



JOURNAL OF INDIAN RESEARCH



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CHAIRPERSON'S MESSAGE

As we traverse through an era defined by rapid technological progressions and evolving societal norms, the significance of education cannot be overstated. We find ourselves at a crucial moment where tradition meets innovation, and it is crucial that we reimagine the educational landscape to nurture students for the complexities of the modern world. The conventional education model often concentrated on routine memorization and standardized testing, falls short of cultivating the critical thinking skills and inventiveness that the 21st-century demands.

Today's students are exposed to a multitude of challenges that necessitate innovative, adaptable, and socially conscious leaders. Thus, our educational systems must advance to prioritize a holistic approach—one that not only imparts knowledge but also nurtures the ability to think critically and innovate across disciplines.

Interdisciplinary research and hands-on experiences are vital components of this new educational paradigm. By amalgamating diverse study fields, researchers and educators can empower students to see the interconnectedness of knowledge. This approach emboldens learners to engage deeply with content, fostering an environment where curiosity prospers, and collaboration becomes the norm. It is through these experiences that students can develop the well-rounded skills needed to tackle real-world challenges.

The latest edition of the *Journal of Indian Research* features a captivating array of articles spanning multifaceted disciplines. Among these, we have published an article by an international author discussing progress and opportunities related to *E-governance and the Fourth industrial revolution in Bangladesh*. Another article highlights *the role of different multimedia platforms in promoting classical literature to today's youth*. Additionally, one of the articles *examines the impact of flute playing on cognitive development in teenagers*.

We also include a couple of articles on government initiatives, specifically the *National Rural Health Mission (NRHM)* and the *Pradhan Mantri Mudra Yojana (PMMY)*. The article on NRHM discusses its focus areas and deliverables, as well as the country's current preparedness for achieving the United Nations' Millennium Development Goals (MDGs) in this context. The second article on PMMY addresses its impact on the empowerment of scheduled tribes in India. Furthermore, the collection is enriched by an article describing the relationship between the tourism sector and economic growth in Karnataka, with specific reference to the impact on popular heritage sites. An article exploring the influence of faculty perceptions of corporate social responsibility on their engagement in organizational citizenship behavior within business schools in Nepal is also included. Each piece in this collection represents significant research contributions that advance the knowledge of our readers and encourage dialogue and the exploration of innovative solutions to bridge existing knowledge gaps.

As we continue to explore and refine our educational practices, let us commit to fostering an environment that is inclusive, responsive, and dynamic to the needs of our society. Together, we can shape a future where all students have the opportunity to thrive, innovate, and contribute to a better world. As we embark on this journey, we invite you to engage with the ideas presented in this journal and join us in the pursuit of an education that not only enlightens minds but also nurtures the hearts of our future leaders.



Dr. Ashok Kumar Gadiya
Chairperson, Mewar University

Dear Readers,

It is with great enthusiasm that we present to you Volume 12, Issues 1-2 of the Journal of Indian Research (JIR). As we embark on our twelfth year of publication, we are proud to continue our commitment to advancing multidisciplinary research that caters to multifaceted domains and inspires scholarly dialogue. The current issue comprehends an array of contributions from researchers and academicians, reflecting the dynamic and evolving landscape of research in India and beyond. Our aim has always been to construct a platform where innovation flourishes and knowledge is shared across the disciplines. The breadth of topics covered in this issue demonstrates the rich tapestry of thought that outlines contemporary research. As we navigate the prospects and challenges of an ever-changing world, we acknowledge the significant role that research plays in shaping our future. The articles featured in this issue explore new methodologies, address pressing issues, and deliver insights that are relevant to the academic community and society at large. Each contribution is a testament to the author's dedication, and we are grateful for their pledge to advance the knowledge. We also encourage our reader base to engross with the content, provide their valuable feedback, and contribute to forthcoming issues. Your critical insights are important to us as we strive to enhance the quality and impact of our journal. In closing, we express our profound gratitude to our editorial board members, reviewers, and contributors for their continuing support and collaboration. Together, we can foster an enriching environment of research and innovation that would benefit academia and society.

– Niraj Kumar
Honorary Editor-in-chief

THE ROLE OF MULTIMEDIA IN POPULARIZING LAL DED'S MYSTICISM AMONG YOUTH

Hassina Jamiel*

Umi Salma**

ABSTRACT

Lal Ded, also known as Lalleshwari, was a mystic poetess from Kashmir who lived in the fourteenth century. Her poetry and spiritual legacy have been revived and popularized among contemporary youth through various multimedia platforms. This research article examines how different forms of multimedia, including print (magazines, and newspapers), electronic media (Radio, and TV), and digital formats, have played a crucial role in making Lal Ded's mysticism understandable and accessible to newer generations. Numerous texts, videos, and documentaries exploring Lal Ded's life, spiritual teachings, and poetry can be found across platforms like Instagram, Facebook, and YouTube. Social media networks, in particular, are vital for reaching younger audiences. This study employs a qualitative approach based on secondary data. Methods such as content analysis and case studies are used to investigate how multimedia platforms influence young people's awareness and interest in Lal Ded's mysticism. The findings indicate that these multimedia platforms make Lal Ded's teachings more approachable, engaging, and relevant to modern audiences. By adapting her timeless ideas to contemporary digital contexts, they not only preserve her legacy but also ensure its ongoing relevance. Future initiatives should continue to leverage multimedia advancements to broaden the audience and significance of Lal Ded's poetry and spiritual legacy.

Keywords: Keywords: cultural preservation, multimedia, mysticism, vakhs,

INTRODUCTION

Lal Ded was born into a Kashmiri Pandit family in Pandrethan, a central region of Kashmir, sometime between 1320 and 1355 CE. As a child, she received her education at home from her family priest, Siddha Srikanth, who recognized her deep spiritual inclinations and initiated her into the Shaivite Sampradaya. At the young age of twelve, she was married. She was given the name Padmavati in her in-law's home at the time in accordance with local norms, but she eventually went by numerous monikers, including Lalla Arifa, Lalla Yogishwari, Lalla Yogini, Laleshwari, and just Lalla. But the most well-

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known and identifiable name for her is Lal Ded.

There are rumors that Lal Ded's mother-in-law mistreated her, subjecting her to periods of starvation and creating the illusion of proper nourishment by hiding a large stone beneath a mound of rice on her plate. The passivity and cowardice of Lal Ded's husband, who failed to stand up for her, deeply affected her (M.H. Zaffar, 2016). Lal Ded spent much of her time at Lord Shiva's temple and practiced yoga under her guru, Sidha Srikanth. At the age of 26, she renounced her marriage and material possessions to embrace a life as a mystic. Her unprecedented courage to abandon conventional life set her apart as a rebel against tradition, yet she became a significant contributor to Kashmiri culture. Having relinquished all her belongings, she wandered either naked or in rags, reciting her verses. Her words were essentially mantras or chants meant to praise God. The impact she had on others inspired her listeners to transform her sayings into chants and mantras. Before her *vakhs* were published, they were passed down orally from generation to generation in Kashmir (Yong Kian, 2018).

In her *vakhs*, she frequently used the first person and mentioned her names, such as "I, Lalli" or "I, Lal." Lal Ded often employed her poetry as a peaceful way to engage with both Shaivism and Sufism.

Her poetry has been translated widely, including English versions by Jane Hirshfield in **Women in Praise of the Sacred: 43 Centuries of Spiritual Poetry by Women** (1994), Coleman Barks in **Naked Song: Lalla** (1992), and K.C.I.E. Sir George Grierson in **Lalla-Vakyanis or The Wise Sayings of Lal-Ded, A Mystic Poetess of Ancient Kashmir** (1920). Lalleshwari was known as Kashmir's rebel poetess because she challenged the concepts of the caste system, social and religious discrimination, and rejected conventional societal norms (Poetry Foundation, 2024).

Objectives

The specific objectives of this paper are as follows:

- To examine how multimedia platforms are utilized to disseminate Lal Ded's writings.
- To study the impact of "Lal Ded's mysticism among youth".
- To study the challenges and opportunities of multimedia platforms.

Methodology

A research methodology refers to the systematic, theoretical analysis of the methods applied to a field of study. In this study we have employed content analysis approach, wherein data collection was performed through textual analysis and digitization. In digitization process data was collected through available texts and videos on various multimedia platforms such as social media including Facebook, Twitter (now X), Instagram, blogs and websites, video platforms such as YouTube. The adopted methodology in this study provides a robust framework for investigating how multimedia facilitates the dissemination and reception of Lal Ded's mysticism among contemporary youth. This study will contribute

in-depth insights to scholarly understanding and practical applications in educational and cultural contexts.

Role of Multimedia in Reviving Lal Ded among People

In the digital age, multimedia platforms such as video streaming sites, social media, podcasts, and interactive websites play a crucial role in disseminating cultural heritage to global audiences. For the legacy of Lal Ded, multimedia serves as a dynamic medium through which her teachings can reach and resonate with today's youth, who are increasingly engaged with digital content.

Cultural Preservation

Lal Ded is a revered figure in Kashmiri cultural and spiritual literature, known for her verses that convey deep philosophical and mystical insights. Traditionally transmitted orally, her works faced the risk of obscurity in the modern era. However, the advent of multimedia has revitalized interest in her teachings. In contemporary times, culture is hybridized through multimedia, allowing modern audiences to adapt Lal Ded's works through a fusion of music, theater productions, and contemporary dance performances. These creative expressions blend traditional and contemporary elements to resonate with younger generations. Her verses are often recited and sung, reflecting her lasting impact on Kashmiri identity. Lal Ded's teachings and poetry represent a bridge between Muslim and Hindu spiritual traditions in Kashmir. She is revered by both communities and is seen as a symbol of the region's syncretic culture. In the present scenario, multimedia not only maintains the authenticity of her teachings but also adapts them to suit the modern tastes of youth and the wider audience.

Print Media

The print media plays a very important role in preservation of Lal Ded's *vakhs*. Print media remains foundation in preserving and propagating the culture. There are number of books published on the life of Lal Ded and her '*vakhs*'. The first book published about Lal Ded was "Lalla Vakyani & "The Wise Sayings of Lal Ded: Mystic Poetess of Ancient Kashmir," written by Sir George Grierson. The Royal Asiatic Society of London first published this book in 1920. It has translated version of her oral songs. It gained publicity all over the world. Now it is available on digital platform in the form of e-book and also available on the online shopping sites such as Flipkart, Amazon etc. and accessible to the diverse audience. Some other books are; "*Lal Ded of Kashmir. Saint Poetess: A catalogue of Lal Vakhs*" written by Sham Misri and Sarla Gurtoo Misri. There is compilation of 315 *vakhs*. This book is also present in audio form on Kindle interactive edition which helps the younger generation to easily read and understand her sayings. Otherwise it used to be much tougher and time consuming. Another book is titled "Lal Ded: Story of the Mystic Lalleshwari" by Tulika Singh (2023). This children's storybook narrates the life of Lal Ded, sharing her spiritual teachings and conveying the language of love to young readers. There are many other books such as "*Looking within life: Lessons from Lal Ded*" by Shonaleeka

Kaul, “*Lal*” by Shafi Shauq, “*I, Lalla: The Poems of Lal Ded*” translated by Ranjit Hoskote (2011) and “*Lal Ded: A Kashmiri Saint Poet of Fourteenth Century*”, by Jayalal Kaul and so on. These books preserve the sayings of Lal Ded for the future generations.

Newspapers, magazines, cultural publications, and blogs have introduced Lal Ded to broader audiences by featuring her poetry alongside modern interpretations and discussions of her cultural significance. This exposure has highlighted her relevance in contemporary socio-political contexts and played a crucial role in raising public awareness about her work, making it accessible to non-academic audiences. The enduring value of print media lies in its ability to provide comprehensive and contextualized interpretations of Lal Ded’s work, ensuring that her cultural and spiritual legacy is preserved for future generations.

Digital Media and Lal Ded Mysticism

A wide range of platforms and technologies, such as websites, streaming services, blogs, digital magazines, etc., fall under digital media. These platforms facilitate the production, sharing, and consumption of content in digital formats. Social media sites like Facebook, Instagram, YouTube, and others have a plethora of pages and channels devoted to the poetry and philosophy of Lal Ded, where individuals share her *vakhs* with renditions and modern interpretations. Social media platforms have broken down barriers of language and location, increasing accessibility to Lal Ded’s works. Youth are more effectively engaged by visual and audio media than by traditional texts. Young enthusiasts can share their perceptions and insights in community-building areas such as digital forums and social media groups. For instance, the pages for “Lal Ded Mysticism,” “@KashmirHeritage,” and “Kaeshur Soz” frequently offer her poetry and translations while also cultivating a community of followers who interact by leaving comments and sharing. A YouTube channel called “Rupantaran” shares the parables and teachings of well-known saints and Sufis from throughout the globe.

Additionally, the biography of Lal Ded and life lessons are told through storytelling on this channel. Through Lal Ded *vakhs*, these pages are reaching out to individuals to promote the language and culture of Kashmir. Using calligraphy, artwork, and photos, Lal Ded’s work can be presented more artistically on social media platforms, appealing to a younger audience. Moreover, webinars on the “Life and philosophy of Lal Ded” are held on Facebook and YouTube to further educate the younger generation. Participants from all over the world can exchange knowledge and engage in conversation during these webinars.

Television has become a crucial vehicle for preserving and promoting her sayings. A wide audience can now access Lal Ded’s life and teachings. Also there is production of dramas and films about her on some of the television networks. A series about Lal Ded’s life was telecast by Doordarshan Kashmir. This had an impact on women and younger viewers. A young female director named Meeta Vasist produced a theater production called “Lal Ded” in Kashmiri, Hindi, and English languages. She included secular poetry in the movie that spoke to the concerns and lives of all Kashmiri citizens. The integration of modern theater into the documentary narrative highlights Lal Ded’s influence, particularly on

younger audiences, and presents considerable opportunities to fill in the story's gaps. Future generations will have the opportunity to witness and benefit from Lal Ded's enduring legacy.

Vakhs of Lal Ded in Academics curriculum

Structured learning about the philosophy and mysticism of Lal Ded is possible through online courses, webinars, and e-books. Her teachings can be more easily accessed using these materials, which can be customized for various age groups and learning styles. In addition, Lal Ded was incorporated into the curriculum as a chapter in the eighth-grade Urdu, seventh-grade English, and eighth-grade Kashmiri subjects. It was also introduced in the graduation-level English literary curriculum. The young people learn the essential facts about Lal Ded's life, philosophy, and many religious and spiritual viewpoints that uplift and encourage them. Lal Ded's mysticism can break beyond conventional barriers with the help of these multimedia platforms, connecting with a younger generation that is eager to learn about spiritual and philosophical understanding in modern formats.

Impact of Lal Ded's Sayings on Lives of Youth

Lal Ded's poetic sayings, or *vakhs*, are her most significant contribution. These *vakhs* are written in Kashmiri language under the themes of mysticism, spirituality, and the human experience. Her poetry reflects influences from both Shavisim and Sufism. While rooted in the Shavia tradition of Kashmir, her work also shows the syncretic blending with Sufi thought, emphasizing love, unity, and the transcendental nature of God. It emphasizes the importance of inner purity, devotion, and the unity of the individual soul with the divine.

Her poetry encourages deep self-examination and the pursuit of inner growth. She teaches that true wisdom and peace come from understanding oneself and one's place in the universe. The emphasis on mindfulness and living in the present moment is a recurrent theme, advocating for a life lived with awareness and purpose. Lal Ded's *vakhs* highlight the importance of compassion, love, and empathy towards others, which are essential qualities for ethical living. Her critique of hypocrisy and falsehood underscores the value of integrity and honesty in one's actions and words. Lal Ded advocates for detachment from material possessions and worldly desires, promoting a simple and contented way of life. The focus on spiritual simplicity encourages living a life free from the complications of ego and pride.

Lal Ded's poetry provides ethical guidance. Her life and teachings serve as a role model for ethical behavior, inspiring the youth to lead lives of moral rectitude. It emphasizes on introspection and self-awareness helps young people develop emotional intelligence, understanding their own emotions and those of others. The lessons of compassion and empathy in her poetry encourages young people to build meaningful and respectful relationships with others.

Challenges and Opportunities

Multimedia platforms offer opportunities as well as challenges in the current environment. While utilizing these technologies can improve interaction and help to preserve

her legacy, it also necessitates careful thought out in terms of content quality, accessibility, and authenticity. Various opportunities that multimedia platforms offer revolve around:

- **Broader Reach:** Multimedia platforms can significantly expand the audience for Lal Ded's mysticism such as on Youtube, Facebook, Instagram and other social media platforms. Young people globally can access her teachings through the internet and social media platforms, increasing awareness and appreciation for her work.
- **Engagement:** Interactive and visually rich multimedia content can engage young audience more effectively than traditional text based approaches. Gamification, virtual reality experiences, and interactive storytelling can make learning about Lal Ded's mysticism more appealing.
- **Cultural preservation:** Multimedia can help to preserve and promote Kashmiri culture and Lal Ded's legacy, ensuring that her teachings are not lost. Digital archives and projects can safeguard her work for posterity.
- **Educational Enhancement:** Incorporating multimedia in educational curricula can provide diverse learning materials. Schools and universities can use videos, podcasts and interactive content to teach students about Lal Ded in more dynamic and memorable ways.

Multimedia platforms however, pose several challenges. Some of those include:

- **Authenticity and Accuracy:** Ensuring that multimedia content accurately represents Lal Ded's teachings and life is crucial. Misinformation or oversimplification can misrepresent her mysticism, leading to misconceptions.
- **Commercialization:** There is a risk that commercial interests might overshadow the educational and spiritual value of Lal Ded's teachings. Content creators might prioritize profit over authenticity, diluting the essence of her mysticism.
- **Digital divide:** Not all young people have equal access to digital resources. Socioeconomic disparities can limit the reach of multimedia content, leaving some youth unable to avail the benefit from these educational opportunities.
- **Content quality:** The quality of multimedia content can vary greatly. The fast paced nature of digital media can lead to superficial engagement. Young people might consume *byte-sized* content without delving deeply into Lal Ded's profound mysticism. Poorly produced content can fail to engage or accurately convey Lal Ded's teachings, potentially turning young audience away.

CONCLUSION

The integration of multimedia into dissemination of Lal Ded's mysticism presents a powerful opportunity to engage the youth with her profound teachings. By leveraging various digital platforms, high quality production, and interactive content, her timeless wisdom can be made accessible and appealing to a broader audience. However, it is essential to navigate

this path with care, ensuring authenticity, maintaining cultural sensitivity and promoting inclusivity. Addressing challenges such as digital divide, content quality, and meaningful engagement will be crucial in this endeavor.

By thoughtfully implementing strategies to harness multimedia's potential, one can ensure that Lal Ded's teachings resonate deeply with a new generation, fostering a greater appreciation and understanding of her enduring legacy. This approach not only bridges the gap between traditional and modernity but also secures the transmission of her timeless wisdom for the future generations.

RECOMMENDATIONS

- **Ensure Authenticity and Accuracy:** Collaboration with experts and scholars on teachings and Lal Ded's life is essential to ensure that content is accurate and authentic. Need to implement rigorous fact checking protocols for all multimedia content to prevent the spread of misinformation.
- **Promote Accessibility:** Content creators produce content in multiple languages, including regional languages to reach a broader audience. Offer free or low cost access to resources and media platforms to bridge the digital divide.
- **Monitor and evaluate impact:** Monitor trends in digital content consumption to stay relevant and adapt strategies accordingly. Implement feedback mechanisms to gather input from users and continually improve content. Conduct studies to assess the impact of multimedia on youth engagements with works of Lal Ded, using findings to refine strategies.
- **Promote Real life Engagements:** Organize cultural tours to significant locations related to Lal Ded's life, offering contextual learning experiences. Host workshops and retreat focus on her teachings, incorporating meditations, poetry readings and discussions.

By implementing these suggestions into practice, multimedia may be a potent weapon for promoting Lal Ded's mysticism among young people and ensuring that her teachings are preserved and appreciated in the modern era.

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NATIONAL RURAL HEALTH MISSION: EXAMINING ITS IMPACT

*Km. Arti**

*Dr. Parvindra Kumar***

ABSTRACT

The National Rural Health Mission (NRHM) is a safe motherhood scheme launched by the Ministry of Health and Family Welfare, Government of India on April 12, 2005. Its objective was to meet the target set by the Millennium Development Goals (MDGs) of the United Nations. NRHM aims to provide basic health facilities and quality services in India, focusing on fertility, infant mortality rate (IMR), maternal mortality rate (MMR), total fertility rate (TFR), child health and adolescence (RMNCHA), etc. The scheme is one of the most important public health priorities for providing antenatal, perinatal, and postnatal care to women. Further, the scheme aims to provide integrated, comprehensive, and effective health care to women and children from deprived and vulnerable sections of society. This paper examines the role and functioning of the NRHM in delivering basic healthcare services in the rural India. This study also highlights the role and functioning of the NRHM in providing equitable and affordable health care.

Keywords: Empowered Action Group, Health Sector, Infant Mortality Rate, Maternal Mortality Rate, National Rural Health Mission.

INTRODUCTION

A good health is vital for the happiness and wellbeing of an individual as well as for the society. As outlined by World Health Organization (1978), "Health is a state of complete physical, mental & social wellbeing, & not merely an absence of disease or infirmity". It includes access to safe drinking water, sanitation, family welfare & epidemics (Visaria & Bhat 2011). The current status of health of the rural population in India is not only distressing but also quite grave. The performance of the health systems, including that of the public health system in the rural areas, is a major cause of concern. The disparities in the health indicators between the rural and the urban areas, as also across the states, are huge. The document of the

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Task Force on Medical Education for the National Rural Health Mission provides evidence of the disparities (Ashtekar, 2008). The proper and successful implementation of the NRHM can be a case of actual transfer of resources to the poor by ensuring access to better health. A country's ability to thrive economically is largely dependent on the health of its population, as only individuals who are in good physical and mental health can contribute to the nation's improved output. Thus, improving people's health is receiving enormous significance in policy perspectives in the entire world.

Since the post-independence era, the Indian government has been implementing various programs to work toward the goal of "Health for All," and as a result, it is making significant efforts to provide health services to all the states in the country. In this regard, the National Rural Health Mission, one of the great experiments undertaken by the government to improve health status, was launched on April 12, 2005. (Ministry of Health and Family Welfare. 2007).

The right to health was acknowledged as a primary human need in the WHO's Alma-Ata Declaration of 1978. Since the Alma-Ata Health Conference, wherein equity and efficiency in primary health care was emphasized, health care became a priority for the Government of India. The health status of a country or region is a strong indicator of its social and economic development as it plays an important role in establishing the Human Development Index (HDI) of the country. National health is very important for the prosperity of the country. Health services and infrastructure in India are generally unequal. These disparities exist not only between rural and urban areas of India.

THE NATIONAL RURAL HEALTH MISSION

The National Rural Health Mission (NRHM) is an important scheme launched by the Union Government on April 12, 2005, under the Tenth Five-Year Plan. This was a historic day in India when the then Prime Minister, Dr. Manmohan Singh, launched the Health Care Program for the health needs of the people in rural areas with a time frame of seven years (2005 - 2012). This mission was started to improve the reach of national rural public health services with the aim to provide integrated, comprehensive, and effective health care by upgrading the physical and professional infrastructure of village sub-centers, primary health centers, and district hospitals, catering especially to women and children. The main purpose of the mission is on establishing a fully functional, community-owned, decentralized health delivery system with inter-sectoral convergence at all levels to ensure simulation actions on a wide range of determinants of health like water, sanitation, education, nutrition, social and gender equality. It aims to reduce the infant mortality rate (IMR) and the maternal mortality rate (MMR) and provide universal access to the public services such as women's health, child development and nutrition, clean drinking water, better sanitation, and education. (Husain, 2019). The scheme deals with providing all the major facilities at one place for various levels (like the Reproductive Child Health Project, Integrated Disease Surveillance, Malaria, Kalaazar, Tuberculosis, and Leprosy, etc.). To achieve the objectives

of the said scheme, *Janani Suraksha Yojana*, *Janani Shishu Suraksha Programme*, *Mission Indradhanush*, *Kilkari*, *Mother and Child Tracking System*, *Rogi Kalyan Samiti/Hospital Management Society*, *National Mobile Medical Unit (NMMU)*, and *National Ambulance Service (NAS)* programs like *Asha Worker (Accredited Social Worker)*, etc. were started. The mission was implemented in all the States and the Union Territories. Special focus has been given to eighteen states including eight Empowered Action Group (EAG) states (Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Orissa, and Rajasthan), eight North Eastern States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura), the hilly states of Himachal Pradesh and villages and towns in Jammu and Kashmir with a population of less than 50,000; are covered under this mission. The role of trained ASHAs in the implementation of this scheme is very important. There is approximately one ASHA working for every 1000 rural people. (Nandan, 2011).

Following are the major objectives of the National Rural Health Mission:

- To reduce the infant mortality rate (25/1000) and maternal mortality rate (1/1000);
- To reduce the total fertility rate (TFR) to 2.1;
- To control diseases like anaemia in women aged 15–49 years;
- To halve the annual incidence and mortality rate of tuberculosis;
- To reduce annual malaria incidence at <1/1000;
- To reduce the prevalence of microfilaria to less than 1 percent in all the districts;
- To provide access to comprehensive primary health care, gender, and demographic balance are important for the prevention and control of communicable and non-communicable diseases;
- To provide universal access to public services that includes health care, food and nutrition, and sanitation for people, especially the health and immunization of poor women and children;
- To increase government expenditure on health care and managing insurance schemes for proper treatment of the common people;
- To increase public expenditure on health infrastructure from 0.9% of GDP to 2-3% of GDP in the next 5 years;
- To prepare a village health plan with the help of the panchayat, structurally improving the health-related system, and strengthening rural hospitals;
- To achieve the goals of the National Population Policy 2000 and National Health Policy 2002;
- To revive local health traditions and mainstream AYUSH (Ayurveda, Unani Siddha, Homeopathy, Yoga, and Naturopathy) into the public health system.

Cluster of 5 to 6 Villages**Sub-Health Center Level**

- The first level of contact is established between the primary health care system and the community.
- Nurses posted at the sub-centers conduct institutional deliveries and refer only complex cases to PHC.
- The sub-centers look after family welfare, nutrition, vaccination, etc.
- According to the Ministry of Health and Family Welfare(2021-22), the number of sub-centers (SHCs) in the rural areas is 157,935 and 3,894 sub-centers (SHCs) in urban areas.

Cluster of 30 to 40 Villages**Primary Health Center**

- The PHC is a referral unit for about six sub-centres.
- The many activities of a PHC include curative, preventive, and promotional health care, as well as services like 3 staff nurses and 1 LHV for four-five SHCs. The emergency services 24*7 to be handled by nurses.
- According to the Ministry of Health and Family Welfare (2021-22), the total number of primary health centers (PHCs) in rural areas is 24,935 and 6,118 in urban areas.

Cluster of 1 Lakh Populations 100 Villages**Block Level Hospital/Community Health Center**

- CHCs act as the first referral units to four–five PHCs.
- Provides facilities for maternity care and specialist consultation.
- According to the Ministry of Health and Family Welfare (2021-22), the number of community health centers is 5,480 in rural areas and 584 in urban areas.

REVIEW OF LITERATURE

- **Mukherjee (2021)** attempted to analyze how NRHM is working in India. In this study, 100 doctors were interviewed in Odisha, Assam, Jharkhand and Chhattisgarh. After examining the data, she concluded that NRHM had brought about some marginal improvement in the rural health care infrastructure. But because of constraints of manpower, health, basic infrastructure, lack of health insurance prevention, and reasons for inefficiencies in the implementation of the AYUSH, it cannot be said that NRHM is helping in providing adequate health services to the people in rural areas.

- **Sharma, A. K. (2022)**, in his study, emphasized that through the National Rural Health Mission, the impact on the health of rural women could be studied. In order to improve the health-related situation more effectively, both rural and urban, there is a need to strengthen

the primary health systems of the areas. By creating the structure of new institutions through this mission, health, new ideas, decentralization of services and provision of resources, medication-assisted recovery (Medication Supported Recovery, MSR), and considering the general condition of pregnant women, the state governments have been inspired to promote Mission NRHM. Aspirants in National Rural Health can find it a convenient and beneficial experience, but majority of women in rural communities are still deprived of access to various health policies. The study criticized many types of health-related schemes, highlighting that in today's era, pregnant women in rural areas are deprived of appropriate health and nutrition-related policies.

RESEARCH METHODOLOGY

This research is a descriptive study in which necessary facts have been collected through books, journals, magazines, newspapers, reports, publications and various websites etc.

Objectives of the study

- To explore the concept of NRHM.
- To study the ways in which different projects and activities have been carried out under the NRHM.
- To study the implications of NRHM programs on health infrastructures and key health metrics such as the growth, birth, death, and infant mortality rates, as well as the overall fertility rate.

IMPLIMENTATION OF THE NRHM

India's health sector is stated to have perceived significant change in the 21st century. In the year 2000, two significant developments occurred in the realm of health sector. One of these was the announcement of the National Population Policy (NPP 2000), and another was India joining the 191 United Nations member states as a signatory to the Millennium Development Goals (MDGs). After two years, the National Health Policy 2002 was unveiled, which took into account the MDGs and the NPP concerns. The National Health Policy served as the model for the NRHM, which was implemented in 2005. (Meit *et al.* 2018).

Several efforts have been carried out under the NRHM in the following areas in an attempt to fully operationalize and account for India's public delivery system:

- 1. Increasing Human Resources for Health-** According to the 12th Five-Year Plan report, after six years of implementation of NRHM, 82 medical colleges have been added and 9751 seats have been increased. 595 ANM schools, 1227 GNM schools, 1026 nursing courses, 405 post-basic B.Sc. nursing courses, and 327 M.Sc. nursing courses have been added. One of the major steps taken under the NRHM is the induction of 1,48,361 contractually skilled service providers in public health services. Of these, 60,268 are ANMs, 33,667 are staff nurses, 21,740 are paramedics, 11,575 are AYUSH doctors, 4,616 are AYUSH paramedics, 9,432 are medical officers, and 7,063 are specialists. Apart from these,

more than 500 management and public health consultants have been inducted into state management roles. They play an important role in improving the quality of the program management.

2. **Training various categories of service providers and program managers to enhance their skills.** Twenty-one days of SBA training are provided to ANMs and staff nurses to provide skilled birth assistance in each PHC and potentially each sub-center. Eight days of IMNCI training are provided to ANMs, staff nurses, and Anganwadi and ASHA workers.
3. **New strategies to attract and keep qualified workers in rural and isolated locations.** Under the NRHM, following initiatives have been taken for retention of the skilled workers:
 - For doctors, nurses, and midwives in remote areas of the majority of states, provision of both non-financial incentives (like preference for post-graduation and promotion) and financial incentives (like difficulty allowance or performance-based incentives linked to institutional delivery, C-section, sterilization etc.).
 - Provision of alternating postings in regions such as Karnataka, Nagaland, and Tamil Nadu.
 - Compulsory rural bond system for medical students attending government colleges in places like Tamil Nadu, Nagaland, Kerala, and Meghalaya.
4. **Strengthening of Community Processes:** NRHM has launched several programs to increase public engagement and promote and strengthen community processes. These programs include:
 - **Accredited Social Health Activist (ASHA)-** The ASHA program is an essential element of the National Rural Health Mission (NRHM) of the Government of India. NRHM aims to create one ASHA per 1,000 people who works as a public health worker, and facilitator at the community level. ASHAs play a positive and active role in supporting pregnant women at local health centers in institutional deliveries, vaccination, promotion of family development, sterilization, first aid for basic diseases and injuries, disease control programs (malaria, kalaazar, and lymphatic filariasis), etc. Governments defines the role of ASHA in different ways. In achieving the objectives of the National Population Health Policy, as a bridge between the citizens as well as the health care outlets of the nation and as part of improving behavior, etc., ASHA aims to raise awareness about problems such as maternal issues, disease, nutrition, hygiene, socio-economic factors, as well as early adolescence and female reproductive health counselors. As on September 2023, there are 10,19,907 ASHAs selected across the country. UP leads with 170090 and Bihar at second with 94976 ASHA workers. ASHAs receive incentive into two parts: Monetary Incentives – ASHAs receive a monthly incentive of Rs. 2000/month for routine and recurring activities from the Central Government. Additionally, ASHAs are provided with performance-based incentives for a diverse set of activities under various National Health Programmes. Further, States/UTs in their Programme Implementation Plans (PIPs) have also been given

flexibility to provide a range of monetary incentives to the ASHAs. Then there are non-monetary incentives. ASHAs are also entitled to ASHA Uniform, Identity Card, Cycle, Mobile, CUG Sim, ASHA Diary, Drug Kit, ASHA Award, ASHA rest room etc.

- **Auxiliary Nurse Midwife (ANM)-** Auxiliary Nurse midwife or nurse, commonly known as ANM, is a rural-level female health worker in India who works at health sub-centers. Known as the first contact person between the community and health services. Their services are considered vital to providing safe and effective care to rural communities. It helps communities achieve the goals of national health programs. A sub-center is a small village-level institution that provides primary health care to the community. The sub-center works under the Primary Health Center (PHC). Each PHC usually has about six sub-centers. Before the launch of the NRHM in 2005, there was a provision for one ANM per sub-center. Later, this ANM was not enough to meet the health care needs of a village. In 2005, NRHM made provision for two ANMs (one permanent and one contractual) for each sub-center.
- **Anganwadi-** Anganwadi is a government-supported center at the village level with a program of integrated child development services to meet the nutritional, health, and educational needs of young children. Anganwadi caters to the needs of children up to 6 years of age, adolescent girls, pregnant women, and mothers nursing infants. Each Anganwadi is built for a population of approximately 400–800 people. Depending on the population, there may be one or more Anganwadi centers in the Gram Panchayat area. For every 25 Anganwadi workers, an Anganwadi supervisor is appointed, who is called Mukhya Sevika, and who provides guidance to the other Anganwadi workers and helps regarding the work. Anganwadi is a center for spreading awareness about the needs and care of young children.
- **Village Health Sanitation and Nutrition Committee (VHSNC)-** It is a committee at the village level to ensure community empowerment and sanitation at the grassroots level of NRHM, which functions as a sub-committee in the Gram Panchayat. Their main objectives are to create awareness, survey nutritional status and nutritional deficiencies (focusing on women and children), and monitor the functioning of Anganwadi centers. VHSNC members include representatives of Panchayati Raj and ASHA, ANM and Anganwadi workers, representatives of women (from self-help groups), and marginalized communities. A total of 483496 VHSCs have been formed in the country, covering nearly 76% of the villages. (Malik, 2020).
- **Rogi Kalyan Samiti/Hospital Management Society-**It is an effective management structure and registered scheme. Its members act as a trust to manage the affairs related to the hospitals. It is responsible for ensuring better facility management and maintenance for patients in hospitals. So far, 31,763 patient welfare committees have been formed in almost all district hospitals, community health centers, primary health centers, and sub-health centers involving community members.

- **The community monitoring program-** The community monitoring program, which is intended to collect information regarding community health needs, how they are met, and provide feedback through public hearings (*Jan Sunwai*), has been introduced in the following nine states: Assam, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odissa, Rajasthan, and Tamil Nadu. Due to increased utilization of services and greater accountability in the facilities as a result of this program, it has recently spread across the entire state of Maharashtra, Karnataka, and also in phases in Bihar and Madhya Pradesh.
- 5. Innovative Health Care Services provide by NRHM-**
- Some of the effective & innovative health care services have been introduced in various states under NRHM & these have resulted significant change in the present public health scenario.
 - **Janani Suraksha Yojana-** *Janani Suraksha Yojana*, under the National Rural Health Mission, aims to reduce maternal and neonatal mortality by promoting institutional delivery among poor pregnant women. This scheme was implemented in April 2005 for safe motherhood and child care. Under this scheme, pregnant women are given assistance in the form of cash at the time and after the birth of their children in the government health facilities. It is a 100% centrally sponsored scheme (Ministry of Health and Family Welfare). Among the 10 lowest-performing states under JSY, ASHA (Accredited Social Activist) has been selected as an effective medium among poor pregnant women by the government in 8 EAG states: Assam, Jammu and Kashmir, and the other North Eastern States. (Hogue & Vasquez, 2020).

Table 1: Funds given to ASHAs for Institutional Delivery

Rural area			Urban area		
Woman	ASHAs	Total	Woman	ASHAs	Total
1400	600	2000	1000	200	1200

Janani Shishu Suraksha Yojana- The *Janani Shishu Suraksha* program was launched by the Government of India on 1 June, 2011. Through this scheme, an institutional and safe proposal is being made to reduce the maternal mortality rate and infant rate through the currently operated health-related services by providing proper pre- and post-natal care for pregnant women and by training doctors in a clean environment. This is a major initiative to complete the process. It is an initiative to provide services like normal delivery and caesarean sections, newborn babies, and sick babies (up to 30 days of birth) to pregnant women, completely free of charge and at cash cost, in government health institutions in both rural and urban areas.

- **Mission Indradhanush-** The *Mission Indradhanush* campaign was implemented by the Union Health Ministry of the Government of India on Good Governance Day, December 25, 2014, to vaccinate all children. The objective is to vaccinate tetanus, polio, tuberculosis, measles, and hepatitis B. Subsequently, the Prime Minister launched *Mission*

Indradhanush-2.0 on October 7, 2017 to accelerate the vaccination program. It aims to achieve the Sustainable Development Goals by eliminating child mortality by 2030. Its main objective is to reach every child up to 2 years of age and all pregnant women who have been deprived of vaccination.

- **Innovative Ambulance Service & Helpline for Obstetrics & Medical Emergencies-** Under NRHM, emergency ambulance services have been started in all the States to provide transportation facilities to pregnant mothers for delivery, and call center service has been started to provide them with 24*7 medical assistance and health care services. NAS (National Ambulance Services) enables these people to provide ambulance services by just dialing 102 or 108. Ambulance and free bus pass in Andhra Pradesh for BPL pregnant women and ST/SC women in Madhya Pradesh for BPL women *Janani Express Scheme*, ambulance schemes to provide round-the-clock transport for maternity and other medical emergencies in West Bengal, *Janani Suresha Vahini*, and *Aarogya Kavach Scheme* in Karnataka are some examples of ambulance schemes.
- **Mobile Health Units: Connecting with Rural India's Population-** To reduce physical barriers to accessing health services, mobile health care services and units were introduced, and various modes of transport vehicles such as buses, trains, vans, boats, and helicopters were used in rugged and inaccessible areas. In Uttarakhand, mobile health clinics (MHCs) provide reproductive and child health (RCH) services in hill villages; in Madhya Pradesh, the Deen Dayal Mobile Hospital Scheme provides basic health care with ANC, PNC, immunization, and routine check-up provision in rural areas. In Tripura, there are mobile helicopter services that provide specialized services in 12 remote, inaccessible areas. Additionally, in Kerala, NRHM has launched floating dispensaries that provide basic health services and also act as ambulances to reach nearby PHCs and CHCs during emergencies. These are aimed at increasing the visibility of government health facilities. (NHM, 2011).
- ***Sneha Sparsha scheme (Touch of love)***- On April 15, 2013, the *Sneha Sparsha* scheme was launched in Assam under NRHM, and is a unique health care initiative for children below 12 years of age belonging to families with an annual income less than Rs. 2.50 lacs. The treatment includes thalassemia, which requires a bone marrow transplant, liver and kidney transplants, and cochlear implant.
- ***Kilkari Scheme***- On December 25, 2015, this scheme was launched by the Government of India. This is a scheme in which advice related to the health of a mother and child is given free of charge on mobile. This scheme was run by the National Health Mission.
- **Reproductive and Child Health-** This is a sector-wide flagship program by the Government of India under the National Health Mission to deliver the RCH targets of reducing maternal and child mortality and total fertility rates. Its main objective is to provide access to quality reproductive, maternal, newborn, child, and adolescent health services and to reduce social and geographical inequalities.

5. The Impact of Implementation of NRHM

With the funding assistance & technical support from the Central Government, NRHM has been working towards the prosperity & improvement of health in rural areas. The maintenance of infrastructure and health care facilities at all health care levels are the main objectives of NRHM.

- **Impact on Health Infrastructure across-** The contribution of NRHM towards health infrastructure is illustrated. It shows that there has been a successive increase in the number of sub-centers, PHCs and CHCs from 2005 to 2023.

Table 2: Contribution of NRHM towards health infrastructure

S. No.	Indicators	2005 Baseline	NRHM targets	Achievement (2023)	% Improvement in Baseline
1.	IMR	58/1000 lives births	30	26.619/1000 Lives births	54%
2.	MMR	254/10,000	100	52/10,000 Lives births	79%
3.	TFR	2.9	2.1	1.99	31%
4.	Maintain TB Cure Rate	86%	Above 85%	92%	6%
5.	Malaria Mortality per 10,000	–	Reduce by 50%	91%	–
6.	Dengue Mortality Reduction Rate	–	–	0.5%	–
7.	Expenditure on Public health as % of GDP	0.9%	2-3%	2.1%	33%
8.	No. of Sub-centres	146,026	178,367	157,935 (rural)	9%
9.	PHCs	23,236	29,213	24,935 (rural)	7%
10.	CHCs	3,346	7,294	5,480 (rural)	68%
11.	ASHAs	–	250,000 (in 10 states)	1,814,216	100%

(Source: National Health Profile (2023) Ministry of Health & Family Welfare, India; Social Development Report 2023: Challenges of Public Health)

The contribution of the NRHM towards health infrastructure of **18 high focused states** has been illustrated below. State- wise comparisons of health infrastructure in 18 high focused states (from 2006 to 2023) shows how NRHM played an important role in addressing the basic health care issues of the rural population, including sub-centers (SC) and primary health centers (PHC) for urgent health needs and the community in cases of complex procedures and specialist care, Health centers (CHCs) and district hospitals. The sub-center is the first point of contact for seeking public health care; a primary health center serves as the first point of contact with a qualified doctor; and CHC

provides specialist care, including Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy (AYUSH) care. NRHM has many achievements, like improved infrastructure for health delivery, institutionally established standards, trained health care workers, proper financial management. NRHM created conditions for central procurement of drugs, equipment, and supplies, mandated the formation of village health and hospital committees, and community monitoring of services (Jacob, 2020). To target mortality, morbidity, and inclusive social development, NRHM has led a comprehensive war on malnutrition, poor health, and ignorance since its inception (Ministry of Health and Family Welfare, Government of India, 2009). Therefore, NRHM has made a significant impact on the public system of health care in the country. (Sankar *et al.*, 2024).

Table 3: contribution of the NRHM towards health infrastructure of 18 high focused states

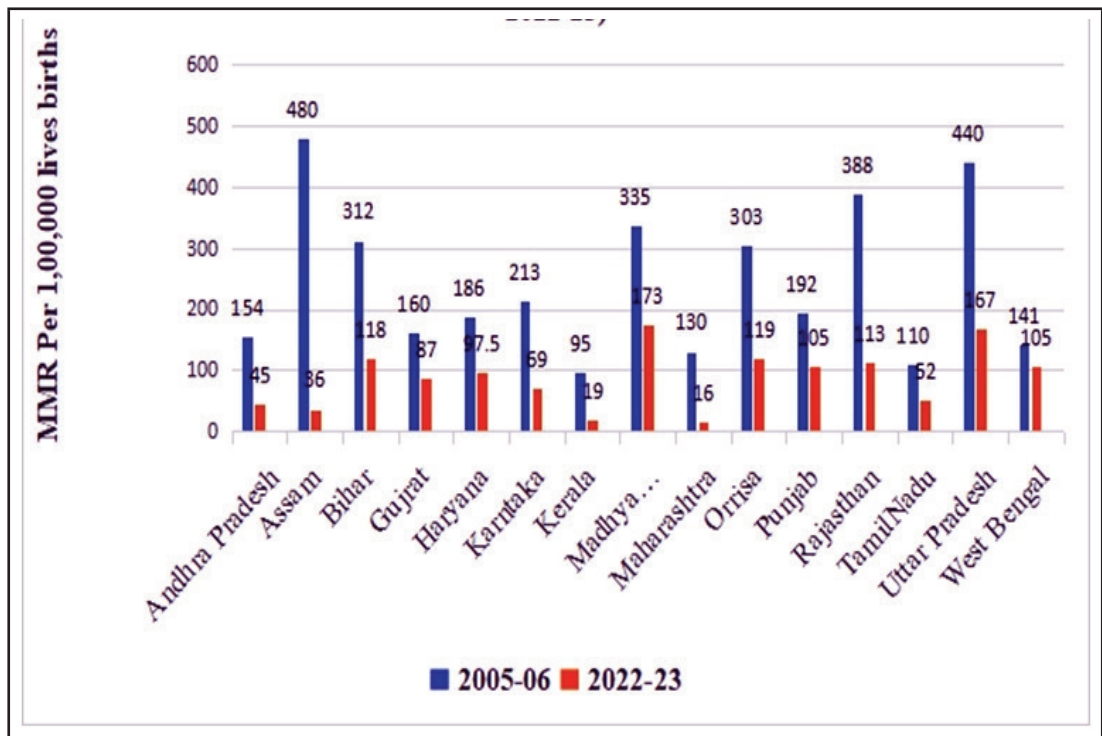
18 High Focused States under NRHM	2006						2023					
	Sub-centres	PHC	CHC	Rural Hospitals	AYUSH Hospitals	AYUSH Dispenseries	Sub-centres	PHC	CHC	Rural Hospital	AYUSH Hospitals	AYUSH Hospitals
Arunachal Pradesh	379	85	31	36	2	47	286	97	54	52	12	63
Assam	5109	610	100	100	5	496	4609	978	110	1088	4	486
Bihar	8858	1641	70	101	26	634	9729	1883	70	1325	8	2175
Chattisgarh	4692	518	118	116	13	691	5161	783	157	416	14	1093
Himachal Pradesh	2069	439	66	86	29	1122	2065	474	78	98	31	1129
Jammu & Kashmir	1888	374	60	61	5	500	2265	637	84	1402	2	417
Jharkhand	3958	330	195	47	3	206	3958	330	188	545	5	333
Manipur	420	72	16	41	1	9	421	85	17	23	21	265
Meghalaya	401	101	25	26	2	11	422	108	27	28	10	12
Mizoram	366	57	9	10	6	1	370	57	9	29	8	17
Nagaland	397	84	21	123	2	0	396	126	21	21	2	203
Madhya Pradesh	8874	1192	229	229	58	1623	8869	1156	333	1659	14	1301
Odisha	5927	1279	231	329	43	1301	6688	1305	377	334	23	1773
Rajasthan	10512	1713	325	337	107	3739	14221	1610	431	2649	126	3876
Sikkim	147	24	4	5	8	2	147	24	2	24	-	12
Tripura	539	73	10	14	10	106	828	83	18	21	2	111
Uttarakhand	1631	222	49	24	17	5033	1848	257	55	666	10	533
Uttar Pradesh	20521	3660	386	397	1973	1871	205521	3496	773	515	1983	2014
India	144988	22669	3910	4256	3153	20799	151684	24448	5187	15398	3169	25967

(Source: National Health Profile (2023), Ministry of Health & Family Welfare)

Analysis: The health infrastructure, including sub-centers, PHCs, CHCs, rural hospitals, AYUSH hospitals, and AYUSH dispensaries, has improved significantly statewide since 2006, as this Table illustrates.

Impact on Health Indicators: NRHM aims to reduce Infant Mortality Rate (IMR) to 26.619 per 1000 live births by 2023, Maternal Mortality Rate (MMR) to 97 per 1,00,000 live births and 1.91 Total Fertility Rate (TFR). The target has been set to reduce the rate to 2.1 by the year 2030. NRHM earns respects for having led to tremendous change in the Indian health sector. (*Express Healthcare*, 2024).

Figure 1: Maternal Mortality Rate in different states of India (from 2005-06 to 2022-23)



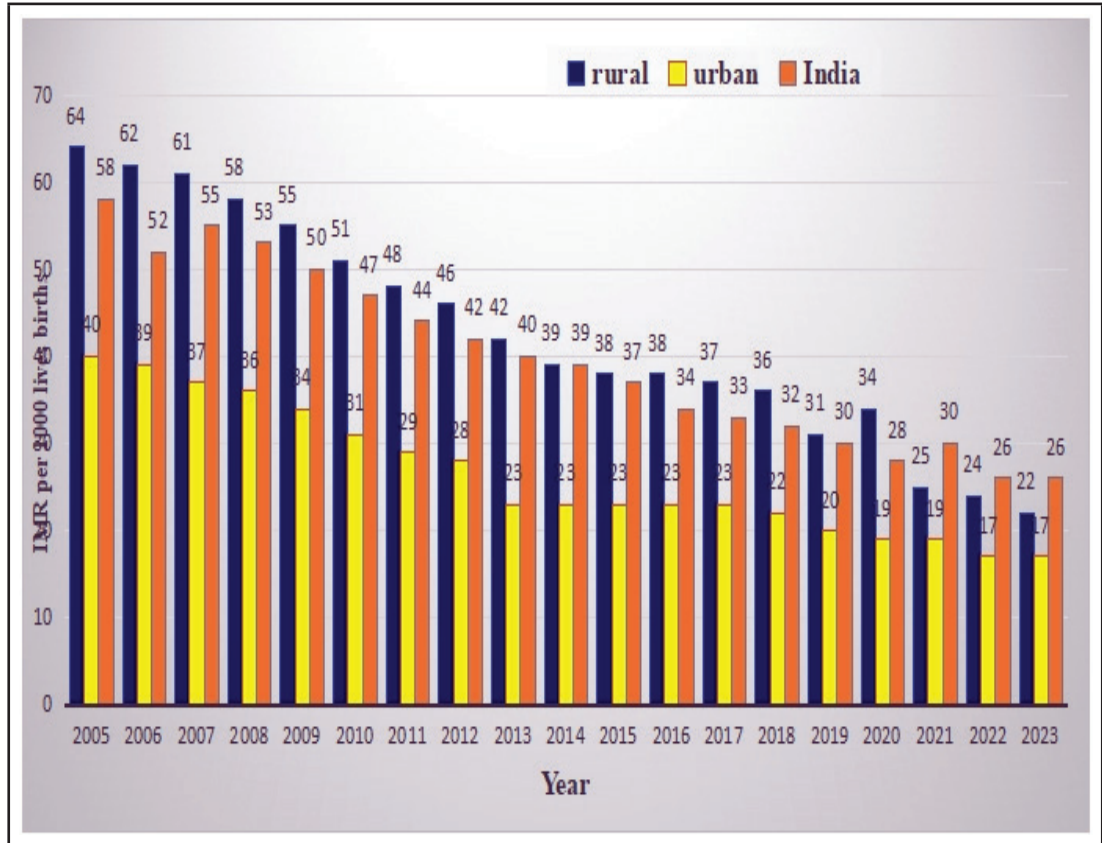
(Source: National Health Profile (2023), Ministry of Health & Family Welfare)

It shows that since 2004–2005, there has been a gradual reduction in MMR in the states. MMR in Assam, Uttar Pradesh, Rajasthan, Madhya Pradesh, and Bihar was significantly higher (i.e., 480, 440, 388, 335, and 312, respectively) than in other states. The MMR has been reduced in the states with the help of the combined initiatives of the Center and States, which promoted institutional deliveries as well as early identification of pregnancy-related complications and better surgical intervention. Besides these, the implementation of various schemes like JSY, Chiranjeevi Yojna, and maternal care programs in States has also significantly contributed to reducing MMR.

Infant Mortality Rate: Number of infant (aged under one year) deaths per 1,000 live births.

Neonatal and Post-neonatal Infant Deaths: Neonatal infant deaths occur within the first 28 days from birth. Post-neonatal infant deaths occur after 28 days from birth to under 1 year of age.

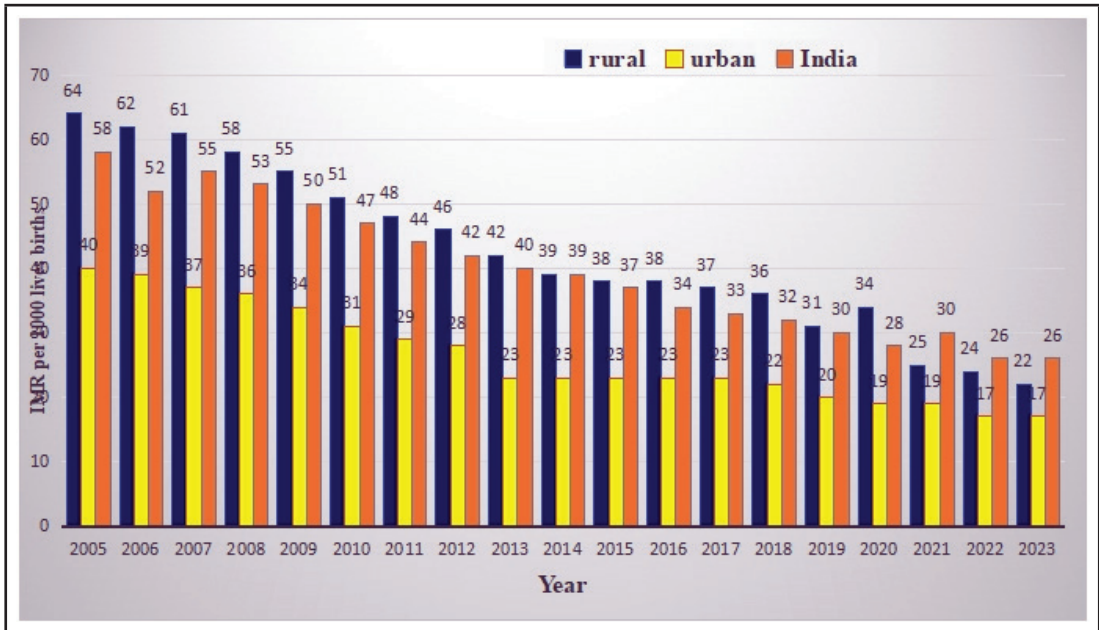
Figure 2: Infant Mortality Rates in Rural, Urban and India from 2005-23



(Source: National Health Profile (2023), Ministry of Health & Family Welfare)

The children’s health is one of the main concerns of the NRHM. It displays the infant mortality rate (IMR) for India as a whole from 2005 to 2023, as well as for rural and urban areas. It implies that the country’s IMR in rural areas is higher than that in urban areas. The IMR has, however, significantly decreased for the entire nation as well as for rural and urban areas, as seen in the figure, from a rate of 64, 40, and 58 per 1000 live births in the year 2005, to a rate of 22, 17, and 26 in the year 2023, respectively. The infant mortality rate in both rural and urban areas, as well as the country’s total IMR, has significantly decreased as a result of the NRHM mission’s initiatives for institutional births with the assistance of ASHAs and round-the-clock PHC services.

Figure 3: Total Fertility Rate in Rural, Urban areas & India (from 2005 to 2023)



(Source: National Health Profile (2023), Ministry of Health & Family Welfare)

Apart from the decline in both IMR and MMR, there has also been a significant drop in the total fertility rate (TFR). The figure shows the rate of TFR in rural and urban areas as well as in India as a whole from 2005 to 2023, depicting a declining trend. In India, the TFR as a whole has declined from 2.9 percent in 2005 to 1.94 percent in 2023. In rural and urban areas, a decrease in TFR has also been observed from 2005 to 2023. However, the gap between the TFR of rural and urban areas is still present, with 1.6 percent TFR in urban areas and 2.2 percent TFR in rural areas for the year 2023.

CONCLUSION

The government of India’s NRHM program has been a historic cornerstone initiative, successfully lowering IMR, MMR, and TFR while also providing the rural populace, especially the most vulnerable, with high-quality, reasonably priced healthcare services. Furthermore, the NRHM played a key role in the creation of new infrastructure for the health sector as well as the renovation of old infrastructure. Conversely, NRHM undoubtedly concentrated on growing its infrastructure, personnel, and service area. But quality features had not gotten enough attention. The Indian public health system is still plagued by inadequate funding, subpar performance management, and a lack of accountability measures. However, NRHM has been unable to meet all of its set goals in order to improve public health standards in India. The various innovative health care schemes & incentives taken under the mission have changed the existing health scenario in rural India. NRHM is the first rural health care policy that has promoted intervention & innovation as per local needs & thereby has been able to

bridge the gap of lack of institutional deliveries among rural women (Banarjee & Kamble, 2015). One of the shortcomings in the NRHM is that the major health indicators (like MMR, IMR, TFR etc.) have registered gradual decline but at a very slow pace. Further, it has also failed to address the issues like social inequalities, socio-economic differences, and urban-rural disparities, weakening caste system & gender inequality. The reason behind this might be the lack of adequate funds allotted under the mission as well as the leakage of funds. The NRHM has proved to be one of the successful schemes of the Government of India and it has been able to change the existing health scenario in the rural India.

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IMPACT OF FLUTE PLAYING ON COGNITIVE DEVELOPMENT IN TEENAGERS

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ABSTRACT

This research paper investigates the impact of flute playing on the cognitive development of teenagers, an area that bridges the fields of music education and cognitive psychology. The study aims to understand how learning and practicing the flute influences key emotional intelligence in adolescents aged 13-18. Music education has long been associated with various cognitive benefits, yet the specific effects of playing the flute, which demands intricate breath control, fine motor skills, and auditory precision, have not been extensively explored.

A sample of 100 teenage flute players from diverse music schools was evaluated against a control group of non-musicians. The findings reveal that flute players exhibit significantly enhanced cognitive abilities compared to their peers. Specifically, flute players showed superior performance in tasks requiring working memory and sustained attention. These enhancements are likely linked to the multifaceted demands of flute playing, which requires simultaneous engagement of auditory, motor, and cognitive skills. The study also uncovers a positive impact on emotional intelligence, as flute playing fosters emotional expression, self-awareness, and empathy.

The findings of this study suggest that flute playing is a valuable tool in promoting cognitive development during adolescence. These results have important implications for educational policy, advocating for the inclusion of instrumental music programs in school curricula to support the holistic development of students. Future research is recommended to explore the cognitive benefits of other musical instruments and to extend these findings to larger, more diverse populations.

Keywords: Flute playing, cognitive development, teenagers, music education, memory, attention, problem-solving, emotional intelligence

INTRODUCTION

The intersection of music education and cognitive development has become an increasingly important area of research in recent years. As the understanding of how learning and practicing

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music can influence brain function and overall cognitive abilities grows, educators and researchers alike are recognizing the profound impact that musical training can have on young minds. Among the various instruments that students might choose to learn, the flute stands out due to its unique combination of technical demands and expressive potential. This study explores the specific cognitive benefits that can arise from learning and playing the flute during the critical developmental period of adolescence. [1]

Adolescence is a time of significant cognitive, emotional, and social development. During this period, the brain undergoes substantial changes, particularly in areas related to music education, with its requirement for discipline, coordination, and creativity. The duration offers a unique environment that can stimulate these developing cognitive functions. The act of playing an instrument, particularly one as complex as the flute, can enhance various aspects of cognitive development, including memory, attention, and emotional regulation. [2]

The flute, a woodwind instrument with a rich history in classical and contemporary music, requires a combination of breath control, fine motor skills, auditory discrimination, and cognitive engagement. Unlike some other instruments, the flute demands a high level of precision and coordination, as well as the ability to multitask. Players must read music, control their breath, manipulate the instrument's keys, and produce a controlled sound, simultaneously. These requirements make flute playing a particularly interesting subject of study in the context of cognitive development.

Cognitive development during adolescence is influenced by a range of activities, with music education increasingly recognized as a powerful tool in enhancing cognitive abilities. Auditory processing, and attention—all critical cognitive skills that continue to develop during adolescence. These cognitive skills are not only important for musical proficiency but also play a significant role in academic achievement and everyday problem-solving. However, while the general benefits of music education are well-documented, the specific impacts of learning and playing the flute on cognitive development remain underexplored. [3,4] By focusing on this particular instrument, the research seeks to understand whether the cognitive demands of playing the flute translate into measurable cognitive benefits.

Memory, both working and long-term, is essential for learning and mastering the flute. Flute players must memorize music, retain finger positions, and recall specific techniques during performance. This repeated practice and retrieval process strengthens neural pathways associated with memory. Attention, another critical cognitive function, is constantly exercised in flute playing. Players must focus on reading music, controlling breath, and coordinating movements, often for extended periods, which can enhance sustained and selective attention.

Problem-solving skills are also integral to flute playing. Whether it is adjusting breath control to maintain pitch, experimenting with finger positions for more fluid transitions, or interpreting complex musical pieces, flute players regularly engage in problem-solving activities. These activities not only enhance their musical abilities but also contribute to their cognitive flexibility—an important skill for adapting to new challenges and learning new

information.[5]

Finally, emotional intelligence is cultivated through the expressive nature of flute playing. Music is inherently emotional, and the ability to convey emotion through an instrument requires a deeper understanding of both the music and one's own emotional state. Flute players often learn to manage performance anxiety, interpret emotional cues in music, and express their feelings through their playing, all of which contribute to enhanced emotional intelligence.

By focusing on memory, attention, problem-solving, and emotional intelligence, this research will contribute to a deeper understanding of how instrumental music education can support the cognitive and emotional growth of adolescents. The findings of this study have the potential to inform educational practices and policies, highlighting the importance of incorporating music education into the broader curriculum to foster holistic development in students.

BACKGROUND

Music education has been a cornerstone of cultural and intellectual development for centuries, providing not only artistic and expressive skills but also fostering cognitive growth in students of all ages. The connection between music and cognitive development has intrigued researchers and educators alike, leading to numerous studies that explore how musical training can enhance brain function. The cognitive benefits of music education are particularly pronounced during childhood and adolescence, a period when the brain is highly plastic and responsive to external stimuli.

Recent studies have provided compelling evidence that learning to play a musical instrument can significantly enhance these cognitive functions. For example, research has shown that musicians often have better working memory, auditory processing, and executive functions compared to non-musicians. These cognitive skills are not only essential for musical proficiency but also play a critical role in academic performance and everyday problem-solving. Music education, therefore, is increasingly being recognized as a powerful tool for cognitive development, with long-term benefits that extend beyond the realm of music itself.

The flute, a woodwind instrument with a rich history in both classical and contemporary music, offers a unique opportunity to study these cognitive effects in detail. Unlike some other instruments, the flute requires a high degree of breath control, fine motor coordination, and auditory discrimination. Playing the flute involves reading musical notation, controlling airflow, adjusting finger positions, and producing precise pitches—all of which demand significant cognitive engagement. These activities engage multiple brain regions simultaneously, leading to enhanced brain plasticity and cognitive function.[6]

Moreover, the flute's demand for intricate control over breathing and finger movements adds an additional layer of cognitive complexity. Breath control is essential for producing the flute's sound, requiring players to coordinate their breathing with their finger movements to create a smooth and continuous melody. This coordination not only improves motor skills but

also enhances auditory skills crucial for flute players, as they must constantly monitor and adjust their pitch, tone, and dynamics to achieve the desired musical expression. This level of auditory discrimination can lead to improvements in auditory processing and pitch perception, which are important for language development and communication skills.

In this context, the flute presents a unique case study for exploring the cognitive benefits of music education. While much of the existing research on music education and cognitive development has focused on more commonly studied instruments like the piano or violin, the specific cognitive benefits of playing the flute remain underexplored. This study seeks to address this gap in the literature by examining how learning and playing the flute can influence cognitive development during adolescence by focusing on this particular instrument. [7]

RESEARCH PROBLEM

Despite cognitive benefits of musical education, there is a notable gap in the research concerning the specific impact of playing the flute on cognitive development, particularly during the teenage years. While many studies have explored the cognitive benefits of learning instruments like the piano, violin, and guitar, the flute has received comparatively little attention. This lack of research is surprising given the unique challenges and cognitive demands associated with playing the flute. The instrument's requirements for breath control, fine motor coordination, and auditory discrimination suggest that it could have significant effects on various aspects of cognitive development, yet these potential benefits remain largely unexplored.

Adolescence is a critical period for cognitive development, characterized by rapid changes in brain structure and function. During this time, the brain's problem-solving, are still maturing. Engaging in activities that challenge these cognitive functions can have a profound impact on their development, potentially leading to long-term benefits in both academic and personal contexts. Given the cognitive demands of playing the flute, it is reasonable to hypothesize that learning this instrument during adolescence could enhance these executive functions and contribute to overall cognitive growth.[8]

However, the existing literature on music education and cognitive development has largely overlooked the flute, focusing instead on more commonly studied instruments. This lack of research is problematic, as it leaves a significant gap in our understanding of how different instruments contribute to cognitive development. The unique cognitive demands of playing the flute—such as the need for precise breath control and fine motor coordination—suggest that it could have distinct cognitive benefits that are not captured by studies on other instruments.

By focusing specifically on the flute, the research seeks to provide a more detailed understanding of how different aspects of music education contribute to cognitive development. The findings of this study will help to clarify the specific cognitive benefits of playing the flute and contribute to the broader literature on music education and cognitive development.[9]

RESEARCH QUESTIONS

To address the research problem and explore the cognitive benefits of flute playing in teenagers, this study will focus on the following key research questions:

1. How does playing the flute affect memory and attention in teenagers?

Memory and attention are two of the most critical cognitive functions that undergo significant development during adolescence. Playing the flute requires sustained attention and the ability to remember complex musical pieces, finger positions, and breath control techniques. This research question seeks to determine whether learning and practicing the flute can enhance these cognitive functions in teenagers. Specifically, the study will investigate whether flute players exhibit improved working memory, sustained attention, and selective attention compared to non-musicians.

2. What impact does flute playing have on problem-solving skills and cognitive flexibility?

Problem-solving skills and cognitive flexibility are essential for navigating the challenges of adolescence and adulthood. Playing the flute involves continuous problem-solving, such as adjusting breath control to maintain pitch, experimenting with different finger positions, and interpreting complex musical pieces. This research question aims to explore how these problem-solving activities influence. The study will examine whether flute players demonstrate greater cognitive flexibility and problem-solving abilities compared to their peers.

3. How does the emotional intelligence of teenagers develop through flute playing?

Music, including flute playing, is inherently expressive and can serve as a powerful tool for emotional development. This research question seeks to explore how playing the flute influences the emotional intelligence of teenagers. The study will investigate whether flute players exhibit greater self-awareness, empathy, and emotional regulation compared to non-musicians, and how these aspects of emotional intelligence are developed through musical expression and performance.

These research questions are designed to explore the cognitive and emotional impacts of flute playing on teenagers, providing a comprehensive understanding of how this specific musical activity contributes to adolescent development. The findings of this study will help to clarify the cognitive benefits of playing the flute.

SIGNIFICANCE

Understanding the cognitive benefits of flute playing can have significant implications for music educators, parents, and policymakers. As schools and educational institutions continue other subjects, the arts—particularly music education—are often overlooked or undervalued. However, the cognitive benefits associated with learning to play a musical instrument, such as the flute, suggest that music education should be an integral part of the school curriculum. [10]

For music educators, helping them to design more effective teaching strategies that leverage these cognitive benefits of flute playing is a challenge. By understanding the specific

cognitive skills that are enhanced through flute playing—such as memory, attention, problem-solving, and emotional intelligence—educators can tailor their instruction to maximize these benefits. Additionally, the study’s findings can help educators advocate for the inclusion of music education in school curricula, demonstrating the value of music as a tool for cognitive and emotional development.[11,12,13]

For parents, this study highlights the potential cognitive benefits of enrolling their children in flute lessons or other musical activities. By understanding how flute playing can enhance their child’s cognitive development, parents can make more informed decisions about their child’s extracurricular activities. Moreover, the study’s findings can encourage parents to support their child’s musical education, recognizing the long-term cognitive and emotional benefits that can result from learning to play the flute.

By demonstrating the value of flute playing as a tool for cognitive development, this study advocates for a more balanced and inclusive approach to education that recognizes the essential role of the arts in shaping well-rounded, capable, and emotionally intelligent individuals.

LITERATURE REVIEW

Cognitive Development in Adolescence

Adolescence is widely recognized as a critical period for cognitive development, marked by profound changes in brain structure and function. During this stage, the brain undergoes significant maturation. Moreover, during this period, the brain’s synaptic pruning process—wherein unused neural connections are eliminated while frequently used connections are strengthened—plays a key role in optimizing brain function and efficiency. This process enhances the brain’s ability to process information more effectively, contributing to improvements in memory, attention, and cognitive flexibility.[14]

Understanding the cognitive development that occurs during adolescence is crucial for identifying the factors that can positively influence this process. Given that this period is marked by heightened neural plasticity and a propensity for learning and adaptation, activities that stimulate cognitive engagement—such as music education—can have a profound impact on cognitive growth during these formative years.

Music and Cognitive Development

Music education has been consistently linked to enhanced cognitive development, making it a valuable tool for fostering cognitive growth during adolescence. Playing a musical instrument requires the simultaneous engagement of multiple cognitive functions, which can lead to widespread improvements in brain plasticity and cognitive abilities. For instance, learning to read music and translate it into physical movement (e.g., playing an instrument) involves the integration of auditory, visual, and motor skills. This multisensory integration activates various brain regions, including the auditory cortex, motor cortex, and prefrontal cortex, leading to improvements in areas such as memory, attention, and executive functions.[15]

Studies have shown that musicians often exhibit superior working memory and attention skills compared to non-musicians. These cognitive benefits are likely due to the demands of musical practice, which requires sustained focus, the ability to memorize complex sequences of notes, and the coordination of precise motor movements. Moreover, the discipline involved in regular musical practice can enhance cognitive control, leading to better impulse regulation and decision-making skills. Problem-solving skills are also honed through music education, as musicians must constantly analyse and interpret musical compositions, make real-time adjustments during performance, and experiment with different interpretations of a piece.

In addition to these cognitive benefits, music education has been shown to promote emotional and social development. Engaging with music allows individuals to express emotions, connect with others through shared musical experiences, and develop empathy and emotional intelligence. These benefits make music education a holistic tool for cognitive and emotional growth, particularly during adolescence when individuals are still developing these critical skills. The cognitive enhancements associated with music education are supported by a growing body of research, underscoring the importance of incorporating music into educational curricula to support the overall development of young people.[16]

Instrument-Specific Cognitive Benefits

While music education generally supports cognitive development, different musical instruments may offer unique cognitive benefits due to their specific physical and technical demands. The flute, for example, presents a distinctive set of challenges and benefits that can significantly impact cognitive development. Playing the flute requires precise breath control, fine motor coordination, and auditory discrimination, making it a particularly demanding instrument that engages multiple cognitive and sensory processes simultaneously. These demands can lead to specific cognitive enhancements that may differ from those associated with other instruments.

Breath control is a fundamental aspect of flute playing, as the instrument relies on the player's ability to regulate airflow to produce sound. This requirement for controlled breathing can improve lung capacity and respiratory function, but it also has cognitive implications. The need to synchronize breath with musical phrasing and timing engages the brain's motor control centers and enhances the ability to plan and execute complex motor sequences. Fine motor coordination is another critical component of flute playing, as the player must manipulate the holes of the instrument with precision and speed. This fine motor skill development is supported by the maturation of the brain's motor cortex and cerebellum, leading to improved hand-eye coordination and dexterity.[17]

Auditory discrimination is also heavily involved in flute playing, as the player must constantly monitor and adjust their pitch, tone, and dynamics to achieve the desired musical expression. This auditory feedback loop enhances the brain's ability to process and differentiate sounds, which is linked to improvements in language processing and auditory memory. The combination of these cognitive demands suggests that playing the flute may lead to specific cognitive benefits that are distinct from those associated with other instruments, such as

enhanced breath control, motor coordination, and auditory processing skills. The flute’s unique combination of physical and cognitive demands makes it an ideal case study for exploring the broader cognitive impacts of instrumental music education, particularly during adolescence when cognitive functions are still maturing and highly responsive to external stimuli.[18]

METHODOLOGY

Research design

The quantitative component of the study focuses on measurable aspects of cognitive performance, using standardized cognitive tests to generate empirical data. This approach enables the researchers to quantify the extent to which flute playing affects these compared with the performance of flute players with that of non-players.

The qualitative component, on the other hand, aims to explore the more subjective, emotional, and social dimensions of flute playing. Through interviews and observational studies, this aspect of the research seeks to capture the personal experiences of the teenage flute players, including their motivations, challenges, and the emotional benefits they perceive from playing the instrument. By combining these two methodologies, the study can address both the measurable cognitive outcomes and the personal, lived experiences of the participants, offering a holistic view of the impact of flute playing on adolescent cognitive development.[19,20]

This research involved a sample of 100 teenage flute players, aged 13-18, recruited from various music schools. This age range was chosen because it represents a critical period in cognitive development, during which period the brain undergoes significant changes. The participants were selected based on their involvement in regular flute practice, ensuring that they had a minimum of one year of experience playing the instrument. The inclusion of participants from different music schools helps to ensure the generalizability of the findings, as it captures a diverse range of experiences and backgrounds.

Table 1: Distribution of Teenage Flute Players (aged 13-18)

Age Group	No. of Students	Music School	Experience (Years)	Students per Age Group
13-14	10	School A	1-2	20
13-14	8	School B	1-3	
13-14	2	School C	1-2	
15-16	15	School A	2-4	40
15-16	18	School B	2-5	
15-16	7	School C	2-4	
17-18	8	School A	3-6	40
17-18	20	School B	3-6	
17-18	12	School C	3-5	

Table 1 presents following details:

- The age groups of the teenage flute players (13-14, 15-16, 17-18).
- The number of students in each age group from different music schools (School A, School B, School C).
- The range of experience (years) playing the flute.
- Total Students per Age Group, combining the numbers across the different music schools.

This format helped to visualize the distribution of participants by age, school, and experience, giving a clear picture of the study’s sample composition.

Data Collection

Data collection was done through a combination of standardized cognitive tests, semi-structured interviews, and observational studies, each designed to assess different aspects of cognitive development and the impact of flute playing. The standardized cognitive tests were administered to all participants to quantitatively measure their cognitive functions, specifically focusing on memory, attention, and problem-solving skills. These tests included tasks designed to assess working memory (such as Digit Span tests), sustained and selective attention (such as the Stroop test), and problem-solving abilities (such as the Tower of London task). The results from these tests provided empirical data on the cognitive performance of the flute players, which could then be compared to normative data or to a control group of non-musicians.

Table 2: Organizing Tests to Assess Different Parameters

Data Collection Method	Focus Area	Specific Test/ Activity	Purpose	Measured Variables/ Outcomes
Standardized Cognitive Tests	Memory	Digit Span Test	Assess the ability to hold and manipulate information over short periods	Working Memory Capacity
	Attention	Stroop Test	Evaluate ability to maintain focus and process conflicting information	Sustained and selective attention
	Problem-Solving	Tower of London Test	Measure planning and problem-solving skills	Cognitive Flexibility, Strategic Planning
Interviews	Personal Experiences	Semi-structured Interviews	Explore individual experiences with flute playing	Insights into motivations, challenges, and perceived benefits

	Emotional and Social Aspects	Semi-structured Interviews	Understand emotional and social impacts of flute playing	Self-awareness, Empathy, Emotional Regulation
Observations	Real-Time Behaviors	Observational Studies during Practice Sessions	Capture the cognitive processes involved in playing the flute	Breath Control, Finger Coordination, Multitasking Abilities

Table 2 summarizes:

- The Data collection methods (Standardized Cognitive Tests, Interviews, Observations).
- The focus areas for each method (Memory, Attention, Problem-Solving, Personal Experiences, Emotional and Social Aspects, Real-Time Behaviors).
- The specific Tests/activities used (Digit Span Test, Stroop Test, Tower of London Test, Semi-structured Interviews, and Observational Studies).
- The purpose of each method (e.g., assessing cognitive functions, exploring personal experiences).
- The measured variables/outcomes from each method (e.g., working memory capacity, emotional regulation, multitasking abilities).

This table provides a clear overview of how different aspects of cognitive and emotional development were assessed in the study using various data collection methods.

The interviews explored a range of topics, including the participants’ motivations for learning the flute, their perceived challenges, and the emotional and social benefits they derived from playing the instrument. The interviews were designed to be open-ended, allowing participants to express their thoughts and feelings in their own words, while still being guided by a set of predetermined questions related to the study’s research questions.

Observational studies were also conducted during flute practice sessions and performances to capture the real-time behaviors and cognitive processes involved in playing the flute. Observations focused on aspects such as breath control, finger coordination, and the ability to multitask while reading music and playing. These observational data provided additional insights into the cognitive demands of flute playing, supplementing the information gathered from the cognitive tests and interviews.[20,21]

Data analysis

Data analysis involved both quantitative and qualitative techniques. For the quantitative data obtained from the cognitive tests, statistical methods were employed to identify any significant differences in cognitive performance between the flute players and non-players.

Below is a table that organizes the data analysis methods and potential results based on the information provided.

Table 3: Methods of Data Analysis and Result

Analysis Type	Method	Focus	Results	Interpretation/ Outcome
Quantitative Analysis	Descriptive Statistics	Mean, Standard Deviation	- Mean scores for memory, attention, problem-solving - Standard deviations indicating variability	Provides an overview of the central tendencies and variability in cognitive performance among flute players.
	Inferential Statistics	T-tests, ANOVA	- Significant differences between flute players and non-players - ANOVA results showing differences across age groups or experience levels	Identifies whether there are statistically significant differences in cognitive performance due to flute playing.
	Regression Analysis	Correlations between practice time and cognitive scores	- Positive correlation between hours of flute practice and improved cognitive test scores	Suggests a dose-response relationship, where more practice time leads to greater cognitive benefits.
Qualitative Analysis	Thematic Analysis	Interview transcripts, Observational data	- Identified themes: Memory enhancement, Emotional regulation, Motivation	Highlights key patterns in the experiences and cognitive impacts of flute playing from participants' perspectives.

This table outlines following aspects of study:

- Quantitative Analysis methods:
 - Descriptive Statistics: Used to summarize data, providing means and standard deviations for various cognitive measures.
 - Regression analysis: Assesses the relationship between the amount of flute practice and cognitive performance.

- Qualitative Analysis methods:
 - Thematic Analysis: Involves identifying recurring themes from interviews and observations, such as memory enhancement, emotional regulation, and motivation.

The Results and Interpretation/Outcome columns summarize what each analysis method revealed about the cognitive and emotional impacts of flute playing on teenagers.

RESULTS

Memory and Attention

The results of this study reveal that teenage flute players significantly outperform their non-playing peers in both memory and attention tasks, which are foundational cognitive functions for academic achievement and everyday functioning. This superior performance was observed in various tasks, such as Digit Span tests, where participants were required to recall sequences of numbers, and in tasks that assessed spatial memory, where they had to remember the locations of objects.

The enhanced working memory seen in flute players can be linked to the cognitive demands of playing the instrument. Flute playing requires continuous engagement of working memory as musicians must read music, remember finger placements, and coordinate breath control, all while following the tempo and rhythm of the piece. This simultaneous processing of multiple types of information strengthens the neural pathways associated with working memory, leading to better performance in non-musical tasks as well.

Moreover, the study also found that flute players exhibit better, and sustained attention, which is necessary for reading and interpreting music while executing precise motor movements over the course of a piece, which often lasts several minutes. The regular practice of maintaining focus during flute practice and performances likely contributes to the improved sustained attention observed in these teenagers.[22]

The combination of enhanced working memory and sustained attention suggests that flute playing not only benefits musical performance but also general cognitive functions that are applicable in various life domains. These findings underscore the value of music education, particularly flute playing, as a tool for strengthening cognitive skills that are essential for academic success and beyond.[23]

Problem-Solving and Cognitive Flexibility

The study's findings also indicate that teenage flute players possess superior problem-solving skills and cognitive flexibility compared to their non-playing peers. Problem-solving skills, which involve the ability to analyze situations, develop strategies, and implement solutions, were markedly stronger in flute players. This was evident in tasks that required participants to solve puzzles or navigate complex scenarios, where flute players demonstrated greater efficiency and creativity in finding solutions.

One of the reasons for this enhancement in problem-solving abilities may be the inherent

challenges involved in playing the flute. Musicians must constantly adjust their technique to produce the correct pitch, maintain proper rhythm, and achieve the desired tone quality. For instance, when a note does not sound as intended, a flutist must quickly identify the issue—whether it's incorrect finger placement, insufficient breath control, or improper embouchure (the way the lips and mouth are positioned)—and make immediate adjustments. This process of identifying problems and making rapid corrections likely enhances the cognitive processes involved in problem-solving.[24]

Cognitive flexibility is crucial in dynamic environments where situations can change rapidly, requiring individuals to adjust their thinking or strategies. In musical performance, cognitive flexibility is essential as musicians must adapt to changes in tempo, rhythm, or dynamics, especially when playing in ensembles where they must synchronize with other musicians.[25] The need to be flexible and responsive during practice and performances likely contributes to the heightened cognitive flexibility observed in flute players.

These findings suggest that the mental agility required for flute playing transfers to other areas of life, making these teenagers better equipped to handle complex, changing situations both in academic settings and in daily life. The ability to solve problems effectively and adapt to new circumstances are valuable skills that contribute to overall cognitive development and success in various domains.[26]

Emotional Intelligence

In addition to cognitive benefits, the study found that flute playing positively influences emotional intelligence among teenagers. The research revealed that teenage flute players exhibited higher levels of self-awareness, empathy, and emotional regulation compared to their non-playing peers.

One of the key ways in which flute playing enhances emotional intelligence is through the expressive nature of music. Music, and particularly instrumental performance, is a powerful medium for emotional expression. When playing the flute, musicians often channel their emotions into their performance, using dynamics, phrasing, and tone to convey feelings such as joy, sadness, or tension. This practice of expressing emotions through music helps flute players become more attuned to their own emotional states and better able to articulate their feelings.

Moreover, the discipline required to learn and master the flute contributes to the development of emotional regulation. Learning the flute demands patience, persistence, and the ability to cope with frustration and setbacks—skills that are directly related to emotional regulation. As students practice and improve, they learn to manage their emotions, stay focused under pressure, and maintain motivation despite challenges. These experiences translate into better emotional control in non-musical contexts, such as during academic stress or social interactions.[27]

Flute playing also fosters empathy, as musicians must often interpret and convey the emotions embedded in the music they perform, whether it is a piece by a classical composer or

a contemporary work. This interpretative process requires an understanding of the emotional content of the music and the ability to connect with the audience on an emotional level. As a result, flute players develop a heightened sense of empathy.

Overall, the study's findings suggest that flute playing not only enhances cognitive functions but also significantly contributes to the development of emotional intelligence. Particularly for teenagers who are in the critical stages of developing their cognitive and emotional skills. By fostering both intellectual and emotional growth, flute playing supports the holistic development of adolescents, preparing them for a range of challenges and opportunities in life.[28]

DISCUSSION

Interpretation of Findings

It was observed that playing the flute has a significant positive impact on cognitive development during adolescence, a critical period for brain maturation. Specifically, the enhancements observed in memory, attention, and problem-solving skills among teenage flute players align with existing research that highlights the broader cognitive benefits of music education. The improvements in working memory and sustained attention suggest that the mental processes required to learn and play the flute—such as reading musical notation, coordinating finger movements, and controlling breath—contribute to the strengthening of neural networks involved in these cognitive functions. The ability to remember complex sequences of notes and sustained focus over prolonged periods during practice and performance likely translates into better memory retention and attentional control in non-musical contexts as well.

Furthermore, flute musicians must constantly adapt their techniques to maintain proper pitch, rhythm, and tone quality, requiring real-time problem-solving and the ability to switch strategies quickly. This cognitive agility, developed through musical practice, likely benefits other areas of life, such as academics and everyday decision-making, where similar cognitive skills are required.

These findings are consistent with the existing literature on the cognitive benefits of music education, which suggests that learning an instrument engages multiple brain regions simultaneously, leading to enhanced brain plasticity and cognitive function. However, this study adds to the literature by focusing specifically on the flute, an instrument that demands high levels of breath control, fine motor coordination, and auditory discrimination. The results indicate that the unique cognitive demands of playing the flute may contribute to specific cognitive enhancements, particularly in areas related to memory, attention, and problem-solving.[28]

Implications for Education

Educational practices, particularly in the context of curriculum development and the integration of music education should be included into school programs. The positive cognitive impacts of flute playing observed in this study suggest that schools should consider

incorporating flute and other instrumental music programs into their curricula to foster cognitive development among students. Given that adolescence is a critical period for cognitive growth, providing students with opportunities to engage in activities that enhances cognitive functions, such as playing the flute, could have long-term benefits for their academic performance and overall intellectual development.[29]

In addition to promoting cognitive skills, music education—particularly instrumental music—also supports the development of emotional intelligence, social skills, and discipline, all of which are important for students' holistic development.[30] The discipline required to learn and master an instrument, the emotional expression facilitated by music, and the social interaction involved in group performances contribute to students' overall growth, preparing them for the challenges of adulthood. Therefore, the findings of this study support the broader argument for the inclusion of arts education in school curricula, not just as an extracurricular activity but as an integral part of students' educational experience.[31]

Moreover, the study's results highlight the potential benefits of early and sustained music education. Starting musical training at a young age and continuing through adolescence could maximize the cognitive benefits observed in this study. Educational policymakers and school administrators should consider these findings when designing music programs, ensuring that students have access to instrumental music education throughout their formative years. By doing so, schools can help students develop the cognitive and emotional skills necessary for success in both academic and personal pursuits.

Limitations and Future Research

Limitation of this study is its focus solely on flute players. While the flute presents unique cognitive challenges and benefits, other musical instruments may have different impacts on cognitive development. For example, string instruments, percussion, and keyboards each involve distinct physical and cognitive demands that could lead to different cognitive outcomes. Future research could explore the cognitive impacts of other instruments to determine whether the benefits observed in flute players are specific to the flute or general across different types of musical training. Additionally, comparing the cognitive benefits of different instruments could help educators tailor music programs to the specific needs and strengths of their students.

Finally, this study relied on a cross-sectional design of cognitive performance. While the results suggest a positive association between flute playing and cognitive development, they do not establish a causal relationship. Longitudinal studies, which track cognitive development over time, would be more effective in determining whether playing the flute causes cognitive improvements or whether individuals with higher cognitive abilities are more likely to pursue and succeed in flute playing. Future research could also explore the long-term cognitive benefits of sustained musical training, examining whether the cognitive enhancements observed in adolescence persist into adulthood.

CONCLUSION

This research provides compelling evidence that playing the flute offers significant cognitive benefits for teenagers, a finding that holds important implications for both educational practices and adolescent development. The study reveals that engaging in flute playing not only enhances but also contributes to the development of emotional intelligence. These cognitive and emotional enhancements are particularly valuable during adolescence, a period characterized by rapid brain development and increasing cognitive demands.

One of the key findings of this research is the positive impact of flute playing on memory. The study demonstrates that flute players exhibit superior working memory compared to their non-playing peers, likely due to the complex cognitive demands involved in reading music, coordinating finger movements, and controlling breath.

In addition to memory, the research highlights the enhancement of attention among teenage flute players. Sustained and selective attention are crucial for success in both academic and everyday tasks, and the study shows that flute players are better able to maintain focus and filter out distractions. This heightened attention is likely a result of the discipline and concentration required to master the flute, where musicians must continuously focus on their playing while interpreting and adjusting their performance in real-time. The ability to sustain attention over long periods is particularly valuable in academic settings, where students are required to engage with challenging material for extended durations.

The research also underscores the development of problem-solving skills and cognitive flexibility in teenage flute players. The study reveals that the mental agility required to adapt to different musical pieces, adjust breath control, and coordinate finger movements translates into enhanced problem-solving abilities and cognitive flexibility. These skills are essential for navigating the increasingly complex and dynamic challenges of adolescence and adulthood. The ability to think critically, adapt to new information, and develop creative solutions is a valuable asset in both academic and personal contexts, making flute playing an effective tool for fostering these cognitive abilities.

Beyond cognitive functions, the study finds that flute playing also contributes to the development, discipline and perseverance required to learn the instrument, enhances self-awareness, empathy, and emotional regulation among teenage flute players. Emotional intelligence is crucial for effective social interactions and personal well-being, and the study suggests that music education, particularly through playing the flute, can play a significant role in nurturing these skills during adolescence.

In conclusion, this research suggests that playing the flute is a valuable tool in fostering cognitive growth during the critical period of adolescence. By enhancing memory, attention, problem-solving skills, and emotional intelligence, flute playing not only contributes to students' academic success but also prepares them for the broader challenges of life. As such, educators, parents, and policymakers should consider the role

of music education in promoting the holistic development of adolescents, ensuring that students have access to the cognitive and emotional benefits that come with learning to play an instrument like the flute.

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A CRITICAL ANALYSIS OF THE PRADHAN MANTRI MUDRA YOJANA : IMPACT ON THE EMPOWERMENT OF SCHEDULED TRIBES IN INDIA (2016-2022)

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ABSTRACT

India is entering a pivotal phase known as “Amrit Kaal,” marked by the pursuit of prosperity, inclusivity, and development. Within this context, the role of finance, particularly its impact on impoverished communities, is of paramount importance. This research delves into the contribution of MUDRA, a government-supported financial institution, in advancing comprehensive and sustainable economic growth. The primary focus of this study is on unveiling disparities in loan access among Scheduled Tribes (ST) in India, with a specific examination of performance of the Pradhan Mantri Mudra Yojana (PMMY) across diverse agencies. A central theme is the imperative to address inequalities within marginalized segments of the population, substantiated by data revealing disparities in engagement and resource allocation across General, SC, ST, and OBC groups. Notably, the research highlights a substantial gap in loan distribution between tribal states and the national average, indicating a significant shortfall in financial inclusion within tribal population compared to the rest of the country. These findings underscore the effectiveness of PMMY in addressing critical socio-economic challenges prevalent in India, aligning with the nation’s aspirations for a prosperous and inclusive society during the Amrit Kaal period.

Keywords: Mudra, PMMY, Financial inclusion, Inclusive Finance, Inequality, Sustainable Economic Growth, Financial Literacy.

INTRODUCTION

India has entered into the period of *Amrit Kaal* or ‘The Era of Elixir’ which refers to a period of 25 years starting from the 75th anniversary of India’s independence (i.e. from 15

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August 2022 onwards). This period aims to pave the way towards a futuristic, prosperous, inclusive, and developed society. In pursuit of this goal, finance assumes a pivotal role in the economy, particularly for the underprivileged class. By providing access to financial resources, individuals from marginalized backgrounds are able to transcend the limitations imposed upon them and unlock their full potential (Mensah & Benedict, 2010). Through financial support, they can establish their own businesses, drive innovation, and contribute to overall economic development (Prahalad & Hammond, 2002). In addition, it also enables the poor to come out of the vicious cycle of poverty and illiteracy, to get education and basic necessities of life. Having access to microfinance services also has the potential of increasing entrepreneurship and promote innovations. This could, in turn, lead to the generation of more associated business ventures and the generation of employment thereby sparking off general economic development. This is more relevant with the goals of improvement of sustainable development goals: the eighth goal to enhance the rate of employment and economic productivity, and the ninth goal of boosting the innovation point of views (Kara, Zhou, & Zhou, 2021, pp. 2–3). All these put in place complement and fuse together to create a society where everyone is enabled to live, work and contribute for the new tomorrow for India.

Financial literacy can be defined as the process of educating people on various aspects of finance and enable them to acquire knowledge and understanding of their environment in the financial aspect to enable them to discharge their financial responsibilities effectively and competently (Pandey, Kiran, & Sharma, 2022). First of all, proper financial education of the communities is essential condition to help them engage in the sector's activities and attract relevant loan and other forms of financial aid (Singh & Singh, 2023). They also cause improvements to the fairness because they spur growth in income to ensure all people have an equal chance of being economically well off (Chandra, Kinda, Kochhar, Piao & Schauer, 2019). In this respect, by offering openness to finance, it becomes an access point, which brings dreams of the deprived to the world of economic progress (Zhuang *et al.*, 2009). This approach is in harmony with the core values of *Amrit Kaal*, which places a strong emphasis on enhancing the well-being and empowerment of every individual.

MUDRA, established by the Government of India, plays an important role in fostering inclusive and sustainable economic development (Dahiya & Kumar, 2020). The Pradhan Mantri Mudra Yojana was launched by the Prime Minister of India Shri Narendra Modi on April 8, 2015. The scheme allows loans upto Rs. 10 lakhs for small and micro enterprises that are engaged in non-corporate and non-farm enterprises. MUDRA also forms a network for granting financial assistance to such entrepreneurs through financial institutions like private and public sector banks, NBFCs, MFIs, RRBs, cooperative banks and foreign banks. MUDRA supports the micro-units through PMMY and makes these persons contribute to the economic growth of our country. MUDRA has created products with a better understanding of the needs of the customers under PMMY. It offers three products based on the growth and scaling-up plans. '*Shishu*' is for entrepreneurs who start the business for the first time and requires loans upto Rs. 50,000, '*Kishore*' is meant for the existing entrepreneurs and those who require loans

between amount of Rs.50000 -Rs. 5 lakhs and 'Tarun' is meant for the entrepreneurs in the expansion plan and requires loan amounts of Rs. 5 lakhs - Rs. 10 lakhs. These products provide for the different funding needs of micro-units at different growth stages, ensuring these receive appropriate financial support.

It provides financial assistance and supports the development of MSEs to enable people realise their true potential as assiduous economic participants in nation-building by availing benefits under MUDRA. This is more inductive with the larger plan of making use of finance as a means for inclusive and sustainable economic growth in India than that being targeted by MUDRA (Kesavan, 2015). As an institution that has been promoted by the Government of India, and as a financial inclusion focused supported bank, MUDRA is expected to do well in promotion of the entrepreneurship and provide backing at the bottom end (Manjeet & Aggarwal, 2021).

Taking forward these discussions, this paper fills the gap of comprehensive analysis not being done at this level and shows how targets loan for India's Scheduled Tribes (ST) has been uneven, and how tribal states are allocated fewer loans than what the national average should warrant. It also reviews the performance of the PMMY vis-à-vis different delivery agencies.

REVIEW OF LITERATURE

As seen in existing scholarly studies, the Pradhan Mantri Mudra Yojana (PMMY) has attracted considerable attention as a tool for financial inclusion and economic empowerment in India. Nevertheless, despite its widespread implementation, regions and demographic groups have had different experiences with this program hence there is need to examine it further.

The works of Kumari & Sinha (2023) and Pandey & Ojha (2022) focused on promoting entrepreneurship under PMMY particularly within states such as Jharkhand, Maharashtra and Karnataka haustive. According to these researchers, the achievement of PMMY can be traced back to its influence over individual decisions on venture creation and support for small firms especially within *Shishu*, *Kishore* and *Tarun* categories. These findings confirm that PMMY can be a driving force behind the country's economy. Furthermore, these also highlight disparities in regional implementation including consistent growth in account opening and disbursements shown through Kumari & Sinha's study conducted across Maharashtra and Karnataka unlike other parts.

A state-wise analysis on the effectiveness of PMMY was provided by Rajagopal (2022) who explores this uneven performance. His results revealed that remarkable performances by states like West Bengal were contrasted with UTs like Lakshadweep or Daman and Diu that were below par. Still, even in the same States, for instance Bihar, there is hardly any connection between the number of accounts that people open and the amounts disbursed – which shows that not everyone has equal access to PMMY fund. Verma (2019) and Mahajan (2019) are arguing in the same vein, focusing on PMMY's influence on vulnerable communities with a special regard to women. Their research show that despite PMMY having reached out to these people, there is still need for further aggressive measures towards achieving comprehensive

financial inclusion. Verma's analysis of Madhya Pradesh and Mahajan's focus on Maharashtra reveal that although PMMY is effective in these regions, the program's reach and impact still need to be expanded, especially in tribal areas. In addition to this, the work done by Sahu, Agrawala & Maity (2021) and Biswas (2019) brings different perspective to the issue. The former notes a trend towards entrepreneurship under PMMY but sees a drop in the *Shishu* category implying some are being left behind though others remain empowered. The latter study examines how PMMY affects tribal women entrepreneurs; their findings show that while economic and social well-being have improved through the programme, loan sizes are crucial to success. This suggests that not only are there regional differences in the impact of PMMY but also a wide range of variation among different demographic groups based on their specific needs. The key factors that lead to the success of PMMY have been identified by Singh & Kumar (2020). These include better entrepreneurial awareness among the marginalized and loose monetary policies. The study further indicates that there is need for an unceasing support from the government and modifications to the program so as to make it responsive to ever-changing needs of its target population.

The available literature highlights both achievements and failures in PMMY, especially when it comes to financial inclusion as well as empowering disadvantaged groups. In order to unlock the scheme's full potential in fostering inclusive economic growth, these disparities particularly in underserved regions must be addressed.

However, most research focuses mainly on wider impacts of this initiative leaving out how Scheduled Tribes (ST) have been denied these benefits. This gap was filled by carrying out a study that looked into how loan targets for ST communities have been unevenly distributed and tribal states receive fewer loans than what their population figures or economic potential deserve. Moreover, the paper examines PMMY performance under different delivery agencies thereby giving an insight on how institutional effectiveness influences program outcomes.

Objectives

- To assess the contributions of different agencies under the Pradhan Mantri Mudra Yojana (PMMY), focusing on loan disbursement and outreach efforts;
- To explore various borrower sub-categories benefiting from PMMY, assessing their level of participation and the impact on the scheme's objectives;
- To compare account and loan data between tribal states and other regions of India, highlighting disparities in financial inclusion;
- To evaluate the effectiveness of the PMMY in promoting economic development, entrepreneurship, and job creation, particularly in tribal regions;
- To provide insights into the challenges and opportunities for enhancing the accessibility of microfinance and credit facilities, with a focus on addressing disparities among marginalized communities.

Research Methodology

The present research paper primarily relies on secondary data obtained from diverse sources. The secondary sources encompass a selection of quality scholarly journals, articles, and official government websites. In order to assess the efficacy of various agencies, a comprehensive analysis has been undertaken to compare the annual fluctuations in both the quantity of accounts and the magnitude of sanctioned loans. The findings have been effectively communicated through the utilization of visual aids such as charts and graphs.

According to the 2011 census, there are 10.42 crore individuals in India identified as ‘Scheduled Tribes’ (ST), making up 8.6% of the country’s total population. This study also focuses on Indian states where the tribal population is not only the highest in number but also where it constitutes more than 20 percent of the total population, based on the 2011 census data.

Table 1: Total Number of Loans (All categories)

Year	<i>Shishu</i>	<i>Kishore</i>	<i>Tarun</i>	Total Number of Loans	Amount Sanctioned (in cr.)
2016-17	3,64,97,813	26,63,502	5,39,732	3,97,01,047	180528.54
2017-18	4,26,69,795	46,53,874	8,06,924	4,81,30,593	253677.1
2018-19	5,15,07,438	66,06,009	17,56,871	5,98,70,318	321722.79
2019-20	5,44,90,617	64,71,873	12,85,116	6,22,47,606	337495.53
2020-21	4,01,80,115	94,86,160	10,68,771	5,07,35,046	321759.25
2021-22	4,17,21,154	1,10,88,206	9,86,166	5,37,95,526	339110.35

Source: <https://www.mudra.org.in/>

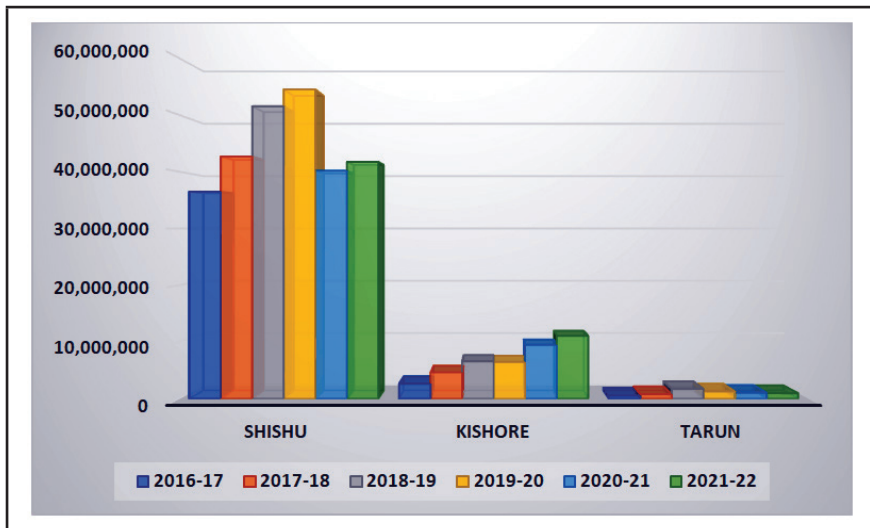


Figure 1: Category-wise Loans

The data presents the number of loans sanctioned and the corresponding amount sanctioned under the PMMY in India for the financial years from 2016-17 to 2021-22. Over this six-year period, there is a consistent increase in the number of loans disbursed across all categories, indicating a growing demand for financial assistance among businesses and entrepreneurs. In most cases, the largest number of loans are given to *Shishu* class indicating that a considerable portion of beneficiaries comprises small businesses or start-ups. The *Tarun* category on the other hand, which is targeted at big enterprises, normally has fewer loans. Conversely, both *Kishore* and *Tarun* categories generally have an upward trend although there is some variation in different years.

Table 2: Agency wise Performance of PMMY (2016-17 to 2021-22)

Category	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	Target	Sanction Amount	Target	Sanction Amount	Target	Sanction Amount	Target	Sanction Amount	Target	Sanction Amount	Target	Sanction Amount
PSBs (incl.RRBs)	92700	83963.19	1,12,750	1,07,947	1,29,250	1,17,281.85	1,28,000	1,17,729	1,28,500	1,29,915.00	1,29,200	1,24,425
% achievement		90.57%		96%		90.70%		92%		101%		96%
Private Banks (incl. Foreign Banks)	21,000	39,042.60	47,150	49,545.11	57,850	64,037.25	70,025	91,780	91,700.00	93,613.20	91,444.59	1,17,679.30
% achievement				105%		111%		132%		102%		129%
SFBs			17,250	19,022.89	25,000	29,794.37	29,350	29,501	29,800.00	19,646.68	20,000	29,207.40
% achievement				110%		119%		101%		66%		146%
MFIs	66,300	55,657.01	57,800	50,143.75	55,850	63,470.97	57,425	57,967	59,200.00	46,601.40	41,005.81	49,101.18
% achievement				87%		114%		101%		79%		120%
NBFCs	*	1,865.74	9,050	27,018.16	32,050	47,136.75	40,200.00	40,518	40,800.00	31,983.17	24,350	18,697.14
% achievement		*		299%		147%		101%		78%		77%

Source: <https://www.mudra.org.in/>

From the data in Table 2, it is discernible how different institutions have performed within the Pradhan Mantri Mudra Yojana (PMMY) between 2016-17 and 2021-22. The data also showcases the performance of various financial institutions, their targets, and actual loan amounts sanctioned. When comparing the results presented in Table 2 for Private Banks (including Foreign Banks) with PSBs (including RRBs), we can see that these were consistently good performers. These banks always surpassed more than ninety percent of their goals. Public sector banks had high commitment towards delivering loans via PMMY. These were extremely consistent over the six year study period. These not only met but often exceeded their targets, achieving as high as 132% of their target in the year 2020-21.

Small Finance Banks (SFBs) have displayed varying levels of achievement, with percentages ranging from 66% to 146%. While they exceeded their targets in some years, they faced challenges in others, showcasing fluctuations in their contribution to the program. Microfinance Institutions (MFIs) consistently achieved their targets, with percentages ranging from 79% to 120%. Non-Banking Financial Companies (NBFCs) witnessed notable variations in their performance, with a substantial overachievement of 299% in 2017-18 but declining performance in subsequent years.

Table 3: Sub-categories of Borrowers and Sanctions (Shishu category)

Category	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount
General	14835000	35163.69	17911238	47171.25	25993109	74816.03	27614426	86660	19109271	52164	19185749	59,381.87
SC	6986000	15976.2	8286001	19462.62	8767153	23253.35	9531602	27326	7334828	19714	7858637	22,633.19
ST	1727000	3831.23	2418131	5616.06	3012074	7697.71	3580397	10087	2662727	7218	2938831	8,086.12
OBC	12950000	30129.63	14154425	33751.67	13735192	36578.17	13764192	39486	11073289	30857	11737937	34,646.18
Total	36498000	85100.75	42769795	106001.6	51507528	142345.26	54490617	163559	40180115	109953	41721154	124747.36

Source: <https://www.mudra.org.in/>

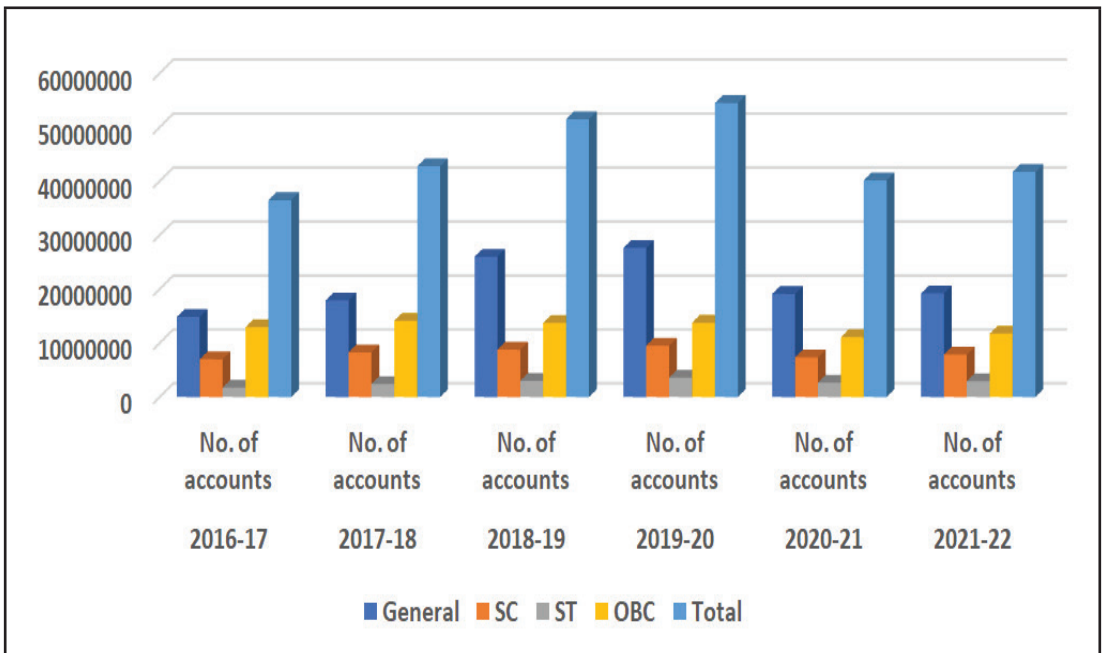


Figure 2: Borrowers and Sanctions (Shishu category)

The data reveals a distinct pattern of disparities among different categories—General, SC, ST, and the OBC—regarding engagement and resource allocation. The ST category stands out as having comparatively lower levels of engagement and resource allotment. Specifically, the number of accounts attributed to the ST category is consistently smaller across the years. In addition, the ST category often has the lowest funded accounts. Conversely, the General category shows higher account numbers and more approved amounts indicating a higher resource allocation and participation level in comparison with other groups. SC category as well as the OBC category also demonstrate varying levels of involvement and resource dispersion with less numbers of accounts and sanctioned amounts although lower than those in the General category.

Table 4: Sub-categories of Borrowers and Sanctions (Kishore category)

Year	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
Category	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount
General	1897000	40820.62	3283034	66471.31	4439825	78947.67	3776211	67332	5833669	94426	5977398	88233.56
SC	140000	2170.84	307214	3976.79	552277	5291.86	715832	6064	1038947	9430	1480309	12949.13
ST	60000	1030.01	112795	1794.64	200315	2352.7	281585	2828	443598	4344	562237	5241.43
OBC	566000	9523.67	950831	14483.42	1413592	17794.45	1698245	19354	2169946	24317	3068262	31220.26
Total	2663000	53545.14	4653874	86726.16	6606009	104386.68	6471873	95578	9486160	132517	11088206	137644.38

Source: <https://www.mudra.org.in/>

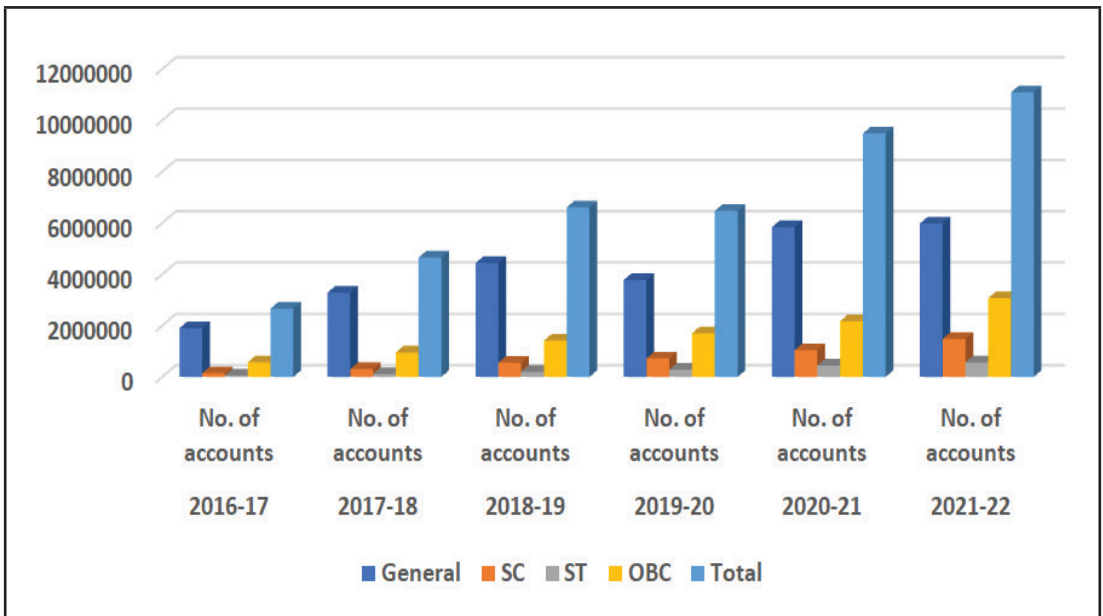


Figure 4: Borrowers and Sanctions (Kishore category)

The ST category continues to have the lowest number of accounts in comparison with the other categories, indicating a possible lack of outreach within that community. The ST accounts in the dataset for the FY 2021-22 demonstrate significantly less participation and allocation of resources than the General, SC, or OBC category. In addition, the ST category consistently has a lower sanctioned amount than the General, SC, and OBC categories. This indicates that what was allocated per beneficiary account was significantly lower for ST beneficiaries compared to beneficiaries in the other group categories. This resource disparity has always been consistent and the ST group distinctly low when compared with the General group. The General category consistently has more accounts and a higher sanctioned amount, indicating that people in the General category consistently have more resources allocated to them and that there is greater participation for the General group.

Table 5: Sub-categories of Borrowers and Sanctions (Tarun category)

Year	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
Category	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount	No. of accounts	Sanctioned amount
General	469000	36600.85	712207	53976.53	1302379	66365.45	1106869	69620	921759	69353	830992	66268.48
SC	10000	750.79	12946	939	133089	1412.16	34119	1272	24642	1680	25756	1721.29
ST	6000	411.5	8381	589.71	128940	1003.14	27714	879	16957	1168	17016	1124.98
OBC	55000	4119.52	73390	5438.1	192463	6210.12	116414	6588	105413	7089	112402	7603.86
Total	540000	41882.66	806924	60943.34	1756871	74990.87	1285116	78359	1068771	79290	986166	76718.61

Source: <https://www.mudra.org.in/>

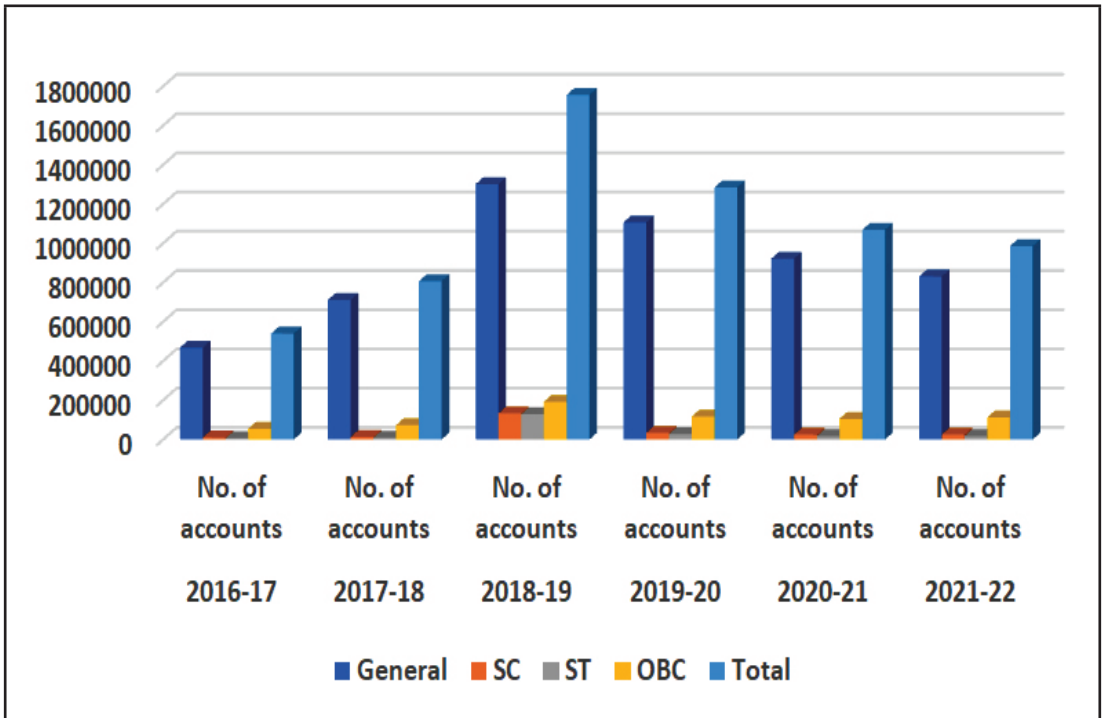


Figure 5: Borrowers and Sanctions (Tarun category)

The data for the ST category displays clear trends over a six-year period. In 2016-17, there were 6,000 accounts. However, in 2018-19, there was a substantial increase to 128,940 accounts, indicating a significant expansion of the program’s reach. This growth was followed by a decline in the subsequent years, with 27,714 accounts in 2019-20 and 16,957 in 2020-21. The trend then shifted slightly upward in 2021-22, with 17,016 accounts. Similarly, the sanctioned amount followed a comparable trajectory. It began at 411.5 in 2016-17, spiked to 1,003.14 in 2018-19, and slightly decreased to 879 in 2019-20. However, it rebounded in 2020-21, reaching 1,168 crores.

Table 6: No. of Accounts and Sanctioned Loan for the Tribal states (Shishu category)

Year	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
State	No. of accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)
Jharkhand	969948	2129.45	1118607	2498.51	1305620	3412.09	1563096	4380.98	1391806	3634.65	1437542	4057.73
Chhattisgarh	840480	1749.77	871455	1938.4	1078662	2670.54	1115562	3148.1	821423	2284.9	772151	2163.56
Madhya Pradesh	2532101	5433.54	2648183	7011.07	2812855	7725.3	3063437	9130.35	2693204	7260.72	2568102	7297.49
ODISHA	2525473	5187.48	3322007	7278.07	3910051	10304.7	3408792	9994.65	3193856	8365.76	3151533	8835.22
Total	6868002	14500.2	7960252	18726	9107188	24112.6	9150887	26654	8100289	21546	7929328	22354

Source: <https://www.mudra.org.in/>

Table 6 provides a comprehensive view of the number of accounts and the corresponding Disbursed amount (D.A - Disbursed Amount) under the *Shishu* category for tribal states over a span of six years, from 2016-17 to 2021-22. Jharkhand, Chhattisgarh, Madhya Pradesh, and Odisha are the states under analysis. In Jharkhand, both the number of accounts and disbursement amounts show a steady increase over the years. Starting from 969948 accounts and Rs. 2129.45 crores in 2016-17, the respective numbers grew to 1,437,542 accounts and Rs. 4,057.73 crores by 2021-22, reflecting consistent growth throughout the period. Chhattisgarh, however, displayed a more variable trend. The state began with 840480 accounts and Rs. 1749.77 crores in 2016-17. After an increase in 2017-18, there was a significant rise in 2018-19, reaching 1,078,662 accounts and Rs. 2,670.54 crores. Although there was a decrease in 2020-21 and in 2021-22, the disbursement amounts remained relatively stable, indicating fluctuations in different years. Madhya Pradesh showed a steady upward trend in both number of accounts and disbursement amounts. Beginning with 25,32,101 accounts and Rs. 5,433.54 crores in 2016-17, the respective figures increased to 2,568,102 accounts and Rs. 7,297.49 crores by 2021-22, demonstrating significant and consistent growth. Odisha experienced steady growth in the number of accounts, rising from 2,525,473 in 2016-17 to 3,151,533 in 2021-22. Disbursed loan amounts grew as well, peaking at Rs. 8,835.22 crores in the FY 2021-22.

These observations show a significant disparity in the total number of accounts between tribal states and the overall figures for India under the PMMY from 2016-17 to 2021-22. While the tribal states collectively saw a steady rise in accounts, reaching 7,929,328 in 2021-22, this number is still considerably lower compared to the national total, which ranged from 36,497,813 in 2016-17 to 41,721,154 in 2021-22. This contrast underscores a notable gap in financial inclusion between tribal states and the rest of the country.

Table 7: Number of Accounts and Sanctioned Loan for the Tribal states (Kishore category)

Year	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
State	No. of accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)
Jharkhand	43689	1006.65	78942	1598	112743	1911.7	136218	1836.38	251914	2869.52	320255	3081.6
Chhattisgarh	34915	714.85	73732	1316.49	104111	1545.02	120936	1676.15	180074	2360.22	177627	2141.34
Madhya Pradesh	120581	2543.23	204239	4130.88	325953	4967.13	391333	5173.28	495472	6494.94	606752	7006.54
Odisha	67611	1376.17	126864	2302.14	218809	2974.14	279463	3211.33	411288	4543.71	486979	4849.16
Total	266796	5640.9	483777	9347.51	761616	11397.9	927950	11897.1	1338748	16268.3	1591613	17078.6

Source: <https://www.mudra.org.in/>

Table 7 details the number of accounts and sanctioned loans (disbursed amount) under the *Kishore* category for tribal states—Jharkhand, Chhattisgarh, Madhya Pradesh, and Odisha—from 2016-17 to 2021-22. In Jharkhand, the number of accounts grew steadily from 43689 in 2016-17 to 320,255 in 2020-21, with disbursements rising from Rs. 1006.65 crores to Rs. 3,081.6 crore over the same period. Chhattisgarh showed consistent growth, from baseline of 34915 accounts and Rs. 714.85 crore disbursement in FY 2016-17. Madhya Pradesh experienced a major upturn, advancing to 606,752 accounts, with an uptick in disbursement of Rs. 7,006.54 crore in 2021-22. Odisha also showed marked growth, increasing the number of accounts from 67,611 in 2016-17 to 486,979 in 2021-22, while the disbursement peaked at Rs. 4,849.16 crore in 2021-22.

Despite this upward trend in accounts and disbursement amounts, there remains a dramatic divergence between the data presented for tribal states and the national data. Tribal states increased their number of accounts, growing to 266,796 in 2016-17 to 1,591,613 in 2021-22, while across India, accounts grew from 2,663,502 in 2016-17 to 11,088,206 in 2021-22, further indicating considerable disparity in financial inclusion between tribal across states.

Table 8: Number of Accounts and Sanctioned Loan for the Tribal states (Tarun category)

Year	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
State	No. of accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)	No. of Accounts	D.A (in crores)
Jharkhand	9956	772.9	15122	1136.54	18605	1376.44	21171	1549.73	24561	1673.62	20085	1476.1
Chhattisgarh	9546	745.24	16892	1246.59	18799	1351.79	24520	1867.44	25769	1777.95	20618	1492.56
Madhya Pradesh	30370	2215.14	46701	3215.57	143915	4099.9	103178	4274.41	60482	4067.18	56950	3914.4
Odisha	13685	1037.03	21441	1535.67	35572	2005.77	27080	1948.37	29854	2009.56	32395	2872.89
Total	63557	4770.31	100156	7134.37	216891	8833.9	175949	9639.95	140666	9528.31	130048	9755.95

Source: <https://www.mudra.org.in/>

Table 8 presents the number of accounts and the sanctioned loan (disbursed amount or D.A) pertaining to the *Tarun* category for the tribal states in Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha from the period of 2016-17 to 2021-22.

It can be observed that there was a continuous upward trend in the number of accounts in Jharkhand, rising from 9,956 in 2016-17 to 20,085 in 2021-22, while the disbursed amount was 1,476.10 crores in 2021-22. Chhattisgarh exhibited an increase in the number of accounts from 9,546 to 20,618 and witnessed an increase in disbursed amount to 1,492.56 crores in 2021-22. It saw significant advancements in this number. Madhya Pradesh was clearly among the states that realized substantial upward trajectory as it increased from 30,370 accounts to 56,950 accounts during the aforementioned timeline and reported highest disbursed amount of 4274.41 crores in the 2019-20. Odisha's data indicated an increase in number of accounts which increased from 13,685 in FY 2016-17 to 32,395 while the disbursed amount peaked at 2,872.89 crores in 2021-22.

However, despite being upward or flat trend changes in the data, in terms of the total accounts between these tribal states, it still seem low, given the total number of accounts in

India with PMMY. Overall, in 2021-22 there was a total account of 130,048 for the Tribal states while in India, it reached 5.39 lakh in 2016-17 and 9.86 lakh in 2021-22. The data is indicative of upward trends, but that these are increasingly small data points than the total count of the overall PMMY accounts in India within those years.

FINDINGS

(i) Significant Growth Over Time

There has been a steady increase in the number of loans approved under the Pradhan Mantri Mudra Yojana (PMMY), which shows that the program is becoming more and more attractive for people and businesses to solve their financial problems. The PMMY project has experienced an interesting increase in the number of loans from 37,793,962 in the FY 2016-2017 to 55,078,215 in the FY 2021-2022, an increase of 35%. Additionally, the total amount sanctioned grew by 87%. This showcases PMMY's achievement in the past few years to increase the number of small businesses and individuals accessing financial services.

(ii) Resilience During Economic Challenges

PMMY remained unaffected by the economic strains caused by the COVID-19 pandemic in 2020-21, thereby sanctioning a high number of loans initially in 2020 and 2021. The program's ability to sustain its loan distribution even in hard times proves that it is a necessary measure for ensuring the availability of financing. The financial system during difficult periods is a strong rationale for the existence of this program.

(iii) Meeting Targets and Facilitating Financial Inclusion

PMMY has engagement with different types of financial institutions. Some of them are in the course of hitting or even surpassing their targets, while others may have more or less variability in the performance. Altogether, the institutions have acted as the capillaries of the country, supplying finances to the businesses and individuals via the PMMY program.

(iv) Addressing Disparities: Challenges in Extending PMMY Benefits to ST Communities

PMMY loan data shows inequity in access to financial support for many borrower categories with ST communities being one of them. Financial inclusion in this sector is a big challenge, mainly for tribes with federal recognition. Research conducted over the years shows that number of accounts has increased and the funds have been released to various groups such as general and Other Backward Classes (OBC) however the ST category remains behind.

Although it is seen that the situation is improving, ST borrowers are still getting a smaller portion of PMMY funds in comparison with their counterparts. This shows the urgency of the targeted strategies and policies that will ensure ST communities to have equal access to financial opportunities. Tackling these inequalities is important for the promotion of economic empowerment and the provision of financial services to these neglected groups (Nanda & Samantha, 2018).

(v) Financial Inclusion in Tribal States

Data emphasizes the importance of the Pradhan Mantri Mudra Yojana (PMMY) in tribal states like Jharkhand, Chhattisgarh, and Madhya Pradesh. PMMY plays a crucial role in enabling these areas to become a part of the financial system and for the individuals to become economically independent. In Jharkhand, one can see a steady increase in both the number of accounts and the amounts disbursed, which is proof of the program's success in reaching and assisting people and businesses in tribal communities. Chhattisgarh's data has some ups and downs but still proves the program's necessity to provide the basic financial help. The increasing number of accounts and the amount of disbursements in Madhya Pradesh show that PMMY has played a major role in promoting economic activities and development in tribal areas. Thus, the PMMY program comes out as a key factor in improving the financial inclusion and diminishing the economic gap between tribal and non-tribal areas in India.

CONCLUSION AND RECOMMENDATIONS

The Pradhan Mantri Mudra Yojana (PMMY) has become the main tool of financial inclusion and economic empowerment in India. This extensive analysis running from 2016-17 to 2021-22 unveils how PMMY has provided the funding needs, examined the performance of different agencies, and has been a key factor in closing the financial gap among the different groups of borrowers. The research underlines the PMMY's phenomenal growth over the years. This has been possible due to the improved financial access for micro-enterprises and start-ups. Despite this, there is a serious issue of equal treatment in the provision of financial assistance, particularly for the Scheduled Tribe (ST) communities. A number of ST people have problems with getting loans because of the low level of financial literacy, which is a factor that prevents them from having access to essential funding (Singh & Singh, 2023). Furthermore, the data reveals PMMY's crucial role in tribal states like Jharkhand, Chhattisgarh, Odisha, and Madhya Pradesh. In these areas, financial inclusion, and economic empowerment have been the key achievements of PMMY, despite its varying effectiveness. These states have recorded a remarkable growth in both account numbers and loan disbursements, which is an evidence of PMMY's contribution in bridging the economic gap between the tribal and non-tribal areas in India. Thus, PMMY has widened the financial access, supported entrepreneurs, and promoted the economic growth in India. Nonetheless, despite the remarkable achievements and adaptability of the organization, the urgent matter of achieving equal access especially in the Scheduled Tribe (ST) communities is still an issue.

Moreover, deployment of focussed strategies and policies will help the government amplify the impact this program makes so as to retain it to drive inclusive growth and development. A strategy of this nature would serve to level the playing field and ensure that all have access to places where they can grow, thrive or fail accordingly.

Qualitative and quantitative research could be designed as a follow-up study to explore the impact of PMMY on beneficiaries and other stakeholders. This approach would lead to a more nuanced understanding how different communities are impacted by the program and

also include other tribal states which are not included in this study. Moreover, the examination of root causes behind poor financial literacy status in Scheduled Tribe (ST) communities may serve as a ground to drive special strategies-based interventions against this problem. In the longer term, independent assessments could be made in an attempt to reduce publication bias and offer a more even-handed assessment of both successes and failures of the PMMY.

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EXPLORING KARNATAKA: UNVEILING THE ECONOMIC IMPACT OF TOURISM

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ABSTRACT

The current research establishes the relationship between the tourism sector and the economic growth of Karnataka with a special reference to the impact of popular heritage sites. The data for the study were collected from 2008 to 2022. Through the identification and presentation of key heritage sites, this study delves into the correlation between tourist influx and the state's gross domestic product using regression analysis. Additionally, this paper also conducts a comprehensive SWOT analysis to assess the strengths, weaknesses, opportunities and threats inherent in Karnataka's tourism landscape. By examining the relationship, the paper aims to provide insights into the significant role of tourism in Karnataka's economy, offering valuable implications for policymakers and stakeholders in sustainable tourism development.

Keywords: Development, hospitality, revenue, tourism, welfare.

INTRODUCTION

Travel and tourism activities are a reality in the era of globalisation. Tourists are travelling to enjoy leisure or be involved in business purposes. It drives exports, creates jobs, and generates prosperity across the world (Chanda, 2022). It increases global peace and integrity. It allows a country to showcase its cultural and natural heritage across the world. It helps to cover the cost of conservation of historic and archaeological sites and prevents the disappearance and deterioration of these sites. It is a profitable industry, and a base of economy for many countries (Anitha & Chandrashekara, 2017). It produces revenue without actually exporting any material goods, or without exhausting natural resources. Such an industry is directly related to the global economy. Global recession, and outbreaks of global diseases (such as the

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H1N1 influenza virus in 2009, and the Corona pandemic in 2019) directly affect the arrival of tourists. The tourism industry is a part of the service sector (Vishnu, 2023).

Tourism like in any other country, showcases Indian culture and heritage. India is a tourist's paradise due to its natural surroundings, diverse customs, architectural masterpieces, languages, paintings, dances, music, etc. It is vital for our society and economy. We follow the cultural tradition 'Atithi Devo Bhava' (Guest is God). India is rich in cultural and natural biodiversity. It is the third-largest industry in India, where more than 10 million people are directly or indirectly involved (Sahoo *et al.*, 2020). It generates employment and foreign exchange (Reddy & Malleswari, 2017). Its cultural heritage, varied lifestyles, visitor-friendly traditions, luxurious palaces, evergreen gardens, high forts, colourful fairs and festivals are attractions for tourists (Kaboor & Somashekar, 2018; Chhatoi & Mishra, 2018). Technological parks, mountain peaks, beaches, wildlife, and centres of pilgrimage are some of the tourist attractions in India. Ayurveda, meditation, yoga, Heritage trains, Siddha and natural health resorts are the other tourist attractions (Roopa & Ramachandra, 2022). Indian handicrafts, particularly leather goods, carpets, jewellery, and brass work, are shopping items for foreign tourists. The Central and State Governments are taking several initiatives to promote tourism in India (Gouda & Binoy, 2017).

OBJECTIVES OF THE STUDY

The general objectives of this paper are to study the prospects and challenges of the tourism industry in Karnataka. The special objectives are:

- To analyse the status and trends of tourism in Karnataka, including tourist arrivals, attractions and infrastructure development;
- To examine the economic contributions of tourism to Karnataka's GDP over last decade;
- To identify the key factors influencing tourist preferences and decisions to visit Karnataka;
- To assess the socio-economic benefits generated by tourism activities in Karnataka; and
- To investigate the challenges and constraints faced by the tourism sector in Karnataka and their potential impacts on the GDP growth of the state.

Hypothesis of the Study

Data analyses have been done on the following hypothesis:

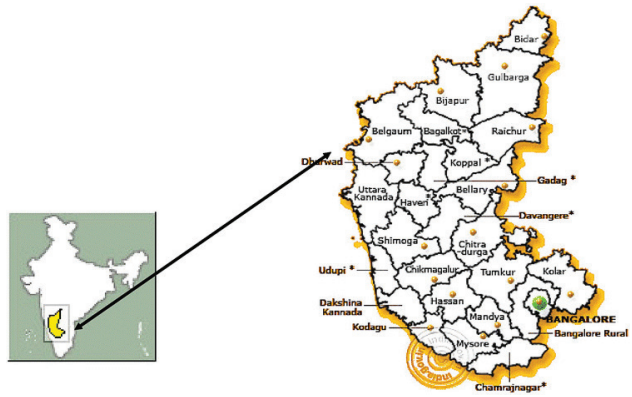
H_0 : There is no relationship between tourist arrivals, and the Gross Domestic Product of Karnataka, and

H_a : There is a relationship between the tourist arrivals, and the Gross Domestic Product of Karnataka.

Methods and Materials

a) Study area Description: Karnataka is a state in the south-western region of India. It is bordered with Tamil Nadu to the southeast, Kerala to the southwest, Telangana to the

northeast, Goa to the northwest, Maharashtra to the north, and Andhra Pradesh to the east. It is sixth and eighth-largest Indian state by area, and population respectively. As per the 2011 census, the total population of the state is 6, 11,30,704. Bangalore is the capital of Karnataka. The state has three principal geographical zones: the Bayaluseeme region, the hilly Malenadu region, and the coastal region of Karavali and Tulu Nadu.



- b) Design and Approach:** The paper is based on the secondary data. The data have been collected from the reports of the Karnataka State Tourism Development Corporation, Tourism Department and Karnataka Tourism Society. Besides, a number of journals and books have also been referred to for the purpose.
- c) Method of Analysis:** Different methods of qualitative and quantitative analysis comprising tabulation, correlation analysis, text analysis and regression analysis have been performed to reveal the growth of the tourism industry in Karnataka in general and the sustainable perspectives of the industry in particular.

RESULTS AND DISCUSSION

Geographically, the state is featured with major rivers (like Krishna and Kaveri), beaches, waterfalls, forests, and scenic hills ranges. UNESCO World Heritage Sites, shrines, national parks, monuments etc. attracts millions of tourists in the state. The Western Ghats and the southern districts are more popular for eco-tourism. There are five national parks and 25 wildlife sanctuaries in the state. The Bandipur National Park is situated in the Chamarajnagar district and part of the Nilgiri Biosphere Reserve since 1986. The Bannerghatta National Park is situated near Bangalore while the Nagarahole National Park is situated in Kodagu and Mysuru district of the state. The monuments of Pattadakal and Hampi are included in the list of UNESCO's World Heritage Sites. Hampi is a religious centre, situated in the Vijayanagara district. The Hampi monuments are a subset of the wider-spread Vijayanagara ruins. Most of the monuments are related to Hinduism. Virupaksha temple, ruins of the Vijaya Vittala temple are special attractions in Hampi.

Karnataka is a state with abundant lush green forests, mountains, lakes, hills, rivers, and valleys. Kudremukh, Mullayanagiri, Agumbe, Kumara Parvata, Tadiandamol, Pushpagiri Hills, Kodachadri, and Madhugiri are the important of the state mountain peaks. Agumbe is called the 'Cherrapunjee of the South'. Jogigundi Falls, Onaki Abbi Falls, and Barkana Falls are the perfect picnic spot. Kudremukh is the highest peak situated in Chikkamagaluru district. The rivers of the state generally originate from the Western Ghat ranges. There are seven river

systems in the state. Devout Hindus call the Kaveri River as Dakshina Ganga (the Ganges of the South). People worship the river as Goddess Kaveriamma.

Table 1: Popular Tourist Destinations in Karnataka

Tourism Cluster	Focus Tourism Destinations
Urban tourism	Kalaburgi, Srirangapatna, Belur-Halebeedu, Mysuru, and Coorg.
Heritage tourism	Kalaburgi, Bidar, Vijayapura, Pattadakal, Aihole, Badami, and Hampi.
Nature Tourism	Hassan, Kodagu, Chikkamagaluru, Uttara Kannada, and Shivamogga.
Wildlife tourism	Bannerghatta, Cauvery, Bandipur, and Nagarhole.
Wellness tourism	Mysuru
Religious tourism	Ramnagar (Sufi), Vijayapura, Bidar, Kalaburgi, Shravanabelagola, Gokarna.
Coastal Tourism	Muradeshwar, Kundapur, Udupi, Mangaluru, Karwar & Gokarna.

Source: Karnataka Tourism Policy 2015-2020

Table 1 discusses the popular tourist destinations in seven tourism clusters in the state. Karnataka has many picturesque lakes and waterfalls. Every year many tourists visit the state to see the Krishna Raja Sagara Lake, Karanji Lake, Kukkarahalli Lake, Hebbal Lake, Lal Bagh Botanical Garden Lake, Bellandur Lake, Ulsoor Lake, Sankey Tank, Hesaraghatta Lake, Madiwala Lake, Honnamana Kere, and Unkal Lake. The lakes are a great place to watch birds and to enjoy water sports. Jog Falls, Shivanasamudra Falls, Gokak Falls, Iruppu Falls, Abbey waterfalls, Hebbe Falls, Sathodi Falls, Unchalli Falls, Kalhatti Falls, Godchinamalaki Falls, Benne Hole Falls, and Chelavara Falls are some of the popular waterfalls. The Jog Fall is also known as ‘Niagra of India’.

Hill stations in Karnataka are famous for their serene environment, tall mountains and lush green forests. Coorg, Chikmagaluru, Sakleshpur, Kemmanagundi, Sirsi, Agumbe, Biligiri Ranga Hills, Male Mahadeshwara Betta, and Kudremukha are the popular hill stations in Karnataka. Coorg is known as the Scotland of India. Coorg is home to the Nagarhole National Park, and wildlife sanctuaries like Brahmagiri, Pushpagiri, and Talacauvery. Besides these places, Dubare, Bylakuppe, Omkareshwara Temple, Iruppu Falls, Abbey Falls, and Raja’s Seat are the major attractions in Coorg. Chikkamagaluru is called the Coffee Land of Karnataka. Sakleshpur hill station is situated in Hassan district. Pandavar Gudda, Hemavathi Dam, Betta Byraveshwara Temple, Magajahalli Waterfalls, Agni Gudda Hill, Sakleshwara Temple, and Manjarabad Fort are the major attractions in Sakleshpur.

Kemmanagundi hill station is popularly known as KR Hills. Tourists can view the Hebbe Falls, Shanti Falls, Bhadra Tiger Reserve, Baba Budan Hill, Kalhattagiri Falls, Hebbe Falls, Rock Garden, and Z Point. Sirsi Hill station is called the ‘Gateway of Western Ghats’, or ‘Gateway of Malenadu’. Gudavi Bird Sanctuary, Banavasi, Devimane Ghat, Sodhe/Sonda, Sahashralinga, Mattighatta Falls, Manjuguni, Muregar Falls, Burude Falls, Shivaganga Falls,

Benne Hole Falls, and Marikamba Temple are the major attractions of Sirsi. Biligiri Ranga Hills is the wildlife corridor that connects the Eastern Ghats to the Western Ghats.

Table 2: Year-wise Tourist Arrivals in Karnataka

Year	Tourist		% Share		Rank	
	Domestic	Foreign	DTV	FTV	DTV	FTV
2008	12797937	174040	2.30	1.20	10	13
2010	38202077	380995	5.20	2.10	5	11
2011	84107390	574005	9.89	2.94	4	9
2012	94052729	595359	9.08	2.87	4	9
2013	98010140	636378	8.56	3.19	4	9
2014	118283220	561870	9.17	2.49	3	9
2015	119863942	636502	8.37	2.73	4	9
2016	128762600	461752	8.04	1.87	5	11
2017	179980191	498148	10.89	1.85	3	11
2018	214306456	543716	11.55	1.88	3	11
2019	227934714	608754	9.82	1.94	4	11
2020	77453339	165325	12.69	2.31	3	12
2021	81333659	72487	12.00	6.87	4	4
2022	182413200	128500	10.54	1.50	-	-

Source: *Indian Tourism Statistics, 2008-2023*, published by Ministry of Tourism, Government of India.

Table 2 discusses the year-wise arrival of tourists in Karnataka. It has been observed that tourist visits have been on the rise since 2008 and declined after 2019 due to the COVID pandemic. The number of domestic tourist visitors(DTV) was more than 22.7 crores in 2019, which dropped to only 7.7 crores in 2020, and finally reached 18.24 crores in 2022. The arrival of foreign tourist visitors(FTV) was 6.08 lakhs in 2019 which declined to 1.65 lakhs in 2020, and further to 1.28 lakhs in 2022. Lockdowns, and travel restrictions, due to the coronavirus pandemic were the key factors behind the sudden drop in tourist arrivals.

Bangalore is the capital of Karnataka and is famous for its software development city and popularly known all over the world as Silicon Valley of India. Lal Bagh Botanical Garden, ISKCON Temple, National Gallery of Modern Art, Bangalore Palace, Devanahalli Fort, Janapada Loka, Innovative Film City, Commercial Street, Wonderla Amusement Park, Jawaharlal Nehru Planetarium, Krishna Rajendra Market, Ulsoor Lake, Bannerghatta National Park, Vidhana Soudha, Shivoham Shiva Temple, and HAL Aerospace Museum are the popular places in the city. Mysuru, Kalaburagi, Mangalore, and Belagavi are the other popular cities of the state. Mysuru is situated at the foothills of Chamundi Hills. Mysuru

Palace, Sri Chamarajendra Zoological Gardens, Somnathpur Temple, Namdroling Monastery, Lokaranjan Aqua World Underwater Zoo, Sri Chamundeshwari Temple, Venugopala Swamy Temple, Melkote, Mysuru Sand Sculpture Museum, and Himada Gopalswamy Temple are the key attractions of Mysuru.

Kalaburagi is the largest city in northern Karnataka. Khwaja Bande Nawaz Dargah, Sharana Basaveshwara Temple, The Haft Gumbaz Tomb, Chandralamba Temple, Gulbarga Fort, Dattatreya Temple, Chandrampalli Dam, and Buddha Vihara are the key attractions of Kalaburagi. Mangalore is a beautiful Arabian sea port. Mangaladevi Temple, Kudroli Gokarnatheshwara Temple, Kateel Shri Durgaparameshwari Temple, Tannirbhavi Beach, Panambur Beach, Sammilan Shetty's Butterfly Park, Surathkal Beach, Shri Sharavu Mahaganapathi Temple, and Sri Venkataramana Temple are popular tourist attractions of the city.

Table 3: Selected Monuments visited by tourists in Bangalore

Monuments	2021-22		2022-23		% Growth	
	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic
Dariya Daulath Bagh	891	142935	8614	436759	866.78	205.56
Palace of Tipu Sultan	976	100193	7179	248490	635.55	148.01
Keshava Temple	662	75793	5681	143360	758.16	89.15
Fortress and Temple Chitradurga Fort	819	210483	1809	407714	120.88	93.70
TOTAL	3348	529404	23283	1236323	595.43	133.53

Source: *Indian Tourism Statistics*. 2023, p.140. published by Ministry of Tourism, Government of India.

Table 3 discusses the number of tourists who visited the monuments of Bangalore. It has been observed that many of the tourists visited the fortresses and temples. The number of domestic tourists who visited the monuments were 5.29 lakhs in 2021-22 and 12.36 lakhs in 2022-23. Therefore, the number of domestic tourists increased by 133.53 per cent during the said period. On the other hand, arrival of the foreign tourists was 3348 and 23283 in 2021-22 and 2022-23 respectively. Therefore, the foreign tourist arrivals increased by 595.43 per cent during the period.

Karnataka has more potential for religious tourism. It has holy places of worship. Guru Nanak Jhira Sahib, Gurudwara Shri Mai Bhago Sahib, Gurudwara Singh Sabha Jalahalli, and Gurudwara Sri Guru Singh Sabha are popular Gurudwaras of Karnataka. Sacred Heart Church (Bangalore), Holy Trinity Church (Bangalore), St. Antony's Shrine (Mysuru), St. Bartholomew's Church (Mysuru), Infant Jesus Cathedral (Mysuru), CSI Wesley Cathedral (Mysuru), and Church of Our Lady of Miracles (Mangalore) are major churches. It has many mosques showing Islamic architecture, culture, and history. Jama Masjid (Bijapur), Tipu Sultan's Mosque (Bangalore), Hazrat Tawakkal Mastan Shah Dargah (Bangalore), Ibrahim

Rauza (Bijapur), Shahi Masjid (Gulbarga), Gumbaz Mausoleum (Srirangapatna), Adil Shahi Mosque (Gulbarga), Jumma Masjid (Dharwad), and Noorani Masjid (Mangalore) are some of its major mosques. Hindu temples are scattered throughout the state. The major Hindu temples are the Mallikarjuna Temple (Pattadakal), Kedareshwara Temple (Balligavi), Durga Gudi Temple (Aihole), and Virupaksha Temple (Hampi).

Table 4: Popular Heritage (architecture) Sites in Karnataka

Place	Popular Sites
Aihole	Durga Temple, Ladkhan temple, Badigargudi Triyambakeshwar temple, Jyotirlinga temple, Mallikarjuna Temple, Hallibasappa Gudi, Rachigudi, Kuntigudi, Ambigaragudi, Chakragudi, and Garudagudi.
Ashtoor	Tomb of Ahmad Shah Al Wali Bahamani, Ahmad Shah's Queen, Sultan Allauddin Shah II, Sultan Humayun, Malika-i-Jahan, Hazrat Khalil Ullah, Sultan Kalim Ullah, Sultan Wali-Ullah, Muhammad Shah Bahamani, Muhammad Shah III, and Sultan Nizam Shah.
Badami	Badami cave temple, and Upper Shivalaya Temple.
Chitradurga	Ankli Matha Caves, ancient coins, ruins of dams, Bhairaveshvara Temple, Paradeshappa Caves, large boulders, and Tiger engraved rock.
Basavakalyana	Basavakalyana Fort, Basaveshwara Temple, Parusha Katte, Tripurantaka Lake, and Anubhava Mantapa.
Halebeedu	Hoysaleshwara Temple, Kedareshwara Temple and multiple Jain temples.
Jalasangvi	Kalyana Chalukya Temple and carvings of female dancers.

Source: <https://karnatakaturism.org/>

There are opportunities for adventure tourism in Karnataka. Dandeli is popular for water rafting opportunities in the Kali River. Tourists can enjoy scuba diving destinations on Netrani island. Kodachadri Hill is a popular Natural Heritage site in Western Ghats. Tourists can view the lovely landscapes and Kollur Mookambika Temple. Trekking and hiking are the additional attractions. Kumara Parvatha Trek is popular for trekking adventure activity in the Western Ghats. Kukke Subramanya is often used as a base for the trek. BR Hills, Chikmagalur, Nandi Hills, Kote, Kemmanagundi, Sakleshpur, and Savanad are popular eco-tourism places of the state. Hampi has been recognized as the best Tourism Village of 2023 in the Bronze category.

Malgudi Museum, Folklore Museum (Mysuru), Government Museum (Bangalore), Visvesvaraya Industrial and Technological Museum (Bengaluru), Sand Sculpture Museum (Mysuru), Sandalwood Museum (Mysuru), Mysuru Rail Museum, Manjusha Museum (Dharmasthala), INS Chapal Warship Museum (Kanwar), and Jayachamarajendra Art Gallery (Mysuru) are the other tourist attractions. There are beautiful Theme parks or recreational parks in Karnataka. These are the Freedom Park (Bangalore), GRS Fantasy Park, Innovative Firm City, Lumbini Gardens, Snow Park, Wonderla, Brindavan Gardens, Cubbon Park, and

Lalbagh Botanical Garden.

Karnataka is rich in culture and ceremonies. Travellers can enjoy the Hampi festival, Chalukya Utsava, Kanakagiri Utsava, Lukkundi Utsava, Pattadakallu dance festival, Vitla pindi, Udupi Paryaya Utsava, Kambala, Mysuru Dasara, Vairamudi festival, and many others festivals of the state. Travellers can also enjoy the delicious cuisines like Mysuru pak, Maddur vada, Bisi bele bath, Mysuru masala dosa, Puliogare, Ragi mudde, Thatte idli, Belagavi kunda, Bharwad pedha, Jalada roti, etc.

Table 5 (a): Relation between the Number of Tourists and Gross State Domestic Product in Karnataka

Year	Number of Tourist	Gross State Domestic Product (Rs. crore)*
2011-12	84681395	6,06,010
2012-13	94648088	6,43,033
2013-14	98646518	7,04,466
2014-15	118845090	7,48,429
2015-16	120500444	8,31,330
2016-17	129224352	9,41,774
2017-18	180478339	10,19,708
2018-19	214850172	10,85,101
2019-20	228543468	11,48,806
2020-21	77618664	11,08,212
2021-22	81406146	12,29,713

Source: *Economic Survey of Karnataka 2022-23*, pp.18-19. Note: * at Constant (2011-12) Prices.

Table 5 (b): Summary Output

Regression Statistics	
Multiple R	0.424894263
R Square	0.180535135
Adjusted R Square	0.089483483
Standard Error	209093.3055
Observations	11

Source: Calculated by authors.

Table 5 (c): ANOVA Analysis

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	86687037729	86687037729	1.98277715	0.192690333
Residual	9	3.9348E+11	43720010392		
Total	10	4.80167E+11			

Source: Calculated by authors.

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	690723.1486	171393.1274	4.030051606	0.002972743
Number of Tourist	0.001726986	0.001226456	1.4081112	0.192690333

Source: Calculated by authors.

Table 5(a) shows the R Square value is 0.180535135. This means there is *no* relationship between the number of tourists and the gross state domestic product in Karnataka. Table (4-b) shows that the p-value (0.192) is higher than the critical value at a 5% level of significance ($p > 0.05$), therefore the null hypothesis-1 is accepted. So, should be concluded that there is no relationship between the tourist arrivals and the Gross Domestic Product in Karnataka. The tourism sector is a growing sector in Karnataka. It has contributed more to the economy of the state. To discuss the prospects and challenges of the tourism sector of Karnataka, a SWOT analysis has been conducted below.

Table 6: SWOT Analysis of Tourism Industry in Karnataka

Strengths	Weaknesses
<ul style="list-style-type: none"> ✓ Hospitable people ✓ Unique culture ✓ Politically and socially stable state ✓ Rich history and heritage ✓ The scenic beauty of nature 	<ul style="list-style-type: none"> ✓ Insufficient transport facilities ✓ Inadequacy of infrastructure ✓ Lack of funds for development ✓ Lack of transparency in policies ✓ Lack of adequate infrastructural support
Opportunities	Threats
<ul style="list-style-type: none"> ✓ Adventure sports and trekking. ✓ Increased disposable incomes of people ✓ Long coastal areas ✓ Eco-tourism is gaining popularity 	<ul style="list-style-type: none"> ✓ Environmental factors ✓ High competition from other states

Source: Author’s creation

There are many challenges before the tourism industry of Karnataka. Some of them are inadequate infrastructure, overcrowding population, lack of skilled manpower, competition from other tourist destinations, poor marketing, and safety of tourists. Karnataka government can develop the tourism industry by investing in human resources, developing niche tourism products, promoting business tourism destinations, promoting responsible travel practices,

developing eco-tourism destinations, and raising awareness of the importance of sustainable tourism practices among tourists, businessmen, and the local community.

The Karnataka government has introduced various policies for the development of the tourism sector. The Department of Tourism, Government of Karnataka (Department) was established in 1974, to develop and promote its tourism sector. Presently four government undertakings, under Department of Tourism, namely Karnataka Exhibition Authority (KEA), Mysuru; Karnataka Tourism Infrastructure Limited (KTIL); Jungle Lodges and Resorts Limited (JLR); and Karnataka State Tourism Development Corporation Limited (KSTDC) are functioning in the state.

The new Karnataka Tourism Policy (2020-26) has recommendations for the development of the tourism industry. The policy emphasizes to create a tourism circuit by integrating wildlife, spiritual, eco, rural, heritage, and coastal destinations in the state. The policy also focuses on the development of new tourism avenue like mining tourism, beach tourism, and caravan tourism. The government has a proposal for Tourism Development Fund under the Karnataka Tourism Infrastructure Limited for the development of tourism destinations. The policy also encourages private investment in the tourism sector. “Karnataka Archaeological Museum and Art Gallery” is going to be established in Chamundi Vihar stadium, Mysuru to exhibit the rich art and cultural heritage of Karnataka. The government has also set up a proposal for a Marketing Development Assistance scheme to encourage private stakeholders to invest in its tourism sector.

The Government has introduced the Tourism Trade Facilitation Act, 2015 to increase transparency and investment in the tourism sector. The new Act provides information on ecotourism projects and regulations for setting up of resorts in the state. This Act shall help the applicants to register, and recognize the property through the approvals of the authority concerned.

The government as well as the tourism department have the power to administer the hotels and resorts. The state cabinet has approved setting up of an ecotourism development board. The creation of the Karnataka Eco Tourism Development Board has provided a new structure, policy, guidelines, awareness and education, and provided opportunities for training and capacity building amongst the stakeholders. The state government has also announced the creation of a District Tourism Task Force Desk to identify new tourism potential places.

CONCLUSION

There are bright prospects for religious, adventure, heritage, and rural tourism in the state. These prospects constitute its beautiful hills, caves, beautiful national parks, sanctuaries, safaris, religious places and the significant architectural pieces. Kalaburagi and Bangalore are important sites for travellers. The Western Ghats and the southern districts are popular for eco-tourism Travellers can be involved in water-based activities like fishing, swimming, and boating, in lakes and rivers. Hampi has a cultural significance. Karnataka abounds in religious and cultural festivities, flora and fauna, dance and music, rivers and mountains, monuments

and architecture, places of mythological and historical importance, hills and valleys, river falls and springs, lakes and their scenarios which make the tourists to visit such destination.

Hill stations in Karnataka are famous for their serene environment, tall mountains and lush green forests. The natural beauty, along with the UNESCO recognised World Heritage Sites, shrines, monuments, sanctuaries, modern cities etc. attracts millions of tourist in the state. The Jog Falls is also called the 'Niagara of India'. Karnataka has more potential for religious tourism. The state has holy places of worship. Karnataka is rich in culture and festivals.

The key findings have emerged through the examination of various factors, such as tourist arrival, economic contributions, government policies, and challenges faced by several sectors. There are numerous challenges before the tourism industry. Hence, the government must focus on improving further its infrastructure, transport facilities, safety of tourists, homestay facilities, hospitality, media coverage, and maintenance of law and order to attract more and more tourists to the state. ANOVA analysis has revealed the important factors like infrastructure development, promotional strategies, and sustainability initiatives can shape the trajectory of Karnataka's tourism sector. Effective government policies and private sector participation can play pivotal roles in enhancing the competitiveness of Karnataka as a tourist destination. This paper underscores the significance of tourism as a key driver of economic development in Karnataka and emphasizes the need for holistic and inclusive approaches to ensure its continued growth and prosperity in the years to come.

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PERCEPTIONS OF FACULTY OF BUSINESS SCHOOLS ON CSR INITIATIVES: THE MEDIATING EFFECT OF ORGANIZATIONAL IDENTIFICATION

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ABSTRACT

This study explores how faculty perceptions of corporate social responsibility (CSR) influence their engagement in organizational citizenship behavior (OCB) within Business school settings in Nepal. Data was collected from 298 members (full-time and part-time) from Business school faculty members, using a self-administered questionnaire. “Step-wise regression analysis” was employed to evaluate the research hypotheses. The findings indicate a positive conclation between faculty perceptions of CSR initiatives and their engagement in OCB. Furthermore, organizational identification was found to be positively associated with OCB and partially mediated the relationship between CSR perceptions and OCB.

Keywords: Organization, citizenship behavior, Corporate social responsibility, Organizational identification, Social identity theory.

INTRODUCTION

In today’s ever-evolving educational landscape, colleges and universities are increasingly recognizing the significance of Corporate Social Responsibility (CSR) initiatives in shaping not only their external image but also their internal dynamics (Abubakar *et al.*, 2022). These institutions often serve as a platform for cultivating a culture of social responsibility, and the faculty within business schools play a pivotal role in both influencing and reflecting the institution’s commitment to CSR (Petković *et al.*, 2022). This research attempts to delve into the perceptions of Business school faculty regarding CSR initiatives and their implications for College/University Organizational Citizenship Behavior (OCB). Furthermore, it investigates the mediating role played by Organizational Identification (OID) in this intricate relationship.

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CSR, as a concept, encompasses a wide array of ethical and sustainable practices undertaken by organizations to address societal and environmental concerns beyond their immediate profit motives. CSR is an important philosophy of working that helps people understand how well institutions can keep their business going while also looking after society's needs in different areas (Hazzi & Maldaon, 2022). It helps to build legitimacy, improve long term performance, and improve reputation (Aguilera *et al.*, 2007; Porter & Kramer, 2006). The academic community has become increasingly involved with CSR, both as educators who impart knowledge and as role models within their respective institutions. Within the context of colleges and universities, faculty members' attitudes and beliefs regarding CSR can significantly influence the institution's overall approach to social responsibility and sustainability. Additionally, the impact of these perceptions extends to how faculty and staff engage in behaviors that contribute to the welfare and enhancement of the institution, collectively known as OCB. However, the pathway through which faculty members' CSR perceptions influence OCB may be intricately linked with their sense of identification – the extent to which they connect with and feel a part of the academic institution's values, goals, and mission. Researchers have argued that perceptions pertaining to CSR initiatives varies from industry to industry (Decker, 2004) making higher education an important sector for investigation. Thus, this research seeks to illuminate the multifaceted relationships among Business school faculty's perceptions of CSR initiatives, College/University OCB, and the mediating role of identification offering valuable insights for both academic institutions and the broader corporate social responsibility discourse.

This study addresses two important gaps in the literature. First, it explores the impact of CSR initiatives on OCB in higher education, specifically focusing on the role of organizational identification in this relationship, rather than solely examining the direct effect of CSR. Lastly, it contributes to the limited body of research on CSR within the college/university setting by investigating how employees perceive CSR within these higher education institutions.

LITERATURE REVIEW

CSR refers to the business's social obligation, encompassing economic, legal, discretionary, and ethical expectations toward society at any given moment (Carroll, 1979). It is a strategy that helps both society and companies grow sustainably, while also improving a company's reputation and finding new business opportunities to stay competitive (Chang & Yoo, 2023). It serves as a strategic instrument for differentiating and positioning companies within the global market. It plays a significant role in overseeing reputation management and offers a distinct perspective on why a particular organization is preferable as an employer (Bharadwaj & Yameen, 2020). CSR aims to tackle societal issues that extend beyond legal obligations or the interests of shareholders (Wang *et al.*, 2022). In underdeveloped nations, CSR is predominantly viewed through a humanitarian lens, prioritizing immediate human needs over environmental or social concerns (Litvinenko *et al.*, 2022). Limited resources, historical context, and cultural values shape this perspective here in Nepal, emphasizing philanthropic efforts and community welfare initiatives by businesses. These underdeveloped

nations are mostly economically motivated and profit driven (Scherer & Palazzo, 2011). CSR initiatives not only convey favorable corporate reputations (Jones *et al.*, 2014) but also foster a genuine sense of value and respect among employees (Glavas & Kelley, 2014). CSR initiatives lead to organizational commitment, employee loyalty (Stajanovic *et al.*, 2020), and intrinsic motivation at work (Loor-Zambrano *et al.*, 2022).

Perception is an important driving force behind employees' behaviour as individuals tend to behave according to their perceptions of reality rather than reality itself (Zheng, 2010). Employees perception of CSR initiatives is more important than CSR efforts themselves, because stakeholders base their opinions, attitudes, and decisions on those perceptions (Hansen *et al.*, 2011).

Social Identity and Perceived External Prestige Theory: Social Identity Theory (SIT) developed by Tajfel & Turner (1979) suggests that an individual's self-concept is shaped by the groups they belong to, termed as the "social self." Given the significance of organizations among these groups, the organization occupies a central position within an individual's social self, influencing their self-concept. When employees perceive their company as effectively implementing CSR initiatives, they are inclined to view the organization as having a positive reputation in society, leading to the development of a positive social self. This enhanced self-concept fosters stronger emotional connections to the organization, facilitating identification with the company (Dutton *et al.*, 1994). Social identity theorists have used OID to explain how organizational policies can bring stronger identification among employees with the organization, consequently prompting heightened levels of OCB among them (Shen & Benson, 2014). Perceptions regarding CSR impact an employee's inclination to assess their organization's internal and external image, and at the same time aligning personal values with organizational values enhances self-concept from a social identity perspective (Luu, 2017).

Perceived External Prestige (PEP) theory suggests that employees' perceptions of CSR initiatives positively influence their OID. This concept, also known as "construed external image" or "perceived organizational prestige," shapes employees' OID. As the organization is significant to them, external perceptions greatly impact their self-esteem and self-concept (Mael & Ashforth, 1992). Effective CSR practices can enhance employees' perceived organizational prestige, leading to increased self-esteem and pride in belonging to a socially responsible company (Dutton *et al.*, 1994). This fosters stronger identification with the organization. Many studies have proposed perceived external prestige affects OID (Mael & Ashforth, 1992; Pratt, 1998). Employees' favorable perceptions of their organization's external status and prestige correlate with their positive attitudes toward the organization and their strong identification with it (Carmeli, 2005; Bartels *et al.*, 2007).

Organisational citizenship behaviour: The notion of OCB was officially acknowledged by Organ (1988), who introduced it as a factor that could improve organizational efficiency (Yow, 2017). OCB entails an employee's active involvement and contributions within the workplace that exceed the obligations outlined in their job description, essentially going

beyond the standard expectations of their role which aren't recognized through formal organizational rewards (Organ, 1988; Kang & Hwang, 2023; Adil *et al.*, 2021). Some examples of OCB include assisting others at work place, taking few extra assignments, and protecting and promoting the organization (Bolino & Turnley, 2003). Teachers and faculties with strong OCB help their colleagues voluntarily, assist students in their free time, and give priority to professional work (Yanci & Saglam, 2014). Employees prefer aligning themselves with socially responsible companies, which function as ideal social communities for them. This shift can transform their identity from individual to a collective, motivating them to engage in activities that bolster both their personal growth and the organization's standing. Studying these behaviours is important for understanding social constructs that contribute to organization and team achievements(Smith *et al.*, 1983).

Empirical findings have demonstrated that the introduction of CSR initiatives leads to improved employee attitudes and conduct (Tian & Robertson, 2019). Companies practicing CSR initiatives for societal and environmental improvement inspire employee attachment to sustainability goals and foster voluntary actions beyond their job duties (Islam *et al.*, 2022). OCB is linked to an ethical workplace atmosphere and the sustainable performance of a corporation (Fein *et al.*, 2023). As organizations actively participate in CSR initiatives, a parallel arises where employees proactively engage in OCBs contributing to organizational competitiveness, highlighting the interconnected and interdependent nature of this relationship between CSR activities and these behaviors (Ko *et al.*, 2023). Positive CSR perceptions boost employees' OCBs as those who view their organization's CSR activities favorably are more inclined to exhibit good citizenship behavior when they take pride in their organizational affiliation (Oo *et al.*, 2018). OCB plays a vital role for organizations by boosting organizational performance and maintaining their competitive edge in the market (Chang *et al.*, 2021). Similarly, OCB helps organizations deliver better performance (Abdullahi *et al.*, 2020), improve customer satisfaction (Khalfan *et al.*, 2022), and a sense of community among employees (Sarfraz *et al.*, 2022). Previous studies by Hansen *et al* (2011), and Ong *et al* (2018) reported the positive effect of CSR on OCB. Based on social exchange theory and above mentioned empirical studies, we formulated the following hypothesis:

H1: Faculty-perceived CSR initiatives have positive relationship with OCB.

Organisational identification (OID): OID, derived from the idea of social identity, is a specific form of social identification which reflects the extent to which an individual define themselves based on the same characteristics they perceive to define an organization (Dutton *et al.*, 1994). The effect of CSR initiatives on OID can be explained by SIT (Ashforth & Mael, 1989) and PEP theory (Smidts *et al.*, 2001). OID entails feeling a sense of unity with an organization, wherein an individual associates themselves closely with the organization they are a part of (Mael & Ashforth, 1992). By forming a sense of "identification" with an organization, individuals gradually develop their "identity" within the context of an organisation (Ashforth *et al.*, 2008). Individuals often gravitate towards organizations that possess a favorable perceived

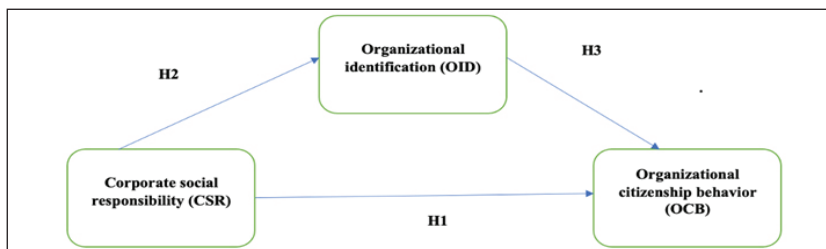
identity, which can boost their self-esteem (Dutton *et al.*, 1994). OID serves as a fundamental concept within an organization, playing a significant role in elucidating the understanding of member perceptions, attitudes, and behaviors (Ashforth & Mael, 1989). Organizational identification falls under the umbrella of social identification, which involves perceiving oneself as part of a collective and feeling a sense of belonging within that group (Nguyen & Sidorova, 2020). This attitude of organizational identification changes the relationship of employees to their employer and this in turn increases work performance, health and well being (Jetten *et al.*, 2017; Blader *et al.*, 2017). When an institution expands its CSR initiatives, employees experience a growing sense of pride in affiliating with the esteemed company, as their identification serves to uphold both external prestige and internal esteem (Farooq *et al.*, 2014). A study by Kim *et al.* (2020) found that CSR initiatives significantly impact hotel employees intention to remain employed in the context of OID. Employees' views regarding CSR initiatives not only increase the attraction for the organization for workers but can also increase employees' OID (Fu *et al.*, 2014). Organisations that are socially and environmentally responsible and are engaged in CSR initiatives tend to be attractive to employees and those employees are more likely to identify themselves with these organisations (Brammer *et al.*, 2015; De Roeck *et al.*, 2016). Considering all this, we hypothesized.

H2: Faculty-perceived CSR initiatives has a positive relationship with OID.

Mediation takes place when an independent variable influences a dependent variable via an intermediary variable, known as a mediator (Baron & Kenny, 1986). OID is likely to mediate the relationship between CSR perceptions and OCB due to the deep-seated psychological connection employees develop with their organization when they perceive it as socially responsible. When employees believe their organization is committed to ethical practices and societal well-being, they tend to feel a stronger sense of belonging and loyalty sometimes referred to as moral identity (Rupp *et al.*, 2006). Previous studies have shown that strong OID helps in supportive OCB (Gond *et al.*, 2010). This heightened identification in turn fosters a desire to contribute positively to the organization's success, leading employees to engage in discretionary behaviors that go beyond their formal job roles, thus facilitating the mediation effect between CSR perceptions and OCB (Riketta, 2005).

H3: OID will mediate the relationship between CSR perceptions and OCB.

METHODOLOGY



Source: Author

Figure 1 : Conceptual Model

Sample and Data collection

Using purposeful sampling, the data were collected from Business school faculty members (full time and part time both) all over Nepal. The questionnaire had all the details regarding objectives of the study, data confidentiality, respondent anonymity and informed consent. The researchers managed to gather data from a total of 298 respondents out of approximately 670 distributed questionnaires.

Among the surveyed samples, male respondents were higher (58.4 %) than females (40.3 %). Most of the respondents had a teaching experience of 0-5 years accounting for 33.9% followed by 6-10 years (23.5%). In terms of age, most of the respondents are 31-35 and 36-40 old, 30.6% and 23.1% respectively. Majority of the respondents (62.7%) were married. When it comes to education, respondents with graduate (or Master) degree were predominant at 76.1% followed by undergraduate (or Bachelors degree) accounting for 15.7%. From the income level, respondents with monthly incomes in the range of 45001-60000 were the most, accounting for 32.8%. On the other hand, a total of 23.9% of respondents had an income of 60001- 75000.

Measures

A five-point Likert-type scale, “1 = strongly disagree, to 5 = strongly agree” was used in this study. **Corporate Social responsibility:** A 3-item scale adjusted from Hur *et al.* (2016) and Wagner *et al.* (2009) was used to measure employees’ perception of CSR initiatives. The reliability of the scale was 0.877

Organisational Citizenship behaviour: OCB was measured through an 8- item scale developed by Lee & Allen (2002). The reliability of the scale was 0.917

Organizational identification: To measure OID, we relied on 5-item scale developed by Mael & Ashforth (1992). The reliability of the scale was 0.915. Some sample items are:

This organization I am working for is socially responsible and cares for its employees and students (CSR perception);

I show genuine concern and courtesy towards staff members, even under the most difficult business or personal situations (OCB);

Working at my organization is important to the way that I think of myself as a person (OID).

Analysis

SPSS was used to analyse the relationship among the variables. The mean for perceived CSR, OCB and OID were 4.13, 4.19 and 4.16 respectively (Table 1) which indicates that faculties have strong positive views regarding higher education institutions’ CSR initiatives and OCB exhibited a significant level of OID.

Table 1: Descriptive Analysis

Variables	Mean	SD	CSR	OCB	OID
CSR	4.1309	.78735	1		
OCB	4.1904	.68166	.683**	1	
OID	4.1636	.77269	.661**	.730**	1

Stepwise regression analysis was conducted to examine the hypothesis. The study used several control variables like years of experience, gender, age, education, marital status and income. The independent variable consisted of control variables, while the dependent variable was OCB, with perceived CSR initiatives serving as another independent variable. Mediation was assessed using the method proposed by Baron & Kenny (1986). The results of the stepwise regression are outlined in Table 2.

Table 2: Step-wise Regression

Dependent Variable = Organizational Citizenship Behavior				
	Model 1	Model 2	Model 3	Model 4
Controls	N.S.	N.S.	N.S.	
Experience	N.S.	N.S.	.169**	
Gender	.358**	N.S.	N.S.	
Age	N.S.	N.S.	N.S.	
Education	-.207**	N.S.	N.S.	
Marital Status	N.S.	N.S.	N.S.	
Income	N.S.	N.S.	N.S.	
Independent variables				
CSR		.580**		.293**
OID			.614**	.444**
R ²	0.314	0.685	0.741	0.692
Dependent Variable = OID				
Controls				
Experience	.084**			
Gender	N.S.			
Age	N.S.			
Education	N.S.			
Marital Status	N.S.			
Income	N.S.			
Independent variables				
CSR	.642**			
R ²	0.674			

Note: N.S. (not significant), ** = $P < 0.01$

RESULTS AND DISCUSSIONS

Among the constructs examined, OCB exhibited the highest mean score (4.19) and the lowest standard deviation (0.68), while perceived CSR showed the lowest mean (4.13) and the highest standard deviation (0.78). All three constructs demonstrate a positive correlation with each other at a significant level of $P \leq 0.01$. The correlation between perceived CSR initiatives and OCB is 0.683, between CSR initiatives and OCB is 0.661, and between OCB and OIB is 0.730.

We applied four different models to test the hypothesis in step-wise regression. In Model 1, the control variables were used as independent variables, with OCB serving as the dependent variable. Throughout all the four models, OCB remained as the dependent variable. In this model, gender ($\beta = 0.358^{**}$) and education ($\beta = -0.207^{**}$) were statistically significant predictors of OCB, with p-values less than 0.01, indicating that these control variables did have a significant relationship with OCB at the start of the regression analysis. The other control variables (experience, age, marital status, and income) were not statistically significant (N.S.), meaning they did not have a significant predictive power for OCB in this model. The R-squared value for Model 1 was 0.314, which means that approximately 31.4% of the variance in OCB is explained by the control variables in this model.

In Model 2, perceived CSR initiatives were added as an independent variable along with the control variables. The results showed that CSR had a significant positive association with Organizational Citizenship Behavior (OCB), with a beta coefficient of $\beta = 0.580$, which was statistically significant at $p \leq 0.01$ level (denoted by **). This result supports Hypothesis 1, which posits that CSR initiatives are positively related to OCB. The results of the hypothesis are consistent with the findings of the prior research (Supanti & Butcher, 2019; Rodell, 2013). The R-squared in Model 1 was 0.314, and with the inclusion of CSR in Model 2, the R-squared increased significantly to 0.685. This substantial increase suggests that CSR initiatives are a strong predictor of OCB and adds considerable explanatory power to the model beyond the control variables alone. Gender and education, which were significant in Model 1, became non-significant (N.S.) in Model 2, indicating that the effect of these control variables on OCB may be mediated through CSR.

In Model 3, in addition to the control variables, OIB was introduced as an independent variable. It was observed that OIB exhibited a positive correlation with OCB ($\beta = 0.614$ at $p \leq 0.01$), confirming Hypothesis 2 that OIB is positively related to OCB. The R-squared for Model 3 is 0.741, which is an increase from R-squared of 0.685 of Model 2. This suggests that including OIB in the model improves the explanatory power of the model for OCB. Moreover, the beta coefficient for CSR is reduced from 0.580 in Model 2 to 0.293 in Model 3 when OIB is added, which indicates that OIB may be mediating the relationship between CSR and OCB.

In Model 4, alongside the control variables, both perceived CSR initiatives and OIB were included as independent variables. Both perceived CSR initiatives and OIB showed positive associations with OCB ($\beta = 0.293$ at $p \leq 0.01$ and $\beta = 0.444$ at $p \leq 0.01$, respectively). The

impact of perceived CSR activity decreased from $\beta = 0.580$ (at $p \leq 0.01$) to $\beta = 0.293$ (at $p \leq 0.01$) upon including OID, suggests that OID has a mediating effect on the relationship between CSR and OCB. Since CSR remains significant, even when OID is included, it indicates partial mediation. Therefore, Hypothesis 4 was partially supported. The R-Squared values increases from 0.314 in Model 1 to 0.692 in Model 4 suggesting that the models explain more variance in OCB as variables are added.

A different group of regression equations was employed to investigate the connection between perceived CSR initiatives and OID. Control variables from Model 1 along with perceived CSR initiatives were treated as independent variables, while OID was regarded as the dependent variable. The analysis revealed a positive association between perceived CSR activity and OID ($\beta = 0.642$ at $p \leq 0.01$). The control variables appear to have no significant relationship with OID. The R-squared value of 0.674 suggests that a substantial portion of the variance in OID is explained by the model, particularly by the CSR variable. The results of the hypothesis are consistent with the findings of the prior research (Cheema *et al.*, 2018; Afsar *et al.*, 2018., Wells *et al.*, 2015).

Among control variables, gender of faculty was observed to be significantly related to OCB, with female faculty demonstrating greater OCB. The results are consistent with other previous studies (Aftab *et al.*, 2021; Mostafa *et al.*, 2015; Hafidz *et al.*, 2012). Historically, women have often been socialized to be more nurturing, empathetic and cooperative, which are traits commonly associated with OCB. As a result, female faculty members may be more inclined to engage in behaviours that benefit their organisations beyond their formal job duties. We also found that education of faculties was observed to be negatively related to OCB. One potential explanation for the negative relationship between faculty education levels and Organizational Citizenship Behavior (OCB) could be the increasing specialization and focus that comes with higher levels of education. Master's and PhD holders may devote more time and energy to research and academic pursuits, leaving less bandwidth for engaging in discretionary behaviors that contribute to organizational effectiveness. Additionally, advanced degree holders may perceive their roles differently, prioritizing their specialized expertise over general organizational responsibilities. Finally, the autonomy and independence that often accompany higher education levels may reduce the perceived need or pressure to engage in OCB compared to faculty with bachelor's degrees.

Years of experience or tenure was observed to be significantly related to OID. This result is in line with the previous studies (Shan *et al.*, 2017; Hameed *et al.*, 2019). At the same time, this finding is in contrast to a study done by Riketta & Van Rolf (2005) which found that organizational tenure is not related to OID. The positive relationship between years of experience and Organizational Identity (OID) may be attributed to the deepening sense of attachment, loyalty, and identification that employees develop with their organization over time. As individuals accumulate experience within the organization, they become more familiar with its culture, values, and mission, fostering a stronger sense of belonging and

identity alignment. Additionally, longer tenures provide more opportunities for employees to integrate into the organizational community and internalize its identity as their own.

CONCLUSION

The study's findings confirm that perceived CSR initiatives significantly predict OCB, with CSR also strongly influencing OID. OID emerged as a partial mediator in the relationship between CSR and OCB, reinforcing the idea that faculties alignment with their organization's identity can enhance their willingness to engage in behaviors beneficial to the College/University. The analysis across four models revealed a consistent positive relationship between CSR, OID, and OCB, with the combined model explaining approximately 69.2% of the variance in OCB. This underscores the importance of CSR in shaping dynamics OF higher education institutions and suggests that universities can potentially foster a more engaged and aligned workforce through robust CSR programs. The results indicate that improving faculty perceptions of CSR could foster greater engagement in OCB, thereby benefiting organizational effectiveness and culture within Business schools. Strategies focusing on CSR communication and fostering organizational identification among faculty could be effective key in promoting desired behaviors.

LIMITATIONS AND SIGNIFICANCE OF THE STUDY

The study has several limitations. First, since the data were collected through a self-reported questionnaire, it cannot be free from common method bias (Park *et al.*, 2007). Second, this research is conducted on a single, limited and very specific higher education domain i.e B-schools. The generalizability of the findings relies on replicating the study in other diverse higher educational institutions and regions.

ORIGINALITY/ VALUE

This study contributes to the existing literature by combining insights from social identity theory and perceived external prestige theory in exploring CSR perceptions and OCB among faculty in a specific cultural and organizational context, It also offers practical management insights for educational institutions.

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E-GOVERNANCE AND FOURTH INDUSTRIAL REVOLUTION IN BANGLADESH: PROGRESS AND OPPORTUNITIES

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ABSTRACT

Bangladesh is beginning to embrace Fourth Industrial Revolution (4IR) technologies during the current wave of globalization. 4IR will impinge upon e-governance, women's empowerment, ICT development and increased productivity. Adopting good policies and having a thorough plan can help to fully utilize the 4IR potential. The Fourth Industrial Revolution, sometimes called the Digital Revolution, has made e-governance a crucial part of government. Unlike the previous three industrial revolutions, technology is not the sole driving force behind the fourth industrial revolution. It is about the convergence of digital, biological, and physical domains, where technologies create an environment that progress and transforms. This paper analyzes the conditions of 4IR and e-Government in Bangladesh. This article emphasizes the two related phrases, e-government and e-local government, to argue for the idea of citizen involvement in the ICT Age. Besides this, the paper explains e-Government and e-local government initiatives that have been taken in Bangladesh and how e-governance has increased development and prospects.

Keywords: Fourth Industrial Revolution (4IR), Digital Bangladesh, E-governance, progress, opportunities.

INTRODUCTION

The Fourth Industrial Revolution (4IR) has created numerous socio-economic benefits and challenges. To take advantage of these opportunities and challenges, the Fourth Industrial Revolution urges developing countries to improve “smart and wise governance.” The Fourth Industrial Revolution has ushered in e-governance as a core component of government. 4IR is not solely driven by technology, in contrast to the previous three industrial revolutions. This pertains to the intersection of the digital, biological, and physical domains, where technologies are used to foster an atmosphere of inclusive growth and enable all stakeholders

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to capitalize on this advancement and transformation. E-Government¹ is now a crucial component of government since the digital world helps the physical and biological worlds reach a wider audience. E-Governance is improving public service delivery through the use of digital platforms, especially in the areas of health, agriculture, education, and land. E-governance is the most appealing, exciting, and beneficial people-oriented and rising phenomenon. Also, it has become one of the most important components of administrative reform for achieving good governance in any country. Bangladesh is attempting to increase its efficiency by implementing contemporary technologies in the public and private sectors to attain digitization. To achieve the goal of making Bangladesh digital, the current administration set up web portals for all offices, the Computer Council, Access to Information (A2I), and UDCs throughout the nation.

E-Government emerged as a desirable path in this regard. In Bangladesh, electronic governance is a key instrument for improving the efficiency and transparency of public service delivery. With an increasing technology based application, e-governance has a remarkable potential to enhance access to public services while reducing corruption. E-governance may empower citizens by lowering barriers to obtaining public services and raising their awareness of their rights and obligations. Online forms and applications, the digitization of government documents, and access to information on rights and entitlements are just a few of the ways that e-governance can improve public service accessibility. In 2009, the Digital Bangladesh initiative was introduced. It seeks to lead the charge in realizing the vision of former Prime Minister Sheikh Hasina, who wanted to see Bangladesh transition to a knowledge-based economy by 2041 and a digital economy by 2021. Human Resources are one of Digital Bangladesh's four pillars. Development, citizen connectivity, ICT industry promotion and digital government are all crucial to this amazing success story.

LITERATURE REVIEW

During a few centuries, industrial revolutions created and introduced new technologies that caused changes in society, politics, and the economy. The three main revolutionary phases are also represented by these technological advancements. The term "4IR," or "Fourth Industrial Revolution," refers to the era of intelligence in which automation and the ongoing development of disruptive technologies have altered traditional industrial processes and manufacturing. This has affected our way of life, employment, and interpersonal relationships.

According to Merkel (2014), Industry 4.0 involves combining digital and internet technologies with traditional industries to completely remodel every aspect of the industry's production process. The element of the speed of information availability is defined as an industrial setting where all entities are always connected and can exchange information. Additionally, this literature will include a variety of viewpoints, including business, politics, and economics (Schwab 2017 & Zhou *et al.*, 2016).

Mokyr *et al.* (2015) argued that as 4IR is entirely tied to socioeconomic development, the government will take steps to reduce the likelihood that workers will be automated by funding the education and skill development of unskilled laborers so that they can better adapt to new technologies and digitalization.

According to Heeks (2001), the application of information and communication technology to government procedures in order to achieve ethical, responsible, responsive, transparent, and smart governance is known as e-government. E-government will regulate how citizens interact with the government and with one another, allowing them to communicate with the government, participate in government policymaking and planning, and communicate with one another (Saleheen, S. A., 2020).

According to analysts, Bangladesh's economic development would help create a more resilient economy in South Asia if the government can boost support for 4IR integration (Rumi *et al.*, 2020). The efficient and successful application of modern information and communication technologies, including mobile phones, local area networks, and the internet, to increase the operations of public sector organizations in order to establish transparent and good governance and to advance national development is known as e-government.

Research Methodology

This study reported findings through qualitative research. The economic and political effects of FIR in the context of Bangladesh were explained using qualitative data collection. These data collection techniques were crucial to visualize the vast amount of data regarding the effects of 4IR on the political sector's adoption of the new economic system in the coming years. This paper included both primary and secondary data. As primary sources, information and data were used from different domestic and foreign newspapers. Secondary data was collected from various publications, periodicals, and government and international reports.

Research Question:

The following research questions are formulated for the paper:

- a) What is the status of 4IR and e-Government in Bangladesh?
- b) What e-government initiatives have been taken?
- c) How the e-government has increased development and prospects?

An Overview of the 4IR (Global Perspective)

Modern technologies are not the only things developed and made accessible, throughout the industrial revolutions. Instead, there are periods of transition in technological growth marked by a distinct set of characteristics that coincide with and are connected to broader social change. They don't just impact certain technological developments; they also have an impact on entire power structures.

Both workplace politics and steam power were introduced during the First Industrial Revolution, which started in the United Kingdom in the 18th century. When steam power

and mechanical production were combined, the output gradually altered. Due to this dynamic increase in capacity and production, the middle class grew, urbanization occurred, national and international market economies expanded, and democratic governments became more significant.

Based on the current concept, the Second Industrial Revolution is a subsequent wave of systemic change. The book “*Creating the 20th Century: Technical Innovations of 1867-1914*,” written by scientist and policy analyst Vaclav Smil, focuses on the Second Industrial Revolution. Throughout the Second Industrial Revolution, there was a significant change in standardization, technical complexity, and manufacturing precision. New public transportation systems based on internal combustion engines and extensive technological infrastructure, such as electrical grids, were also introduced. A much more mobile users and highly aware global public was growing that created need for the next industrial revolution based on information. These breakthroughs came alongside inventions like the steamship, telephone, gas turbine, and synthetic fertilizer.

The Third Industrial Revolution followed a dramatic change in information theory and the power of data brought about by the World War II. This wave included the development of nuclear power, the space race, and discovery of the double helix. It influenced a postwar culture that required new economic systems and had changing views about the place of humans in the natural world, the universe, and the political order. By connecting civilizations worldwide through apps and infrastructure, it also established new avenues for information sharing that still have an impact on values, knowledge, and culture. Businesses and governments realized that computers could be used for a wide range of tasks, including intricate calculations. In many respects, the world has become more interconnected and sophisticated due to the rapid advancement of computing power, which continues to influence development in a variety of industries.

In January 2016, Klaus Schwab, the founder and executive chairman of the World Economic Forum, released his book, “*The Fourth Industrial Revolution*.” Since then, emerging technologies have impacted nearly every facet of human development in the early 21st century, from shifting national political opinions and social norms to economic growth and international relations. This has been referred to as the Fourth Industrial Revolution (4IR). The Fourth Industrial Revolution offers individuals, companies, and nations incredible opportunities. The internet of things (IOT), artificial intelligence (AI), and the potential of quantum computing all promise improved system efficiency (Philbeck, T. and Davi, N., 2019).

There are at least three ways in which the 4IR differs from other revolutions. First, 4IR technology is advancing and disseminating at a speed, scope, and scale never seen before in history, building on the Third Industrial Revolution’s heritage of digital networks. It is changing almost every industry in every nation and every facet of society’s life at an exponential rate. Second, the dynamic merger of digital, physical, and biological technology

is an ongoing concern. Third, a lot of the new technologies are customized, which helps to quickly integrate them into society but also raises new normative issues that call for significant adjustments to the basic structures of technology governance organizations, now in place (Watson, V. B., 2020).

4IR and E-Government

Electronic government, also known as e-government, is the process by which the government uses information and communication technology (ICT) and its many applications to give the public access to information and e-services. E-government generally refers to the use of ICT in public administration to enhance the delivery of public services, boost data and information management, and eventually empower citizens. Recent digital advancements such as internet services, social networking, cloud computing, mobile apps, and big data have a significant impact on the public and the government. E-government can improve services, expedite public administration, and uphold accountability and transparency norms. It can help the government go green and promote environmental sustainability through the effective use of natural resources. E-government encourages social inclusion of the disabled and other vulnerable groups in society as well as economic progress. Benefits from e-government include more employment opportunities, improved health, improved education, knowledge exchange, skill development, and capacity building for sustainable development. E-services are quick and efficient cutout intermediaries and save money and time. Our towns and cities would have become more challenging places to live without these internet services, and managing the transportation system would have been impossible. The government of Bangladesh's motto, "*Digital Bangladesh*," is particularly significant for e-governance's role in the country's development. One major driver behind the adoption of digital technology for e-governance in the nation is *Digital Bangladesh* with Vision 2021. Despite several obstacles and constraints, efforts are underway to implement e-governance throughout all administrative domains. Numerous e-government initiatives have already been completed, and many more are in various stages of development.

By giving rural residents access to information and the resources to analyze it, information technology may also empower them. Systems technologies in agriculture, for instance, can assist farmers with crop management by offering information. Such as, Land Information System, which supports planning activities at different administrative levels by providing data on markets, food prices, imports and exports, tariffs and quotas, underproduction and overproduction, and soil, hydrology, and rainfall. Having this knowledge at their disposal can help farmers make choices that would guarantee higher yields. "According to The United Nations Department of Economic and Social Affairs (UNDESA) E-Government Survey of 2022, Bangladesh has ranked 111th in the overall E-Gov. Development Index (EGDI) 2022 with a value of 0.5630. As recently as eight years ago in 2014, it was 148th (*Dhaka Tribune*, 2022)."

Types of E-Government

E-government can be roughly categorized into four groups, with an emphasis on important stakeholders:

1) Government to Citizen (G2C) is crucial for the dissemination of information to the public, which includes completing forms such as income tax returns and passports, issuing licenses and certificates and assisting citizens in obtaining basic services like employment, health, and education.

2) Government to Business (G2B) describes the exchange of the public and private sectors trade services. Creating and disseminating relevant rules and regulations, obtaining the necessary licenses and permissions, and paying taxes and tariffs are all included in this.

3) Government to Employee (G2E) Government to Employee (G2E) is applications for leave, job promotions, salary reports, and staff training are all examples of the communication that takes place between the government and its employees.

4) Government to Government (G2G) information sharing between numerous departments of the local government and multiple foreign authorities is involved.²

E-Government services in Bangladesh

In Bangladesh much like most of the developing countries, government is the key provider of public services and public information. At present, the government is capable of providing 90 percent services such as:

(i) **Online Birth Registration**

The government of Bangladesh was able to follow each citizen through the introduction of the Online Birth Registration Information System (BRIS) in 2010. The birth certificate is now mandatory for getting any kind of government facilities in Bangladesh.

(ii) **E-Government Procurement (e-GP)**

To enhance proficiency and openness in public procurement, the government introduced a comprehensive e-GP system in 2011. The complete procurement lifecycle is covered by this web-based system. It keeps track of all procurement procedures. The e-Tendering System and the e-Contract Management System (e-CMS) are the two stages of the e-GP System's implementation. Tender applications and fees can be paid through the procurement portal by prospective domestic and international tenderers. There are now 52 banks connected to e-GP (eprocure.gov.bd).

(iii) **e-Tathyakosh**

Jatiyo e-Tathyakosh, a national e-content repository was introduced in 2011. It is Bangladesh's largest content collection including areas like health, education, agriculture, law and human rights, employment, science and technology, trade and commerce, and non-farm activities. The *e-Tathyakosh* was jointly developed by the United Nations Development

Program (UNDP) and A2I with the participation of over two hundred government and non-governmental organizations.

(iv) ***e-Porcha***

The colonial legacy of Bangladesh's land record system persisted until recently. Any land-based document issuance process was difficult, costly, and time-consuming. The old method was replaced by *e-Porcha*, which also introduced an electronic system and digitalized land records to facilitate document delivery. At present the total service recipient is 1,14,07,153 people (<https://www.eporcha.gov.bd/>).

(v) ***e-Health***

Bangladeshi citizens can now take advantage of telemedicine facilities. Mobile phones and webcams are available in every government hospital, from the municipal to the specialized national level. Patients at local hospitals can obtain medical advice from specialists via video conference, and citizens can phone the designated doctors for free medical consultation. It is possible for anyone to order any medication from online. (Hoque *et al.*, 2014).

(vi) ***e-TIN and Online Tax Payment***

In Bangladesh, in the year 2013, the procedure of registering for an electronic Taxpayers Identification Number (e-TIN) began. In addition to calculating and preparing tax returns, prospective taxpayers can apply for registration and submit them online.

(vii) ***e-Krishi***

Bangladesh placed a strong emphasis on *e-krishi* by disseminating agricultural information through a combination of conventional mass media and contemporary ICTs. Among other stakeholders, *e-krishi* helps farmers. They can readily exchange pertinent information and resources. Different resource apps have been developed for smart agriculture such as, *krishoker janala*, IOT-based Smart Fish Farm, Automation of Dairy Industry etc.

(viii) **Online Banking**

The *Dhaka Tribune* reports that between 2010 and November 2023, the number of Bangladeshi people using online banking has tripled, reaching 8.1 million. In 2024, the online market's net income is expected to reach US\$21.48 billion. There are currently 11,233 total online banking branches in Bangladesh, with 53% of them located in cities and 47% in rural regions.³

(ix) **Citizenship Certificate**

This is an essential document for all Bangladeshi citizens. Citizenship certificates, which are granted by the local UP chairman and distributed by the UDCs, are necessary for a variety of reasons. Cent percent people use the local union digital centres to access this service.

(x) e-Passport, visa and Immigration

Travelers can complete the immigration process using e-passports. The Department of Passport and Immigration (DPI) began issuing e-passports in the nation after opting to undertake an e-passport project in 2016. Following the formal launch of electronic passport services, Bangladesh became the first nation in South Asia to embrace the e-passport era. The nation is the 119th in the world to implement electronic passports.

(xi) Death and Inheritance Certificate

The local UP(Union Parishad) chairman is responsible for issuing death and inheritance certificates. These two are crucial for government-mandated property registration and distribution. Both of these credentials are offered online. Union digital centres provide this service to almost 85% of the population.

(xii) Educational Services

The Government provides some important educational services to students. Online education was implemented as a damage control measure to assist students in continuing their education amidst the protracted nationwide closure caused by the COVID-19 epidemic. Besides these, admission test information, admission form downloads, job information and so on are provided.

Progress and Opportunities

E-governance is an important tool for improving the effectiveness and transparency of Bangladesh's public service delivery system. E-governance has the potential to significantly enhance access to public services and reduce corruption due to the increasing availability and use of technology. E-governance has the potential to empower citizens and raise their awareness of their rights and responsibility by lowering the barriers to accessing public service. E-governance can improve public service accessibility through several means, such as the digitization of official documents, providing of online forms and applications, and offering information about rights and entitlements. E-Governance (Add this before covers) the use of data analytics and other technology-driven methods to enhance decision-making and service delivery, as well as utilizing online and mobile platforms to access public services. Several initiatives have been started in Bangladesh to enhance the quality and accessibility of public services through e-governance, E-governance can enhance. The delivery of public services by giving citizens access to more precise and timely information. Online portals, for instance, can give individuals up-to-date information on the progress of their applications for government services, eliminating the need for them to follow up with authorities or visit government offices. Moreover, reducing mistakes and delays in service delivery can improve overall citizen satisfaction. The government must make investments in capacity building to guarantee that public servants have the abilities and know-how required to carry out e-governance projects successfully. Training in ICT, data management, and information security is part of this effort. Programs for capacity-building and training

should be created with a variety of government authorities in mind, from senior officials to front-line employees. Initiatives about e-governance must be planned with the active involvement and engagement of citizens in mind. This entails creating online interfaces that are easy to use, making sure that all citizens can access them, and offering efficient channels for complaints and remedies. Citizens must participate in the conception, creation, and execution of e-governance programs to guarantee that these endeavors cater to their requirements.

CONCLUSION

The e-government offers developing nations a significant chance to upgrade their governance and administration. Bangladesh is eagerly embracing the opportunity. By looking at pertinent legislation and regulations and analyzing a number of e-government initiatives, this study found that the country has made notable progress, especially in the delivery of public services. To increase the transparency of governmental services, Bangladesh is implementing e-governance in every conceivable sector, including trade, business, health, education, agriculture, and poverty alleviation. The implementation of e-governance in Bangladesh holds great promise for enhancing the effectiveness, transparency, and caliber of public service delivery. E-governance can help lower corruption, boost transparency, and enhance public satisfaction by allowing citizens to access government services online. To successfully implement e-governance, all stakeholders must maintain their collaboration and investment, which also requires addressing significant challenges including infrastructure, capacity building, public involvement, and legal frameworks. Public too has to work together to improve Bangladesh's public service delivery system by utilizing e-governance's potential. With the implementation of an efficient e-governance system, Bangladesh can create a more effective and efficient public service delivery system that meet citizens' needs while reducing corruption, increasing transparency, and raising citizen satisfaction levels. In this way, the digital revolution of e-governance can bring the advantages of the fourth Industrial Revolution to Bangladesh.

Endnotes

1. Everything from “online government services” to “exchange of information and services electronically with citizens, businesses, and other arms of government” has been referred to as “e-government.” See, *UN e-government knowledgebase*, <https://publicadministration.un.org/egovkb/en-us/Overview>
2. See more, Ahmad, T. (2021). E-Government in Bangladesh: Development and Present State, *International Journal of Social Science and Human Research*, Volume 4 (1):557-567, 10.47191/ijsshr/v4-i1-15
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