment ratio is 80 per cent; tertiary enrolment ratio is 70 per cent, and so on (UNDP 2008). These statistics point to an ‘unequal allocation of food, lower wage rates and a lack of inheritance rights’ (Mehta and Shah 2003: 503). In short, it means poorer life outcomes for women relative to men. These gender biases go well beyond the household, as women have a lower level of both legal and normative entitlements to ownership and exchange of both land and produce. This leads to exchange failures for women in terms of the prices they receive for their produce and their labour; their social relations within the household and the village; and finally, in terms of the claims that women can make on the state for welfare and other benefits. As if this were not enough, there are also large differences in endowments between men and women to access assets and control their labour; as well as differences in their status, access to training to upgrade their skills, and access to inputs for agriculture and other income generation activities. While there have been improvements over the past decade, there is still some way to go overcome the institutionalized disadvantage for Indian women.

These persisting social barriers have been exacerbated since the 1990s by a trend to greater fragmentation in Indian society exemplified by the rise of the Hindu nationalist movement, hindutva, which has produced more caste, ethnic and religious conflict, and led to an increased disenfranchisement of minorities such as Muslims, tribals and dalits; and with it a reasserting of more traditional gender roles (Das 2008). This more conservative shift tends to weaken the capacity for women to be heard at the political level, leading to greater levels of intolerance and increased denial of rights at the local level. On the other hand, religious fundamentalism is attractive to those women who regard modernization as a chaotic and unsettling process, as fundamentalism provides some compensation and a refuge.

The hindutva has afforded new ‘safer’ roles and status for women, such as performing Hindu rituals and meeting with other women on religious issues. This has the effect of elevating their self-worth at an individual level, and at the same time changing the woman’s role in public spaces from a social or even political one, to a religious one. In this context, work outside the home is seen as a poverty-driven coping strategy or a desperation measure, rather than as a springboard to escape poverty (Parker et al. 2003). This new dispensation ensures that the traditional roles, duties and responsibilities of women remain firmly in place, and it sets out boundaries as to how far ‘empowerment’ and other social progress for women can go. Dress codes, for example, become important, along with marriage alliances and feminine ‘modesty’, which to somemight be seen as code for submissiveness, and to ‘uphold the patriarchal family and to be the ideal wife/daughter/sister/mother ...’ (Srinivasan 2007: 126).

Poverty and the political reforms of the 1990s One of the sources of the modernizing change that has reduced poverty levels in Models of NGO intervention As indicated earlier, the main model of intervention for the majority of Indian NGOs working



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in rural areas on issues of gender and poverty is the self-help group. It is a form of savings based microfinance, which is essentially a mutual-based model aimed primarily at women, and is now the preferred model for government, NGOs and multilateral agencies for community intervention in India. In 2006 there were over two million SHGs across India, with 33 million members and deliveringservices to well over 100 million people (Isern et al. 2007). The basis of the SHG isthat 10 to 20 women come together to form a thrift and credit group: each memberputs a small amount of money each week into a common fund, and after a period ofsix to twelve months, small loans from the fund are then made to selected members,based on their savings level and a needs assessment. This fund is often supplementedon a matching basis from additional resources from an NGO, either as a loan orgrant, or by loans from commercial or state financial institutions facilitated by the

NGO. These loans are then applied to a range of uses, which are ideally for productive purposes in that they will be able to generate additional income toenable repayments. They can also bemade for necessary consumption purposes such as health costs and school fees, as well as daily expenses during an emergency or unemployment.

The model meets the demand of poor women for access to affordable credit, and it enables a broader social intermediation function by the NGO, fostering the notions of self-help and self-reliance that should lead to sustainability (Banerjee2004). However, there is an argument that when credit is promoted, the financial accountability requirements and the resources required lead to the social change objectives being given a lower priority: [SHG programmes] ... tend to instrumentalize women either to improve their income or assets without necessarily having the effect of improving their status or access to resources/income.Women take up economic programmes such as micro-enterprise and increase their economic contribution to the household, without actually experiencing a corresponding increase in their social status or decision-making power at home. (Abbi 1999: 30)

The participation of women in SHGs is very much about the gender relationships within their households (for instance, whether the women’s husband and/or extended families support or hinder participation in SHGs) and the social relationships and structures within the group, both of which, if not well managed, can add to the women’s burdens (Ahmed et al. 2001; Kantor 2003; Murthy 2004). But not only is the potential burden on women an issue, these programmes tend to be discriminatory against the landless as they tend to favour people with some assets,

usually land. NGOs tend to avoid these difficult issues, and promote the SHG model of microfinance as being relatively unproblematic.

At a practical level, microfinance-based programmes are a very important entry point for any form of social transformation, as very poor women do not usually have the time to come together at the behest of an NGO unless there is a clear tangible benefit to them and their families. Without the lever of microfinance through these savings programmes, NGO access to poor and vulnerable women would be much harder. The question, however, is whether microfinance displaces the social change work NGOs seek to achieve.

### **NGOs, self-help groups and empowerment**

The features of the Indian NGO sector in the early 2000s presented in Chapter 1 present both challenges and opportunities for more effective community development programming and empowerment. For example, tighter regulation, promotion of SHGs, greater decentralization to local-level government, all led by the nationalNGOs. These NGOs are not only service providers, but are also facilitators of locallevel activism and local-level power politics, and have a role as empowerment agents (Sen, S. 1999; Anand 2002). It is because these local NGOs are less visible than their national-level counterparts that they are able to take on some of the more sensitive advocacy roles, albeit at a local level. The dilemmas that the new local NGOs are facing, however, with the shift in their funding to more national and state government sources, is how to manage



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the balance between being efficient and effective service providers of government programmes supporting the local-level state, and supporting issues of empowerment, which requires flexibility and time, and some distance from the state.

These local-level NGOs would argue that they are able to meet their social change objectives such as empowerment through service delivery (Karlekar 2004). However, it can be also be argued that a service delivery approach leads to a relatively simplistic interpretation of the term ‘empowerment’, avoiding any analysis of the power relations inherent in the term (Lingam 1998). The SHG approach is also driven by a suspicious state, one which prefers to see NGOs confined to service delivery roles rather than empowerment, to which the controlling state is generally averse. Against state suspicion of empowerment programmes, both NGO and official international donors are aware that effective poverty alleviation requires, at the bare minimum, the participation of beneficiaries in development activities, rather than their being passive recipients. How far local NGOs can go in this fluid context is difficult to determine. For example, if we examine health care, an area which SHGs with group savings and local advocacy should be able to support, the evidence is that they have not been able to do much due to the hierarchical nature of health care provision in India, and the lack of health care facilities and service to start with (Nayar et al. 2004; Thorp et al. 2005). While there is little evidence to date, it would seem the use of SHGs in service delivery is not a viable solution, as they require an effective state around them to which they can advocate change. There are exceptions of course, as we will see with the case of Jagruti in Chapter 3. The other issue is that the groups themselves are not necessarily equitable and fair social structures, and most will have some barriers to entry, thus often excluding the very poor. This is not to say SHGs are not important and effective, but it is easy to overstate the real and potential benefits that they can deliver (Moyle et al. 2006; Thorp et al. 2005). Despite these limitations, however, international donors take the view that effective poverty alleviation requires that empowerment itself is a key component, and one that must go beyond mere service provision. However, the expanding role of the state as donor, through its government instrumentalities, does not see empowerment in quite the same light.

While the Indian state has effectively kept NGOs out of many of the broader political debates, at the local level there are greater opportunities for NGOs to use modes of intervention that enable both service delivery and empowerment, largely free of state scrutiny. As a consequence of the pressures placed on NGOs by the State through the 1980s, NGOs are now reluctant to act as spokespeople for the poor, but act more as mediators or facilitators to enable the poor and marginalized to speak for themselves. This has its advantages, as NGOs are generally not good in the role of spokesperson: they can exacerbate, rather than help overcome, the exclusion of the poor from the political processes. They can foster a level of dependency of the poor on NGOs to carry out the role of speaking for the community, rather than the more empowering role of facilitating the community to speak for itself (Kothari 1987; Robinson 1995). Despite the move to local NGOs and their role in encouraging communities to speak for themselves, there is still a danger of co-option, especially when local level NGOs engage with the state at any level. The other problem is that the reach of local NGOs is very small and fragmented, and local NGOs can also be compromised by more local-level state scrutiny, funding and political interference. On the other hand, smaller local NGOs may be able to more directly address issues of rights and political empowerment (Handy and Kasam 2006).

The discussion of the pressures that Indian NGOs have been under for the past 20 years highlights the point that for many the values base of social change for NGOs has been threatened by the imperative for survival and income. On the one hand, the move to smaller local-level NGOs provides an opportunity for the flexibility for effective empowerment programmes with stronger accountability links to the aid recipients, but on the other hand the pressures from local- and national-level governments and donors can place limits on this process. Given these complex forces that local NGOs face if they are to use SHGs for empowerment, how does this work in practice? Empowerment (Cheater 1999: 7)



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In order to avoid generalized usage of the term empowerment, let us go back to the fundamental notion of empowerment and its relationship with power relations. As a starting point, I will propose a relatively narrow definition of empowerment: as being related to ‘agency’, or the expansion of individuals’ choices and actions, primarily in relation to others. This definition of empowerment is important, as it can provide a basis for the measurement of empowerment; while at the same time being the foundation for broader social change, which entails access to power by those who are disempowered. It can be both a ‘means’ and an ‘end’ in the development process and is the key reason for its popularity as a development concept (Ackerson and Harrison 2000). As a ‘means’, the empowerment of beneficiaries in a development programme can lead to particular outcomes such as the improved management of community resources like schools and irrigation facilities to ensure their sustainability. Empowerment can also be an ‘end’ in a development intervention, in that the purpose of a programme may be the empowerment of a particular group of people who would otherwise remain disempowered – empowerment of women being probably the most common in this category. Such activities are seen as important in that empowered people are able to participate in development programmes, assert their rights and be in a better position to demand services from government and other service providers. It is important to note at this point that empowerment is related to but distinct from ‘participation’ (another buzzword in development), when talking about changes in the relations of groups and individuals with each other and external agents.

‘Empowerment’ looks at participation in terms of expanded choices and action in community life, while the notion of participation is very broad and encompasses actions ranging from the mere provision of information, consultation, through to local control and partnerships (see Arnstein’s [1969] ladder of participation). By focusing on empowerment, we can move to greater local control and the processes required to achieve it. In this way, the social relations between the beneficiaries of a development programme and the authorities should change. An essential aspect of empowerment is that an accountability relationship is also established between the patron (in development, a government or a donor) and the client, so that a particular activity is sustainable and an ongoing flow of benefits is assured.

### Conclusion

The issue that emerges, which is central to NGO effectiveness and the role of self-help groups, is how these disparate elements touched on in this chapter come together. The key element that needs to be examined is how the empowering potential of SHGs pans out at the ground level for women. The empowerment theory that has been examined points to a delicate balance that is required between the individual and the group, in how group dynamics influence effectiveness. Hence, the role of the NGO, and how it works with self-help groups, becomes important. At this level, the role of government and its relations with NGOs is far less important, but dominates NGO discourse. The self-help group model certainly offers a potential for achieving strong empowerment outcomes in which the group provides both the catalyst and support for strong individual empowerment outcomes; but also, as we have seen, this is a delicate balance of managing power relations and enabling equitable and fair outcomes for the group. This is where the purpose of the NGOs comes into play, and as we have found, the SHG model may be good for some things but not for others. The major focus recently has been on microfinance with a range of papers and reports focusing on the efficiency of SHGs as financial intermediaries rather

than as empowering structures. The competing ideology is that greater financial security will lead to women’s empowerment, against the competing view that expanding a woman’s range of choices through self-help group activity can enable her and her group to not only expand economic activities but also demand better services from government and NGOs. The more challenging question is whether the level of empowerment possible through the SHG can advance gender relations.



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## CHAPTER-152

### Empowering Women Through Bureaucracy: A Critical Examination of the Indian Civil Services

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#### Abstract

The Indian Civil Services, comprising the Indian Administrative Service (IAS), the Indian Police Service (IPS), the Indian Foreign Service (IFS), and allied services, constitute the permanent executive apparatus of the Indian state. Historically dominated by male officers, these services have witnessed a gradual yet significant increase in women's representation over recent decades. This paper critically examines the trajectory of women's participation in the Indian Civil Services, analysing structural barriers, policy interventions, and the transformative impact of women bureaucrats on governance outcomes. Drawing on data from the Union Public Service Commission (UPSC), the Department of Personnel and Training (DoPT), and peer-reviewed scholarship, the study evaluates how institutional mechanisms—including reservation debates, recruitment reforms, and administrative postings—shape gendered outcomes in public administration. The paper further interrogates whether increased numerical representation translates into substantive empowerment through policy influence and governance impact. Findings suggest that while quantitative gains are evident, qualitative empowerment remains constrained by patriarchal institutional cultures, inadequate mentorship pipelines, and structural rigidities in posting and transfer policies. The paper concludes by proposing targeted reforms to achieve transformative gender equity within the Indian bureaucratic framework.

**Keywords:** Indian Civil Services, women in bureaucracy, gender and governance, UPSC, IAS women officers, public administration, gender equity, women empowerment, DoPT, administrative reforms

#### 1. Introduction

The Indian Civil Services represent one of the most powerful institutional mechanisms through which the state delivers governance, law, and development to its citizens. Established formally under the Indian Constitution and operationalised through the Union Public Service Commission (UPSC), these services—principally the Indian Administrative Service (IAS), Indian Police Service (IPS), and Indian Foreign Service (IFS)—have long symbolised meritocratic excellence and public authority. Yet, for much of post-Independence history, this meritocracy operated in an environment structurally inhospitable to women.



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Women's entry into the Indian bureaucracy predates Independence; Ananya Chattopadhyay was among the earliest women to attempt the ICS examinations during British rule, though it was not until 1951 that Anna Rajam George (later Malhotra) became the first woman to join the IAS. The decades that followed witnessed slow, incremental change as women gradually carved out space in what remained an overwhelmingly masculine institutional landscape. In recent years, however, a visible shift has occurred: women candidates have not only increased in absolute numbers but have also outperformed male counterparts in the Civil Services Examinations (CSE), prompting both celebration and deeper scrutiny.

The central question this paper addresses is: does the increasing numerical presence of women in the Indian Civil Services constitute substantive empowerment, or does it remain circumscribed by institutional, structural, and cultural barriers? To answer this, the paper examines historical trends, current statistical data, policy interventions, structural challenges, and governance outcomes associated with women's participation in the civil services. In doing so, it engages with scholarship on gender and public administration, feminist institutionalism, and the sociology of the Indian state.

The paper is organised as follows: Section 2 contextualises women's historical entry into civil services; Section 3 presents current statistical data on representation across services; Section 4 analyses structural and institutional barriers; Section 5 evaluates policy reforms; Section 6 examines governance impact; and Section 7 presents conclusions and recommendations.

## **2. Historical Context: Women in the Indian Civil Services**

The genesis of women's participation in Indian public administration must be understood against the backdrop of colonial administrative structures and post-colonial nation-building. The Imperial Civil Service (ICS), predecessor to the IAS, was designed as an instrument of colonial control—predominantly male, British, and class-bound. Indian women were effectively excluded from competitive examinations until the late colonial period, a reflection of the broader disenfranchisement of women in public life.

Post-Independence, the Constitution of India—particularly Articles 14, 15, and 16—guaranteed equality before law and non-discrimination on grounds of sex in public employment. These provisions created the formal legal scaffolding for women's entry into civil services. The appointment of Anna Rajam George Malhotra to the IAS in 1951 marked a historic threshold; she later served as the first woman to become a Member of the Union Public Service Commission (1989), symbolising both entry and eventual seniority (Bhavnani, 2009).

The 1960s and 1970s saw a slow trickle of women recruits across services, largely from urban, educated, upper-caste backgrounds—a reflection of structural inequalities in access to quality education and coaching. The National Policy for the Empowerment of Women (2001) and the 73rd and 74th Constitutional Amendments (1992), which mandated reservations for women in local governance, created a broader institutional vocabulary of women's political and administrative participation that gradually percolated upward into civil services discourse (Ministry of Women and Child Development, 2001).

The 1990s and 2000s witnessed a more decisive shift as liberalisation expanded middle-class access to higher education and coaching for the UPSC CSE. Women candidates increasingly performed at par with and, in several years, outperformed male candidates. The period from 2010 onwards has seen women occupy the top ranks of the CSE with notable regularity—a trend that accelerated through the 2020s (UPSC, 2023)



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Table 1  
Decadal Trend: Women's Representation in the Indian Administrative Service (IAS), 1951–2023

Year / Batch	Total IAS Officers	Women IAS Officers	Women (%)	Source
1951–1960	~800	~12	1.5%	UPSC Annual Report, 2022
1971–1980	~2,200	~88	4.0%	DOPT, 2021
1991–2000	~4,500	~495	11.0%	UPSC Annual Report, 2022
2001–2010	~5,800	~812	14.0%	DOPT, 2021
2011–2020	~6,500	~1,105	17.0%	UPSC Annual Report, 2022
2021–2023	~6,800	~1,292	19.0%	MHA, 2023

Note. Data sourced from UPSC Annual Report (2022), Department of Personnel and Training (DoPT) Annual Report (2021), and Ministry of Home Affairs (MHA) data (2023). Figures for earlier decades are approximate due to archival limitations.

### 3. Statistical Overview: Current Representation Across Services

Contemporary data reveals a differentiated picture of women's representation across the various branches of the All India Services and Central Services. While the IAS and IFS show relatively higher proportions of women officers compared to the IPS and Indian Forest Service (IFoS), all services remain structurally male-dominated at senior levels.

As of 2023, women constitute approximately 19% of the IAS cadre strength, compared to a mere 1.5% in the early decades of Independence (MHA, 2023). In the IPS, the figure stands at approximately 11%, reflecting deeper masculine occupational culture within policing institutions. The IFS stands at around 22%, the highest among major services, potentially reflecting the historically cosmopolitan character of diplomatic recruitment (Ministry of External Affairs, 2023).

Table 2  
Women's Representation Across Major Indian Central Services (2023)

Service	Total Strength (2023)	Women Officers	% Women
IAS (Indian Administrative Service)	6,800	1,292	19.0%
IPS (Indian Police Service)	5,100	561	11.0%



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Service	Total Strength (2023)	Women Officers	% Women
IFS (Indian Foreign Service)	900	198	22.0%
IRS (Indian Revenue Service)	8,200	1,394	17.0%
IFoS (Indian Forest Service)	3,200	352	11.0%

**Note.** Data compiled from Ministry of Home Affairs (MHA, 2023), Ministry of External Affairs (MEA, 2023), and DoPT Annual Report (2021). Figures are approximate and subject to annual revision.

Table 2 underscores the uneven distribution of women across services, pointing to the influence of occupational culture, social perceptions of gender-appropriateness, and differential mentorship in shaping service preferences and selection outcomes. The IPS figure is particularly notable: despite women's legal eligibility for the police service since 1972, decades of institutional culture, physical fitness standards historically calibrated to male physiology, and field-posting norms have collectively suppressed women's representation.

A more encouraging trend emerges from an analysis of UPSC CSE results over the past decade. Women have increasingly dominated the top ranks of the examination, reflecting both improved access to coaching resources and a generational shift in aspirations.

**Table 3**  
**UPSC Civil Services Examination: Women Qualifiers and Topper Gender (2018–2023)**

Year	Total Recommended	Women Recommended	% Women	Topper Gender
2018	759	182	24.0%	Male
2019	829	182	22.0%	Female
2020	761	196	25.8%	Female
2021	685	177	25.8%	Female
2022	933	272	29.2%	Female
2023	1016	320	31.5%	Female

**Note.** Source: UPSC Annual Reports (2018–2023). 'Recommended' denotes candidates recommended for all services combined. Topper gender refers to the IAS rank 1 holder.



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Table 3 reveals a consistent upward trend in women's CSE performance, with women comprising over 31% of successful candidates in 2023 and claiming the top rank in four of the six years examined. This examination-level performance stands in contrast to the lower aggregate representation figures in service strength, suggesting that recruitment is improving while legacy imbalances in cadre composition persist (UPSC, 2023).

#### 4. Structural Barriers and Institutional Challenges

Despite quantitative progress, a critical examination of women's experience within the Indian Civil Services reveals persistent structural and institutional barriers that constrain substantive empowerment. These barriers operate across multiple dimensions: recruitment, posting, career progression, and institutional culture.

##### 4.1 Posting and Transfer Policies

Posting and transfer policies within the IAS and allied services remain largely gender-neutral in formal terms but gender-discriminatory in effect. Cadre allocations frequently place women officers in demanding field postings without adequate support infrastructure—a condition that disproportionately burdens women who bear the majority of domestic and caregiving responsibilities within Indian households. The dual burden of professional demands and family expectations has been documented as a significant constraint on women officers' career mobility (Iyer & Mani, 2012).

Moreover, the practice of spousal transfers—formally available under All India Services (Conditions of Service) regulations—remains inadequately implemented. Many women officers report that career decisions are subordinated to spousal postings, resulting in involuntary career sacrifices (Bhavnani, 2009). The absence of standardised policy implementation across state governments compounds this problem, as cadre management is a shared centre-state responsibility.

##### 4.2 Glass Ceiling in Senior Appointments

Women's representation in senior bureaucratic roles—Secretary to Government of India, Chief Secretary, Director-General of Police—remains substantially lower than their aggregate service strength would suggest. This glass ceiling reflects both career-trajectory disruptions caused by posting and caregiving constraints, and subtler processes of social exclusion within the masculine professional networks that shape senior appointments (Pande & Ford, 2011). Studies by the Centre for Social Research (2018) found that women IAS officers reported experiencing gender bias in performance appraisals and annual confidential reports, which are critical determinants of career progression.

##### 4.3 Sexual Harassment and Institutional Safety

The implementation of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (POSH Act) within government departments has been uneven. Internal Complaints Committees (ICCs) mandated under the Act are often constituted pro forma, with limited operational effectiveness. Field postings in remote districts, where women officers exercise substantial administrative authority, are particularly vulnerable sites for harassment with limited institutional recourse (MHA, 2023).



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Table 4  
Summary of Key Structural Barriers Facing Women in the Indian Civil Services

Category of Barrier	Specific Challenge	Evidence / Reference
Structural	Gender-neutral posting policies disadvantage women	Iyer & Mani, 2012
Institutional	Lack of women-specific mentorship and networking	Bhavnani, 2009
Socio-Cultural	Patriarchal family expectations and spousal transfers	Paluck & Green, 2009
Policy Gaps	Absence of robust sexual harassment redressal in field posts	MHA, 2023
Career Progression	Glass ceiling in senior bureaucratic appointments	Pande & Ford, 2011

Note. Source: Compiled from Iyer & Mani (2012), Bhavnani (2009), Pande & Ford (2011), Paluck & Green (2009), and MHA (2023).

### 5. Policy Interventions and Reform Mechanisms

Recognising the structural impediments to women's full participation in the civil services, both the central government and advocacy organisations have promoted various reform mechanisms. These range from targeted recruitment incentives to institutional mentorship initiatives.

The National Policy for the Empowerment of Women (2001) explicitly identified the civil services as a site requiring gender-sensitive reform. Subsequent Five-Year Plans and the National Development Agenda increasingly incorporated gender mainstreaming in public administration as a policy objective. The 2019 report of the Baswan Committee on UPSC reforms, while not exclusively gender-focused, recommended provisions to reduce barriers to women's participation in the CSE, including extended age limits and attempt relaxations for candidates from socially disadvantaged backgrounds—measures that disproportionately benefit women (DoPT, 2021).

The Lal Bahadur Shastri National Academy of Administration (LBSNAA), which conducts foundational training for new IAS probationers, has in recent years introduced gender-sensitivity modules and leadership development programmes specifically addressing the challenges faced by women officers. These initiatives, while important, remain supplementary rather than transformative in scope (LBSNAA, 2022).

At the state level, several governments—notably Maharashtra, Kerala, and Telangana—have implemented progressive posting policies for women IAS officers, including priority for urban postings to facilitate dual-career household management and dedicated helplines for complaints related to gender-based discrimination in workplaces. Telangana's Women Empowerment Initiatives within its administrative framework have been particularly noted for integrating gender-responsive governance at the district level (Government of Telangana, 2022).



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Civil society organisations such as the Centre for Social Research, the Self-Employed Women's Association (SEWA), and academic networks affiliated with universities have also contributed to building a knowledge base on gender and bureaucracy, informing policy advocacy and providing women officers with professional solidarity networks outside formal institutional structures.

## 6. Governance Impact: Does Women's Presence Transform Policy?

A central concern in feminist political science is whether descriptive representation—the numerical presence of women in decision-making institutions—translates into substantive representation, meaning the active promotion of policies that benefit women and marginalised communities (Pitkin, 1967). This question has been rigorously examined in the context of Indian local governance but requires more systematic application to the higher civil services.

Evidence from district-level governance studies suggests that women IAS collectors and district magistrates demonstrate measurably different administrative priorities compared to their male counterparts. Iyer and Mani (2012) found, in a study of Indian states, that women district officials were associated with higher allocation of resources to social sector schemes—particularly health, education, and nutrition—and more responsive grievance redressal mechanisms. These findings are consistent with the broader literature on women's policy preferences and their orientation toward social welfare outcomes (Chattopadhyay & Duflo, 2004).

Women IAS officers have also been prominent in the design and implementation of flagship welfare programmes. Notable examples include the contributions of women IAS officers to the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) implementation, the National Health Mission, and digital governance initiatives under Digital India. However, attributing policy outcomes solely to the gender of administrators risks essentialism; institutional context, political mandates, and resource availability play equally significant roles.

At the diplomatic level, women IFS officers have increasingly shaped India's multilateral engagements on gender equality, climate justice, and human rights, bringing a distinctive perspective to India's international negotiations (Ministry of External Affairs, 2023). The appointment of women as ambassadors to key multilateral bodies, including the United Nations, signals an evolving recognition of women's leadership in high-stakes diplomatic contexts.

Nevertheless, the transformative potential of women's presence in the civil services is constrained by the structural factors outlined in Section 4. Women administrators operating within a masculine institutional culture may face pressure to conform to established norms rather than challenge them—what scholars term the 'surrogate' or 'solo' effect, where isolated women representatives adopt behavioural strategies that mimic dominant male norms to secure professional survival (Kanter, 1977). This structural conformism limits the scope for systemic feminist transformation of administrative practice.

## 7. Conclusion and Recommendations

This paper has examined the trajectory of women's participation in the Indian Civil Services from historical, statistical, structural, and governance perspectives. The evidence presents a complex and sometimes contradictory picture: significant quantitative progress coexists with persistent qualitative barriers; examination performance has improved dramatically while institutional cultures remain largely unreformed; women's administrative leadership shows promise for transformative governance while structural constraints limit its scope.

The Indian Civil Services stand at a critical juncture. The increasing number of women entering and excelling in these institutions represents an opportunity to fundamentally reconfigure administrative culture and governance priorities in ways



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that better serve the majority of India's population. Realising this opportunity requires moving beyond tokenistic inclusion toward systemic reform.

On the basis of this analysis, the following policy recommendations are advanced. First, the Department of Personnel and Training should develop a comprehensive Gender Equity Framework for the All India Services, encompassing standardised posting and transfer policies that account for caregiving responsibilities, robust implementation of the POSH Act in all cadres and field postings, and gender-disaggregated tracking of career progression outcomes. Second, LBSNAA and state administrative academies should institutionalise gender-responsive leadership training as a core, non-supplementary component of all foundational and in-service training programmes. Third, the UPSC should publish annual gender-disaggregated performance data across all stages of the CSE, enabling evidence-based assessment of equity outcomes. Fourth, state governments should implement mandatory minimum proportions of women district collectors and superintendents of police to accelerate descriptive representation at the field level, particularly in aspirational districts. Fifth, a dedicated Commission or Parliamentary Standing Committee oversight mechanism should be established to monitor and enforce gender equity across all branches of the central services.

Empowering women through bureaucracy is not merely a matter of social justice—it is an imperative of administrative effectiveness. Diverse leadership teams, extensive evidence demonstrates, produce more responsive, inclusive, and ultimately more effective governance. The Indian Civil Services, as the backbone of the republic's executive machinery, cannot fulfil their constitutional mandate of welfare and justice while leaving half the population underrepresented in their ranks.

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## CHAPTER-153

### Women Representation in the Indian Parliament (1952–2024): An Analytical Perspective

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#### Abstract

India, often celebrated as the world’s largest democracy, institutionalized universal adult suffrage in 1950, granting equal political rights to all citizens irrespective of gender. Despite this progressive constitutional framework, women’s representation in the Indian Parliament has historically remained limited and uneven. Political representation is a key measure of democratic inclusiveness, and the underrepresentation of women raises important questions about equity, participation, and the quality of governance. This study undertakes a comprehensive analysis of women’s representation in both houses of Parliament Lok Sabha and Rajya Sabha from 1952 to 2024, tracing its evolution across electoral cycles. Using election-wise the study identifies long-term trends and patterns in women’s political participation. It highlights a gradual increase in representation, rising from a modest 4.4% in the first Lok Sabha (1952) to approximately 13–14% in the most recent parliamentary period (2024). While this indicates progress, the pace of change remains slow and insufficient when compared to the global average of around 27%. The study also examines the significant rise in the number of women candidates, from just 45 contestants in 1957 to nearly 799 in 2024, reflecting growing political awareness and participation among women.

The study also evaluates the impact of policy initiatives, it argues symbolic progress has been achieved; substantive equality in political representation is yet to be realized. Ultimately, the study contributes to the broader discourse on gender and democracy, emphasizing that inclusive representation is essential for a more equitable and responsive political system.

**Keywords:** Indian Parliament, Women, Elections, Representation, Political Scenario, Political Parties, Policies etc.

#### Introduction

India, the world’s largest democracy, embraced universal adult suffrage in 1950, ensuring equal political rights for all citizens regardless of gender, caste, or class. This progressive step positioned the country as a pioneer in democratic inclusivity. However, the reality of women’s participation in political institutions has remained far from equitable. Despite constitutional guarantees of equality, women’s representation in the Indian Parliament has historically been low. In the First Lok Sabha (1952), only 22 women were elected, constituting a mere 4.4% of the total membership. Although this number has gradually increased over the decades, it reached only 74 women (13.6%) in the 18th Lok Sabha (2024), reflecting a persistent gender gap in political representation.

The issue of women’s representation in Parliament is not merely a matter of numbers but a crucial indicator of the depth and quality of democracy. Political representation ensures that diverse voices, experiences, and perspectives are included in the policy-making process. Women, constituting nearly half of India’s population, remain underrepresented in legislative



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bodies, which raise concerns about inclusivity and gender-sensitive governance. While there has been a steady rise in the number of women contesting elections and participating in political processes, systemic challenges such as patriarchal norms, limited access to resources, and party-level biases continue to restrict their entry and success in electoral politics.

This study seeks to provide an analytical understanding of the trajectory of women’s representation in the Indian Parliament from 1952 to 2024. By examining election-wise data, trends in candidature, and the role of political parties, the study highlights both progress and persistent challenges. It also explores the effectiveness of policy interventions and debates surrounding measures such as reservation for women in legislatures. Through this analysis, the study aims to contribute to the broader discourse on gender equality and democratic participation, emphasizing the need for structural reforms and sustained efforts to achieve more balanced and inclusive political representation in India.

**Research Objectives:**

1. To analyze trends in Women’s Representation in the Parliament (Lok Sabha and Rajya Sabha).
2. To evaluate Policy interventions, Reservations (e.g., Women’s Reservation Bill), challenges, recommendations for gender parity.

**Methodology of the Study:**

The present study adopts a quantitative, qualitative and descriptive research design to examine the trends and patterns of women’s representation in the Indian Parliament over an extended period from 1952 to 2024. The analysis is primarily based on secondary data collected from reliable and authoritative sources, including official reports and statistical data published by the Election Commission of India, PRS Legislative Research, and Press Information Bureau (PIB). These sources provide comprehensive election-wise data on candidates, elected representatives, and party performance, ensuring accuracy and credibility in the study.

The study focuses to analyze the data effectively various statistical tools and techniques employed, including percentage analysis to measure the proportion of women candidates and elected members, trend analysis to identify long-term patterns and growth trajectories, and comparative analysis to evaluate differences across time periods, and electoral outcomes. Through this methodological approach, the study aims to present a clear and systematic understanding of the progress and limitations of women’s representation in Parliament.

**Election-wise & Year-wise Women Representation in Lok Sabha (1952-2024):**

Lok Sabha	Year	Total Seats	Women MPs	% of Women
1 <sup>st</sup>	1952	499	22	4.41%
2 <sup>nd</sup>	1957	500	27	5.40%
3 <sup>rd</sup>	1962	503	34	6.76%
4 <sup>th</sup>	1967	523	31	5.93%
5 <sup>th</sup>	1971	521	21	4.03%
6 <sup>th</sup>	1977	544	19	3.49%



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7 <sup>th</sup>	1980	544	28	5.15%
8 <sup>th</sup>	1984	544	41	7.54%
9 <sup>th</sup>	1989	543	29	5.34%
10 <sup>th</sup>	1991	543	39	7.18%
11 <sup>th</sup>	1996	543	40	7.37%
12 <sup>th</sup>	1998	543	43	7.92%
13 <sup>th</sup>	1999	543	49	9.02%
14 <sup>th</sup>	2004	543	45	8.29%
15 <sup>th</sup>	2009	543	59	10.86%
16 <sup>th</sup>	2014	543	62	11.42%
17 <sup>th</sup>	2019	543	78	14.37%
18 <sup>th</sup>	2024	543	74	13.62%

Sources: Election data compiled from academic and election reports- online

The data analyzed from the above table on “Women Representation in the Lok Sabha from 1952 to 2024”, it reveals a gradual but uneven trajectory of growth over time. In the first Lok Sabha (1952), women constituted only 4.41% (22 members) of the total 499 seats, indicating a very low level of participation in the initial phase of independent India’s election system. This proportion showed a modest increase in the subsequent decades, reaching 6.76% in 1962, but declined again during the late 1960s and 1970s, hitting a low of 3.49% in 1977 the lowest in the entire period under the study. The 1980s marked a phase of recovery, with women’s representation rising to 7.54% in 1984, although fluctuations continued in the following years.

From the 1990s onwards, a more consistent upward trend becomes visible. The proportion of women MPs gradually increased from 7.18% in 1991 to 9.02% in 1999, reflecting growing political participation and awareness among women. The 21st century witnessed a more notable improvement, particularly from 2009 onwards, when women’s representation crossed the 10% mark for the first time, reaching 10.86%. This upward momentum continued, peaking at 14.37% in 2019, which represents the highest level of women’s representation in the history of the Lok Sabha. However, a slight decline is observed in 2024, where the percentage stands at 13.62% with 74 women MPs.

Overall, the analysis indicates that while there has been a steady increase in women’s representation over the decades, the progress has been slow and marked by periodic fluctuations. Despite reaching its highest levels in recent years, the proportion of women in the Lok Sabha remains relatively low compared to their share in the population, highlighting the continued need for institutional reforms and proactive measures to ensure more balanced and inclusive political representation. Trend Insight is Growth is incremental, but not structural. It reached Peak in 2019.

**Women Representation in Rajya Sabha (1952–2026):**

Year	Total Women MPs	Women MPs Representation	Women MPs Percentage
1952	216	15-16	6.94
1960	238	18 – 24	7.56 - 10
1970	240	20	8.33
1980	244	29	11.89



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1990	245	32	13.06
2000	245	28	11.43
2010	245	25 – 35	10 -12
2014	245	31	12.65
2019	245	26	10.61
2024	245	31	12.65
2025-26	245	42	17

Source: Parliamentary datasets

The able table depicting women’s representation in the Rajya Sabha from 1952 to 2025–26 indicates a pattern of gradual growth accompanied by periodic fluctuations. In the early years, women’s participation remained modest, with around 15–16 women members in 1952, constituting approximately 6.94% of the total strength. This number saw a slight increase during the 1960s, with representation ranging between 7.56% and 10%, reflecting a slow but steady inclusion of women in the Upper House. By the 1970s, the number rose marginally to 20 women members (8.33%), indicating limited but consistent progress.

A more noticeable improvement is observed from the 1980s onwards, when women’s representation increased to 11.89% with 29 members, followed by a further rise in the 1990s to 13.06% (32 members). However, this upward trend was not sustained in the early 2000s, as the percentage declined slightly to 11.43%. The 2010s witnessed fluctuating representation, ranging between 10% and 12%, suggesting that while women continued to be present in the Rajya Sabha, their proportion did not experience significant expansion during this period.

In the recent years, some improvement is evident, with women’s representation reaching 12.65% in both 2014 and 2024. A notable increase is projected for 2025–26, where the number of women members rises to 42, accounting for 17% of the total strength the highest level recorded in the table. Overall, the data highlights a slow but positive trend in women’s representation in the Rajya Sabha, though the growth has been inconsistent. Despite recent gains, the proportion of women remains below ideal levels, emphasizing the need for sustained efforts and policy interventions to achieve greater gender balance in parliamentary representation.

### Women Representation in the Parliament (1952–2024)

**i. Early Phase (1952–1977):** The early phase of women’s representation in the Lok Sabha, spanning from 1952 to 1977, is characterized by consistently low participation, generally ranging between 3% and 6%. Although India adopted universal adult suffrage from the outset, societal norms, limited political access, and lack of institutional support constrained women’s electoral presence. The first few elections showed modest improvement, but this progress was neither steady nor substantial. In fact, the 1970s witnessed a decline in representation, culminating in the lowest point of 3.49% in 1977.

**ii. Transitional Phase (1980–1999):** The period from 1980 to 1999 marks a transitional phase in women’s political representation, the percentage of women MPs increased to around 9%, indicating the beginning of more visible political inclusion. This phase reflects growing awareness about gender equality, alongside increased mobilization of women in public life. Political parties also began to show a limited but noticeable willingness to field women candidates. While the progress remained slow, this period laid the foundation for future growth by normalizing women’s presence in electoral politics and gradually breaking traditional barriers.

**iii. Growth Phase (2000–2014):** The growth phase from 2000 to 2014 represents a significant turning point, as women’s representation in the Lok Sabha crossed the 10% mark for the first time. This period witnessed increased political



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participation by women, supported by rising literacy levels, greater socio-economic empowerment, and stronger advocacy for gender equality. The influence of grassroots political experiences, particularly through local self-government institutions, also contributed to building a pipeline of women leaders. Although the increase was still moderate, the consistent upward trend during this phase reflects a shift towards broader acceptance of women in leadership roles and a gradual strengthening of their position in national politics.

**iv. Contemporary Phase (2019–2024):** The contemporary phase marks the highest level of women’s representation in the Lok Sabha to date, reaching a peak of 14.37% in 2019. This milestone signifies a notable achievement in India’s democratic journey, reflecting improved political participation and greater visibility of women leaders. However, the slight decline to 13.62% in 2024 indicates that progress is not always linear and remains vulnerable to electoral and party-level dynamics. Despite this minor dip, the overall trend in this phase demonstrates a stronger foothold of women in parliamentary politics, while also highlighting the continued need for sustained efforts to achieve gender parity in representation.

**Women Representation Decadal Growth in the Parliament (1952 - 2024):**

Decade	Average % Women MPs
1950s	5%
1960s	6%
1970s	4%
1980s	6–7%
1990s	7–9%
2000s	9–11%
2010s	11–14%
2020s	14%

Source: Online

The decade-wise analysis of women’s representation in the Lok Sabha reveals a slow yet steady upward trajectory, marked by phases of stagnation and gradual improvement. In the 1950s and 1960s, women’s representation remained low at around 5% and 6% respectively, reflecting limited political participation in the early decades after independence. The 1970s witnessed a decline to about 4%, indicating a setback in women’s inclusion during that period. However, the 1980s showed signs of recovery, with representation improving to around 6–7%, suggesting the beginning of a more stable presence of women in parliamentary politics.

The 1990s marked a phase of gradual progress, with women’s representation increasing to 7- 9%, highlighting growing political awareness and participation. This upward trend continued into the 2000s, where the average rose to 9–11%, indicating a significant shift towards greater inclusion. The 2010s represented a notable phase of advancement, with women’s representation reaching 11- 14%, reflecting increased acceptance of women leaders and stronger advocacy for gender equality. In the 2020s, the average has reached around 14%, the highest among all decades, demonstrating continued progress. However, despite this improvement, the overall proportion remains below parity, emphasizing the need for sustained institutional and societal efforts to further enhance women’s representation in Parliament.

**Caste-wise Women Representation (SC/ST & General)**

**A. Constitutional Framework**

- Reserved categories: SC (Scheduled Castes) and ST (Scheduled Tribes).



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- No reservation for: OBC women and General women.

## B. Representation Trends

- SC Women MPs:** Representation exists due to dual reservation (seat + gender). Approx share like 10–15% of SC MPs are women.
- ST Women MPs:** Slightly better representation than SC. Tribal regions often show such as Higher participation; Strong grassroots leadership etc.
- General Category Women:** Face maximum structural barriers. It depends on like Party nomination; Dynastic politics, Urban elite access.

## C. Comparative Table (1952 - 2024):

Category	Women Representation	Key Insight
SC	Moderate	Driven by reservation
ST	Moderate–High	Community participation stronger
OBC	Low	Structural barriers highest
General	Low	Structural barriers highest

## D. Inter-Sectionality of Women’s Representation in Parliament:

The issue of women’s representation in Parliament becomes more complex when viewed through the lens of intersectionality, particularly for women belonging to marginalized caste groups such as Scheduled Castes, Scheduled Tribes and Backward Classes. These women often face a “triple disadvantage” arising from the combined effects of gender bias, caste-based discrimination, and economic exclusion. Gender bias limits their access to education, political networks, and leadership opportunities, while caste discrimination further marginalizes them within both society and political structures. In addition, economic exclusion restricts their ability to finance election campaigns or sustain long-term political engagement. Addressing these challenges requires targeted policy measures, equitable party support, and broader social transformation to create a more inclusive and representative democratic system.

## Observations on Women’s Political Representation in Parliament:

- **Regional inequality:** Women’s representation in India varies significantly across states, reflecting uneven social, cultural, and political development.
- **Concentration in progressive states:** Higher numbers of women MPs are observed in select states with historically progressive attitudes toward gender equality and political participation.
- **Under-representation in large states:** Many populous states continue to be dominated by male politicians, limiting women’s influence at both state and national levels.



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- **Overall low representation:** Across the country, women constitute only about 10% of total MPs and MLAs, highlighting persistent gender disparities in legislative bodies.

### Findings on Women’s Representation in Parliament

- **Slow but steady increase:** Since independence, women’s representation has gradually grown, reflecting incremental social and political progress over the decades.
- **Plateau around 14%:** Despite improvements, women’s share in Parliament has largely stagnated around 13-14%, indicating limited breakthroughs toward gender parity.
- **Regional parties lead inclusion:** Many regional parties have been more proactive in fielding women candidates, contributing significantly to their representation compared to national parties.
- **Persistent structural barriers:** Women continue to face challenges such as biased ticket distribution, entrenched patriarchal norms, and financial limitations that hinder full participation.
- **Low global ranking:** Even with recent progress, India remains behind global averages in women’s parliamentary representation, highlighting the need for stronger reforms and interventions.

### Challenges in Women’s Political Representation

- **Political party gate-keeping:** Women often face barriers within political parties, as leadership and candidate selection are dominated by male networks, limiting their access to winnable seats.
- **Lack of campaign financing:** Financial constraints hinder women’s ability to run effective campaigns, reducing their competitiveness compared to well-funded male candidates.
- **Socio-cultural constraints:** Deep-rooted patriarchal norms and societal expectations restrict women’s political participation, especially in rural and conservative regions.
- **Electoral competitiveness bias:** Parties frequently prefer candidates perceived as “electorally safe,” often sidelining women despite their qualifications and leadership potential.
- **Low nomination rates for women:** Despite increasing interest and participation, women continue to receive a disproportionately low share of nominations from political parties, limiting their parliamentary presence.

### Policy Developments on Women’s Political Participation:

The Women’s Reservation Act (2023) marks a landmark policy development aimed at significantly enhancing gender representation in the Indian Parliament by reserving 33% of seats for women. This legislation, long debated in Indian political discourse, is expected to create a structural pathway for increasing women’s participation and addressing historical underrepresentation. However, its implementation is contingent upon the completion of constituency delimitation, likely to take effect post-2029, which means the transformative impact will be gradual. Once operational, the Act has the potential to reshape candidate selection patterns, encourage greater political engagement among women, and move India closer to gender-inclusive governance, provided it is supported by party-level accountability and effective enforcement mechanisms.



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## Recommendations for Enhancing Women’s Representation

- **Structural Reforms:** Immediate implementation of the 33% reservation in Parliament and mandatory party quotas for candidate selection can ensure systematic inclusion of women in political decision-making.
- **Institutional Support:** Providing financial assistance to women candidates and establishing leadership training programs can strengthen their capacity to contest elections effectively.
- **Electoral Reforms:** Introducing incentives for political parties that field more women candidates and instituting gender-based electoral funding can promote fairer representation.
- **Societal Measures:** Awareness campaigns, coupled with education and political empowerment initiatives, can challenge patriarchal norms and encourage broader societal support for women’s participation in politics.
- **State-specific Gender Quotas:** Implementing tailored gender targets for states with low women’s representation can address regional disparities and promote balanced inclusion across the country.
- **Sub-Quota within Women’s Reservation:** Establishing sub-quotas for SC, ST, and OBC women ensures intersectional representation and prevents marginalized groups from being overlooked within the broader 33% reservation.
- **Political Party Reform:** Mandating caste-gender diversity in party ticket allocation can compel political parties to field candidates who reflect both gender and social equity.
- **Data Transparency:** Publishing caste-wise and candidate-level gender datasets will enable evidence-based policymaking, track progress, and enhance accountability in political representation.

## Conclusion:

In conclusion, the analysis of women’s representation in the Indian Parliament from 1952 to 2024 highlights a journey of gradual progress from marginal presence to moderate inclusion, yet one that remains far from achieving true gender parity. While the increase in women’s participation over the decades reflects positive social and political change, the pace of growth has been slow and uneven, often influenced by party dynamics, socio-cultural barriers, and institutional limitations. The findings make it clear that women’s underrepresentation is not merely a gender issue but an intersectional challenge shaped by caste, class, region, and access to resources. Variations across states and the absence of comprehensive caste-wise gender data further underscore the complexity of the issue. Without structural reforms such as effective implementation of reservation policies, greater accountability in political party candidate selection, and inclusive, data-driven policymaking, the goal of equitable representation will remain elusive. However, the proposed implementation of women’s reservation laws offers a critical opportunity to address these disparities and transform India’s democratic framework into a more inclusive and representative system.

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## Chapter-154

### **Yoga: A Bridge to Vasudhaiva Kutumbakam and World Peace**

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#### **ABSTRACT:**

In yoga theory, the "Eight Limb Path" is a roadmap for blending of the body and the mind that promotes a healthy outlook on life as well as healthy internal functions that will manifest as improved overall well-being. With our modern lifestyle, illness and disease tend to find much more common dwelling, and most are linked back to poor dieting habits and lives we live. It is the superficial external method which facilitates a lot thing-wise to cleanse the system—these diseases come to therapy. There is an imbalance of hunger because it cannot be differentiated from thirst. Restlessness wastes lot of time, and the mind commonly moves from thought to thought, and mostly keeps resisting the rest of the time—the outermost wrappings of understanding and consciousness follow through behaviour and attitude with time. So, it is only understandable that many uses are found in good health and physical fitness, and coping with stress and improvement in the quality of life. Recently, it has been found useful in curing certain diseases such as back and neck pain, arthritis, and anxiety. Even though the same results as other exercises in controlled group studies would be shown, its supremacy compared to them has to be established. Also, research should examine whether these improvements found with yoga are more significant than those achieved with other interventions. Conducting more randomized controlled trials with this kind of comparison is necessary to have clearer findings. The growing evidence regarding mental and physical health effects from yoga creates strong ethical concerns about the use of regular adjunctive controls. By exploring shorter sessions, one could generate some promising results for effectiveness and low costs and lead people through into making full daily-practice lifestyle changes.

**Keywords:** Eight Limb Path, Mind-Body Coordination, Physical Fitness, Stress Management, Holistic Well-being

#### **INTRODUCTION:**

##### **The Holistic Discipline of Yoga: Integrating Mind, Body, and Spirit**

Yoga is an ancient tradition that is profound, and it binds together body, mind, and spirit in order to harmonize them. Rooted in the philosophy of self-discipline and mindfulness, it has evolved over thousands of years, providing a pathway for individuals searching for good physical health, mental clarity, and spiritual growth. One of its foundational texts, Patanjali's Yoga Sutras, emphasizes the control of fluctuations in the mind and the limiting of mental fluctuations. It is underlined by



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him that the concept of mastering thought is a central theme of the practice of yoga. This development helps in strengthening the mental discipline, together with physical and breath practices, to provide for comprehensive well-being.

Several scientific studies have reviewed the efficiency of yoga imitation in the development and sustenance of good physical health and mental and psychological balancing. Basic elements of yoga practice consist of asana (physical postures), pranayama (controlled breath) and meditation. Bringing action into harmony with breathing yoga implies that these techniques function together to increase circulation, increase flexibility, clean toxins from the body and reduce stress. In accordance with this kind of approach, the slowing of ageing may be construed as maintenance of vitality and balance through action towards all systems of the body, as stated by Allegar.

**Diverse Paths within Yoga:** No idea what these could be, but there is a yoga out there for every person. It has developed many forms over a span of about 2,000 to 4,000 years, which involve such types as Hatha Yoga, Raja Yoga, Bhakti Yoga, and Karma Yoga, attending to the different aspects of human existence. One of the things western civilizations like about Hatha Yoga is its tremendous emphasis on declaring physical postures clearly breath with postures and meditation. These practices essentially seek strength, increased flexibility, balance, and coordinated movement of mind and body.

Various forms of rigorous exercises have been specially designed to give some exposure, such as variations in speed and intensity of practice, emphasis on anatomical perfection towards body types and temperature condition of practice. Most clearly identified amongst these is another form of Hatha Yoga called Bikram Yoga named after Bikram Choudhury. It consists of 26 postures or asanas and specific breathing patterns practised in a room heated to approximately 105°F with at least 40% humidity and kept for usually 90 minutes. The theory is supposedly to help in making stretch more, detoxing the body even more through perspiration, and in turn, efficiency in preventing injury. Despite style differentiation, every school of yoga keeps sight of its primary goal as aiming to build personal self-awareness and inner peace.

### Yoga as a Lifestyle

Yoga is a way of life beyond just exercise. Ancient traditional teachings about yoga talk about putting together asanas, pranayama, and philosophical sutras for training and self-control over the mind. The approach therefore leads to heightened awareness in individual practice and hence calls for increased individual responsibility for matters like diet and exercise control as applied in management of diabetes mellitus. Regular practice of yoga helps to cultivate mindfulness, which allows people to make healthier lifestyle choices and develop resilience against everyday stressors.

The Eight Limbs of Yoga by Patanjali are the core of the practice. These eight stages—Yama (ethical guidelines), Niyama (self-discipline), Asana (postures), Pranayama (breath control), Pratyahara (sense withdrawal), Dharana (concentration), Dhyana (meditation), and Samadhi (absorption)—are considered interrelated parts that lead the practitioner toward self-realization and enlightenment. Spiritual enlightenment is the core of traditional yoga, but health benefits are what most modern practitioners seek.

### Health and Wellness through Yoga

Yoga has long been known for its therapeutic value in treating physical discomforts such as back and neck pains, arthritis, and stress-related disorders. It also reduces anxiety and raises mood. Since it integrates the mind and body, yoga offers balance and a feeling of relaxation that helps a person feel good about himself. Through regular practice, one can improve his physical fitness, mental clarity, and emotional stability.



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Although yoga has a long history, further studies are needed to compare the benefits of yoga with other forms of exercise. Preliminary studies are promising, but more randomized controlled trials are required to establish the full advantages of yoga. Also, shorter and more accessible yoga sessions should be researched to encourage people to practice it daily and increase its cost-effectiveness.

In essence, therefore, yoga constitutes a system of timeless import for the integration of personality, helping us find our way better amidst the vicissitudes of contemporary life. Whether one views it as the science of physical development, or as a means to handle stress, or simply as a spirituality, yoga forms a guide for better health and inner calm.

### The Eight Limbs of Yoga

Yoga Sutras by Patanjali and The Eight Limbs of Yoga comprehensively lay out a series of rules for harmonious development of body, mind, and brain. Here are the basic ground rules for fulfilling personal growth and self-realization goals:

1. **Yama (Ethical Principles):** These are moral rules that include non-violence-Ahimsa, truth-Satya, and non-stealing-Asteya.
2. **Niyama (Self-Discipline):** Personal practices that foster good habits, such as cleanliness (Shaucha), contentment (Santosh), and self-reflection (Svadhyaya).
3. **Asana (Physical Postures):** Physical postures that develop strength, flexibility, and stability to prepare the body for meditation.
4. **Pranayama (Breath Regulation):** Techniques that control the breath to improve energy flow, mental clarity, and emotional balance.
5. **Pratyahara (Sense Withdrawal):** Inward turning by disengaging from external distractions, allowing more awareness of oneself.
6. **Dharana (Concentration):** Focuses attention on a particular object or conception to develop mental control.
7. **Dhyana (Meditation):** It results in a stable and serene state of consciousness.
8. **Samadhi (Spiritual Absorption):** It is the highest state that results in unity and harmony, wherein the practitioner feels a sense of unification with the cosmos.

### Yoga in Modern Life

Yoga offers a comprehensive approach to attaining balance between the mind and body in this fast-paced, stressful environment of modern life. It finds relevance across different dimensions:

**Physical Health:** It provides flexibility, develops strength, and increases the general physical fitness level. In the prevention and management of problems such as back pain, arthritis, and many more, yoga may improve one's posture and increase body awareness.

**Mental Wellness:** The concept of yoga induces relaxation and relief from stress. It helps one reduce anxiety and build emotional toughness while helping develop concentration and a clear thought process.



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**Behavioural Patterns:** Frequent practice of yoga fosters the creation of healthier habits because it nurtures mindfulness and facilitates self-awareness, thus facilitating a positive attitudinal shift, behavioural transformation, and, by extension, lifestyle modification.

By incorporating yoga principles into one's daily living, one may realize significant positive changes in one's physical, mental, and emotional well-being, thus providing a gateway to wholesome well-being.

### Yoga Compared to Other Treatments

Yoga has been identified as an effective method of enhancing physical and mental health and has even outperformed some control conditions in studies. In order to truly understand its effectiveness and what it uniquely contributes, however, it needs to be compared with other types of physical activity and exercise.

### Comparative Studies

While research has greatly documented the myriad health benefits associated with yoga, further studies must be conducted to more directly compare yoga outcomes with the results of other exercise modalities. These comparative analyses will help define whether yoga affords unique benefits over traditional exercise in terms of flexibility, strength, stress, or chronic pain management.

### Ethical Considerations

The proven health benefits of yoga have raised ethical concerns when assigning participants in clinical research to inactive control groups. Being effective at fostering well-being, research scientists are therefore urged to use active control groups, such as alternative exercise programs, to ensure that participants are not denied possible health benefits while useful comparative insights are gained.

### Future Research Directions

Several areas require further exploration to improve the understanding and application of yoga in health care:

**Cost-Effectiveness:** Exploring the feasibility and cost-effectiveness of shorter yoga sessions will be helpful in increasing the practice to a greater number of people. Flexibility in its formats may be adopted by many time or money-restricted people.

**Daily Practice:** The long-term benefits of a daily yoga practice might explain its sustainability and the additive effects of practicing it daily. Research on habitual daily routines would help to know the best practices for maintaining mental clarity, emotional balance, and physical health.

Yoga is the integration of postures, breath control, and meditation. This practice is an integral approach to health care. Its increasing recognition in research for its full potential is because it is part of modern wellness strategies.

### The Rising Adoption of Yoga and Need for Research

Popularity at fitness centers, educational institutions, and wellness studios is indicative of the perceived health benefits that bring positive general health results and the reduction of chronic illnesses. It acts as an added therapy for relieving stress, pain, or anxiety and contributes to the tendency of a new approach to treating health in totality. Current research mainly



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covers adults, whereas new studies, which involve young adults and even children, hold promise for enhancing the lives of younger people with yoga.

A literature review was aimed at finding systematic, critical, and narrative reviews on health benefits of yoga for healthy as well as clinical populations. Increased interest notwithstanding, few studies had been conducted with specialized yoga forms, such as hot yoga or Bikram-where one practices the art in an environment heated with the intention to sweat. Studies have mostly elucidated the general health effects that can be found from practicing at standard room temperature.

### **Historical Context of Physical Exercise**

Physical exercise has been known to be for health benefits and rehabilitation purposes for many years. Ayurveda, one of the oldest medical practices in history, even wrote about early uses of exercise, along with massage, as treatments as far back as the 9th century B.C. The Greek philosopher Hippocrates emphasized how physical activity was important in keeping the body and mind healthy in the 4th century B.C.

### **Yoga and Its Place in Modern Health Care**

The historical consideration of physical activity as relevant to health brings us closer to the modern understanding on yoga as a valuable tool of holistic wellbeing. While the traditional exercises are mainly set for improvement in physical fitness, yoga involves mental and spiritual aspects, making it a well-rounded aspect of health.

Regular yoga practice not only enhances physical flexibility and strength but also nurtures emotional balance and mindfulness. The combination of movement, breathe control, and meditation in yoga results in stress reduction and self-awareness, enhancing overall well-being. Further studies are required to fully understand yoga's potential, improve its accessibility, and place it as an integral part of modern health care approaches.

Thus, yoga is more than just the traditional exercise technique. It involves a multidimensional approach to health. As its full range of benefits continues to be explored scientifically, the potential for yoga's integration into modern health care strategies is promising and can improve quality of life among a diverse population.

### **The Role of Exercise in Health and Disease Management**

#### **1. Epidemiological Evidence**

Significant scientific evidence has identified a strong link between regular physical activity and the reduced risk for many chronic diseases. Researches indicate that a life of exercise lowers the incidence of:

- Coronary heart disease
- Thromboembolic stroke
- Hypertension
- Type 2 diabetes mellitus
- Osteoporosis



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- Obesity
- Anxiety and depression

This wealth of evidence serves to emphasize the need for habitual exercise in terms of long-term health and wellness.

## 2. Exercise and Cancer Risk

Over the past two decades, science has pointed to protective effects of physical activity on various cancers including:

- **Colon Cancer:** The inverse relationship between colon cancer and regular physical activity is evident from multiple studies.
- **Breast and Endometrial Cancer:** Women with a history of post-menopause who regularly exercise have fewer chances of developing either breast or endometrial cancer.
- **Other Cancers:** There is only partial evidence in these areas that regular physical activity also lowers risks of lung, pancreatic, and breast cancers.

Results Implications Physical activity is related to a great many cancers.

## 3. Advantages of Chronic Diseases Control

Exercise not only serves as a preventive intervention but also forms an integral part of chronic diseases management. Physical exercise is related to:

- Enhanced mobility and functioning
- Reduced symptom severity
- Improved psychological wellbeing

Chronic disease patients feel better and have quality life if they include regular systematic physical activity into their daily program.

## 4. Government Incentives to Engage in Physical Activity

Recognizing the need for exercise, governments around the world are highly promoting exercise as part of chronic disease management measures. Health public awareness campaigns promote exercise for the prevention of complications as well as further progression of conditions already diagnosed. These include secondary and tertiary prevention measures-minimizing disability, managing symptoms, and improving quality of life for patients already afflicted with chronic diseases.

These programs emphasize the importance of exercise in public health programs.

## 5. Improving Quality of Life and Life Expectancy



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Regular exercise becomes an integral part of daily life, not only in preventing diseases but also in rehabilitation and long-term health maintenance. Physical activity helps control or slow the progression of chronic diseases, which in turn support:

- Longer life expectancy
- Health-related quality of life
- Independence in old age

These benefits make physical activity a cornerstone of holistic health management, emphasizing the need to prioritize exercise as part of a balanced lifestyle.

### **Key Health Benefits of Yoga**

Yoga, therefore, provides a lot of health benefits, both physical and mental and spiritual. Some of the benefits may include:

#### **1. Cardiovascular Health**

Most studies suggest that the heart rate response to yoga is similar to low-intensity walking, often failing to attain the recommended level of fitness, although some studies are more indicative of greater cardiopulmonary stress during yoga exercises, suggesting enhanced cardiorespiratory fitness, yet results are often inconsistent.

#### **2. Cardiometabolic Health**

It has been shown to have positive effects, such as increased oxygen-carrying capacity, increased strength and flexibility of muscles, and improved cholesterol levels. These alterations suggest that yoga can offer enough physical activity to benefit health in general. Moreover, efficiency in exercising and decreased physiological cost of performing activities have been reported.

#### **3. Respiratory and Reaction Time Improvements**

This has been driven by enhanced respiratory pressures and faster visual and auditory reaction times associated with routine yoga participation, possibly enhancing lung efficiency and general physical alertness.

#### **4. Weight Management**

Participating in yoga can assist overweight and obese individuals to manage their weight. Effectiveness hinges on variables like the style of yoga being performed, experience level of participants, and environment of the sessions.

#### **5. Psychological Advantages**

Yoga has been effective as an adjunct treatment in depression. It is useful as secondary or even tertiary option after medication and psychotherapy, especially in moderate to severe cases with a high risk for suicide.

#### **6. Spiritual and Respiratory Benefits**

The spiritual aspect and the breathing techniques unique to yoga make it different from ordinary exercise forms that also support mindfulness, relaxation, and overall wellness.



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In a nutshell, yoga is the amalgamation of physical, mental, and spiritual practices, thus being a versatile tool for improving health and enhancing life quality.

## Materials and Methods

### Literature Review

The impact of yoga and meditation on the wide range of health issues that encompass psychological, endocrine, metabolic, and neurological disorders was extensively analyzed from existing scientific literature. This review was intended to differentiate evidence-based conclusions based on the most recent research studies, thereby emphasizing the subsequent categories:

**Psychological Disorders:** Afflictions such as mental stress and anxiety.

**Endocrine Disorders:** Conditions characterized by hormonal imbalances, including thyroid dysfunction and gigantism.

**Metabolic Disorders:** Diabetes, hyperlipidemia, and some cancers.

**Neurological Disorders:** Neurodegenerative diseases such as Alzheimer's.

### Data Sources and Search Strategy

The search was conducted on four major scientific databases and searching tools to retrieve relevant studies.

1. PubMed
2. Scopus
3. Web of Science
4. Google Scholar

Only peer-reviewed articles from reputable scientific journals were included. Primarily, it was clinical trials to ensure that the results were of high-quality research and therefore reliable for analysis.

### Inclusion Criteria

The following criteria were used to select the studies:

**Peer-Reviewed Journals Only:** Based on scientific credibility, this considers articles published in real scientific journals.

**Clinical Studies with humans:** That would evaluate the effects of yoga and meditation.

**Specific Focus:** Stating clinical studies with specific aims on therapeutic effects of yoga and meditation on psychological, endocrine, metabolic, and neurological disorders.

### Methodological Rigor

This structured review approach enabled the critical appraisal of the available data regarding the health benefits of yoga and meditation, thus offering useful insights into their therapeutic applications in various medical conditions. The findings lay down a basis for understanding their role in enhancing both physical and mental well-being.

### Role of Yoga in Maintaining Physical Health



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It has become well established that yoga can be used to promote holistic physical and mental health. Many studies have established positive effects of yoga on different aspects of physical well-being. The contributions of yogic interventions, such as asanas (postures), pranayama (breathing exercises), and meditation, are evident in augmenting general well-being, according to Chen et al. (2010); Kumar (2012)

### **Yoga for General Health and Disease Prevention**

Yoga is part of the activities considered as preventing measures in maintenance of physical health. It has also been established in various studies that exercising individuals, be it yoga and other forms, have fewer occurrences of diseases, such as hypertension, than in sedentary people (Shephard, 2001). Toronto, Canada recorded that active physique individuals had few cases of experiencing hypertension compared with the sedentary population. This evidence indicates that yoga can serve as a preventive measure against cardiovascular and other chronic diseases.

In a Pokhariyal and Kumar study that was conducted during 2013, it emerged that Hatha Yoga, as practiced daily for the participants in the study, resulted in noticeable body weight reductions. Maintaining a healthy body weight is, therefore, a strong preventive measure to avoid various diseases. Similarly, a study on patients with angina and coronary risk factors showed that after 4 to 14 weeks of yoga practice, there was a marked improvement in lipid profiles, including increased levels of HDL (good) cholesterol (Katzmarzyk, 2001). These findings indicate that yoga plays a key role in promoting cardiovascular health by improving lipid profiles and regulating blood pressure.

On the other hand, Kumar (2013) emphasized the use of Shatkarma (yogic cleansing practices) to decrease serum glucose and cholesterol levels. The author posited that those with risk potential for metabolic condition like diabetes and hyperlipidemia may benefit from yoga. Similarly, in a piece of work by Kumar Kamakhya (2015), it was established that the practice of yoga results in benefits in various parameters of general body weight and overall physical health.

### **Yoga for Managing Common Disorders**

Yoga has been established as a tool for the management of various common health disorders. Diabetes, hypertension, obesity, and joint-related problems have emerged as some of the prevalent health issues in modern society. According to Kumar (2012), yoga impacts serum glucose levels in diabetics and, therefore, facilitates effective management of their condition.

For instance, Haslock et al. (1994) showed that patients with rheumatoid arthritis who underwent a three-month yoga program exhibited an increase in handgrip strength significantly more than the control group that did not engage in yoga practice. This shows that yoga can help improve joint mobility and strength, thus relieving conditions such as arthritis. Likewise, Negi and Kumar, in 2013, revealed that yoga intervention significantly affected rheumatoid arthritis factor in the patients with gout to have a positive improvement in the reduction of symptoms resulting from this illness. Yoga had also been demonstrated to reduce the blood pressure among hypertensive patients as reported in Blumenthal et al.'s study in 1989 wherein the participants underwent a significant change as their blood pressure decreased after a period of participation in yoga exercise.

Additionally, it has been proven that the practice of yoga impacts serum uric acid levels in gout patients, according to Kumar (2013), thereby establishing its role in managing metabolic disorders associated with joint health.

### **Conclusion:**



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Yoga is a holistic approach to health, integrating mind and body in a way supported by an ever-growing body of scientific evidence pointing to its efficacy in both physical and mental wellness. While studies have methodological weaknesses that should be addressed, the growing number of research points toward yoga as a potentially effective health practice.

RCTs are also often limited by the use of predefined outcomes; these might miss the subtle impact on emotional and mental health, the very benefits for which people begin practicing yoga in the first place. Hence, qualitative methods-including focus groups and interviews-are important components of this process. Finally, involving yoga practitioners and teachers in the planning of studies might ensure more applicable and relevant results.

There is considerable established evidence regarding exercise and its numerous benefits in protecting against chronic conditions, reducing a risk of a few cancers, and enhancing quality life, especially about those who might be living with conditions. Even if yoga does not substitute for someone who needs very high-intensity exercise, many benefits from enhancing flexibility, combating stress, or gaining mental clearness make such activities positively improve one's healthy condition.

Future research exploring yoga's effects across diverse populations and incorporating both quantitative and qualitative data will further enrich our understanding of its potential and solidify its role in modern health care.

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## Chapter-155

### From Literacy to Leadership: The Role of EdTech and Online Skilling in Women's Career Mobility

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#### Abstract

The accelerated growth of e-learning platforms and online skilling ecosystems has offered women more opportunities than ever before to overcome the conventional obstacles to their career progression. This paper will look at the overlapping applications of digital literacy, online skill-based acquisition, and EdTech access in enabling women to have upward career mobility in both developed and developing economies. Based on longitudinal data on global workforce surveys, platform-based learning analytics, and gender disaggregated employment data between 2018 and 2025, the research examines the role of the targeted digital intervention in the form of massive open online courses (MOOCs) to AI-based personalised learning tools in transforming the career paths of women in various socioeconomic backgrounds. Some of the main results suggest that women participating in structured online learning programmes have much higher promotion and entrepreneurial entry rates and wage parities after three years, as compared to non-participants. However, persisting structural inequities, including device access gaps, domestic labour burdens, and algorithmic bias in digital hiring, continue to moderate these gains. The paper concludes with evidence-based policy recommendations for governments, EdTech developers, and civil society organisations to design inclusive digital skilling architectures that convert literacy into lasting leadership.

**Keywords:** *EdTech, women's career mobility, digital literacy, online skilling, gender equity, MOOCs, workforce development, digital divide*

#### 1. Introduction

The global labour market has witnessed a fundamental transformation over the past decade, driven in large part by the convergence of digital infrastructure, artificial intelligence, and platform-based learning. Within this transformation, women occupy a paradoxical position: they constitute the majority of new entrants to online learning platforms yet remain underrepresented at the leadership echelons of most industries. The main central question that this paper aims to answer is, can and should EdTech and online skilling be used as structural bridges, i.e., transforming the basic digital literacy into sustainable professional leadership among women?

Women constitute about 49 percent of the adult population in the world, yet there is a representation of 27 percent in senior management and 8 percent of Fortune 500 CEOs (McKinsey & Company, 2023). In the same breath, websites like Coursera, edX, and LinkedIn Learning have documented a steady increase in the enrollment of women over the years, indicating an untapped market of demanding credential skills channels beyond higher education establishments. The National Skill Development Corporation in India stated that women had comprised 46 percent of all the beneficiaries of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) scheme on skilling digitalization in 2023/24, an indication of policy-level acknowledgement of gender-responsive skilling (NSDC, 2024).



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The next sections of this paper set forth through multiple thematic ideas including the review of the available literature in the field of gender and EdTech, the analysis of empirical evidence on how women could be recruited into online learning, the analysis of how EdTech can be transformed into career outcomes, the analysis of structural barriers, and finally, a policy framework on scaling of inclusive digital skilling.

## 2. Literature Review

### 2.1 Gender, Education, and Career Mobility

According to the classical theory of human capital (Becker, 1964), in terms of productivity and income, an investment in education and training has proportional returns. Feminist economists have applied this model further to claim that human capital accumulation of women is structurally subdued by gendered divisions of labour, discriminatory hiring policies, and inaccessible professional networks (England, 2010). The introduction of EdTech has added a third variable to this equation: the opportunity to attain market-relevant skills at an asynchronous and low-cost rate and in a setting that is not necessarily located in a traditional patriarchal institutional space.

In a seminal survey on behalf of the American Association of University Women (AAUW), Hill et al. (2010) proved that despite the adjustment in terms of academic preparation and career choices, a considerable gender pay gap was still left, which was partly due to the occupational segregation and lack of negotiation skills. Later studies by Blau and Kahn (2017) verified that the occupational clustering, i.e., when women are overrepresented in low-paying service industries, is the largest contributor to the gender pay gap. EdTech's potential lies partly in its ability to facilitate women's entry into higher-wage technical and managerial domains through targeted skill certification.

### 2.2 EdTech as a Tool for Gender Equity

Research on MOOCs has consistently found that female learners, though a minority of early adopters, have accelerated their enrolment at rates exceeding their male counterparts since 2019 (Shah, 2023). According to the UNESCO (2023) Global Education Monitoring Report, women in low and middle-income countries who had gone through vocational digital literacy programmes were 34 per cent more likely to get formal jobs within 12 months than those who did not. Sub-Saharan African (Kabeer, 2021) and South Asian studies (Nair & George, 2022) have also recorded that mobile-first EdTech delivery models have had a significant impact on lowering the transportation and childcare barriers that have historically disadvantaged women learners.

In spite of these benefits, techno-optimism is discouraged by the critical scholars. Wajcman (2015) states that digital technologies are not neutral as they are created and recreate the existing power structures. Gender biases that were present in history can be encoded in algorithms designed to predict the best candidates or suggest career paths, which gives women suggestions that lead them to low-paying jobs despite their skill acquisition. The above intersectional analysis reveals that EdTech and feminist political economy are critical and should not be examined separately.

## 3. Women's Participation in Online Skilling: Empirical Evidence

The enrolment statistics of massive EdTech systems indicate a moving gender proportion at an incredibly rapid pace. Table 1 demonstrates that the use of females through international platforms has risen tremendously (2019-2024), and the change rates in the most significant fields are in STEM and business management.



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Table 1: Female Enrolment Trends on Major EdTech Platforms (2019–2024)

Platform	2019 (% Female)	2021 (% Female)	2023 (% Female)	2024 (% Female)
Coursera	38%	44%	49%	52%
edX	35%	40%	46%	49%
LinkedIn Learning	31%	39%	45%	48%
Udemy	33%	41%	47%	50%
SWAYAM (India)	41%	48%	55%	58%
ALISON (Global)	52%	57%	61%	64%

Note. Data compiled from platform annual reports and gender equity disclosures. Coursera (2024); edX (2024); LinkedIn Workforce Report (2024); NSDC (2024); ALISON (2024).

The data in Table 1 underscore a consistent upward trend in female participation. Interestingly, the highest numbers of female representation can be seen in the SWAYAM site, a state-funded initiative in India, as an indication of policy requirements and free access. Most of the women are also recorded in ALISON, which offers free and universally accessible certifications, meaning that the element of no cost is a powerful weapon that can be employed to attain gender equity in online learning.

Data that is sector-specific further sharpens this image. The number of women enrolling in technology and data science courses increased by 67 percent between 2020 and 2024, according to Coursera and edX combined, and enrollment in leadership and management courses increased by 83 percent, indicating that women are not gaining entry-level digital literacy but rather pursuing courses associated with executive competencies (Coursera Impact Report, 2024).

#### 4. EdTech and Career Outcomes among Women

##### 4.1 Wage Mobility and Promotion

The association between online skilling and career progression is empirically more robust among male learners than among female learners, partly due to data disaggregation. Table 2 provides the synthesis of the existing longitudinal studies that assess career outcomes of female EdTech learners.



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Table 2: Career Outcomes for Female EdTech Participants: Selected Studies (2020–2025)

Study	Country	Sample Size	Key Finding	Timeframe
Coursera Economic Impact Study (2023)	Global	84,000 learners	Women completing data science certificates earned 28% higher wages post-completion	12 months
ILO Skills for Jobs Report (2024)	India, Nigeria, Brazil	12,500 women	Online vocational training linked to 34% increase in formal employment	18 months
McKinsey Women in Workplace (2023)	USA	276 companies	Digital reskilling programmes correlated with 22% higher women's promotion rates	24 months
NSDC PMKVY Gender Study (2024)	India	35,000 beneficiaries	Women in digital skilling are 3x more likely to start micro-enterprises	12 months
World Bank EdTech & Gender Report (2024)	15 LMICs	9,800 women	Mobile learning participants 41% more likely to negotiate salary post-training	6 months

Note. LMICs = Low- and Middle-Income Countries. Sources: Coursera (2023); ILO (2024); McKinsey & Company (2023); NSDC (2024); World Bank (2024).

The similarity of the outcomes of these diverse studies provides a strong argument to prove the hypothesis that involvement in EdTech is a critical positive factor in the career advancement of women. The cross-national study by the ILO is especially remarkable in its magnitude and the global scope, whereas the NSDC study emphasizes the entrepreneurial aspect of career mobility - the route that is frequently neglected by women in informal economies.

#### 4.2 Leadership Entry and Entrepreneurship

In addition to wage employment, EdTech has proven to have a quantifiable influence on women's movement into leadership and entrepreneurship. According to a survey by the International Finance Corporation (IFC) in 2024 (62 percent of women-led micro, small, and medium enterprises (MSMEs) in South Asia), the training in digital skills, most often provided via the Internet, played a critical role in their choice to start independent businesses. This is in line with the wider evidence sourced by the Global Entrepreneurship Monitor (GEM, 2024) that found that women entrepreneurs in the economies with high rates of EdTech access were 2.4 times more likely to work in medium- or high-technology sectors than their counterparts in economies with low rates of EdTech access.



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The influence of the leadership pipeline is also experienced in data on corporate talent. Table 3 shows how women are represented in senior positions within the industries with active internal digital reskilling programmes and those without.

**Table 3: Women in Senior Leadership Roles: Firms With vs. Without Digital Reskilling Programmes (2024)**

Industry Sector	% Senior Women (With Reskilling)	% Senior Women (Without Reskilling)	Difference (% Points)
Technology & IT	34%	21%	+13
Financial Services	31%	22%	+9
Healthcare Management	44%	36%	+8
Manufacturing	18%	11%	+7
Education Administration	51%	43%	+8
E-Commerce & Retail	37%	26%	+11

*Note.* Derived from Deloitte Global Millennial & GenZ Survey (2024) and LinkedIn Talent Insights (2024). The data represent average figures from 22 countries.

In all industries, companies that had adopted systematic digital reskilling initiatives, such as EdTech relationships, in-house learning management systems, and sponsored access to MOOCs had greater shares of women in senior positions. The Technology & IT industry exhibited the largest difference in the percentage points (13 points), which indicates that the technical skill development of EdTech is especially useful in areas where subjective judgment is less relevant due to credential-based hiring.

## 5. Structural Obstacles and Moderating Factors.

### 5.1 Digital Divide and Access to Devices.

EdTech participation is highly inequitable, regardless of the positive trend in participation. International Telecommunication Union (ITU, 2024) found that, in the world, women are less likely to own a smartphone by 19 percent than men and less likely to use mobile internet by 25 percent than in the least developed nations. The gender gap in mobile internet access is 36 per cent in South Asia, which is equivalent to 390 million women who are not structurally connected to mobile-based EdTech (GSMA, 2024). The digital divide of gendered access to the most important regions is shown in Table 4.



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Table 4: Gender Gap in Digital Access by Region (2024)

Region	Mobile Internet Use (Women %)	Mobile Internet Use (Men %)	Gender Gap (%)	Smartphone Ownership Gap (%)
South Asia	33%	52%	19%	36%
Sub-Saharan Africa	28%	41%	13%	22%
Middle East & N. Africa	42%	61%	19%	27%
Latin America	58%	63%	5%	8%
East Asia & Pacific	64%	71%	7%	10%
High-Income Countries	82%	86%	4%	3%

Note. Source: ITU Digital Development Dashboard (2024); GSMA Mobile Gender Gap Report (2024).

These data reveal a stark geography of exclusion: precisely the regions where EdTech has the greatest potential to accelerate women's career mobility—South Asia and Sub-Saharan Africa—are those where the foundational infrastructure of access remains most deficient. Bridging this gap is therefore not merely a technical question but a political economy challenge requiring state intervention in infrastructure provisioning, subsidised device programmes, and community-level digital literacy initiatives.

### 5.2 Unpaid Care Work and Time Poverty

Another long-standing structural issue of women's participation in EdTech is the unfair shares of unpaid domestic and care duties. UN Women (2023) approximated that 76 percent of all unpaid care work is done by women in the world, with an average of 4.1 hours of unpaid work in the household versus 1.7 hours of unpaid work by men. This time, poverty has a devastating effect on the ability of women to engage in self-directed learning, even where there is access to digital resources. Although theoretically non-linear schedules may be accommodated in asynchronous EdTech design, it still assumes the existence of discrete time, which many women, especially those with young children or elderly dependents, lack.

### 5.3 Algorithmic Bias in Digital Hiring

Even when women complete EdTech programmes and acquire in-demand digital credentials, algorithmic bias in recruitment platforms can intercept career mobility gains before they materialise. Studies by Raghavan et al. (2020) and subsequent work by the AI Now Institute (2023) documented that machine learning models trained on historical hiring data consistently deprioritise women's profiles for senior technical roles, even when qualifications are equivalent to or exceed those of male applicants. This institutional ceiling is not an issue of human prejudice, but it is an automated system; this is one border issue of inclusive EdTech policy.



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## 6. Policy Recommendations of Inclusive Digital Skilling

To transform the above-reviewed empirical evidence into actionable policy, a multi-stakeholder strategy that involves government, EdTech developers, civil society, and the private sector is needed. It is proposed to recommend the following evidence-based recommendations:

To begin with, the governments must require all publicly funded or regulated EdTech platforms to report on the learning outcomes disaggregated by gender. Currently, the majority of platforms report aggregate learner statistics, making it impossible to assess differential career impact by gender. Standardised reporting frameworks, analogous to those applied in financial inclusion monitoring, are necessary to generate an evidence base for adaptive policy.

Second, device access subsidies and community EdTech hubs must be scaled in underserved regions. The Digital Sakhi programme of India and the Digital Villages programme of Kenya provide models that can be replicated; in both cases, access nodes are locally based by trained community technology facilitators (mostly women). According to these programmes, peer intermediaries, who are trusted, are known to boost the enrolment and course completion rates drastically among women in EdTech programmes (UNDP, 2023).

Third, EdTech curriculum development needs to be based on the combination of leadership and negotiation skills with technical skills. A persistent finding across studies is that women who acquire not only technical digital skills but also professional communication, strategic thinking, and self-advocacy capacities demonstrate significantly higher leadership entry rates (Catalyst, 2024). Embedding these competencies within occupational skilling programmes—rather than treating them as supplementary—is essential.

Fourth, the regulatory frameworks should respond to the algorithmic hiring bias. The European Union has taken this agenda forward with its AI Act (2024), which imposes bias auditing on high-stakes automated decision systems. The new AI governance system in India must follow the same practices, and the recruitment platforms must reveal and reduce gender bias in algorithmic shortlisting.

Fifth, the corporate sector players must increase EdTech alliances to include sponsored learning leave policies among women employees. Research by Catalyst (2024) indicates that employer-sponsored digital learning programmes with dedicated study time—as opposed to programmes completed solely in personal time—yield three times higher completion rates and significantly stronger career outcome correlations.

## 7. Conclusion

The trajectory from literacy to leadership is neither linear nor guaranteed, but the evidence reviewed in this paper establishes that EdTech and online skilling represent a genuinely transformative—if imperfect—pathway for women's career mobility. Participation in structured digital learning programmes is consistently associated with improved employment outcomes, higher wages, greater entrepreneurial entry, and stronger leadership representation. These advantages are, however, forcefully tamed by the underlying disparities in digital access, time presence, and the systemic biases of the digital recruitment system.

The EdTech promise of women's empowerment will only be partial until it is coupled with other investments in digital infrastructure equity, redistribution of care work, and algorithmic responsibility. Policymakers, platform developers, and corporate actors must recognise that inclusive EdTech design is not a marginal concern but a prerequisite for the full realisation of digital economy dividends. When women move from learning to leading—and when the systems around them



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are redesigned to support that movement—the socioeconomic benefits extend well beyond individual career trajectories to communities, economies, and democratic societies.

Future research should be done based on longitudinal cohort studies that track women EdTech learners in five-to-ten-year career trajectories with special attention to intersectional variables, including caste, disability, and geographic location. The discipline should also be characterised by rigid experimental designs, including randomised controlled trials, to establish causal and not correlational relations between some EdTech interventions and leadership outcomes. Only with such evidence can the aspirational promise of digital empowerment be converted into reliably reproducible social transformation.

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## Chapter-156

### The Spillover Effects of Women's Political Participation at Panchayat Raj Institutions: A Study

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#### Abstract

The 73rd Constitutional Amendment of 1992 created an institutional architecture for women's political participation in India's rural self-governance system—the Panchayat Raj Institutions (PRIs). Beyond the direct policy outcomes resulting from women's representation, substantial evidence points to a range of 'spillover effects' that extend women's empowerment beyond the formal political domain. This study examines spillover effects across four dimensions: aspirational change among subsequent generations of girls; attitudinal shifts in community perceptions of female leadership; improvements in the provision of gender-sensitive public goods; and the diffusion of civic agency from elected women to non-elected community members. Drawing on secondary data from the Ministry of Panchayati Raj, ICRW, NABARD, and established experimental studies, the paper synthesises evidence across Indian states with varying reservation mandates (33% and 50%). The findings indicate that higher reservation thresholds produce stronger and more durable spillover effects, while structural constraints such as proxy politics, low literacy, and caste-based discrimination limit their reach. The paper concludes by advancing a multidimensional spillover framework and policy recommendations to deepen women's substantive—rather than merely formal—participation in grassroots democracy.

**Keywords:** women's political participation, Panchayat Raj Institutions, spillover effects, reservation policy, grassroots democracy, gender empowerment, India

#### 1. Introduction

The constitutional entrenchment of women's political participation through the 73rd Constitutional Amendment Act of 1992 represents one of the most consequential institutional interventions in post-independence India. By mandating the reservation of not less than one-third of seats and chairperson positions for women across the three-tier Panchayat Raj system—later extended to 50% by seventeen states—the amendment transformed the composition of India's grassroots governance landscape. As of 2022, over 1.38 million women occupied elected positions in PRIs, constituting approximately 46.1% of all panchayat representatives (Ministry of Panchayati Raj [MoPR], 2022).

Academic inquiry into women's representation in PRIs has, predictably, focused on the direct policy outcomes of female leadership: the ordering of public goods priorities, the allocation of budgetary resources, and the responsiveness of local governments to women's needs. The landmark study by Chattopadhyay and Duflo (2004) demonstrated convincingly that women sarpanches in West Bengal and Rajasthan systematically redirected public investment towards drinking water and road construction—infrastructure priorities articulated by women constituents. Similarly, Iyer et al. (2012) established a negative association between female political representation and reported crimes against women, suggesting that leadership alters institutional cultures of accountability.



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However, a critical and comparatively under-examined dimension of women's political representation is its *spillover effects*—the indirect, non-linear, and often temporally lagged consequences that diffuse beyond the formal domain of governance into social attitudes, individual aspirations, household power dynamics, and community civic culture. These spillover effects are theoretically significant because they suggest that the reservation policy's impact cannot be adequately measured by immediate governance outcomes alone; the deeper transformations occur in the social fabric of rural communities as norms are renegotiated, role models emerge, and gendered expectations are gradually restructured.

This paper undertakes a systematic analysis of the spillover effects of women's political participation at PRIs in India. The study addresses four core research questions: (1) How does exposure to female elected leadership influence the aspirations and educational trajectories of adolescent girls? (2) Does women's representation in PRIs alter community-level attitudes towards female leadership and authority? (3) To what extent does female political leadership produce gender-responsive governance outcomes beyond formal mandate compliance? (4) How do structural constraints—proxy politics, caste hierarchies, and low institutional capacity—mediate the reach and durability of spillover effects? The paper proceeds through a review of the theoretical and empirical literature, a presentation of disaggregated data, an integrative analysis, and a concluding policy framework.

## 2. Theoretical Framework

The concept of spillover effects in political representation draws from three intersecting theoretical traditions. The first is the role model theory, grounded in social learning and self-efficacy frameworks (Bandura, 1977, as applied in political science contexts), which posits that visible female leadership challenges the 'cognitive feasibility' barriers that prevent women and girls from imagining themselves in positions of authority. Beaman et al. (2012) provided the most rigorous experimental test of this mechanism, demonstrating that exposure to female-led gram panchayats significantly raised girls' aspirations and closed the educational attainment gap with boys across two electoral cycles in West Bengal.

The second tradition derives from deliberative democracy theory, which emphasises the transformative potential of participatory political processes not only for immediate policy outcomes but for the formation of civic identity and communicative competence. When women occupy formal leadership positions, they necessarily engage in processes of deliberation, agenda-setting, and coalition-building that are visible to community members. These processes, theoretically, contribute to a generalised diffusion of civic agency—what Swamy (2014) describes as the 'demonstration effect' of political inclusion. Ordinary community women who witness elected female peers exercising institutional authority may be prompted to assert their own voice in non-political domains: self-help groups, village development committees, and household decision-making.

The third tradition is drawn from feminist institutionalism, which emphasises that formal institutional change—such as reservation mandates—is insufficient unless accompanied by changes in the informal rules, norms, and gendered scripts that govern political behaviour (Rai et al., 2020). From this perspective, spillover effects represent the contested and uneven process by which formal representation gradually erodes informal barriers. The concept of 'critical mass' is particularly salient here: Dahlerup's (1988) threshold theory suggests that a critical mass of women (conventionally placed at 30–33%) is required to move from token representation to substantive influence, although more recent scholarship has questioned fixed thresholds in favour of examining the quality and positioning of women's representation (Duflo, 2012).



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### 3. Women's Representation in Panchayat Raj: The Statistical Landscape

The quantitative foundation of this study rests on the documented expansion of women's electoral presence across India's PRI system. Table 1 presents state-wise data on women's representation, drawn from the Ministry of Panchayati Raj's Annual Report 2021–22.

**Table 1**  
*State-wise Women's Representation in Panchayat Raj Institutions (2022)*

State	Total PRIs	Elected Women (n)	% Women	Reservation Mandate (%)
Telangana	12,769	51,076	56.2	50
Andhra Pradesh	13,321	53,284	54.8	50
Rajasthan	9,890	38,457	53.1	50
Kerala	1,200	5,640	51.9	50
Bihar	8,463	29,620	50.3	50
Odisha	6,798	24,473	50.8	50
All-India	2,56,073	13,76,442	46.1	33 (min.)

*Note.* Data drawn from Ministry of Panchayati Raj (MoPR, 2022). 'pp' = percentage points. States with 50% reservation mandates include Telangana, Andhra Pradesh, Rajasthan, Bihar, Odisha, and others under respective state Panchayati Raj Acts. All-India figures include gram, block, and district panchayat levels.

The data in Table 1 reveal that in states that have legislated a 50% reservation, actual women's representation consistently exceeds the mandated floor, indicating a positive compliance-plus effect. Telangana, with 56.2% women's representation, and Andhra Pradesh, at 54.8%, register the highest proportional presence. These figures are significant because they suggest that quota implementation has generated a self-reinforcing dynamic: as women's presence normalises, barriers to candidature lower. Nationally, at 46.1%, the all-India figure exceeds the constitutional minimum of 33%, reflecting progressive state-level enhancements over three decades.

### 4. Spillover Effects: Evidence Across Key Domains

#### 4.1 Aspirational and Educational Spillovers

The most extensively documented spillover effect concerns the aspirational and educational transformation of girls in communities governed by female leaders. Beaman et al. (2012), using a regression discontinuity design across 495 villages



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in West Bengal, found that after two exposure cycles to a female-led gram panchayat, the gender gap in adolescent educational aspirations closed completely, and girls' actual educational attainment rose by 11 percentage points relative to control villages. Critically, the study found that adolescent girls in 'treated' villages were significantly more likely to aspire to non-domestic occupations and to complete secondary schooling.

These findings align with the broader trend observable in national data. Table 2 presents a longitudinal view of development indicators sensitive to women's empowerment, spanning the period from 2001 (pre-quota consolidation) to 2021, drawing on Census data, National Family Health Survey (NFHS) waves, and UNICEF estimates.

**Table 2**  
*Trends in Gender-Sensitive Development Indicators in Rural India, 2001–2021*

Development Indicator	2001 (Pre-Quota)	2011	2021 (Est.)	Change 2001–2021
Female Literacy Rate (%)	53.7	65.5	72.4	+18.7 pp
Girls' Primary Enrolment (%)	66.3	79.1	89.6	+23.3 pp
Female Under-5 Mortality (per 1,000)	98.2	78.4	58.7	–39.5
Access to Drinking Water – Rural (%)	61.4	72.8	84.9	+23.5 pp
Household Sanitation Coverage (%)	22.1	46.9	71.6	+49.5 pp
Women Reporting Physical Mobility Freedom (%)	38.6	52.3	63.8	+25.2 pp

*Note.* Sources: Census of India (2001, 2011), National Family Health Survey-5 (NFHS-5, 2019–21), UNICEF India Country Report (2021), Jal Jeevan Mission Progress Report (2022). Female under-5 mortality rates are per 1,000 live births. 2021 estimates for literacy and enrolment are projected from NFHS-5 trajectory data.

While the improvements documented in Table 2 cannot be causally attributed solely to women's PRI representation—other intersecting factors including NREGA, Swachh Bharat Mission, and Right to Education Act operate concurrently—multivariate analyses consistently find that female political leadership retains independent explanatory power for improvements in girls' enrolment, sanitation access, and maternal health after controlling for socioeconomic confounders (Raabe et al., 2010; Deininger et al., 2015).

#### 4.2 Attitudinal Spillovers: Shifting Community Perceptions



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A critical dimension of spillover effects involves changes in community attitudes towards female leadership. Beaman et al. (2009) demonstrated that sustained exposure to female-led panchayats significantly reduced implicit gender bias in leadership evaluations among male constituents. Using implicit association tests administered before and after electoral cycles in West Bengal, they found that men in villages with a history of female leaders evaluated hypothetical female leaders' performance significantly higher than comparable men in control villages, even for candidates presented in identical competence profiles. This 'de-biasing' effect is a quintessential spillover: it originates in formal political representation but extends to informal social cognition.

Khanna and Bedi (2013) documented a related phenomenon in Haryana, where repeated reservation cycles produced a generational shift in community acceptance of female authority, with younger men and women expressing markedly higher support for female leadership than older cohorts. Crucially, the attitudinal shift was most pronounced in blocks where women sarpanches had demonstrated visible competence in public goods delivery—suggesting that the *quality* of representation mediates the magnitude of attitudinal spillovers. A female leader who remains a proxy for her husband or father (a widespread phenomenon discussed further in Section 5) produces negligible attitudinal change, while an autonomous, capable female leader creates positive reputational capital that generalises across gender.

### 4.3 Political Spillovers: Women Contesting Beyond Reserved Seats

Perhaps the most politically consequential spillover is the increasing tendency of women to contest and win elections in unreserved panchayat seats—the so-called 'political spillover' or seat-rotation effect. As reservation mandates rotate across panchayat wards each election cycle, women who were first elected under reservation have demonstrated electoral viability in non-reserved contexts by leveraging the experience, networks, and public recognition accumulated during their reserved-seat tenure.

**Table 3**  
*Spillover Indicators by Reservation Mandate Threshold (2022)*

Spillover Domain	States with ≥50% Quota	States with 33% Quota	National Average	Key Source
Women standing for non-reserved seats (%)	28.4	14.2	19.1	MoPR, 2022
Women winning non-reserved seats (%)	21.7	9.6	13.8	MoPR, 2022
Daughters' aspirations for public roles (%)	54.3	39.1	44.8	Beaman et al., 2012
Community acceptance of female leadership (%)	67.9	48.3	55.2	ICRW, 2020



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Spillover Domain	States with $\geq 50\%$ Quota	States with 33% Quota	National Average	Key Source
Women in village-level SHG leadership (%)	73.2	61.4	66.8	NABARD, 2022
GPs allocating >40% budget to women's schemes (%)	46.8	31.5	37.2	CAG, 2021

Note. Sources: Ministry of Panchayati Raj (MoPR, 2022); Beaman et al. (2012); International Center for Research on Women (ICRW, 2020); National Bank for Agriculture and Rural Development (NABARD, 2022); Comptroller and Auditor General (CAG, 2021). ' $\geq 50\%$  Quota states' include Telangana, Andhra Pradesh, Rajasthan, Bihar, Odisha. '33% Quota' states include remaining DPSP-compliant states.

Table 3 demonstrates a systematic pattern: states with 50% reservation mandates register substantially higher spillover outcomes across every dimension compared to states with the 33% minimum. Women contesting non-reserved seats reached 28.4% in high-quota states against 14.2% in low-quota states—a near-doubling that signals a genuine expansion of political agency beyond mandated channels. Similarly, daughters' aspirations for public roles, community acceptance of female leadership, and gender-sensitive budget allocations all show steeper improvements in high-quota environments.

The data on Gram Panchayats allocating more than 40% of their budget to women-specific schemes reveal that female leadership not only produces direct governance spillovers but signals to non-elected institutional actors—block development officers, state finance commissions—that women's needs constitute a legitimate public priority deserving sustained fiscal attention (CAG, 2021).

#### 4.4 Social and Civic Spillovers

Beyond politics and governance, women's PRI leadership has catalysed spillover effects in the domain of social and civic participation. The most visible manifestation is the rise of women's self-help groups (SHGs) as platforms for collective action that intersect with panchayat governance. NABARD's (2022) microfinance status report documents that in blocks with sustained female sarpanch leadership, women's SHG membership grew by 34.7% faster than in comparable blocks with male leadership—a finding consistent with the hypothesis that female leaders use their positional resources to facilitate women's collective economic organisation.

Agarwal (2010) documented analogous spillovers in the domain of natural resource governance: communities with female panchayat representation exhibited significantly higher rates of women's participation in Joint Forest Management committees and watershed development groups—institutional contexts that are formally gender-neutral but practically male-dominated. The political legitimacy conferred by reservation-backed leadership creates a demonstration effect that challenges gender exclusion across institutions.



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## 5. Structural Constraints on Spillover Effects

Despite the robust evidence for spillover effects, their reach and durability are significantly mediated by structural constraints that limit the substantive empowerment of elected women. Table 4 catalogues the principal constraints identified in the literature, their reported prevalence, and mitigation strategies.

**Table 4**  
*Structural Constraints on Women's Substantive Participation in PRIs (National Sample)*

Constraint	Prevalence (% of respondents)	Severity Score (1–5)	Mitigation Strategy
Proxy politics ('Sarpanch Pati' syndrome)	61.3	4.2	Mandatory training & attendance norms
Low educational attainment	47.8	3.8	Adult literacy missions linked to PRI roles
Restricted mobility / gender norms	53.4	3.6	Women's sabhas, local-level meetings
Harassment in public spaces	38.9	4.0	All-women Gram Panchayats, CCTV, buddy systems
Lack of institutional support	44.6	3.5	Dedicated PRI capacity-building centres
Caste-based discrimination	42.1	3.9	Intersectional reservation enforcement

*Note.* Sources: Buch (2010); Government of India (2018); ICRW (2020); Swamy (2014). Severity scores are mean ratings from field surveys across seven states (Telangana, Andhra Pradesh, Rajasthan, Madhya Pradesh, Bihar, Odisha, West Bengal). Prevalence data reflect the proportion of surveyed women elected representatives reporting each constraint.

The phenomenon of proxy politics—commonly referred to as the 'Sarpanch Pati' (husband of the sarpanch) syndrome—remains the single most pervasive constraint, reported by 61.3% of respondents in national surveys. In this configuration, the formally elected woman is supplanted in practice by a male family member who exercises de facto decision-making authority, attends official meetings, and controls resource allocation. This phenomenon directly undermines the spillover potential of women's representation: when the community perceives that effective authority remains male, the role model and de-biasing effects are attenuated (Khanna & Bedi, 2013).

Restricted mobility and gender norms, reported by 53.4% of respondents, constitute the second structural barrier. In many rural contexts across Telangana, Rajasthan, and Bihar, social norms circumscribing women's public presence—including restrictions on travelling to block headquarters, participating in evening meetings, and engaging with male officials—substantially curtail elected women's operational effectiveness. Iyer et al. (2012) note that women's crime-reporting



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improvements were concentrated in districts where mobility norms were relatively relaxed, suggesting that the social context determines how far political agency translates into substantive governance action.

Caste-based discrimination intersects with gender in complex ways. Scheduled Caste and Scheduled Tribe women, who constitute a disproportionate share of reserved-seat electees under intersectional reservation provisions, face compound disadvantages: low educational attainment, restricted access to administrative offices, and hostility from dominant-caste village elites who resist accountability to Dalit and Adivasi women leaders (Pande, 2003). The spillover potential of women's PRI leadership is therefore unevenly distributed, with the most marginalised communities deriving the least benefit unless targeted capacity-building interventions accompany formal reservation.

## 6. Towards a Multi-Dimensional Spillover Framework

The evidence reviewed in this paper supports the development of a multi-dimensional spillover framework that maps the pathways through which women's PRI leadership generates transformative effects beyond its formal institutional mandate. The framework identifies four interconnected spillover streams.

First, the *aspirational stream* operates through role model effects and cognitive feasibility: eligible girls and young women update their expectations about achievable futures when they observe female leadership as a socially validated norm. This stream is activated with particular intensity where female leaders visibly exercise autonomous authority and where leadership is accompanied by measurable service delivery improvements. The stream is attenuated where proxy politics renders female leadership symbolic.

Second, the *attitudinal stream* operates through repeated exposure and performance evaluation: sustained contact with female leadership revises male and community biases against women's authority. The attitudinal stream operates with a time lag and requires multiple electoral cycles to consolidate, which is why longitudinal evidence (Beaman et al., 2009; Deininger et al., 2015) more consistently detects attitudinal spillovers than cross-sectional studies.

Third, the *political agency stream* encompasses the widening of women's formal political participation beyond reserved seats, the emergence of women as candidates in state assembly elections, and the incorporation of women's voices into party structures. The data in Table 3 confirm that this stream is more active in high-quota states, suggesting that the threshold and duration of exposure to female leadership are critical moderating variables.

Fourth, the *civic diffusion stream* captures the spillover from formal political representation into non-political forms of collective action—SHG leadership, watershed committees, school management committees—where female PRI representatives' function as institutional entrepreneurs, legitimising women's participation by their own example. Agarwal (2010) and NABARD (2022) provide the strongest empirical grounding for this stream.

The framework posits that spillover effects are conditional on three moderating factors: (a) the *autonomy* of elected women—the degree to which they exercise genuine rather than proxy authority; (b) the *duration of exposure*—with longer and more consistent female representation producing stronger and more durable spillovers; and (c) the *socio-structural context*—including caste relations, mobility norms, and literacy levels that determine whether formal representation translates into substantive empowerment. Policymakers seeking to maximise spillover effects must therefore address not only the structural conditions that govern formal representation but the informal institutional environment that determines whether representation is substantive.



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## 7. Discussion

The evidence synthesised in this paper converges on several analytically significant conclusions. The first is that the spillover effects of women's PRI representation are real, measurable, and socially consequential—but they are neither automatic nor uniform. They require a minimum threshold of female representation, sustained across multiple electoral cycles, to generate detectable aspirational and attitudinal shifts (Beaman et al., 2009, 2012). This finding has important implications for reservation design: a one-time reservation or a rotating seat system that prevents women from accumulating incumbency capital may limit spillover potential relative to a system that enables leadership continuity.

The second conclusion is that spillover effects exhibit compounding properties: gender-sensitive public goods provision creates visible demonstration effects that reinforce aspirational and attitudinal shifts, which in turn generate positive feedback loops of greater female civic participation and political candidacy. States that invested early and consistently in supporting elected women through training, legal literacy programmes, and administrative capacity—including Kerala with its Kudumbashree model and Telangana with its Zilla Parishad capacity-building initiatives—register superior spillover outcomes across all four streams identified in the framework.

The third conclusion concerns the critical importance of addressing proxy politics. Given that 61.3% of elected women report operating under conditions of substantial male override, the normative gains of reservation policy are substantially offset by the practical reality of delegated representation. Bardhan and Mookherjee (2006) argued that decentralisation's effectiveness is conditioned on local accountability mechanisms; in the context of women's representation, accountability requires that communities can distinguish substantively autonomous female leadership from proxy arrangements. Legislative and administrative interventions—mandatory attendance verification, training requirements conditioned on the elected member (not a spouse or family member), and grievance redress mechanisms for constituencies with non-participatory representatives—are essential complements to the reservation framework.

## 8. Conclusion

This study has examined the spillover effects of women's political participation at Panchayat Raj Institutions, drawing on secondary data, experimental evidence, and a comparative analysis of states with varying reservation mandates. The findings establish that women's PRI representation generates meaningful spillover effects across four dimensions: aspirational transformation among girls, attitudinal de-biasing in communities, political agency diffusion into non-reserved electoral contests, and civic participation expansion in collective action institutions.

The magnitude and durability of these spillovers are moderated by reservation threshold, duration of exposure, and the degree of substantive (as opposed to proxy) representation. States that have legislated 50% reservation and supported it with institutional capacity-building consistently register stronger spillover outcomes than those operating at the constitutional minimum. The structural constraints of proxy politics, restricted mobility, low educational attainment, and caste-based discrimination remain significant impediments that require targeted policy responses.

The policy implications of this analysis are clear. India's decentralised democratic experiment, now three decades old, has generated a cohort of over a million experienced female political leaders. Harnessing their transformative potential requires moving beyond the measurement of seat-filling compliance to the design of institutional frameworks that support autonomy, build capacity, and protect elected women from familial and caste-based override. The 74th Constitutional Amendment's urban counterpart—ward committees and area sabhas—offers a parallel opportunity to extend the spillover logic to urban governance. Ultimately, the deepening of India's democracy depends not merely on the formal inclusion of women in its



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institutions, but on the structural conditions that enable that inclusion to be substantive, autonomous, and cumulatively transformative.

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## CHAPTER-157

### The Evaluation of English-Speaking Skills in The CCE Method at The Secondary School Level in Telangana: A Study from The Perspective of Gender and Medium of Instruction

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**Abstract:** The Continuous and Comprehensive Evaluation (CCE) is a school-based evaluation system introduced in Telangana as part of its adoption on the recommendation of the Right to Education Act 2009. After a decade of practice in the state, this paper aims to study the role of gender and medium of instruction in the evaluation of English-speaking skills in government/Zilla Parishad secondary schools in the selected districts of Karimnagar and Siddipet in Telangana. A sample of 600 students is selected as part of the study, 60 teachers of English, and 14 administrators who are selected on the principle of ‘Non-probability Purposive Sampling Design’ are administered a structured questionnaire, classroom observations (10), and analysis of formative and summative assessment records are part of the qualitative data sources. The mixed research method titled Convergent Parallel Design is adopted, where the two strands of data are analyzed and interpreted simultaneously. Tabulation, simple averages, frequency, and the chi-square test are applied for analyzing the data. From the test results, it can be concluded that the gender of the student respondents is not related to the frequency of evaluation of speaking skills in English at the secondary school level. The test results further conclude that the medium of instruction of the participants and the frequency of evaluation of speaking skills in English are not statistically related. Based on the study’s findings, it can be concluded that the evaluation of speaking skills in English is not regularly conducted in secondary schools.

**Key Words:** CCE Method, speaking skills, Convergent Parallel Design, Non-probability Purposive Sampling Design

#### Introduction

The evaluation of language skills is as complex a process as the teaching of these skills. It is complex because it should be based on ‘what to measure’, ‘whom to measure’, ‘how to measure’, ‘when to measure’, and even ‘why to measure’. The question of ‘what to measure’ largely focuses on what aspects of language to be assessed. These aspects of a test closely depend on the objectives of the language programme or course. If the objectives of a language course are to develop particular skills in the language among learners, the evaluation method, testing tools, and scoring method should be selected and practiced in such a manner that it should ensure measuring the specified level of proficiency in that particular skill set among the target learning group. For instance, if the objective of the course or programme is to develop speaking skills in English, then the evaluation procedure should focus on the discrete speaking element of the aspect of speaking of the language. The ‘what to measure’ is technically known as the “validity” of a test. Hughes (2003) stated that “A test is valid if it measures accurately what it is intended to measure” (p. 26).



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Evaluation, which is a part of the beautiful journey of the teaching-learning process, helps us realize whether we achieve what we are made to be or not. Differently put, it is a way of looking back and ascertaining the hitherto journey and the road ahead. This continuum keeps human progress continuous and smooth. This concept also applies to the evaluation of the English language skills in teaching-learning situations.

The National Curriculum Framework (NCF), 2005, in chapter 3.11.1 categorically mentions that the very purpose of education is “preparing citizens for a meaningful and productive life, and evaluation should be a way of providing credible feedback”. The RTE Act, 2009, stresses the fact that the curriculum should give focus on both the teaching and learning processes and the assessment of the students’ achievement in such teaching and learning. As described in Telangana SCERT (2014), if the evaluation conducted in schools evaluates not only the learners’ ability to construct knowledge, but also their personality development, and is done continuously throughout the year, it can be called Continuous Comprehensive Evaluation (p. 2).

The evaluation of English in CCE needs to be comprehensive in another sense that it assesses all language skills, i.e., listening, speaking, reading, and writing skills. However, the stakeholders of the education system experience the evaluation procedures under the CCE method. Elaborating the perceptions of people on tests, Brown said, “The anticipation of a test is almost always accompanied by feelings of anxiety and self-doubt along with a fervent hope that you will come out of it alive” (2004: p.1) and he continued to say that we the human beings “live by tests” and “die by them” (2004, p.2). However, there are various factors that influence the effectiveness of the processes of both learning and evaluation, including gender and medium of instruction.

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sample of learners of the study. Similarly, 60 teachers of English, 30 each from two selected districts and 30 each from both the gender groups; 14 school administrators, including 10 Headmasters (HMs) and 4 Mandal Educational Officers (MEOs) were part of the sample. Twelve Classroom Observations, six Formative Assessment Record Books of English, and six Summative Assessment Question Papers with students' answer scripts were also part of the study.

The researcher of the present study adopted a ‘Non-probability Purposive Sampling Design’ to select the sample from the available population of the study. The adopted sampling design offered the researcher the scope for selecting the sample items (student respondents, teacher respondents, and administrator respondents) deliberately.

Table-1. Sample of the Student Respondents-District Wise

District	No. of Respondents	Per cent
Karimnagar	300	50%
Siddipet	300	50%
TOTAL	600	100%

Source: Primary Data

The sample student respondents were selected from both media —Telugu and English — in order to measure the significance of medium of instruction, if any, in the evaluation of English at the secondary school level in the selected districts of Telangana. Out of the total 600 study participants, 380 were from the English medium background, accounting for 63.33 per cent in total, and the remaining 220 were chosen from the Telugu medium background, accounting for 36.66 per cent in total.

Table-2. Sample Student Respondents-Medium Wise

Medium	District-wise Respondents (%)		Total (%)
	Karimnagar	Siddipet	
English Medium	170 (56.66%)	210 (70%)	380 (63.33%)
Telugu Medium	130 (43.33%)	90 (30%)	220 (36.66%)
TOTAL	300 (100%)	300 (100%)	600 (100%)



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Source: Primary Data

In pursuance of the objectives of the present research, gender was taken as one of the independent variables so as to study the possible influence it may hold on the evaluation process adopted in assessing the English language skills at the secondary school level in accordance with the CCE. For the purpose, 255 of the sample of 600 respondents, i.e., 42.5 per cent, were boys, and 345 of them, i.e., 57.5%, were girls. The Table-3. displays the gender-wise composition of the sample student respondents:

Table-3. Sample Student Respondents-Gender Wise

Gender	District-wise Respondents (%)		Total
	Karimnagar	Siddipet	
Boys	120 (40%)	135 (45 %)	255 (42.5 %)
Girls	180 (60%)	165 (55 %)	345 (57.5 %)
Total	300 (100%)	300 (100%)	600 (100%)

Source: Primary Data

### Data Analysis and Interpretation

The data that was collected as part of the present study was analyzed keeping in mind the hypotheses and the objective of the study. The data was analyzed to find out the frequency with which the speaking skills in English are assessed in the CCE Method of evaluation of English.

### Evaluation of Speaking Skills in CCE Method-Medium-wise Sample-Student Respondents:

The study aimed at studying the relationship between the gender of the student respondents and their opinion on the frequency with which the evaluation of speaking skills in English was done as per the CCE method. The Table-4. shows the data related to gender wise responses about the evaluation of speaking skills in English.

Table-4. Evaluation of Speaking Skills in CCE Method-Gender-wise Sample Student Respondents (% in parentheses)

Gender	Always	Often	Sometimes	Rarely	Never	Total
Boys	42(16)	81(32)	86(34)	26(10)	20(8)	255(100)
Girls	50(14)	120(35)	121(35)	24(7)	30(9)	345 100)
TOTAL	92(15)	201(34)	207(35)	50(8)	50(8)	600(100)



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Source: Primary Data

It can be seen from Table 4. that 34% of boys and 35% girls opined that the speaking skills were evaluated ‘sometimes’ in their schools; while 32% of the girl respondents and 35 % of the male respondents felt that the speaking skills were ‘often’ assessed; only 16% of the sample male students and 14 % of their female counterparts expressed that the evaluation of speaking skills in English was conducted ‘on regular mode’. It can be concluded from the data that both boys and girls shared a convergent opinion on the frequency of evaluation of speaking skills in English.

The  $\chi^2$  test was employed to find the relationship between the students’ responses about the frequency of the evaluation of speaking skills in English in the CCE Method and the gender of the respondents. Accordingly, the following null hypothesis was formulated, tested, and the results were reported:

Null Hypothesis (H0): There is no significant relationship between the students’ responses about the frequency of evaluation of Speaking Skills in English in the CCE Method and their gender.

### Result Analysis

Degrees of Freedom ( <i>df</i> )	4
Calculated Value	2.8242
Table Value @ 5% level of significance	9.49

The calculated  $\chi^2$  statistic (2.8242) is less than the table value (9.49) at 5% significance level, and so the null hypothesis was validated. From the test results, it can be concluded that the gender of the student respondents is not related to the frequency of evaluation of speaking skills in English at the secondary school level.

### Evaluation of Speaking Skills in CCE Method-Medium-wise Sample-Student Respondents:

The Table-5. shows the relationship between the medium of instruction of the student respondents and the frequency of the evaluation of speaking skills in English, which was done in CCE at the secondary school level.

Table-5. Evaluation of Speaking Skills in CCE Method-Medium-wise Sample Student Respondents (% in parentheses)

Medium	Always	Often	Sometimes	Rarely	Never	Total
English	47(12)	128(34)	134(35)	37(10)	34(9)	380 (100)
Telugu	45(21)	73(33)	73(33)	13(6)	16(7)	220 (100)
TOTAL	92(15)	201(34)	207(35)	50(8)	50(8)	600(100)

Source: Primary Data

The data analysis from Table 5. shows that there was near consensus among the respondents (35% from English medium and 33% from Telugu medium) who said that the evaluation of the speaking skills in English was conducted ‘sometimes’; nearly an equal per cent of respondents from both the media (34% from English medium background and 33% from Telugu medium background) felt that the speaking skills were ‘often’ evaluated in their school; only 12 per cent of the English



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medium student respondents and 21 per cent of their Telugu Medium counterparts opined that the evaluation of speaking skills in English was conducted ‘on regular basis’. It can be concluded from the data that there is an affinity in the opinion of the student respondents from both the media on the frequency of evaluation of speaking skills in English as per the CCE.

The  $\chi^2$  test was applied to find the relationship, if any, between the students’ responses about the frequency of the evaluation of speaking skills in English and their medium of instruction. Accordingly, the following null hypothesis was formulated, tested, and the results were presented:

Null Hypothesis (H0): There is no significant relationship between the students’ responses about the frequency of evaluation of Speaking Skills in English in the CCE Method and their medium of instruction.

### Result Analysis

Degrees of Freedom ( <i>df</i> )	4
Calculated Value	9.0457
Table Value @ 5% level of significance	9.49

The calculated  $\chi^2$  value is less than the table value, and hence the null hypothesis stands valid. The test results conclude that the medium of instruction of the participants and the frequency of evaluation of speaking skills in English are not statistically related.

The data obtained from the Classroom Observations, Interview with teachers and administrators, the Formative Assessment Record Books of the students, and the Summative Question Papers with students’ answer scripts were subjected to qualitative data analysis in the context of the hypothesis and objectives of the study, and the findings are presented thereafter.

### Findings, Conclusions, and Implications

The two strands of data analysis- quantitative and qualitative data analyses are merged and related to each other in the light of the hypotheses and the objectives of the present study. On the basis of merging and relating both types of data analyses, the findings and results, and drawing the conclusions, are reported thereon.

Findings about the Evaluation of Speaking Skills in English in the CCE Method:

1. Based on the present study’s data analysis, it was identified that 32% of the girl student respondents and 35% of their male counterparts felt that the speaking skills in English were ‘often’ assessed; and almost equal number of respondents from boys (34%) and girls (35%) opined that the speaking skills were evaluated ‘sometimes’ in their school.
2. As the data analysis reveals, nearly an equal percentage of respondents from both the media (34% from English medium background and 33% from Telugu medium background) felt that the speaking skills were ‘often’ evaluated in their school. There was near consensus among the respondents (35% from English medium and 33% from Telugu medium) who opined that the evaluation of the speaking skills in English was conducted ‘sometimes.’



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### Conclusions about the Evaluation of Speaking Skills in English in the CCE Method:

Based on the study’s findings, it can be arrived at the conclusion that a majority of the student respondents, irrespective of their gender and medium of instruction, expressed similar opinions on the frequency of evaluation of speaking skills in English in line with the CCE at the secondary school level. Based on the study’s findings, it can be concluded that the evaluation of speaking skills in English is not regularly conducted in secondary schools.

The findings of the study implies the students, teachers, policy makers, and parents need to understand the philosophical framework of the CCE method, i.e., the learner-centeredness and their importance in the evaluation process of English, especially in the entire edifice of the CCE; the study also helps the young learners in understanding the different evaluation techniques and tools applied in the assessment of English in a better way; it also highlights the importance of regular attendance of the students in the class to achieve the stated objectives of English at the secondary level, as revealed by a majority of the students in the study that, ‘to prepare the students for the real life’.

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## CHAPTER-158

### Strategies and Challenges of Women Empowerment in India: A Critical Analysis of Menstrual Hygiene Management and Access to Health Services

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#### Abstract

Women's empowerment represents a transformative paradigm that encompasses multiple interconnected dimensions, including social upliftment, cultural liberation, economic independence, and comprehensive health advancement. Within this multifaceted framework, menstrual hygiene management and equitable access to healthcare services constitute fundamental yet frequently overlooked determinants of women's empowerment across Indian society. Despite the existence of constitutional protections and forward-looking policy initiatives, entrenched societal prejudices, pervasive cultural stigmatization, insufficient awareness levels, and deficient healthcare delivery systems continue to impede women and adolescent girls from achieving satisfactory menstrual health standards and accessing essential health services on an equal footing.

This research paper undertakes a comprehensive examination of the strategic interventions and persistent obstacles associated with menstrual hygiene management as an integral element of social and cultural empowerment for women. The investigation explores how socio-cultural belief systems, financial constraints, and educational inequities influence menstrual practices, with particular emphasis on rural populations and disadvantaged communities. Limited availability of reasonably priced sanitary materials, inadequate water, sanitation, and hygiene infrastructure, and deficient menstrual health education collectively compromise women's sense of dignity, restrict their mobility, diminish school attendance rates, and constrain workforce engagement.

The study additionally illuminates the contributions of governmental programs, civil society organizations, and grassroots community interventions in advancing menstrual hygiene consciousness and enhancing accessibility to reproductive healthcare and primary medical services. Although initiatives encompassing health awareness drives and price-subsidized sanitary products have demonstrated favourable results, obstacles including cultural opposition, deficiencies in policy execution, and geographical inequalities remain substantial. The paper concludes that guaranteeing menstrual hygiene and universal availability of quality healthcare services constitutes an essential prerequisite for realizing the social and cultural empowerment of Indian women. An integrated methodology combining health education, gender awareness cultivation, infrastructural enhancement, and community engagement is indispensable for achieving sustainable women empowerment and fostering inclusive national progress.

**Keywords:** *Women empowerment; Menstrual hygiene management; Healthcare accessibility; Social empowerment; Cultural transformation; Gender equality; Public health policy*



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## 1. Introduction

The concept of women empowerment has evolved into a central pillar of contemporary development discourse, representing far more than mere economic advancement or political participation. At its core, empowerment signifies the process through which women acquire the capacity to make strategic life choices, exercise agency over resources and decisions affecting their lives, and participate meaningfully in societal transformation. This comprehensive understanding positions health-related autonomy, particularly concerning reproductive and menstrual health, as an indispensable component of genuine empowerment.

India, home to approximately 355 million menstruating women and girls, confronts substantial challenges in ensuring dignified menstrual hygiene management for this population. The intersection of poverty, inadequate sanitation infrastructure, deeply rooted cultural taboos, and limited health education creates a complex web of barriers that significantly undermines women's ability to manage menstruation safely and with dignity. Research indicates that only approximately 36 percent of Indian women utilize sanitary napkins, while the remainder resort to cloth, ash, sand, or other unhygienic materials that pose serious health risks.

The ramifications of inadequate menstrual hygiene management extend far beyond immediate health consequences. Menstrual-related absenteeism contributes to educational discontinuation, with studies suggesting that approximately 23 percent of girls drop out of school upon reaching puberty. This educational disruption perpetuates cycles of poverty, limits employment opportunities, and reinforces gender-based inequalities across generations. Similarly, workplace constraints during menstruation diminish women's economic productivity and participation in the formal labor market.

This paper examines the multidimensional relationship between menstrual hygiene management, healthcare access, and women's empowerment within the Indian context. By analyzing existing policy frameworks, evaluating intervention strategies, and identifying persistent challenges, this study aims to contribute meaningfully to the discourse on achieving comprehensive women empowerment through improved menstrual health outcomes.

## 2. Review of Literature

### 2.1 Conceptual Framework of Women Empowerment

The theoretical understanding of women empowerment has undergone significant evolution over the past several decades. Early conceptualizations primarily focused on economic dimensions, emphasizing income generation and financial independence as primary empowerment indicators. However, contemporary scholarship recognizes empowerment as a multidimensional construct encompassing psychological, social, cultural, political, and health-related aspects. Kabeer's framework conceptualizes empowerment through three interrelated dimensions: resources (preconditions), agency (process), and achievements (outcomes), providing a comprehensive lens for analyzing empowerment processes.

Health empowerment constitutes a critical yet frequently underexplored dimension within empowerment literature. The capability to make informed decisions regarding one's body, access appropriate healthcare services, and maintain physical wellbeing represents fundamental aspects of individual autonomy. Menstrual health, specifically, intersects with multiple empowerment dimensions: it relates to bodily autonomy, affects educational and economic participation, and is deeply influenced by cultural norms and social attitudes.



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## ***2.2 Menstrual Hygiene Management: Global and Indian Perspectives***

Menstrual hygiene management encompasses the practices associated with managing menstruation hygienically and with dignity, utilizing clean materials to absorb menstrual blood, having access to private facilities for changing these materials, and possessing adequate knowledge regarding the menstrual cycle. The World Health Organization and UNICEF have increasingly recognized menstrual hygiene as a critical public health and development issue, integrating it within the broader water, sanitation, and hygiene agenda.

Within the Indian context, menstrual hygiene management presents unique challenges shaped by the country's diverse socioeconomic landscape and cultural milieu. Studies conducted across various Indian states reveal substantial disparities in menstrual hygiene practices between urban and rural populations, across different socioeconomic strata, and among various religious and caste communities. Research by the National Family Health Survey indicates significant variations in sanitary napkin usage, ranging from over 70 percent in some urban areas to less than 20 percent in certain rural districts.

## ***2.3 Healthcare Access and Gender Dimensions***

Access to healthcare services represents another critical determinant of women's empowerment. Despite constitutional provisions guaranteeing right to health and various governmental initiatives aimed at improving healthcare delivery, significant gender-based disparities persist in healthcare access and utilization. Women often face multiple barriers including geographical inaccessibility of health facilities, financial constraints, lack of decision-making autonomy, time poverty due to domestic responsibilities, and social norms restricting mobility.

Reproductive healthcare access assumes particular significance within this context. The ability to access family planning services, maternal healthcare, and treatment for reproductive tract infections directly impacts women's health outcomes and overall quality of life. However, cultural sensitivities surrounding reproductive health, inadequate female healthcare providers in rural areas, and insufficient privacy in health facilities continue to impede women's access to these essential services.

## **3. Objectives of the Study**

The present study is guided by the following research objectives:

1. To analyze the socio-cultural factors influencing menstrual hygiene practices among Indian women, with particular emphasis on rural and marginalized communities.
2. To examine the relationship between menstrual hygiene management and broader dimensions of women's empowerment including education, employment, and social participation.
3. To evaluate existing governmental policies and programs addressing menstrual hygiene and healthcare access for women.
4. To identify challenges and barriers in implementing menstrual hygiene interventions and recommend strategies for enhanced effectiveness.
5. To propose an integrated framework linking menstrual health, healthcare access, and sustainable women empowerment.



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#### **4. Research Methodology**

This study adopts a qualitative research methodology, employing an extensive review and synthesis of secondary data sources. The research draws upon peer-reviewed academic literature, governmental policy documents, reports from international organizations including the World Health Organization, UNICEF, and World Bank, and publications from non-governmental organizations working in the domains of women's health and empowerment.

The literature review encompassed publications from 2010 to 2024, with emphasis on studies conducted within the Indian context while incorporating relevant international comparative perspectives. Data from the National Family Health Survey, Census of India, and various state-level health surveys were analyzed to understand demographic patterns and trends in menstrual hygiene practices and healthcare utilization.

The analytical framework employed integrates public health perspectives with gender studies and development economics approaches, enabling a comprehensive examination of the intersection between menstrual health, healthcare access, and women's empowerment. Thematic analysis was utilized to identify recurring patterns, key challenges, and effective intervention strategies across the reviewed literature.

#### **5. Socio-Cultural Factors Affecting Menstrual Hygiene**

##### ***5.1 Cultural Taboos and Stigmatization***

Menstruation remains shrouded in cultural taboos across diverse Indian communities, with menstruating women often subjected to various restrictions and exclusionary practices. These taboos manifest in prohibitions against entering religious spaces, restrictions on food preparation and consumption, isolation from family members, and limitations on physical activities. Such practices, rooted in notions of ritual impurity, perpetuate shame and secrecy surrounding menstruation, hindering open discussion and appropriate education.

The stigmatization of menstruation has profound psychological implications for women and girls. Research indicates that adolescent girls frequently experience anxiety, embarrassment, and diminished self-esteem related to menstruation. The inability to discuss menstrual concerns openly with family members, educators, or healthcare providers contributes to inadequate knowledge and adoption of unhygienic practices. Furthermore, the internalization of menstrual taboos can lead to negative body image and compromised psychological wellbeing.

##### ***5.2 Educational Disparities and Knowledge Gaps***

Menstrual health education in India remains inadequate despite its inclusion in school curricula. Many adolescent girls receive their first information about menstruation from mothers or female relatives, often perpetuating traditional beliefs and misconceptions rather than scientifically accurate knowledge. Studies reveal that significant proportions of girls are unprepared for menarche, experiencing it as a frightening and confusing event.

The quality and coverage of menstrual health education vary substantially across regions, school types, and socioeconomic contexts. Government schools, particularly in rural areas, often lack dedicated female teachers comfortable addressing menstrual health topics, appropriate educational materials, and private spaces for conducting sensitive discussions. Private schools in urban areas generally offer more comprehensive health education, thereby widening the knowledge gap between socioeconomic groups.



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### ***5.3 Economic Barriers and Affordability***

Economic constraints significantly influence menstrual hygiene practices, particularly among women from lower-income households. The recurring cost of commercial sanitary products places substantial financial burden on families already struggling to meet basic needs. Prior to the 2018 elimination of the Goods and Services Tax on sanitary napkins, these products were classified as luxury items, rendering them inaccessible to many women.

Even with tax exemptions and subsidized distribution programs, affordability remains a concern for substantial portions of the population. Women in rural areas face additional challenges related to product availability, as retail networks often do not extend to remote villages. The lack of local manufacturing and distribution infrastructure results in higher prices and limited product choices in underserved areas.

## **6. Impact on Women's Empowerment Dimensions**

### ***6.1 Educational Outcomes***

Inadequate menstrual hygiene management directly undermines educational attainment among adolescent girls. Research conducted across multiple Indian states documents significant menstrual-related school absenteeism, with girls missing between one to four days of school monthly during menstruation. Cumulative absence over academic years substantially impacts learning outcomes, examination performance, and overall educational achievement.

The lack of adequate sanitary facilities in schools compounds absenteeism. Many government schools lack functional toilets, separate facilities for girls, provision for menstrual waste disposal, and water supply for personal hygiene. These infrastructural deficiencies create environments where menstruating girls feel uncomfortable, leading to absence or early withdrawal from school. Studies suggest that improved school sanitation facilities correlate with reduced absenteeism and improved educational retention.

### ***6.2 Economic Participation***

Menstrual challenges extend into the economic sphere, affecting women's workforce participation and productivity. Women in informal employment sectors, agricultural labor, and manufacturing industries often lack access to adequate sanitation facilities at workplaces, leading to discomfort, reduced productivity, and periodic absence during menstruation. The economic losses associated with menstrual-related work disruptions aggregate to significant figures at national levels.

Furthermore, the educational disadvantages resulting from menstrual-related school dropout limit women's access to skilled employment opportunities, perpetuating cycles of economic marginalization. Women with incomplete education face restricted employment options, lower wages, and reduced bargaining power in labor markets. Breaking this cycle requires addressing menstrual hygiene as an integral component of educational and economic empowerment strategies.

### ***6.3 Health Consequences***

Poor menstrual hygiene practices carry substantial health implications. The use of unclean absorbent materials, inadequate washing facilities, and improper disposal methods increase susceptibility to reproductive tract infections, urinary tract infections, and other health complications. Research indicates elevated incidence of such infections among women using unhygienic menstrual materials compared to those utilizing sanitary products.



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Beyond immediate health effects, inadequate menstrual hygiene contributes to reproductive health complications that may affect fertility and maternal health outcomes. The reluctance to seek healthcare for menstrual-related concerns, rooted in stigma and embarrassment, often results in delayed treatment and progression of treatable conditions. Integrating menstrual health within broader reproductive healthcare frameworks is essential for comprehensive women's health improvement.

## 7. Policy Interventions and Government Initiatives

### 7.1 National Health Mission and Related Programs

The Government of India has implemented various initiatives addressing menstrual hygiene within the broader framework of the National Health Mission. The Menstrual Hygiene Scheme, launched in 2011, aimed to promote menstrual hygiene among adolescent girls in rural areas by providing subsidized sanitary napkins through accredited social health activists. The scheme targeted approximately 1.5 crore adolescent girls, distributing sanitary napkins at nominal cost while conducting awareness sessions.

The Rashtriya Kishor Swasthya Karyakram, focusing on adolescent health, incorporates menstrual hygiene as one of its key intervention areas. This program emphasizes peer education, community awareness, and health service linkages for adolescents. Similarly, the Swachh Bharat Mission has contributed to menstrual hygiene improvement through its emphasis on toilet construction and sanitation infrastructure development in schools and communities.

### 7.2 State-Level Initiatives

Several Indian states have implemented innovative programs addressing menstrual hygiene. Tamil Nadu's pioneering scheme provides free sanitary napkins to adolescent girls and women through public distribution system outlets. Kerala's She-Pad program offers low-cost sanitary napkins through Kudumbashree network, combining product distribution with livelihood generation for self-help group members engaged in manufacturing.

Jharkhand's Mukhyamantri Sukanya Yojana provides free sanitary napkins to school-going girls, while Rajasthan's Udaan scheme focuses on adolescent reproductive health including menstrual hygiene education. These state-level initiatives demonstrate varying approaches to addressing menstrual hygiene challenges, with outcomes influenced by implementation effectiveness, coverage, and integration with broader health and education systems.

### 7.3 Non-Governmental Interventions

Civil society organizations have played significant roles in advancing menstrual hygiene awareness and access. Organizations such as Goonj through its 'Not Just a Piece of Cloth' campaign, Sulabh International through sanitary complex establishment, and numerous grassroots organizations have contributed to changing social attitudes and improving product accessibility. Social enterprises manufacturing affordable and eco-friendly menstrual products have emerged, addressing both accessibility and environmental sustainability concerns.

International organizations including UNICEF, WaterAid, and various bilateral development agencies have supported menstrual hygiene programs through funding, technical assistance, and advocacy efforts. These partnerships have facilitated knowledge sharing, capacity building, and scaling of successful interventions across different contexts.



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## 8. Challenges and Barriers to Effective Implementation

### 8.1 Cultural Resistance and Behavioral Change

Despite awareness campaigns and product distribution programs, changing deeply entrenched cultural attitudes toward menstruation remains challenging. Behavioral change regarding menstrual practices requires sustained engagement over extended periods, addressing not only individual women but also family members, community leaders, and social institutions that reinforce traditional beliefs. Programs focusing solely on product distribution without accompanying awareness components often achieve limited impact.

Male involvement in menstrual hygiene discourse presents particular challenges given traditional gender segregation of reproductive health topics. However, engaging men as fathers, brothers, husbands, and community members is essential for creating supportive environments and addressing structural barriers to menstrual hygiene. Strategies for male engagement must be culturally sensitive while challenging harmful gender norms.

### 8.2 Implementation and Governance Gaps

Policy-implementation gaps constitute significant barriers to achieving menstrual hygiene objectives. While comprehensive policies exist at national and state levels, translation into effective ground-level action often falters due to inadequate funding, limited administrative capacity, poor inter-departmental coordination, and insufficient monitoring mechanisms. Programs may suffer from supply chain disruptions, inconsistent quality of distributed products, and inadequate training of frontline workers.

The fragmentation of menstrual hygiene interventions across multiple ministries and departments complicates coherent program delivery. Health, education, water and sanitation, women and child development, and rural development sectors all have relevance to menstrual hygiene, yet coordination mechanisms across these sectors remain weak. Integrated approaches require strengthened governance structures and clear institutional responsibilities.

### 8.3 Infrastructure and Resource Constraints

Inadequate water, sanitation, and hygiene infrastructure undermines menstrual hygiene practices regardless of product availability or awareness levels. Many households, schools, and workplaces lack private toilet facilities, running water supply, and appropriate disposal mechanisms essential for dignified menstrual management. Investment in WASH infrastructure requires sustained commitment and substantial resources, particularly in rural and underserved urban areas.

Healthcare infrastructure gaps similarly impede women's access to reproductive health services. Primary health centers in many areas lack adequate staff, equipment, and supplies for addressing menstrual health concerns. The shortage of female healthcare providers in rural areas creates additional barriers given cultural sensitivities surrounding reproductive health discussions. Strengthening healthcare delivery systems is essential for comprehensive menstrual health support.

## 9. Recommendations for Sustainable Progress

Based on the analysis conducted, the following recommendations are proposed for advancing menstrual hygiene and healthcare access as pathways to women's empowerment:

**Integrated Policy Framework:** Develop comprehensive menstrual health policies that integrate across health, education, sanitation, and women's empowerment sectors with clear institutional responsibilities and coordination mechanisms.



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**Enhanced Education Programs:** Strengthen menstrual health education in schools through age-appropriate curricula, trained educators, and supportive learning environments. Extend education to community settings reaching out-of-school adolescents and women.

**Infrastructure Investment:** Prioritize investment in gender-sensitive WASH infrastructure in schools, health facilities, workplaces, and communities, ensuring private facilities, water availability, and appropriate waste management systems.

**Product Accessibility:** Expand subsidized and free distribution programs for menstrual products, support local manufacturing initiatives, and promote sustainable alternatives including reusable products suited to diverse contexts and preferences.

**Community Engagement:** Design culturally sensitive awareness programs engaging women, men, families, and community leaders to challenge menstrual taboos and create supportive social environments for menstrual health.

**Healthcare Strengthening:** Integrate menstrual health within primary healthcare services, ensure adequate female healthcare providers particularly in rural areas, and train all providers on sensitive communication regarding reproductive health.

**Research and Monitoring:** Invest in research to generate context-specific evidence, develop standardized monitoring indicators, and systematically evaluate intervention effectiveness to inform policy refinement.

## 10. Conclusion

Menstrual hygiene management and access to healthcare services constitute fundamental yet often neglected dimensions of women's empowerment in India. The analysis presented in this paper demonstrates that inadequate menstrual hygiene and limited healthcare access perpetuate cycles of educational disadvantage, economic marginalization, and compromised health outcomes that collectively undermine women's ability to realize their full potential.

While India has made notable progress through various governmental initiatives and civil society interventions, significant challenges persist. Deep-rooted cultural taboos, educational disparities, economic constraints, and infrastructural deficiencies continue to impede women and girls from managing menstruation with dignity and accessing essential health services. Addressing these challenges requires sustained commitment, adequate resources, and coordinated action across multiple sectors and stakeholders.

The pathway to comprehensive women's empowerment necessarily includes ensuring menstrual health and healthcare access as foundational elements. An integrated approach combining health education, infrastructure development, community engagement, and policy coherence is essential for achieving sustainable progress. By recognizing menstrual health as a matter of rights, dignity, and empowerment rather than merely a biological occurrence or hygiene concern, India can advance toward genuine gender equality and inclusive national development.

The imperative before policymakers, practitioners, and civil society is to transform commitments into concrete actions that reach every woman and girl across the country. Only through such comprehensive and sustained efforts can menstrual health truly become a catalyst for women's empowerment and societal transformation in India.

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## CHAPTER-159

### Usage of Smartphone and Internet in Rural–Urban Areas: A study of Telangana

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#### Abstract

*The widespread adoption of smartphones and internet technologies has significantly influenced communication, education, governance, and livelihoods in India. However, notable disparities persist between rural and urban areas in terms of access and usage. This study examines the smartphones and the internet in rural and urban, focusing on patterns of adoption, frequency of use, and socio-economic determinants influencing digital engagement. Using secondary data from government surveys, telecom statistics, and state-level digital initiatives, the study analyzes variations across districts, gender, age groups, and social categories. The findings reveal that urban areas in Telangana exhibit higher smartphone ownership, stable internet connectivity, and more diversified usage for education, employment, e-governance, and financial services. In contrast, rural areas demonstrate limited and uneven usage due to factors such as affordability constraints, inadequate network infrastructure, low digital literacy, and language barriers. The digital gap is more pronounced among women, Scheduled Castes, Scheduled Tribes, and minority communities in rural regions, restricting their participation in digital learning and access to public services. The study highlights that the rural–urban divide in smartphone and internet usage is closely linked to broader socio-economic inequalities. It emphasizes the need for inclusive digital policies that prioritize rural connectivity, affordable devices and data plans, community-based digital literacy programs, and localized digital content. The study contributes to understanding the digital divide in Telangana and provides policy-relevant insights for promoting equitable digital access and usage.*

*Keywords: Internet Access; Rural–Urban Divide; Digital Divide; Digital Inclusion; Socio-Economic Factors; Digital Literacy; ICT in Education and E-Governance.*

#### Introduction

The rapid expansion of digital technologies has significantly transformed social, economic, and political life across the world. In India, the spread of smartphones and internet connectivity has emerged as a crucial driver of digital inclusion, enabling access to information, education, governance services, and economic opportunities. With the launch of national initiatives such as Digital India and improvements in telecommunications infrastructure, the penetration of smartphones and internet services has increased substantially in both rural and urban regions.

Despite these advancements, a noticeable digital divide continues to exist between rural and urban areas in terms of access, affordability, digital literacy, and patterns of usage. Urban populations generally enjoy better connectivity, higher smartphone ownership, and more diverse internet usage, while rural communities often face infrastructural limitations, lower levels of digital literacy, and economic constraints that affect their ability to fully utilize digital technologies.



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Addressing this divide has become an important policy concern, as digital access is increasingly linked to social inclusion and economic development.

In the context of Telangana, the rapid growth of information and communication technology (ICT) infrastructure has accelerated the adoption of smartphones and internet services. The state government has implemented several digital governance initiatives such as T-Fiber and T-SAT to enhance digital connectivity and improve access to online services, particularly in rural areas. These initiatives aim to bridge the digital gap and promote inclusive development by ensuring that digital resources reach remote and underserved populations.

However, disparities remain in the level of smartphone ownership, internet accessibility, frequency of usage, and purposes of use between rural and urban residents. While urban users often utilize smartphones for education, online banking, e-commerce, and professional communication, rural users may primarily depend on them for basic communication, entertainment, and social networking. Factors such as education, income levels, gender, age, and digital literacy also influence the patterns of technology adoption.

Against this background, the present study examines the usage of smartphones and internet services in rural and urban areas of Telangana. The study aims to analyze differences in access, usage patterns, and socio-economic determinants influencing digital adoption. By comparing rural and urban contexts, the research seeks to understand the extent of the digital divide and identify policy measures that can enhance equitable digital access. The findings of the study may contribute to ongoing discussions on digital governance, rural development, and inclusive growth in the state.

### **Objectives of the Study**

1. To examine the level of smartphone ownership among people in rural and urban areas of Telangana.
2. To analyze the extent of internet accessibility and connectivity in rural and urban regions of the state.
3. To compare the patterns of smartphone and internet usage between rural and urban populations, including purposes such as communication, education, entertainment, and online services.
4. To identify the socio-economic factors (such as age, gender, education, and income) influencing smartphone and internet usage.
5. To assess the role of government digital initiatives like Digital India and T-Fiber in improving digital connectivity in rural areas.
6. To examine the digital divide between rural and urban populations in terms of access, affordability, and digital literacy.
7. To suggest policy measures for improving equitable access to smartphones and internet services and promoting digital inclusion in Telangana.



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## New Trends in Smartphone and Internet Usage

The rapid expansion of digital technology has transformed the patterns of smartphone and internet usage across both rural and urban areas. In recent years, several new trends have emerged in India and in Telangana that reflect changing digital behavior, technological innovation, and growing digital inclusion.

### 1. Rapid Growth of Internet Users in Rural Areas

One of the most significant trends is the rapid increase in internet users in rural regions. Rural India now accounts for more than half of the country’s active internet users, with about **548 million users**, and the growth rate in rural areas is nearly four times higher than in urban regions. This indicates a major shift toward rural digital adoption.

### 2. Smartphone as the Primary Device for Internet Access

Smartphones have become the most common device for accessing the internet. Affordable smartphones and low-cost data plans have encouraged widespread digital access, making mobile internet the dominant mode of connectivity in both rural and urban areas.

### 3. Increasing Use of Social Media and Short-Video Platforms

Another notable trend is the growing consumption of digital content, especially short-video platforms and social media. Around **61% of internet users consume short-video content**, and rural users now slightly outnumber urban users in this segment. This reflects the increasing digital engagement of youth and rural populations.

### 4. Expansion of Digital Payments and Online Commerce

Smartphones have significantly contributed to the growth of digital payments, online shopping, and e-commerce activities. In urban areas, more than **56% of internet users engage in online shopping**, while digital payment systems and online services are increasingly being used in rural areas as well.

### 5. Growth of Artificial Intelligence (AI)-Enabled Internet Use

A new technological trend is the use of AI-enabled digital services such as voice search, image-based search, chatbots, and AI filters. Nearly **44% of internet users now interact with AI-enabled features**, particularly among younger populations.

### 6. Increase in Wi-Fi and Broadband Connectivity

Urban regions of Telangana show higher levels of broadband and Wi-Fi usage compared to many other states. Around **20.5% of internet users in Telangana access the internet through Wi-Fi**, indicating stronger digital infrastructure in cities such as Hyderabad.

### 7. Rise of Multi-Device and Shared Device Usage

Another emerging trend is the use of multiple digital devices. Around **20% of internet users in India use more than one device** to access the internet. In rural areas, shared smartphone usage is common, enabling more people to access the internet even when device ownership is limited.

### 8. Persistence of Digital Gender Gap

Despite overall growth, gender disparities remain in smartphone ownership and internet use. In Telangana, about **77% of men use smartphones compared to 68% of women**, highlighting the continuing gender gap in digital access.



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These emerging trends show that smartphone and internet usage is rapidly expanding across rural and urban areas of Telangana. While urban regions continue to lead in infrastructure and advanced digital services, rural areas are experiencing faster growth in internet adoption. However, challenges such as the digital divide, gender disparities, and uneven digital literacy remain important issues for policymakers.

### **Advantages and Disadvantages of Smartphone and Internet Usage**

The rapid spread of smartphones and internet connectivity has brought significant changes in social, economic, and educational spheres. In states such as Telangana, the increasing availability of digital technologies has improved access to information and services. However, along with these benefits, several challenges and risks have also emerged.

#### **Advantages**

##### **1. Easy Access to Information**

Smartphones and the internet provide quick access to information on education, health, agriculture, employment, and government services. People can easily obtain knowledge through online platforms and digital resources.

##### **2. Improvement in Education**

Digital technology has enhanced learning opportunities through online classes, digital libraries, and educational applications. Government initiatives such as Digital India have promoted digital education and e-learning platforms.

##### **3. Better Communication**

Smartphones enable instant communication through calls, messaging applications, email, and social media. This helps individuals stay connected with family, friends, and professional networks.

##### **4. Growth of Digital Economy**

The internet has facilitated online banking, digital payments, and e-commerce activities. Applications such as Google Pay and PhonePe have made financial transactions faster and more convenient.

##### **5. Access to Government Services**

Citizens can access government services such as online applications, digital certificates, and welfare schemes through e-governance portals.

##### **6. Employment and Business Opportunities**

The internet supports online jobs, freelancing, digital marketing, and small businesses. Entrepreneurs can promote their products through online platforms and reach wider markets.

#### **Disadvantages**

##### **1. Digital Divide**

There is still a significant gap between rural and urban populations in terms of internet connectivity, digital literacy, and affordability. This creates inequality in accessing digital opportunities.

##### **2. Smartphone Addiction**

Excessive use of smartphones can lead to addiction, especially among youth, affecting their academic performance, productivity, and mental health.



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### **3. Cybersecurity Risks**

Internet users face risks such as online fraud, identity theft, hacking, and cyberbullying. Lack of awareness about digital safety increases vulnerability.

### **4. Spread of Misinformation**

Social media platforms sometimes spread false or misleading information, which can influence public opinion and create social tensions.

### **5. Health Problems**

Long-term smartphone use can cause eye strain, sleep disturbances, reduced physical activity, and other health issues.

### **6. Privacy Concerns**

Sharing personal information online may lead to misuse of data and violation of privacy.

Smartphones and the internet have become essential tools for communication, education, and economic activities. While they offer numerous advantages that contribute to development and digital inclusion, it is equally important to address challenges such as digital inequality, cybersecurity threats, and health concerns. Balanced and responsible use of digital technologies is necessary to maximize their benefits while minimizing their negative impacts.

## **Challenges in the Usage of Smartphones**

Despite the rapid expansion of digital technologies, the effective use of smartphones and internet services faces several challenges in both rural and urban areas of Telangana. These challenges influence the accessibility, quality, and impact of digital connectivity.

### **1. Digital Divide Between Rural and Urban Areas**

One of the major challenges is the persistent digital divide between rural and urban populations. Urban areas generally have better internet infrastructure, higher smartphone penetration, and faster connectivity, while rural areas often face limited network coverage and lower digital access.

### **2. Poor Internet Infrastructure in Rural Areas**

Many villages still experience weak network signals, slow internet speeds, and limited broadband facilities. Although initiatives like T-Fiber aim to improve connectivity, infrastructural gaps continue to restrict reliable internet access in remote regions.

### **3. Lack of Digital Literacy**

A significant portion of the population, especially in rural communities, lacks the necessary digital skills to effectively use smartphones and internet services. Limited knowledge of online applications, digital payments, and e-governance platforms reduces the potential benefits of digital technology.

### **4. Affordability Issues**

For many low-income households, purchasing smartphones, maintaining internet subscriptions, and upgrading devices can be financially challenging. Economic disparities therefore limit widespread adoption of digital technologies.

### **5. Gender Gap in Digital Access**

Women, particularly in rural areas, often have less access to smartphones and the internet compared to men. Social norms, lower digital literacy, and financial constraints contribute to this digital gender gap.



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## 6. Cybersecurity and Privacy Concerns

Increasing internet usage has also led to rising cases of cyber fraud, online scams, and data privacy issues. Lack of awareness about safe internet practices exposes many users to digital risks.

## 7. Spread of Misinformation

Social media platforms can sometimes spread false or misleading information, which may influence public opinion, create confusion, and affect social harmony.

## 8. Language and Content Barriers

Many online platforms and digital services are predominantly available in English, which can be a barrier for users who are more comfortable with regional languages such as Telugu. This limits effective participation in digital platforms.

## 9. Overdependence and Health Issues

Excessive smartphone usage can lead to addiction, reduced physical activity, eye strain, and mental health concerns, particularly among younger populations.

While smartphone and internet usage has expanded rapidly in Telangana, several structural and social challenges continue to affect equitable digital access. Addressing these issues through improved infrastructure, digital literacy programs, affordable technology, and inclusive policies is essential for bridging the rural–urban digital gap and ensuring sustainable digital development.

## Conclusion

The study on smartphone and internet usage in rural and urban areas highlights the growing importance of digital technology in contemporary society. In Telangana, the expansion of mobile networks, affordable smartphones, and government initiatives has significantly increased digital connectivity among people. Smartphones and internet services have become essential tools for communication, education, entertainment, financial transactions, and access to government services. The findings indicate that urban areas generally have higher levels of smartphone ownership, better internet infrastructure, and more diverse digital usage compared to rural areas. Urban users frequently utilize the internet for online education, digital payments, e-commerce, and professional communication. In contrast, rural populations are increasingly adopting smartphones and internet services, but their usage is often limited by factors such as inadequate connectivity, lower digital literacy, and economic constraints.

Government initiatives such as Digital India and state-level projects like T-Fiber have played an important role in expanding digital infrastructure and promoting digital inclusion. These initiatives aim to bridge the rural–urban digital gap and ensure that the benefits of digital technology reach remote and underserved communities. However, challenges such as the digital divide, gender disparities in technology access, cybersecurity risks, and the spread of misinformation continue to affect the effective use of smartphones and internet services. Addressing these challenges requires coordinated efforts in improving digital infrastructure, enhancing digital literacy, promoting affordable access to technology, and ensuring safe internet practices. In conclusion, while Telangana has made significant progress in digital connectivity, achieving equitable and inclusive digital development requires sustained policy efforts and community awareness. Strengthening digital infrastructure and promoting responsible use of technology will help maximize the benefits of smartphones and the internet for both rural and urban populations.



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## CHAPTER-160

### EMPOWERING THROUGH ENTERPRISE: A STUDY OF PROBLEMS AND PROSPECTS FACING SHG-OWNED INCOME GENERATING ACTIVITIES IN SELECTED MANDALS OF MAHABUBNAGAR DISTRICT OF TELANGANA

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#### ABSTRACT

Micro enterprises (ME) have engaged as real boon for the poor and considered as growth engines that trigger development process. The rural poor are to be encouraged to undertake micro-enterprises. Besides, solving the problem of poverty, it helps to generate additional income of poor in between rural and urban areas. Development of micro enterprises helps to create immediate employment opportunities, involving more number of women at low-level investment. The principal objectives of the study were: to understand the role of SHGs in empowering through enterprise, to Study the problems of the Income Generating Activities undertaken by the women SHGs, to study the prospects of the SHG micro enterprises. The primary data obtained through administering a structured schedule. Survey method used in conducting the study. The sample size is 100 one hundred SHG representatives of micro enterprises. Random sampling method is applied to select sample representatives. The SHG women, who are perusing these enterprises were quite happy and have been running and making good returns. The enterprises have yielded high level of profit, which enabled the beneficiaries to expect their operations are successful units located in Mahabubnagar.

*Key words: Micro enterprises, IGA, Self Help Groups, Marketing, production, empowerment.*

#### INTRODUCTION:

Micro enterprises (ME) have engaged as real boon for the poor and considered as growth engines that trigger development process. The rural poor are to be encouraged to undertake micro-enterprises. Besides, solving the problem of poverty, it helps to generate additional income of poor in between rural and urban areas. Tailoring, embroidery work, pickle making, fruit scanning, bookbinding, soaps and candle making, dairy, animal husbandry provide ample prospects for illiterate and poor women to make a livelihood. Providing training to poor make them to acquire entrepreneurial ability and at the same time to obtain economic independence. Development of micro enterprises helps to create immediate employment opportunities, involving more number of women at low-level investment. Besides, it provides to utilization of capital and reduces the wastage of human resources in rural areas particularly for women. All these become realize only, if we tackle hurdles involved in it.

#### REVIEW OF EARLIER STUDIES:

Vinoth kumar (2023) the study has been carried out with the objective to assess the major challenges faced by women entrepreneurs. Amit Kumar Dutta (2021) in their research paper concluded that the Government and the authorities must implement appropriate measures to increase demand for the products made by the SHG based Micro Enterprises by



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creating strong marketing channels both in and outside the State, encouraging sale of products through direct retail outlet. Sheena jose, et.al (2020) the study concludes that inability to manage business, lack of basic knowledge among SHG members due to their illiteracy, frequent changes in training etc. are major problem faced by SHG members. *Narsaiah et.al (2006)* in their study says that women are the vital human infrastructure and their empowerment would accelerate the pace of development. Investing in women’s capabilities and empowering them in all respects is the surest way of contributing to sustainable economic growth. *Awasthi P.K. (2001)* examined in their study on the problems of Self-Help Group enterprises in watershed area of Madhya Pradesh and found that SHG members suffered from lack of motivation, lack of backward and forward linkages, inadequacy of infrastructures, insufficient loans, inadequate inputs, poor marketing facilities, lack of systematic monitoring and follow up of the productive activities.

**OBJECTIVES OF THE STUDY:** The principal objectives of the study were:-

1. To understand the role of SHGs in empowerment of enterprise.
2. To Study the problems of the microenterprises owned by women SHGs
3. To study the prospects of the SHG micro enterprises

**RESEARCH METHODOLOGY:**

This present study based on primary as well as secondary data. The primary data obtained through administering a structured schedule to the respondent SHG entrepreneurs, supplemented by secondary data secured from various sources and included in the study.

**Method of the Study**

Survey method used in conducting the study. The data gathered from SHG women, those undertaking micro enterprises are undertaking in the study area.

**Sample Design**

The present study aims at identify the problems and prospects of micro enterprises undertaken by women SHGs. The sample size is 100. The number of sample representatives of SHG Income Generating Activities is chosen from three mandal of Mahabubnagar Constituency i.e., Hanwada, Mahabubnagar Rural, Mahabubnagar Urban and other. Random sampling method is applied to select sample representatives.

**Schedule:** A Structured Schedule is administered to collect the primary data. The data confined to identify the problems and prospects of SHG Income Generating Activities.

**Scope of the Study**

The study intended with the major objective of examining the problems and prospects of SHG Income Generating Activities in Mahabubnagar Constituency, and to understand the role of SHGs in eradicating the poverty.



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## ANALYSIS AND INTERPRETATION OF SURVEY FINDINGS:

The present study the problems of Income Generating Activities undertaken by the women SHGs, field survey had been conducted. The three Mandals are covered for this purpose. The survey analyses the women Income Generating Activities in the following way.

The findings are as follows

### ROLE OF SHGS IN EMPOWERING THE ENTERPRISE OF WOMEN:

Micro finance programmes are known for their potential to generate income and employment and empowerment of women enterprise. Micro finance through SHGs is essential to overcome exploitation of local moneylenders and to create confidence for economic self-reliance of rural poor. These SHGs enables them to come together for common objectives and gain strength from each other to deal with exploitation, which they are facing in several forms. These groups became banks for action and social change. It also helps building of relationship and rural poor through constant contact with generous effort. SHGs have been formed to uplift living conditions of the rural women who are below the poverty line. The majority of women were illiterates, they save, borrow, invest and repay, Manage their SHG economic affairs, help with assistant for book keeping and deals with banks for financial transactions, contribute to houseful economy and improve for the first time in their life, take a positive view of the future with their collective decisions, efforts, and strengths. The present empirical study reveals that there is a strong indicative evident impact on women.

### PROBLEMS OF SHG MICRO ENTERPRISES:

Table 1: Types of problems faced by SHG enterprises

Sl.No	Types of problems	Percentage
1	Socio-Personal	83%
2	Marketing	81%
3	Occupational mobility	57%
4	Govt. assistant	61%
5	Financial	51%
6	Production	24%

(Source: Primary data)

It is evident from the table 1.that majority of the sample SHG Income Generating Activities faced socio-personal problems to the extent of 83%. Next in the preference of the responses is marketing problems faced by SHG micro enterprises are to the 81%, occupational mobility stands in the fourth position with 57%, as SHG Income Generating Activities are facing assistance from government stood in third position with 61% as per the response of the economic activity units. The table 1.0 depicts that the problems faced by SHG micro enterprises in effective implementation have been classified as finance, production, personnel, marketing, government assistance, occupational mobility and socio personal



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### Socio-personal problems

**Table 2: Socio-personal problems faced by SHG micro enterprises.**

Sl. No	Problem	Percentage
1	Resistance from husband family	56%
2	Dual duties face stress	30%
3	Indifferent attitude of society	10%
4	Others	4%
	Total	100%

(Source: Primary data)

It is evident from the table 2 about 56% of the respondent SHG Income Generating Activities faced resistance from either husband or family or both at the time of starting Income Generating Activities. While majority of respondent of SHG Income Generating Activities said that they did not face any resistance from their husbands, about 30% said that they faced stress while playing a dual role as owner of IGA and homemaker. Of course this type of stress inevitable because in typical Indian setting a woman has to perform the household work even though she may be working elsewhere. About 10% of respondents faced negative attitude of the society like male domination. Further about 4% of the SHG micro enterprises expressed lack of support towards family development (others). It is also observed that women are encountered with many socio-personal problems like lack of education and information, economic backwardness and low risk bearing capacity.

### Marketing problems

**Table 3: Marketing problem faced by the SHG Micro enterprises**

SL. No	Problem	Percentage
1	Competition from cheaper goods	44%
2	Low demand availability of substitute goods	14%
3	Large distance to the market	12%
4	Lack of information of market changes	10%
5	Delayed payments	16%
6	Inadequate publicity	4%
	Total	100%

(Source: Primary data)



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One of the greatest problems that the SHGS, SHG Income Generating Activities are facing is the lack of market for their products and services. SHG Income Generating Activities lack minimum skill and knowledge of how to market the product, whom to contact and marketing functions. Table 3 depicts that the respondent SHG micro enterprises faced a number of problems pertaining to the marketing of their products/services it can be seen that about 44% of the respondents cited the problem of competition from the cheaper goods. Delayed payments problem faced by 16% of economic activity units, while 14% had to face lower demand due to availability of substitute products/services available in the existing marketing. About 12% of respondents sample SHG micro enterprises were paying higher transport charges as the markets were far away from their work spot. Further, only 4% of sample SHG micro enterprises cited their inability of publicize their products due to meager financial resources. It is found from the field, SHG Income Generating Activities are suffering with exploitation by intermediaries, difficulties in collection of dues, inadequate sales promotion avenues and lack of export marketing.

### Problems of Govt. Assistance

Table 4: Govt. assistance under SHGS

Sl. No	Causes	Percentage
1	Harassment in Govt. departments	48%
2	Large amount of paper formalities	26%
3	Ignorance of laws or procedures	14%
4	Discrimination	12%
	Total	100%

(Source: Primary data)

It may be observed from the table 4 the respondent sample SHG micro enterprises felt unhappy due to harassment of the officials and high corruption at various levels. While 26% of respondent SHG Income Generating Activities cited the problems of a large amount paper work in getting bank loan and in establishment of Income Generating Activities. About 14% were ignorant of various procedures/laws and complicated bureaucratic setup while dealing with line department or support organizations. It is known from the field study the SHG micro enterprises are facing inadequate assistance from the government, red-tapism at various levels, advisory organization become exploitive and dishonest, sometimes government policies are not favourable.

### Occupational mobility under SHGS:

Table 5: Occupational mobility under SHGS:

SL. No	Reasons for occupational mobility	Percentage
1	Preference for stability/security orientation	46%
2	The only work known to us	12%



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3	Lack of technical knowledge	14%
4	Dual duties	6%
5	Lack of support from family members	8%
6	Lack of resources	4%
7	Lack of self confidence	10%
	Total	100%

(Source: Primary data)

Occupational problems beneficiaries under SHGS are classified as preference for stability, known work by choice, lack of technical knowledge, lack of duties, lack of support from the family members, lack resources and lack of self-confidence. Table 5 reveals that about 46% of the responded SHG micro enterprises cited preference for stability/security orientation as the prime reasons that inhibited them from exhibiting occupational mobility. While 14% of the responded sample SHG micro enterprises faced lack of technical knowledge/skills, 12% of the respondents expressed that the only work known to us and it was a traditional area to their family. Further 10% of respondents had low level of self-confidence to promote the present occupation.

**Financial Problems faced by SHG enterprises:**

**Table 6. Financial problems faced by Economic activity units**

SL. No	Reasons for financial problems	Percentage
1	Insufficient financial assistance/delayed	46%
2	Problems of security and margin money	16%
3	Tight repayment schedule	22%
4	Lack of traditional financial assistance	
	Total	100%

(Source: Primary data)

Financial resources are vital force needed to sustainability of SHG and organizing livelihood activities. The role of finance is of great importance in all income generating activities including managing micro enterprises. Many of sample SHG Income Generating Activities had faced the lack of financial support insufficient financial assistance/delay, problems of security and margin money, tight repayment schedule, lack of tradition financial assistance. Financial problem is a major problem of SHG micro enterprises under government-sponsored programmes like SHGS. Finance is essential to stat as well as to run a business enterprise. The table 6 depicts that, 46% of the responded sample SHG micro enterprises were unhappy since the financial agencies were not providing early loan either to purchase raw material or to start a new IGA. About 22%



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of the SHG micro enterprises expressed that, the repayment was in convenient. 16% of sample SHG micro enterprises each demanded additional financial assistance and margin money from the concerned agencies.

**Production related problems of SHG micro-enterprises.**

**Table 7: Production problems faced by SHG micro enterprises.**

Sl. No	Reasons	Percentage
1	Non-availability of raw material	32%
2	Lack of technical assistance	28%
3	Inadequate machine tools	4%
4	Power problems	22%
	Total	100%

(Source: Primary data)

The table7 clearly reveals that the problems faced in the production process by the responded SHG micro enterprises in their IGA presented in the table 7. About 32% of responded sample SHG micro enterprises were suffering non-availability of raw materials. The problem of frequent rises in the price of raw materials were leading to increased cost of production and there by affecting the profitability of economic activity. Whereas 25% of the responded SHG micro enterprises stated that lack of technical assistance due to low educational qualifications was the main problem. Many of IGAs were also facing power problems. Further, basic amenities like pucca roads, drinking water, sanitation facilities were not available to their units that resulted in production both in the quality and in quantity.

**PROSPECTS OF MICRO ENTERPRISES:**

SHGs substantially sustained in mobilizing thrift deposits and timely receiving matching in addition, resolving funds to establish income-generating activities and to earn their livelihood. They have awareness about government programme and social development, democratic values, economic social spheres of life (socio-economic progress). Development of micro enterprises helps to create immediate employment opportunities, involving more number of women at low-level investment. Besides, it provides to utilization of capital and reduces the wastage of human resources in rural areas particularly for women.

**CONCLUSION:**

Marketing of produce was a common problem to SHGs enterprises. The individual was selling/produce at a lower price and exploited by intermediaries. Some times the amount was not paid to the producers even after 6 to 9 months as a result delay in debt collection. They were not allowed to sell their products in the market, until the amount was received, the women have more earning capital and hence continuity in works was lost. Because of this, many members had discontinued their economic activities and gone back to their earlier activities of helping their men in agriculture, cattle rearing and have household activities. Many of them were found to be incapable because they never learned the training with interest and attended only for the sake of monetary benefits because of their names were selected forcedly under the training programme.



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The SHG women, who are perusing these enterprises were quite happy and have been running and making good returns. The enterprises have yielded high level of profit, which enabled the beneficiaries to expect their operations are successful units located in Mahabubnagar.

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## CHAPTER-161

### Women Entrepreneurs in Medical Tourism: Strategies, Barriers, and Empowerment Pathways in Hyderabad

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#### Abstract

Medical tourism has become one of the most rapidly growing services in India, and Hyderabad has positioned itself as one of the leading medical tourism destinations due to its highly developed hospitals, reasonable costs, and qualified medical staff. Among this growing terrain, women entrepreneurs are creating significant niches as facilitators, coordinators, wellness consultants, and agency operators. However, they are not well studied in the literature. This paper explores the approaches that have been embraced by women entrepreneurs who are involved in the medical tourism ecosystem in Hyderabad, the barriers they face in various layers, and avenues that can be taken towards empowering them. The research is based on secondary sources, such as government reports, industry surveys, and peer-reviewed literature, to map the current level of participation of women in medical tourism entrepreneurship, structural, socio-cultural, and financial constraints, and policy mechanisms, including central and state government initiatives aimed at facilitating businesses led by women. The results indicate that women entrepreneurs, despite major limitations on capital accessibility, mobility, and professional networks, exhibit adaptive behaviours, including niche specialisation, adoption of digital marketing, and networking. The paper also ends by giving recommendations on targeted policy interventions, mentorship ecosystems, and capacity-building programmes to mainstream the entrepreneurship of women in medical tourism.

**Keywords:** medical tourism, women entrepreneurship, Hyderabad, barriers, empowerment, gender and business, healthcare sector.

#### Introduction

The medical tourism industry in India has experienced a phenomenal growth in the last 10 years as it has moved out of being an emerging market to a recognised international destination of affordable and quality healthcare. The India Brand Equity Foundation (IBEF, 2023) reports the Indian medical tourism sector to have reached an annual value of about USD 6.5 billion in 202223 and is expected to increase at a compound annual growth rate (CAGR) of 21.1% by 2026. This growth is anchored in cities like Chennai, Delhi, Mumbai, and Hyderabad that attract patients, mostly in Southeast Asia, the Middle East, Africa, and Bangladesh.

The capital of Telangana, Hyderabad, has become a very special node in this network. The city is home to internationally-recognized hospitals, including Apollo Hospitals, Yashoda Hospitals, KIMS, and Care Hospitals, which provide advanced cardiology, orthopaedics, oncology, fertility, and bariatric surgery services at significantly lower prices than in Western countries (Ministry of Tourism, Government of India, 2022). The connectivity of the Rajiv Gandhi International Airport, as well as the proactive investment of the state of Telangana in the health infrastructure, further supports the competitive position of the city.



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In this macro-level development narrative, the gendered aspects of entrepreneurship in medical tourism are under-researched. Female entrepreneurs in this area act as patient coordination agents, medical facilitation consultants, wellness retreat providers, post-operative care service providers, interpreter-guides, and health travel insurance advisors. With this diversity, they encounter institutional obstacles that are based on patriarchal financial structures, mobility, and male-dominated sector connections (Brush et al., 2009; Kelley et al., 2017).

The purpose of this paper is to fill this gap by answering: (a) why women entrepreneurs are strategically positioning themselves within the medical tourism sector in Hyderabad; (b) what structural and socio-cultural obstacles are impacting them; and (c) what empowerment opportunities, such as government programs, incubator support, and community networks, are open or could be open to them. This paper is based on secondary data analysis, which synthesised national statistics, industry reports, and other academic sources.

### Medical Tourism in India and the role of Hyderabad

According to the Confederation of Indian Industry and Grant Thornton (2015), the medical value travel (MVT) market of India was characterized by the primary medical services, but also diagnostics, rehabilitation, wellness, and Ayurveda, making the entrepreneurship proud to work in the field much broader than the hospital administration. In 201920, India was welcoming around 930,000 medical tourists each year, resulting in USD 6.9 billion, but the COVID-19 pandemic dramatically reduced this number to 202021 (Ministry of Tourism, GoI, 2022).

Table 1 shows the trend of medical tourism in India and the estimated market share of Hyderabad. The statistics demonstrate the resilience of the sector after the pandemic as well as the increasing relative importance of Hyderabad as a destination.

Table 1

*Growth of Medical Tourism in India and Hyderabad's Market Share (2017–2023)*

Year	Medical Tourists (millions)	Revenue (USD billion)	Market Growth (%)	Hyderabad Share (%)
2017–18	0.50	3.9	—	10.2
2018–19	0.70	5.0	28.2	11.4
2019–20	0.93	6.9	38.0	12.1
2020–21	0.22	1.9	-72.5*	11.8
2021–22	0.44	3.5	84.2	12.6
2022–23	0.73	6.5	85.7	13.4

Note. Data on Indian medical tourist arrivals and revenue are compiled from the Ministry of Tourism, Government of India (2022) Annual Report and the IBEF Healthcare Sector Report (2023). Hyderabad's share estimates are extrapolated from Confederation of Indian Industry (CII) and Grant Thornton (2015) Medical Value Travel Report and state-level Telangana Economic Survey (2022–23). \*Decline attributable to COVID-19 border restrictions.



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International patient confidence has been boosted dramatically by the National Accreditation Board for Hospitals and Healthcare Providers (NABH) accreditation of many of the hospitals in Hyderabad, and by the growing number of Joint Commission International (JCI)-accredited institutions within the city (National Accreditation Board for Hospitals and Healthcare Providers, 2023). This institutional credibility generates downstream demand for facilitation and coordination services, where women entrepreneurs have started to develop a substantive role.

### Women Entrepreneurs in Hyderabad's Medical Tourism Ecosystem

The entrepreneurship of women in India has been on a significant increase in the last twenty years. The Women's Entrepreneurship Report of Global Entrepreneurship Monitor (Kelley et al., 2017) found India as a nation with high necessity-based female entrepreneurship and a rising opportunity-based entry in services industries. Specifically, the WE Hub, the first state-based women's incubator in India, launched in 2018 and located in Telangana, has helped over 2,000 women-led startups in various fields, such as healthcare, technology, and hospitality (WE Hub, 2022).

Women entrepreneurs in the medical tourism sub-sector are mainly concentrated in facilitation and coordination. The easiest entry point to women with healthcare backgrounds or language competencies is patient facilitation companies that can help with arranging appointments and visa support, airport transfers, and lodging of international patients. A secondary cluster includes wellness entrepreneurs who run yoga centres, Ayurvedic clinics, spa retreats, and naturopathy centres that serve international visitors who are interested in preventive and complementary treatments in addition to conventional medical care.

The Heal in India program, initiated by the Ministry of Tourism (2015) and later developed as a part of the National Medical and Wellness Tourism Promotion Board, offers an enabling platform by assembling accredited hospitals and wellness operators on a platform managed by the government. The facilities in the scheme to which women-owned facilitation agencies achieve Approved Medical Tourism Facilitator (AMTF) status have access to a proven pipeline of patients, which is a major benefit in an industry where trust is at a premium.

As per the data of the Udyam Registration provided by the Women and Child Development Ministry (as cited in MSME Annual Report, 2022-23), women own about 20.5 per cent of micro and small enterprises registered in the service sector in Telangana, and services related to healthcare occupy an increasing portion of this group. Nonetheless, medical tourism facilitation business registration is not evenly distributed, and there are more likely to be more women-based informal facilitation services.

### Strategies Adopted by Women Entrepreneurs

#### Niche Specialisation

One of the strategic tendencies that are recurrent in the successful women entrepreneurship in the medical tourism sector in Hyderabad is the specialisation as opposed to competition within the entire spectrum of full-service. Physiotherapy or nursing-qualified entrepreneurs have opened up post-surgical home care agencies, specifically targeted at international patients who stay in the city to receive treatment. The language-skilled others, especially the Arabic, Swahili, and Bangladeshi Bengali, have established facilitator companies, which cater to specific nationality groups, minimizing competition with larger and more generalist agencies (Khanna & Palepu, 2010).

#### Digital Marketing and Social Media Adoption



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Those who own facilitation businesses by women have shown higher than average usage of digital marketing techniques compared to their male counterparts in a similar space. Patient-facing brands are built on platforms like Instagram, YouTube, and medical tourism aggregator websites, like MedGurus.org, where testimonials are shared and hospital partnerships are displayed. Digital marketing is particularly appropriate for micro-enterprises due to its low capital cost compared to traditional advertising. This trend is consistent with the study by Quinones et al. (2014) on the use of digital tools by women entrepreneurs in service industries in the emerging economies.

#### Collaborative and Network-Based Models

The medical tourism ecosystem of Hyderabad is very often characterized by women entrepreneurs who tend to utilize a cooperative and referral-based business model, establishing alliances with fellow agencies, hospital international patient departments, travel firms, and accommodation options. This networking has been made possible by the Telangana Tourism Development Corporation (TTDC) in its wellness tourism conclaves. Moreover, women-focused business networks like FICCI FLO Hyderabad and the Women Wing of CII Telangana provide access to cross-referrals and identification of partnerships.

#### Hybrid Wellness and Medical Offerings

As international patients increasingly seek medical + wellness + tourism experiences, a few female entrepreneurs have led the way in offering hybrid service packages, involving the booking of hospital stays and yoga retreats, heritage city tours, and Ayurvedic relaxation therapies during the post-surgery period. This combined strategy will attract high prices and will follow the trends of the global wellness tourism recorded by the Global Wellness Institute (2023), which reported USD 651 billion of global wellness tourism in 2022.

#### Barriers and Challenges

Women entrepreneurs, although exhibiting high levels of innovation in their strategic orientations, work with high levels of structural disadvantage. Table 2 is a summary of major barriers identified according to the FICCI-Grant Thornton (2015) MVT report, GEM Women's Entrepreneurship Report (Kelley et al., 2017), and the MSME Annual Report (202223), specifically in the medical tourism industry, Hyderabad.

**Table 2**

*Barriers Faced by Women Entrepreneurs in Hyderabad's Medical Tourism Sector*

Barrier Category	Specific Challenge	Prevalence (%)	Severity (1–5)
Financial Access	Collateral requirements for loans	68.4	4.3
Financial Access	Limited venture capital outreach	54.7	3.9
Socio-Cultural Norms	Family opposition to business travel	62.1	4.1
Socio-Cultural Norms	Gender bias from clients/partners	57.3	3.8



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Regulatory & Licensing	Complex NABH accreditation process	48.9	3.6
Regulatory & Licensing	Coordination with international insurance	43.2	3.4
Human Capital	Limited managerial training opportunities	51.6	3.7
Networking	Exclusion from male-dominated trade bodies	46.8	3.5

*Note.* Prevalence and severity ratings are synthesised from Global Entrepreneurship Monitor Women's Entrepreneurship Report (Kelley et al., 2017), FICCI & Grant Thornton Medical Value Travel in India Report (2015), and MSME Annual Report 2022–23, contextualised with Telangana-specific data from the Telangana Economic Survey (2022–23). Severity rated on a 1–5 Likert scale (1 = minimal, 5 = critical).

### Financial Access Constraints

The most common of the barriers is access to formal credit. Although initiatives such as MUDRA Yojana and Stand-Up India exist, women entrepreneurs still have fewer options when it comes to financing because of collateral requirements, weak credit history, and gender-biased evaluations by loan officers (Reserve Bank of India, 2021). Undercapitalisation is a direct limitation to growth in an industry where a competitive requirement is an international standard office infrastructure, digital case management systems, and multilingual staffing.

### Socio-Cultural Constraints

Female entrepreneurs in the medical tourism industry of Hyderabad note that social constraints on professional mobility (such as post-working hours trips to hospitals, traveling abroad to find patients, or spending long hours with their clients) are seriously affecting their careers. In their pioneering action-at-the-intersection gender-conscious approach to the study of women entrepreneurship, Brush et al. (2009) showed that the tax of time and mobility imposed on women by their embeddedness in family care networks was not uniformly applied to male counterparts. It is especially acute in a city that has high traditional family systems and a cosmopolitan work environment.

### Complexity of Regulatory and Accreditation

The NABH Approved Medical Tourism Facilitator certification, though offering competition legitimacy, is a complicated documentation and audit process that small women-owned enterprises struggle with without specific compliance officers. The Heal in India site of the Ministry of Tourism also demands the registration of partnerships with certified hospitals, which would be a barrier to new competitors. International insurance coordination that is needed in the field of European and Middle Eastern patient segments adds another level of regulation (Ministry of Tourism, GoI, 2022).

### Network Exclusion

Hyderabad Medical tourism is highly relational with the international patients' divisions of hospitals, medical visa arrangers, embassy medical attaches, and travel operators, forming a network that previously was male-dominated. The women entrepreneurs complain of not having access to these networks, especially where access to such networks may be



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culturally or practically unattainable, such as industry conferences, evening networking events, and golf-based relationship building (World Economic Forum, 2022).

### Empowerment Pathways

Although the obstacles listed above exist, a variety of policy tools and institutional help can be offered to female entrepreneurs in the medical tourism sector of Hyderabad. Table 3 has cross-referenced the key government schemes and their applicability to the sector.

Table 3

Government Schemes Supporting Women Entrepreneurs in Healthcare and Medical Tourism

Scheme / Programme	Nodal Agency	Benefit Offered	Relevance to Medical Tourism
MUDRA Yojana (Women Category)	Ministry of Finance / MUDRA	Collateral-free loans ₹50K–₹10 lakh	High – wellness & allied services
Stand-Up India	SIDBI / Scheduled Banks	Loans ₹10 lakh–₹1 cr for women SC/ST	Moderate – clinic/agency setup
HEAL IN INDIA Initiative	Ministry of Tourism, GoI	Medical tourism facilitation & branding	Direct – international patient facilitation
WE Hub (Telangana)	Govt. of Telangana	Incubation, mentoring, seed funding	High startup support in the health sector
Mahila e-Haat	Ministry of Women & Child Development	Digital marketing platform for women	Moderate – wellness product marketing
CGTMSE (Women Segment)	MSME Ministry / SIDBI	Credit guarantee up to ₹2 cr	Moderate – SME healthcare agencies

Note. Scheme details compiled from MUDRA Yojana official guidelines (Ministry of Finance, 2023), Stand-Up India scheme documentation (SIDBI, 2023), Heal in India Initiative (Ministry of Tourism, GoI, 2022), WE Hub Annual Report (2022), Mahila e-Haat scheme documentation (Ministry of Women and Child Development, 2022), and CGTMSE operational guidelines (MSME Ministry, 2023).

### WE Hub and State-Level Incubation Support

WE Hub Telangana is a network of women entrepreneurs, founded as a government order in 2018, and is one of the most comprehensive state-level initiatives in women entrepreneurship in India. Its services are seed grants, co-working infrastructure, industry expert mentorship, legal and compliance assistance, and networking events. To medical tourism entrepreneurs, the healthcare vertical of the Hub provides domain-specific mentorship and investor links. As of 2022, WE Hub had incubated 14 healthcare-related women-led startups, with some in the wellness tourism and patient facilitation business (WE Hub, 2022).



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## Heal in India and Digital Platform Access

The Heal in India initiative by the Ministry of Tourism offers a country- recognised credentialling route and profile to women-owned facilitation agencies on an internationally-recognised digital platform with international patients and foreign government health ministries. The capacity-building workshops of the initiative, which are periodically organized in Hyderabad via the Telangana Tourism Development Corporation, are an easy access point to skill development in the area of international patient coordination, regulatory compliance, and digital outreach.

## Mentorship and Peer Networks

Informal mentorship networks have been very important in addition to the formal schemes of government. FICCI FLO Hyderabad Chapter, CII Telangana Women Wing, and the ASSOCHAM Women Entrepreneur Cell offer formal mentoring and mentors, annual women business leaders awards, and access to finance-industry decision-makers. Although largely tackling the corporate leaders, the Women in Healthcare Leadership Network (WHLN India) has been active in involving SME women entrepreneurs in the facilitation and wellness-related industry.

## Capacity Building and Digital Literacy

At the National Institute of Tourism and Hospitality Management (NITHM), Hyderabad, short-term certification programmes are available in the field of medical tourism management. Collaboration with NITHM is also a cheap capacity-building pathway that can be taken by women entrepreneurs in a bid to institutionalise their knowledge base and acquire industry recognition. The certificate in International Patient Coordination of the institute is especially topical (National Institute of Tourism and Hospitality Management, 2022). Sector-specific training is supplemented with digital literacy programmes being provided under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and CSC Common Service Centres.

## Discussion

The above analysis indicates a complex and paradoxical situation of women entrepreneurs in the medical tourism industry of Hyderabad. On the one hand, the structural features of the sector, such as the intensity of its service, relationship-centredness, and the empathy and communication requirements, match the competencies that women entrepreneurs can offer to the market. Conversely, financial, accreditation, and industry networks are still subject to institutional structures that reproduce gender inequities and restrict full participation by women.

The approaches of women entrepreneurs, namely niche specialisation, online marketing, and the collaborative model, are consistent with the literature of adaptive entrepreneurship of resource-constrained firms (Khanna and Palepu, 2010). These tactics are rational market positioning tactics but represent workarounds that are structurally driven by structural exclusion instead of voluntarily taken competitive differentiation. The shortcomings women experience in all three dimensions are revealed by theoretical frameworks like the 3M framework by Brush et al. (2009), which studies women's entrepreneurship and how it is perceived in terms of market, money, and management.



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The Global Gender Gap Report (2022) by the World Economic Forum placed India 135th of 146 countries in the category of economic participation and opportunity, highlighting that the issues that are described in the medical tourism industry in Hyderabad are a subset of a larger national trend of economic exclusion based on gender. However, on the meso level, the WE Hub in Telangana and the Heal in India program can be seen as pure policy innovation that has already started to change the enabling environment. The major issue is to scale these interventions and make them accessible to the first-generation women entrepreneurs with no elite background.

The resulting 202021 contraction (Table 1) and the consequent recovery also indicate how resilient women entrepreneurs were, who, with their light business models with less fixed costs, recovered more quickly than did asset-intensive businesses. This strength, reported in the framework of women-owned MSMEs by the MSME Annual Report (2022-23), indicates that the post-pandemic growth of the sector could provide a structural opportunity to women if the facilitating factors are enhanced.

### Conclusion

There is a dynamic but limited position of women entrepreneurs in medical tourism in Hyderabad. They are tactically creative- using digital platforms, niche specialisations and collaborative networks to create viable businesses, and at the same time, overcoming well-established financial, socio-cultural and regulatory obstacles. The further development of the sector, along with the growing world perception of India as a medical value destination, provides great possibilities in the development of enterprises led by women.

Nevertheless, this potential needs a conscious and planned policy intervention to be realised. The suggestions resulting out of this analysis are: (a) streamlining NABH Approved medical tourism facilitator certification of micro and small enterprises with faster route to women-owned businesses; (b) addition of Heal in India platform onboarding support to the services offered by WE Hub to Telangana; (c) creation of a women in medical tourism specific network - through FICCI FLO, CII and TTDC jointly - to overcome networking exclusion; (d) establishment of sector-specific credit products offered by Scheduled Commercial Banks under CGTMSE framework with low collateral requirements of certified medical tourism facilitators; and (e) compulsory inclusion of gender-disaggregated data on medical tourism in the ministry of tourism statistics to allow identification of policy performance.

Future studies must focus on primary data gathering based on structured interviews with female entrepreneurs working in the medical tourism sector of Hyderabad, which would allow gaining a deeper insight into lived experience, intersectional disadvantages by caste and class, and the efficacy of particular support measures. Comparative research of Indian medical tourism cities, such as Chennai, Delhi, and Kochi, would also shed more light on whether what has been found in Hyderabad is a city-specific or national structural phenomenon.

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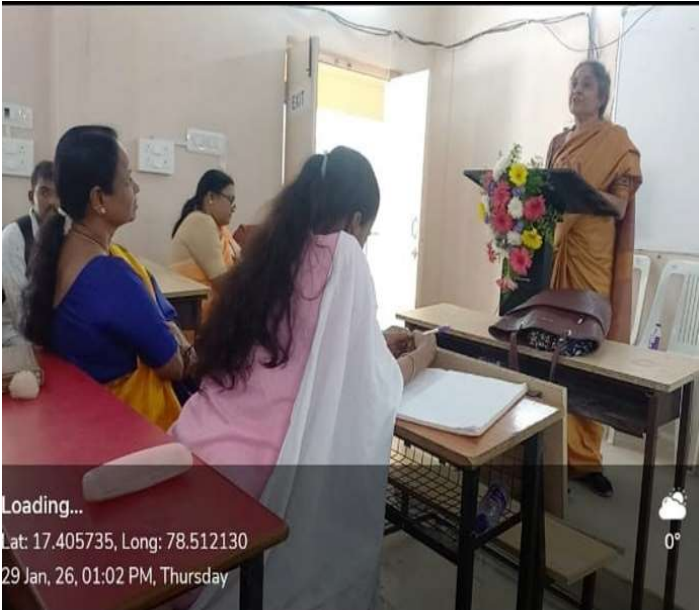
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