ISSN: 2348-1390

IMPACT FACTOR: 6.033(SIJIF)

NEW MAN

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY STUDIES

VOL. 12 ISSUE 7 JULY 2025

A PEER REVIEWED AND INDEXED MONTHLY E-JOURNAL

NEW MAN PUBLICATION

www.newmanpublication.com

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New Man International Journal of Multidisciplinary Studies (NMIJMS)
ISSN: 2348-1390 | VOL. 12 | ISSUE 7 | JULY 2025

A Peer-Reviewed and Indexed Monthly E-Journal

Full Journal Title:	NEW MAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY STUDIES
FREQUENCY:	MONTHLY
Language:	ENGLISH, HINDI, MARATHI
Journal Country/Territory:	INDIA
Publisher:	New Man Publication
Publisher Address:	New Man Publication Shivram Nagar, Parbhani -431401 Mob.0 9730721393
Subject Categories:	LANGUAGES, LITERATURE, HUMANITIES, SOCIAL SCIENCES & OTHER RELATED SUBJECTS
Start Year:	2014
Online ISSN:	2348-1390
Impact Factor:	**6.033 (SIJIF)**
Indexing:	Currently the journal is indexed in: Directory of Research Journal Indexing (DRJI), International Impact Factor Services (IIFS) Google Scholar

Editorial

In an era marked by rapid globalization and technological advancement, the wisdom embedded in Indigenous Knowledge Systems (IKS) offers invaluable insights for addressing contemporary challenges. As we present Volume 12, Issue 7 of the *International Journal of Multidisciplinary Studies New Man*, we dedicate this issue to explore the multifaceted dimensions of IKS, its integration into modern frameworks, and its potential to foster sustainable development across disciplines. This peer-reviewed monthly e-journal continues its commitment to fostering interdisciplinary dialogue, and this issue exemplifies that ethos by bringing together scholars from geography, commerce, sociology, political science, economics, history, and beyond.

Indigenous Knowledge Systems represent the cumulative wisdom of communities honed over generations, encompassing environmental stewardship, cultural practices, social governance, and innovative problem-solving. In the Indian context, as highlighted by several contributions in this issue, IKS aligns seamlessly with the National Education Policy (NEP) 2020's vision of decolonizing education and promoting holistic learning. By bridging traditional epistemologies with modern methodologies, IKS not only preserves cultural heritage but also provides practical solutions to pressing global issues such as climate change, resource management, and equitable economic growth. This issue underscores the urgency of revitalizing these systems, particularly in higher education and public policy, to ensure that development is inclusive, resilient, and rooted in local contexts.

The diverse array of papers in this volume illuminates the breadth of IKS applications. From geographical perspectives on elderly dependency to the economic implications of AI in e-governance, contributors examine how indigenous insights can inform sustainable practices. Notable explorations include the role of oral traditions among Arunachal Pradesh tribes, the reflection of Rama Rajya in modern welfare states, and the integration of IKS into psychology education and agricultural development. Computational and library science viewpoints further enrich the discourse, demonstrating how technology and information literacy can amplify indigenous narratives. We are particularly grateful to our authors for their rigorous scholarship, which spans empirical analyses, theoretical frameworks, and cultural critiques, offering readers a comprehensive tapestry of ideas.

As Editor-in-Chief, I extend my sincere appreciation to our Honorarium Editor, Prof. Nalini V. Bengeri. Special thanks go to our Issue Editors, Prof. Gurunath K Badiger and Dr. Basavarajeshwari R. Patil, for their meticulous curation of this thematic focus. Their expertise in English and Political Science, respectively, has ensured a balanced and insightful collection. We also acknowledge the dedication of our peer reviewers, whose constructive feedback upholds the journal's standards of academic excellence.

This issue invites scholars, policymakers, and practitioners to reimagine progress through the lens of indigenous wisdom. By embracing IKS, we not only honor our ancestors but also pave the way for a more harmonious future. We welcome your engagement and look forward to continued contributions that advance multidisciplinary inquiry.

Dr. Kalyan Gangarde
Editor-in-Chief
New Man International Journal of Multidisciplinary Studies

Issue Editor's Note

It is with great pride that we present this special issue of research articles, published in collaboration with Newman Publications, on the occasion of the National Seminar on "Role of Indigenous Knowledge System in Higher Education *"organized by Internal Quality Assurance Cell of Government First Grade College Dharwad, on 30.05.2025.*

This publication marks an important step in recognizing and promoting Indigenous Knowledge Systems (IKS) as a valuable academic resource. Rooted in generations of experience and local wisdom, IKS offers unique perspectives that complement modern education, enrich curriculum content, and foster sustainable development practices. The present issue brings together a rich collection of articles spanning multiple disciplines, each reflecting rigorous research, critical analysis, and originality of thought. The diversity of themes explored highlights the multidisciplinary character of scholarship today, reminding us that knowledge is best advanced through dialogue across fields and perspectives.

At Government First Grade College, Dharwad, the Internal Quality Assurance Cell (IQAC) has always emphasized the importance of nurturing a culture of research and publication. We believe that academic journals play a pivotal role in inspiring young minds, encouraging critical thinking, and creating opportunities for faculty and students alike to contribute meaningfully to the body of knowledge. This publication is a small yet significant step in that direction.

The seminar has brought together academicians, researchers, and practitioners from various disciplines to explore the relevance, application, and integration of indigenous knowledge into higher education. The papers published in this volume reflect a wide array of themes—from traditional ecological knowledge and folk practices to cultural heritage and community-driven learning models.

We thank all the contributors for their insightful research, and express our gratitude to Newman Publications for their platform in disseminating this important work. Our sincere thanks also go to the, faculty members, and well-wishers whose encouragement has made this endeavor possible. We also acknowledge the efforts of the organizing committee, peer reviewers, and editorial team whose dedication made this publication possible.

May this initiative inspire continued academic engagement and pave the way for inclusive and holistic education rooted in our cultural and intellectual traditions.

With best wishes,

Prof. G. K. Badiger
IQAC Coordinator
Government First Grade College, Dharwad

Dr. Basavarajeshwari R. Patil
IQAC Co-Coordinator
Government First Grade College, Dharwad

Contents

1.

Dependency of Elderly Population in India: A Geographical Perspective

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Abstract: All over the World mainly developed and developing countries are experiencing a rise in old age population due to increased life expectancy and declining fertility rates. The rise in the number and share of older individuals in a society is known as population ageing. As there is rise in a specific group of the population, which tend to depend on the working age group (15-59) there arise the challenges in a society which needs to be addressed. The old age dependency ratio is a critical demographic indicator that highlights the potential impact of an ageing population on a country's economy and social support system. The old age dependency ratio is calculated by dividing the number of people aged 60 and older by the number of people of working age (15-59 years old). This ratio provides insights into the potential burden on the working age population to support the elderly population. A higher old age dependency ratio indicates a larger proportion of elderly individuals relative to the working-age population, which can strain social security systems, healthcare services and pension schemes. The present paper focuses on the spatial and temporal variation in the dependency ratio in India. For comparative analysis the data pertaining to 2011 census and projected estimates of 2021 are considered. The research article is based on the secondary sources of data and simple statistical methods like percentage are used to analyse the data.

Key words: Elderly, Dependency ratio, Life expectancy, Fertility, Working age.

Introduction

Growing life expectancy and declining fertility rates are the main causes of the ongoing shift in the age distribution of the population around the world, including India. Individuals' lifespan is getting longer, and the proportion of older individuals in the population is rising quickly. Due to low birth rates and extended life expectancies, the population aging problem is becoming a serious worry for policy makers worldwide, in both industrialized and developing nations. The shifting demographics of a nation like India have created a number of new social, political, and economic difficulties. Rapid socio-economic changes, such as declining fertility, shifting marriage, cohabitation and divorce patterns, rising educational attainment among younger generations and ongoing rural-to-urban population migration are changing the environment in which older people live, including the size and makeup of their households and living arrangements, as well as posing challenges related to both financial and physical support.

According to United Nations report, around one billion people worldwide are 60 years of age or older as of 2020, this number is projected to rise to 1.4 billion in 2030 and nearly 2 billion by 2050. The number of people of 80 years or older is predicted to quadruple between 2020 and 2050 reaching 4.26 billion. The developing globe will be the home to great bulk of these elderly people. According to National Commision on Population report , in 2021 India's population comprised 1.3 billion with 138 million of elderly population, 67 million of male elderly and 71 million of female elderly population.

Objectives

1. To study the demographic profile of the old age population in India.
2. To analyse the spatial distribution and trends of old age dependency ratio of different states of India.
3. To assess the temporal variations in old age dependency ratio.

Methodology

The study is based on secondary data i.e census data for two decades viz. 2011 and projected data for the year 2021. The Secondary data was collected from newspaper articles; Government of India reports, related websites and research articles. Simple statistical techniques such as percentages have been applied in the study for analysis. Further, bar graphs and choropleth maps are used to represent the data and GIS maps have been used to understand spatial variation.

An overview of Elderly population in India

For a country like India, the changing demographic profile has thrown many new challenges in the social, economic and political profile, from 1961, there has been an upward trend in the proportion of old age people in India's population. In 1961, 5.6 percent of the population was 60 years of age or older, by 2021 that number has risen to 10.1 percent and it is projected to rise 13.1 percent in 2031. For male elderly the rise was modest from 5.5 percent in 1961 to 9.6 percent in 2021 whereas, for females there has been a steep rise from 5.8 percent 1961 to 10.7 percent in 2021. Female elderly has outnumbered male elderly in six decades and still has higher share of 14 percent compared to 12.3 percent of male elderly in total population in 2031 (projected).

Life expectancy is a useful indicator of people's overall health. The life expectancy at a given age is the average number of years that a person is anticipated to live after reaching that age. Life expectancy at birth of India was 41.13 years in 1961 which has increased to 69.96 years in 2021 and is expected to rise to 78.30 years in 2031(projected).

The sex ratio trend for the elderly population is parallel to that of the general population, the sex ratio for general population was 941 in 1961 which is close to the sex ratio 948 in 2021 and similarly for elderly population the sex ratio was 1000 in 1961 and has increased to 1065 in 2021(Table no.1).

Table no.1: India: An overview of Elderly population

Year	Old age population(percentage)			Life expectancy of the elderly population (in years)	Sex ratio of the elderly population	
	Male	Female	Total		General population	Elderly population
1961	5.5	5.8	5.6	41.13	941	1000
1971	5.9	6.0	6.0	47.41	930	938
1981	6.4	6.6	6.5	53.47	934	960
1991	6.7	6.8	6.8	57.66	927	930
2001	7.1	7.8	7.4	62.28	933	972
2011	8.2	9.0	8.6	66.43	943	1033
2021(P)	9.6	10.7	10.1	69.96	948	1065
2031(P)	12.3	14.0	13.1	78.30	955	1085

Source: Elderly in India 2021, Government of India, Ministry of Statistics and Programme implementation

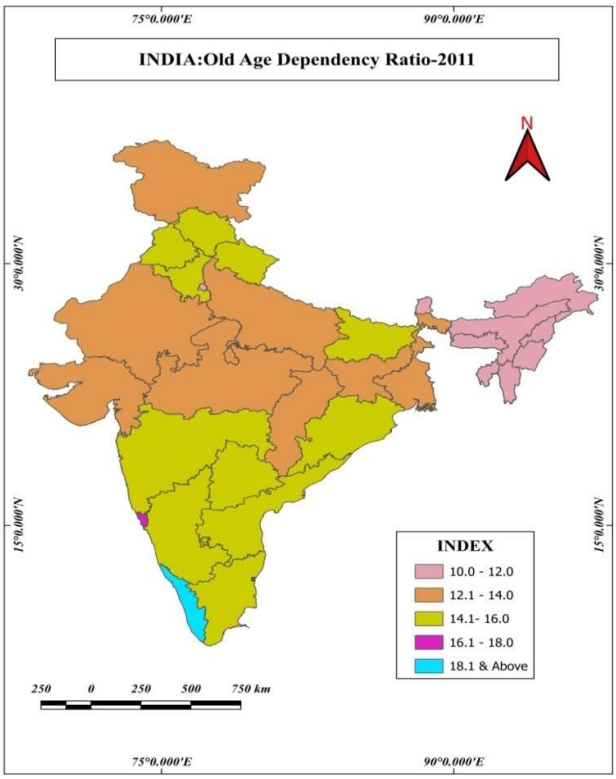
Spatial distribution of old age dependency ratio (OADR) in India -2011-2021

The spatial distribution of old age dependency ratio of elderly population in India varies significantly across different states.India's old age dependency ratio was 14.2 percent in 2011 and has risen to 15.7 percent in 2021.South India has the highest OADR of 19.4 percent,Western region stands in the second position with 16.9 percent,North region accounts for 15.2 percent while East region has 15.1 percent.Central India has an OADR of 13.3 percent,lowest OADR is found in Northeastern states of India with 12.8 percent.India's OADR is increasing due to combination of factors,primarily declining fertility rates and increasing life expectancy,as people live longer and have fewer children,additionally,better healthcare facilities contributing to this trend (Table no.2).

Table no.2 Spatial distribution of old age dependency ratio in India -2011-2021

Sl.No.	State	2011	2021
1	Sikkim	10.0	13.1
2	Arunachal Pradesh	10.0	13.1
3	Nagaland	10.0	13.1
4	Mizoram	10.0	13.1
5	Manipur	10.0	13.1
6	Tripura	10.0	13.1
7	Meghalaya	10.0	13.1
8	Delhi	10.4	13.4
9	Assam	11.0	12.7
10	Jammu and Kashmir	12.5	14.1
11	Gujarat	12.6	15.7
12	Jharkhand	12.7	13.5
13	Rajasthan	13.0	13.9
14	Chattisgarh	13.1	13.8
15	West Bengal	13.2	16.6
16	Madhya Pradesh	13.4	13.6
17	Uttar Pradesh	13.9	13.2
18	Haryana	14.1	15.0
19	Bihar	14.2	13.1
20	Telangana	14.5	16.3
21	Karnataka	14.8	17.2
22	Uttarakhand	14.9	16.1
23	Odisha	15.4	18.3
24	Andhra Pradesh	15.4	18.5
25	Maharashtra	15.7	17.5
26	Tamil Nadu	15.8	20.5
27	Himachal Pradesh	16.1	19.6
28	Punjab	16.1	18.8
29	Goa	16.8	21.1
30	Kerala	19.6	26.1

Source: Elderly in India 2011 and 2021, Government of India,Ministry of Statistics and Programme Implementation.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INDIA:Old Age Dependency Ratio-2011
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INDEX
10.0 - 12.0
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16.1 - 18.0
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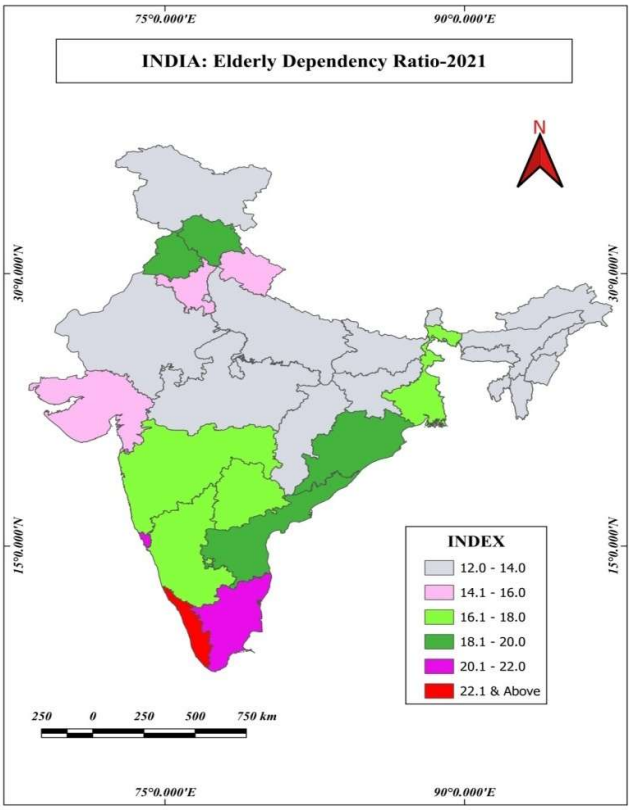
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30°0.000'N
15°0.000'N
INDEX
12.0 - 14.0
14.1 - 16.0
16.1 - 18.0
18.1 - 20.0
20.1 - 22.0
22.1 & Above
250 0 250 500 750 km

Fig.1

Temporal variation of old age dependency ratio in India

Both share and size of India's elderly population increasing over time, the proportion of elderly people has grown significantly from 10.9 percent in 1961 to 15.7 percent in 2021 and is expected to increase to 20.1 percent by 2031. Male elderly population has steadily increased from 10.9 percent to 14.8 percent and expected to reach 18.8 percent by 2031 while female elderly population has risen to 16.7 percent from 10.9 percent in six decades (1961 to2021) and expected to increase to 21.5 percentage by 2031. According to United Nations Population Fund (UNFPA) elderly population is expected to continue to rise with projections suggesting that the elderly group will surpass the child population by 2046 and could make up to 20 percent of the total population by 2050. In all decades female elderly outnumbered their male counterparts (Table no.3).

Table no.3: India: Temporal variation of old age dependency ratio -1961-2031

Year	Male	Female	Total
1961	10.9	10.9	10.9
1971	11.4	11.6	11.5
1981	11.8	12.2	12.0
1991	12.2	12.2	12.2
2001	12.5	13.8	13.1
2011	13.6	14.9	14.2
2021(P)	14.8	16.7	15.7
2031(P)	18.8	21.5	20.1

Source: Elderly in India 2021, Government of India, Ministry of Statistics and Programme implementation

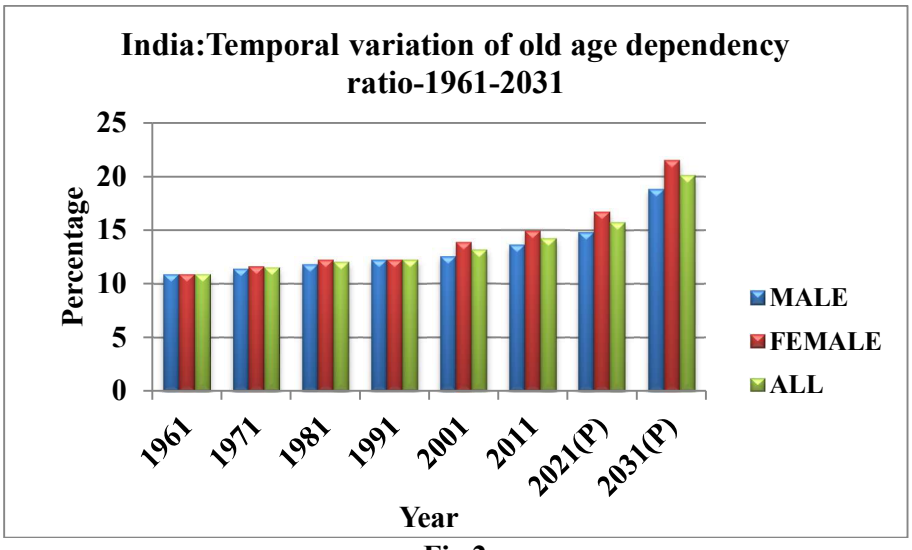

Fig.2

CONCLUSION

The dependency of the elderly population in India is a complex and multifaceted issue that varies significantly across different states spatially and temporally. The elderly population is growing rapidly in Southern states like Kerala and Tamil Nadu .Whereas, the Northern and Northeastern states have relatively younger populations. Interestingly, the sex ratio of old age population is higher in all decades and most of the states have higher sex ratios.

Addressing the dependency of the elderly population in India requires a nuanced understanding of the geographical variations and complexities of the ageing in the country. By developing targeted strategies and interventions, policymakers can promote the well-being and dignity of elderly populations, ensuring that they lead healthy, active and fulfilling lives. By increasing retirement age, encouraging labour force participation, investing in healthcare and promoting intergenerational relationships population ageing can be managed in better manner.

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2.

The Usage of Indigenous Knowledge in Modern Business: An Indian Context

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Abstract: Indigenous knowledge systems (IKS) represent the deep-rooted cultural practices, innovations, and experiences developed by local communities over generations. These systems are shaped by an intimate understanding of the local environment and societal needs. In the context of modern business, particularly in India, there is a growing trend of leveraging such traditional knowledge to foster sustainable and inclusive economic growth. This paper investigates how Indian businesses are incorporating indigenous knowledge in their operations and strategies. It examines sectors such as agriculture, healthcare, and handicrafts where traditional practices are being successfully merged with contemporary business methods. Through case studies and literature analysis, the research highlights the significance, potential benefits, and challenges of integrating indigenous knowledge into the fabric of modern entrepreneurship

Key words: Indigenous knowledge system (IKS), Modern business, Integration.

1. Introduction

India is home to an immense wealth of indigenous knowledge (IK) — encompassing practices, beliefs, and technologies developed over generations. Modern businesses are exploring new ways to integrate these traditional insights, especially in the sectors of organic farming, ayurveda, handloom, and eco-tourism. This paper aims to explore the relationship between indigenous knowledge and contemporary Indian businesses, highlighting how age-old wisdom is being adapted to meet modern challenges.

In the contemporary global economy, businesses are increasingly exploring sustainable, inclusive, and culturally rooted strategies to ensure long-term success and social legitimacy. Against this backdrop, Indigenous Knowledge (IK)—the cumulative body of knowledge, practices, and beliefs developed by indigenous and local communities over centuries through interaction with their environment—has gained renewed attention. Indigenous Knowledge is holistic in nature, often transmitted orally across generations, and is intricately linked to the cultural, spiritual, and environmental life of its practitioners. It encompasses domains such as agriculture, healthcare, resource management, craft, and governance.

Furthermore, policy support from the Indian government and global institutions has encouraged inclusive growth models that respect traditional knowledge systems. Initiatives such as the National Innovation Foundation, Tribal Cooperative Marketing Development Federation (TRIFED), and the "Vocal for Local" campaign under Atmanirbhar Bharat (Self-Reliant India) are actively promoting indigenous products and services. However, while these developments offer immense promise, they also raise important questions about intellectual property rights, ethical commercialization, and benefit-sharing with indigenous communities.

This study seeks to explore how Indigenous Knowledge is being integrated into modern Indian businesses across various sectors. It examines real-world case studies to understand the effectiveness, challenges, and future potential of such integration. By doing so, it aims to highlight the role of IK not just as a cultural artifact but as a living, adaptive system that can contribute meaningfully to sustainable business practices and inclusive economic development.

2. Review of Literature

The body of scholarly work on IKS presents it as a viable, resilient, and context-sensitive system of knowledge. Recent studies post-2015 have explored its economic, ecological, and cultural value:

- Reddy, G.P. & Kumar, A. (2015) found that traditional farming practices enhance soil fertility and biodiversity compared to industrial agriculture (Journal of Rural Development, 34(2)).
- Chakraborty, R. & Banerjee, S. (2017) emphasized the role of IKS in climate-resilient agriculture, stressing farmer-led innovation (Asian Journal of Agriculture and Development, 14(1)).
- Mehta, S. (2018) explored how Ayurveda-based businesses like Patanjali leverage IKS for consumer trust and market expansion (International Journal of Business Research, 18(2)).
- Sarkar, D. & Ghosh, M. (2019) discussed how indigenous crafts maintain socio-economic stability in rural India through micro-enterprises (Journal of Social Entrepreneurship, 11(3)).
- Prasad, R. & Singh, A. (2021) reviewed government initiatives promoting Zero Budget Natural Farming and their impact on farmer incomes and sustainability (Indian Journal of Agricultural Economics, 76(4)).

These studies call for systematic integration of IKS into policy frameworks, innovation strategies, and sustainable business models. The literature indicates a growing interest in integrating traditional wisdom into commerce mainstream.

3. Objectives of the Study

- To explore the scope of indigenous knowledge in modern Indian businesses.
- To analyze how Indian enterprises are integrating traditional practices in contemporary settings.
- To identify challenges and opportunities in leveraging IK for business innovation.

4. Need for the Study

As global consumers increasingly value authenticity, sustainability, and ethical sourcing. Indigenous knowledge systems offer a competitive advantage to capitalize new business ventures. But is has been underutilized in spite of its richness. This study is necessary to bridge the knowledge gap and highlight how traditional Indian practices can inform and enrich modern entrepreneurship.

5. Research Methodology: This study employs a qualitative methodology:

- Secondary Data Collection: Examination of books, journals, online databases, and government publications related to indigenous knowledge and business.
- Case Study Method: Seven case studies (Patanjali, FabIndia, Amul, Forest Essentials, Baidyanath, and Navdanya,) illustrate the practical implementation of IKS.
- Thematic Content Analysis: Patterns and insights are drawn by analyzing the experiences of these businesses in aligning IKS with current business practices.

The qualitative approach allows for in-depth understanding of complex socio-economic and cultural interactions.

6. Analysis and Interpretation

To understand the real-world application of Indigenous Knowledge Systems (IKS) in modern Indian businesses, a detailed examination of selected case studies is essential. Each case reflects how traditional practices—rooted in local culture and sustainability—have been transformed into commercially viable ventures. These examples span diverse sectors such as agriculture, health, wellness, dairy, and handicrafts, offering insights into both opportunities and operational challenges. The following analysis interprets how these enterprises utilize indigenous knowledge, the extent of their success, and the barriers they encounter.

Case Study 1: Patanjali Ayurved **Limited: The founders of** Patanjali Ayurved **Limited** are Acharya Balkrishna and Baba Ramdev.. It is an Indian FMCG brand established in the year 2006 that integrates traditional Ayurvedic knowledge to variety of herbal products.

- Indigenous Knowledge Applied: Ayurveda—a holistic health system with roots in ancient Indian texts.

- Modern Integration: Patanjali has incorporated Ayurvedic formulations into large-scale product lines such as cosmetics, supplements, and personal care goods, backed by aggressive branding and modern supply chains.
- Impact: Patanjali has not only revitalized interest in Ayurveda but also disrupted the FMCG sector, generating employment for thousands and boosting rural herb cultivation. Its success showcases how a traditional knowledge base can be leveraged for mass-market appeal and economic gain.
- Challenges: Faced criticism for product standardization issues and regulatory scrutiny from health and food safety bodies. Found difficulty in maintaining consistent quality while sourcing from decentralized traditional suppliers.

Case Study 2: FabIndia Limited -Founded in 1960 by John Bissell, an American working for Ford Foundaion New Delhi. It promotes Indian handloom and handicrafts through ethically sourced and culturally rooted apparel, furnishings, and food products. Indigenous Knowledge Applied: Traditional weaving, dyeing, and embroidery techniques passed down through generations.

- Modern Integration: FabIndia bridges the gap between village craftsmen and urban consumers. It provides access to international markets. It uses contemporary design trends to make traditional crafts appealing to modern consumers, while ensuring artisans are treated as stakeholders through its supply-chain equity model.
- Impact: The brand has empowered thousands of craftsmen, helping sustain traditional arts and crafts while creating a unique niche in the lifestyle and fashion segment. This has led to economic empowerment of rural by conserving the rich heritage.
- Challenges faced: Struggles with balancing mass-market retail expansion and artisan-centric values. It faced consumer backlash related to cultural misrepresentation and pricing strategies.

Case Study 3: Amul Dairy Cooperative- Amul is a dairy cooperative established in 1946 and based in Gujarat, known for revolutionizing India's dairy industry. It is a prime example of integrating community-based dairy farming practices with modern processing and distribution.

- Indigenous Knowledge Applied: Community-based practices of milk production and livestock care, prevalent in Gujarat's rural regions.
- Modern Integration: Amul integrated cooperative frameworks with modern processing and distribution technologies, enabling small-scale dairy farmers to participate in large-scale value chains.
- Impact: Amul brought paradigm shift in India's dairy industry by increased production and brand creation. It exemplifies how grassroots models rooted in traditional practices can be scaled up for national transformation.
- Challenges faced: Initial resistance from traditional dairy farmers in adapting to cooperative models. It encounters ongoing challenges in modernizing infrastructure without losing rural participation.

  Case Study 4: Forest Essentials - **Forest Essentials** Founded in 2000, is a luxury Ayurvedic skincare brand that combines ancient formulations with modern presentation. Indigenous Knowledge Applied: Ancient Ayurvedic beauty rituals and ingredients.
- Impac: Made its presence as luxury Ayurvedic beauty brand at global level.
- Modern Integration: Luxury packaging, international marketing, partnerships with global hotel chains.
- Challenges: Managing the cost of maintaining authentic Ayurvedic formulations without compromising affordability and navigating global health certifications and maintaining traditional integrity under high-end branding.

Case Study 5: BaidyanathBaidyanath Shree Baidyanath Ayurved Bhawan Ltd., established in 1917, is one of India's oldest Ayurvedic product manufacturers. It maintains classical Ayurvedic processes while scaling for mass production.

- Indigenous Knowledge Applied: Classical Ayurvedic medicine production and research.
- Impact: Provided affordable wellness products rooted in classical knowledge.
- Modern Integration: GMP-certified factories, digital marketing, modern pharmacies.
- Challenges: Competing with younger, trendier Ayurvedic brands; addressing skepticism in modern consumers.

Case Study 6: Navdanya- Indigenous Knowledge and Challenges **Navdanya (Uttarakhand)** Navdanya, founded by Dr. Vandana Shiva, is a biodiversity conservation movement promoting organic farming and seed sovereignty.It Trains farmers in traditional seed-saving and permaculture practices.

- Indigenous Knowledge Applied: Navdanya is engaged in organic farming, natural composting, preserving traditional seed varieties and water conservation techniques. It emphasizes agro-biodiversity by encouraging mixed cropping systems rooted in local ecologi
- Modern Integration: Organic certification, farmer training programs, e-commerce for organic products.
- Challenges: Limited retail reach, high certification costs, low youth engagement, minimal government support.

Interpretation:

These cases collectively highlight that integrating indigenous knowledge into business operations is not merely a matter of preserving culture—it also has significant commercial and developmental advantages. IKS fosters sustainability by relying on natural resources and low-impact methods, ensures community involvement by keeping production localized, and enhances authenticity in branding, which appeals to ethical consumers. However, it poses the following challenges as well.

- The difficulty of maintaining consistency and quality when scaling traditional practices.
- The risk of cultural appropriation if local communities are not given ownership.
- Non availability if sufficient funds and limited marker access

Thus, for effective usage of Indian knowledge system in contemporary business, models must be supported by Government policies which are inclusive. Strategic collaborations between corporates, NGOs, academia, and government can ensure that the benefits of indigenous knowledge are maximized while respecting the rights and dignity of traditional custodians.

7. Findings and Suggestions

Findings and suggestions from the above case studies have been summarized as follows.

Findings:

- Indigenous knowledge is a viable foundation for innovative business models.
- Successful Indigenous Knowledge based companies balance the tradition and modernity.
- Market awareness, standardization, and legal protection are crucial.

Suggestions:

- Encourage policy frameworks that protect IK (e.g., Geographical Indications).
- Invest in R&D to refine and scale IK-based solutions.
- Foster partnerships between local communities and entrepreneurs.
- Educate business leaders about the value of cultural knowledge systems.

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Bridging Traditions: Integrating Indigenous Knowledge in to Modern Business Practices

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Objectives: This study examines the integration of Indigenous Knowledge Systems (IKS) into modern business practices, focusing on sustainability, ethical governance, and community well-being. It aims to (1) identify core Indigenous principles relevant to business, (2) analyse successful integration models, (3) assess barriers to adoption, and (4) evaluate the economic, social, and environmental benefits of such integration.

Methodology: A mixed-methods approach was employed, combining qualitative case studies of Indigenous-business collaborations (e.g., agriculture, renewable energy, tourism) with quantitative surveys on corporate adoption challenges. Data was gathered through literature reviews, interviews with Indigenous leaders and business executives, and comparative analysis of regional implementations.

Findings: The study reveals that businesses incorporating IKS achieve enhanced sustainability, innovation, and stakeholder trust. Successful models include co-managed fisheries in Canada, Indigenous-led eco-tourism in New Zealand, and traditional farming adaptations in agribusiness. Key barriers include legal gaps in intellectual property protection, cultural misalignment, and corporate resistance to participatory governance.

Suggestions: To facilitate ethical integration, the study recommends (1) legal frameworks for Indigenous knowledge protection, (2) corporate policies ensuring Free, Prior, and Informed Consent (FPIC), (3) cross-cultural training for businesses, and (4) incentive structures for Indigenous-led enterprises.

Conclusion: Indigenous knowledge offers transformative potential for businesses addressing global sustainability challenges. By cantering reciprocity, environmental stewardship, and community equity, companies can drive regenerative economies while rectifying historical marginalization. Future success hinges on institutional commitment to decolonizing business practices and fostering equitable partnerships with Indigenous communities.

Keywords: Indigenous Knowledge Systems (IKS), sustainable business models, corporate-community partnerships, traditional ecological knowledge (TEK), ethical governance, inclusive economies, Indigenous entrepreneurship, environmental stewardship, cultural preservation, regenerative business

1.1 INTRODUCTION

In an era defined by globalization, climate change, and social transformation, modern businesses are increasingly seeking innovative approaches that go beyond profit maximization to include sustainability, ethical governance, and community well-being. One emerging and powerful avenue is the integration of Indigenous knowledge systems into contemporary business practices. Indigenous knowledge—shaped by thousands of years of close interaction with local ecosystems, intergenerational wisdom, and communal ways of living—offers a holistic worldview that contrasts sharply with the often mechanistic and extractive logic of modern capitalism.

Bridging Traditions: Integrating Indigenous Knowledge into Modern Business Practices delves into the profound opportunity that lies in aligning these two knowledge systems. Indigenous communities around the world have long managed natural resources sustainably, governed societies with participatory and consensus-based models, and emphasized the interconnectedness of all life forms. These principles resonate strongly with contemporary global movements for environmental stewardship, social responsibility, and inclusive economics. However, the process of integration is not without challenges. There exists a history of marginalization, exploitation, and cultural erasure that must be acknowledged and addressed. For meaningful collaboration, businesses must approach Indigenous knowledge with respect, humility, and a commitment to ethical partnerships. This requires shifting from a transactional mindset to one of relational engagement—where trust, reciprocity, and mutual learning are paramount.

This exploration is not just about adopting Indigenous practices superficially; it is about fundamentally reimagining the purpose and impact of business in society. By recognizing Indigenous knowledge as a valid and valuable contributor to business innovation and leadership, companies can help bridge historical divides and create pathways toward regenerative economies.

In this context, the integration of Indigenous perspectives is not a trend, but a transformative practice—one that challenges us to rethink our assumptions about growth, leadership, and success. As we navigate an increasingly complex global landscape, embracing Indigenous knowledge may offer the guidance needed to build businesses that are not only economically viable but also socially just and environmentally sound.

1.2 REVIEW OF LITERATURE

1. Dlamini and Rojas (2025) examined how Indigenous worldviews influence sustainability reporting in multinational corporations. Using a qualitative approach that included interviews with corporate sustainability officers and Indigenous leaders in South Africa and Latin America, the study found that Indigenous knowledge emphasizes harmony with nature and community welfare, which often contrasts with conventional corporate reporting focused on profit metrics. The authors suggest that including Indigenous indicators—such as ecological reciprocity and social cohesion—can enhance the depth and ethical integrity of sustainability reports. They conclude that integrating Indigenous perspectives leads to more comprehensive and socially responsible corporate disclosure practices.

2. Whitecloud and Singh (2025) analyzed how Indigenous entrepreneurship models are shaping regional economic development in North America and India. Using a mixed-methods approach combining economic impact data and interviews with Indigenous entrepreneurs, the study discovered that businesses grounded in Indigenous principles tend to prioritize communal benefit, ecological responsibility, and cultural preservation. The findings indicate that these models not only stimulate local economies but also reinforce cultural resilience. The authors suggest that development agencies support Indigenous entrepreneurship through tailored financing and capacity-building programs. They conclude that Indigenous business models provide a sustainable and inclusive alternative to conventional capitalist approaches.

3. Kaur and Menon (2024) studied the integration of Indigenous knowledge in corporate training and human resource development in India. Using action research involving HR managers and Indigenous educators, the study evaluated the impact of incorporating Indigenous philosophies—such as collective decision-making and respect for elders—into diversity and inclusion training. Results showed significant improvements in intercultural understanding, teamwork, and employee morale. The authors recommend the regular inclusion of Indigenous teachings in corporate learning and development frameworks. They conclude that doing so not only enhances workplace harmony but also supports organizational ethics and long-term employee engagement.

4. Tapia and Morrison (2024) investigated intellectual property concerns arising from corporate use of Indigenous knowledge in product development. Through legal analysis and stakeholder interviews in Australia and the United States, the study found widespread instances of cultural appropriation and inadequate benefit-sharing. The findings stress the urgency of developing legal protections that reflect the communal nature of Indigenous knowledge. The authors suggest the creation of sui generis IP systems that recognize collective ownership and traditional custodianship. They conclude that ethical and legal respect for Indigenous knowledge is essential for sustainable and equitable innovation in business.

5. Mwenda and Patel (2024) explored the role of Indigenous ecological knowledge in shaping corporate environmental strategies in Africa. The research adopted a comparative case study method involving companies operating near Indigenous communities in Kenya and Zimbabwe. The findings reveal that businesses which consult and collaborate with Indigenous groups achieve better environmental outcomes and face fewer social conflicts. The authors recommend mandatory inclusion of Indigenous voices in environmental impact assessments. The study concludes that Indigenous collaboration enhances environmental governance and fosters trust between corporations and local communities.

6. Martinez and Cheung (2024) focused on the intersection of Indigenous aesthetics and modern product innovation in the global fashion industry. Using qualitative content analysis and market trend observation, the study highlighted how Indigenous design elements—when used respectfully—enhance brand authenticity and market appeal. However, the findings also caution against superficial or exploitative use of cultural elements. The authors recommend establishing collaborative design partnerships with Indigenous communities and ensuring benefit-sharing. They conclude that ethical use of Indigenous aesthetics contributes to both cultural preservation and creative industry growth.

7. Kumar and Thapa (2024) investigated the influence of Indigenous farming practices on agribusiness sustainability in South Asia. Through ethnographic research and interviews with Indigenous farmers, the study identified time-tested practices such as intercropping, water conservation, and seed preservation as being both sustainable and cost-effective. The findings suggest that integrating these methods can reduce operational risks and improve soil health in commercial agriculture. The authors recommend knowledge exchange programs between Indigenous communities and agribusiness firms. They conclude that these practices should form the basis of climate-resilient agricultural policy and corporate strategies.

8. Chan and Littlebear (2024) studied Indigenous participation in corporate governance through the lens of stakeholder theory. Utilizing a survey-based methodology across Native American and First Nations communities, the study found that Indigenous stakeholders demand more transparent, relational, and community-focused corporate governance models. Findings show that businesses with Indigenous board members or community liaisons tend to have higher social license to operate. The authors suggest formalizing Indigenous participation in strategic planning and decision-making bodies. The study concludes that such integration strengthens ethical governance and community alignment.

1.3 RESEARCH GAP

Despite growing recognition of the value of Indigenous knowledge in sustainable and ethical business practices, there remains a significant research gap in the form of limited empirical models that demonstrate practical integration across diverse business contexts. Most studies are region-specific and predominantly qualitative, lacking comparative, cross-cultural, or quantitative analyses that assess the measurable impact of Indigenous practices on business performance. Additionally, there is insufficient documentation of Indigenous entrepreneurial models and their scalability within

global market systems, highlighting the need for more structured, data-driven, and interdisciplinary research in this area.

1.4 STATEMENT OF PROBLEM

Despite the growing recognition of Indigenous Knowledge Systems (IKS) as valuable resources for sustainable and ethical business practices, their integration into modern business environments remains limited and inconsistent. Many contemporary business models continue to prioritize profit, efficiency, and scalability over cultural preservation, environmental stewardship, and community well-being—core principles of Indigenous worldviews. This disconnect has led to the marginalization of Indigenous voices, underutilization of traditional knowledge, and missed opportunities for innovation rooted in local wisdom.

Furthermore, the lack of formal frameworks, legal protections, and institutional support poses significant barriers to the effective incorporation of Indigenous knowledge. Businesses often struggle with cultural sensitivity, knowledge misappropriation, and a lack of understanding of Indigenous governance and value systems. This situation is compounded by a historical legacy of colonization and exploitation that has undermined trust between Indigenous communities and mainstream institutions.

Therefore, the problem this study addresses is the absence of inclusive and structured mechanisms that facilitate the meaningful integration of Indigenous knowledge into modern business practices. The study seeks to explore how Indigenous principles can be respectfully and effectively embedded into business strategies, decision-making, and operations—ensuring mutual benefit, cultural preservation, and long-term sustainability.

1.5 SIGNIFICANCE OF THE STUDY

This study holds significant importance in the current global context, where businesses are increasingly challenged to operate not only for profit but also for social responsibility, environmental sustainability, and cultural inclusivity. The integration of Indigenous Knowledge Systems (IKS) into modern business practices presents a transformative opportunity to address these challenges holistically.

Firstly, the study contributes to academic knowledge by bridging a gap in interdisciplinary research that combines Indigenous studies, business management, and sustainable development. It highlights the value of non-Western knowledge systems in shaping ethical and resilient business models.

Secondly, it has practical significance for business leaders, entrepreneurs, and policymakers by providing insights into how Indigenous principles—such as communal ownership, environmental stewardship, reciprocity, and long-term thinking—can be adapted into modern business strategies. These insights can foster innovation, promote local economic development, and enhance the cultural relevance of business practices.

Thirdly, the study supports cultural preservation and empowerment. By validating and incorporating Indigenous knowledge, businesses can help revitalize cultural practices, support Indigenous entrepreneurship, and strengthen community identity and autonomy.

Lastly, the study contributes to social equity and reconciliation by encouraging respectful engagement and collaboration between Indigenous communities and corporate entities. It promotes ethical partnerships that acknowledge historical injustices and work toward inclusive economic systems that benefit all stakeholders.

In sum, this study is significant because it advocates for a paradigm shift in business thinking—one that respects diversity, values Indigenous contributions, and seeks to build a more just and sustainable future.

1.6 OBJECTIVES OF THE STUDY

The primary aim of this study is to explore the integration of Indigenous Knowledge Systems (IKS) into modern business practices. To achieve this aim, the study is guided by the following specific objectives:

1. To examine the core principles and values of Indigenous Knowledge Systems that are relevant to contemporary business practices, such as sustainability, reciprocity, community-based decision-making, and environmental stewardship.
2. To identify existing models and case studies where Indigenous knowledge has been successfully integrated into modern business operations across different industries and regions.
3. To assess the challenges and barriers that hinder the effective incorporation of Indigenous knowledge into mainstream business practices, including legal, cultural, and structural constraints.
4. To explore the potential benefits—economic, social, environmental, and cultural—of integrating Indigenous knowledge into business strategies and operations.

1.7 RESEARCH METHODOLOGY

The research will use a mixed-methods approach combining qualitative and quantitative techniques to thoroughly investigate the integration of Indigenous Knowledge Systems into modern business practices. Qualitative methods, including literature review, interviews, and focus groups with Indigenous knowledge holders and business leaders, will explore core Indigenous values and identify successful integration models. Comparative case studies across diverse regions and industries will provide practical examples. Quantitative surveys and data analysis will assess challenges such as legal and cultural barriers, as well as measure the economic, social, and environmental benefits of integration. This comprehensive methodology ensures a balanced understanding of both the cultural depth and measurable impacts, enabling well-rounded and evidence-based conclusions.

1.8 DISCUSSION

1.8.1 CORE PRINCIPLES OF INDIGENOUS KNOWLEDGE IN CONTEMPORARY BUSINESS.

Indigenous Knowledge Systems (IKS) are grounded in core principles and values that offer profound insights and guidance for contemporary business practices. These principles—such as sustainability, reciprocity, community-based decision-making, and environmental stewardship—are increasingly relevant in today's business environment, especially as companies seek to adopt more ethical, inclusive, and sustainable models.

Sustainability is central to Indigenous Knowledge Systems, reflecting a long-term relationship with the environment that prioritizes balance and regeneration. Unlike conventional business models that often focus on short-term profits, Indigenous approaches emphasize maintaining the health of ecosystems to ensure resources remain available for future generations. This principle encourages businesses to adopt practices that minimize environmental impact, conserve biodiversity, and promote circular economies, thereby supporting the global shift toward sustainable development.

Reciprocity embodies the mutual exchange of benefits and respect between humans and nature, as well as among community members. In Indigenous cultures, relationships are built on giving and

receiving in ways that honor interconnectedness and shared responsibility. For businesses, this principle translates into ethical partnerships with Indigenous communities, fair benefit-sharing agreements, and corporate social responsibility that goes beyond philanthropy to foster genuine, balanced relationships. Reciprocity also encourages businesses to consider the wider social and environmental implications of their operations, cultivating trust and long-term collaboration.

Community-based decision-making reflects the collective approach Indigenous peoples use to manage resources and resolve issues. Decisions are made inclusively, often through consensus, ensuring that diverse voices within the community are heard and respected. This contrasts with hierarchical or top-down corporate governance structures and offers valuable lessons in participatory management, stakeholder engagement, and transparent communication. Integrating community-based decision-making in business can lead to more equitable outcomes, stronger social license to operate, and enhanced stakeholder loyalty.

Environmental stewardship is a fundamental value that guides Indigenous interactions with the natural world. Indigenous Knowledge Systems view humans as part of a broader ecological web, with a duty to protect and nurture the environment. This stewardship involves practices such as sustainable harvesting, habitat protection, and the use of traditional ecological knowledge to monitor and respond to environmental changes. For contemporary businesses, adopting this value means embedding environmental responsibility into their core strategies, reducing carbon footprints, and actively contributing to ecosystem conservation and climate resilience.

In summary, the core principles of Indigenous Knowledge Systems offer a holistic framework that aligns closely with modern demands for sustainable and ethical business. Embracing sustainability, reciprocity, community participation, and environmental stewardship enables businesses to foster innovation, build resilient relationships, and contribute positively to society and the planet. These values challenge conventional business paradigms and encourage a shift towards more inclusive, responsible, and regenerative economic models.

1.8.2 ANALYZING SUCCESSFUL MODELS OF INDIGENOUS KNOWLEDGE INTEGRATION IN MODERN BUSINESS

Indigenous knowledge, rooted in the cultural heritage and lived experiences of native communities, has increasingly been recognized as a valuable asset in modern business operations. Various models and case studies across industries and regions demonstrate successful integration of this traditional wisdom into contemporary business practices, creating sustainable and socially responsible outcomes.

One prominent model is the **co-management approach** seen in natural resource industries, especially in forestry and fisheries. For example, in Canada, Indigenous communities collaborate with government agencies and private firms to manage fisheries, blending traditional ecological knowledge (TEK) with scientific methods. This partnership has led to improved sustainability of fish stocks and enhanced community livelihoods by respecting Indigenous harvesting practices alongside regulatory frameworks.

In the **agriculture sector**, the use of Indigenous farming techniques has been revived and integrated with modern agricultural science to promote biodiversity and soil health. The case of the Zuni people in the southwestern United States illustrates this well: traditional dry farming methods were combined with contemporary water management technologies, leading to increased crop resilience and sustainability in arid regions. Similarly, in Australia, Indigenous land management practices such as controlled burning have been adopted by agricultural and environmental agencies to reduce wildfire risks and maintain ecosystem balance.

The **tourism industry** offers notable examples where Indigenous knowledge enhances cultural authenticity and environmental stewardship. In New Zealand, Māori-owned tourism businesses integrate traditional storytelling, customs, and ecological knowledge to offer unique visitor experiences that foster respect for Māori heritage while promoting economic development. This model respects Indigenous intellectual property and ensures community benefits, contributing to both cultural preservation and sustainable tourism growth.

In the **healthcare sector**, Indigenous knowledge has been integrated into wellness programs and pharmaceutical research. For instance, some companies in the pharmaceutical industry collaborate with Indigenous healers to explore traditional medicinal plants, leading to the development of new drugs while ensuring benefit-sharing agreements with Indigenous groups. The Cree community in Canada has worked with healthcare providers to combine Indigenous healing practices with Western medicine, improving healthcare accessibility and outcomes for Indigenous patients.

Finally, in the **renewable energy sector**, Indigenous groups have partnered with companies to develop projects that align with their values and land rights. A case in point is the partnership between the Navajo Nation and renewable energy firms in the United States, where solar power projects have been designed to provide clean energy while creating jobs and respecting tribal sovereignty.

These examples illustrate that successful integration of Indigenous knowledge in modern business depends on respect for Indigenous rights, meaningful collaboration, and equitable benefit-sharing. Businesses that embrace these principles not only enhance their sustainability credentials but also contribute to social justice and cultural preservation. This growing recognition highlights Indigenous knowledge as a critical resource for innovation and responsible business practices across diverse industries and regions.

1.8.3 CHALLENGES AND BARRIERS TO INTEGRATING INDIGENOUS KNOWLEDGE INTO MAINSTREAM BUSINESS PRACTICES: LEGAL, CULTURAL, AND STRUCTURAL PERSPECTIVES

The incorporation of Indigenous knowledge into mainstream business practices faces several significant challenges and barriers, which can be broadly categorized into legal, cultural, and structural constraints. These obstacles often limit the full potential of Indigenous knowledge to contribute meaningfully to sustainable and inclusive business models.

From a **legal perspective**, one of the foremost challenges is the lack of clear and enforceable frameworks that recognize and protect Indigenous intellectual property rights. Indigenous knowledge, often transmitted orally and tied to specific communities, does not easily fit into conventional intellectual property laws such as patents or copyrights. This gap exposes Indigenous knowledge holders to the risk of exploitation or misappropriation by businesses without fair compensation or consent. Additionally, overlapping jurisdictional claims and unclear land rights can complicate agreements between Indigenous communities and corporations, creating legal uncertainty and mistrust.

Culturally, the differences in worldview and knowledge systems pose a significant barrier. Indigenous knowledge is deeply embedded in spiritual beliefs, communal values, and relational understandings of nature, which may conflict with the profit-driven and mechanistic orientation of mainstream businesses. This cultural disconnect can lead to misunderstandings, undervaluing, or even dismissing Indigenous contributions as unscientific or irrelevant. Furthermore, there is often a lack of cultural competency within business organizations, resulting in inadequate engagement processes that fail to respect Indigenous customs, protocols, and decision-making practices.

Structurally, Indigenous communities often face limited access to resources and decision-making power within business partnerships. Historical marginalization and socio-economic disadvantages mean that Indigenous groups may lack the capacity to negotiate effectively or influence business strategies on equal footing. Corporate governance models rarely accommodate Indigenous representation or integrate traditional leadership structures, which undermines the possibility of genuine co-management or co-ownership arrangements. Moreover, time constraints and differing priorities between businesses seeking short-term returns and Indigenous communities focused on long-term stewardship create friction in aligning goals.

Other practical challenges include language barriers, limited documentation of Indigenous knowledge in formats accessible to businesses, and the risk of oversimplification or loss of context when translating traditional knowledge into corporate strategies. There is also a danger that Indigenous knowledge becomes tokenized—used superficially to enhance a company's image without meaningful integration or benefit-sharing.

Addressing these challenges requires comprehensive legal reforms that safeguard Indigenous rights, capacity-building initiatives to empower Indigenous communities, and the development of culturally sensitive business frameworks. This includes establishing protocols for free, prior, and informed consent, recognizing Indigenous governance, and fostering genuine partnerships based on mutual respect and shared values. Only by overcoming these barriers can Indigenous knowledge be effectively and ethically integrated into mainstream business practices, resulting in more sustainable and inclusive economic development.

1.8.4 UNLOCKING SUSTAINABLE GROWTH: THE BENEFITS OF INCORPORATING INDIGENOUS KNOWLEDGE IN BUSINESS

Integrating Indigenous knowledge into business strategies and operations offers a wide range of potential benefits across economic, social, environmental, and cultural dimensions, contributing to more sustainable, inclusive, and resilient business models.

Economically, Indigenous knowledge can drive innovation and open new market opportunities by introducing unique products and services rooted in traditional practices. For example, businesses that collaborate with Indigenous communities to develop natural health products, eco-tourism experiences, or sustainably sourced materials often gain access to niche markets with growing consumer demand for authenticity and ethical sourcing. Moreover, partnerships that respect Indigenous rights and knowledge can foster local economic development by creating jobs, supporting Indigenous entrepreneurship, and promoting equitable benefit-sharing, thereby reducing economic disparities and enhancing community prosperity.

Socially, the integration of Indigenous knowledge strengthens community empowerment and social cohesion. It validates Indigenous identities and promotes the inclusion of Indigenous voices in decision-making processes, fostering respect and mutual understanding between businesses and Indigenous peoples. Such collaboration often leads to improved social outcomes, including better education, healthcare, and infrastructure in Indigenous territories. Additionally, it encourages cross-cultural dialogue that enriches corporate social responsibility initiatives and promotes ethical business practices grounded in respect for human rights.

From an **environmental perspective**, Indigenous knowledge offers invaluable insights into sustainable resource management and biodiversity conservation. Traditional ecological knowledge, developed over centuries of close interaction with the environment, emphasizes harmony with nature, regeneration, and long-term stewardship. When integrated into business operations—especially in sectors like agriculture, forestry, fisheries, and renewable energy—this knowledge helps reduce environmental degradation, enhance ecosystem resilience, and mitigate climate change

impacts. It supports sustainable practices such as controlled burning, water conservation, and soil regeneration, which align with global sustainability goals and corporate commitments to environmental responsibility.

Culturally, incorporating Indigenous knowledge fosters the preservation and revitalization of Indigenous languages, customs, and traditions. It creates platforms for Indigenous cultural expressions within business frameworks, helping to safeguard intangible heritage and promote cultural diversity. This cultural integration enriches brand identity and corporate narratives by embedding authenticity and storytelling, which resonate with increasingly conscientious consumers. Furthermore, it nurtures a sense of pride and continuity among Indigenous communities, strengthening cultural resilience amid globalization and social change.

In summary, integrating Indigenous knowledge into business strategies is not only a matter of ethical responsibility but also a pathway to enhanced innovation, sustainable development, and social equity. Businesses that embrace this integration stand to benefit from economic growth, stronger community relations, improved environmental stewardship, and enriched cultural vitality, creating a holistic model of success that respects both people and the planet.

1.9 CONCLUSION

The integration of Indigenous Knowledge Systems (IKS) into modern business practices presents a transformative opportunity to redefine corporate success in the 21st century. As businesses grapple with the urgent demands of sustainability, ethical governance, and social responsibility, Indigenous knowledge—rooted in millennia of ecological stewardship, communal well-being, and intergenerational wisdom—offers a holistic alternative to the extractive and profit-centric models of conventional capitalism.

This study highlights the core principles of Indigenous knowledge—sustainability, reciprocity, community-based decision-making, and environmental stewardship—as vital frameworks for businesses seeking long-term resilience and ethical legitimacy. Successful case studies across industries such as natural resource management, agriculture, tourism, healthcare, and renewable energy demonstrate that meaningful collaboration with Indigenous communities leads to innovative, sustainable, and culturally respectful business models. These examples underscore the potential for Indigenous knowledge to drive economic growth while fostering environmental conservation and social equity.

However, the integration process faces significant challenges, including legal ambiguities around intellectual property, cultural misalignment, and structural inequities that marginalize Indigenous voices. Overcoming these barriers requires businesses to move beyond tokenism and engage in genuine partnerships based on trust, reciprocity, and shared decision-making. Legal reforms, corporate policies that prioritize free, prior, and informed consent (FPIC), and culturally sensitive engagement frameworks are essential to ensuring ethical and equitable collaboration.

The benefits of integrating Indigenous knowledge extend beyond corporate social responsibility—they encompass economic innovation, environmental sustainability, cultural preservation, and social justice. Businesses that embrace this paradigm shift can unlock new market opportunities, enhance brand authenticity, and contribute to global sustainability goals while addressing historical injustices and fostering reconciliation.

Ultimately, this study advocates for a fundamental reimagining of business practices—one that values Indigenous knowledge not as a peripheral trend but as a cornerstone of regenerative and inclusive economies. As the world faces escalating ecological crises and social inequalities, Indigenous wisdom provides a vital compass for building businesses that are not only profitable but also just, sustainable, and harmonious with the natural world. The path forward requires humility,

respect, and a commitment to co-creating a future where Indigenous and modern knowledge systems thrive in mutual reinforcement.

By embracing this integrative approach, businesses can lead a transformative movement toward a more equitable and sustainable global economy—one that honors the past while innovating for the future.

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Facets of Indigenous Knowledge Systems (IKS) and Higher Education

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Abstract: *In the recent past given the exploration of post-colonial studies there is an inward looking happening in the countries which have had experienced colonial imperialism. Initially, this took birth from the writings of C.L.R. James, Frantz Fanon, and Edward Said (to name a few), and other historians associated with the editorial collective of Subaltern Studies[1]but later extended toothier disciplines too. This influence further forced countries like India to re look at their education and social life in order to understand, appreciate and critique the colonial rule and its impact on how the local communities were treated by them and the way the colonialists glorified their rule as emancipators. Initially, colonialist narratives about the natives (in our case the Indians and the Indian tribes), their ways of life and the characteristics of their society were interpreted through the eyes, experiences and the religion of the colonialists. In fact, this shaped up the understanding of the native peoples in their own country and about their own life and history - thus showing the natives to be inferior in their own cultural set up and before colonialists. Colonialisme thus has had a profound and often devastating impact on indigenous cultures wherever they were ruling. This invasion thus was with consequences that ranged from forced assimilation to cultural suppression, to the growth of inferiority about them and their cultures are still felt today, as indigenous communities continue to fight for their rights, identity, and cultural survival.*

Keywords: *Indigenous Knowledge Systems, colonial imperialism, Higher education, culture, communities.*

Significance of post-colonial studies and IKS

Although there were (and are) a variety of colonial imperialism like the rule by the British, French, Portuguese and the Spanish in different parts of the world, the years after 1960 in India and 1970s in Africa gave rise to an understanding of the impact of the imperial rule on the socio-political life of the people living in these colonies, only to be found that there were increasingly common experiences than differences. Though the impact of colonial rule leading to subjugation and exploitation of the local and indigenous people in these countries remained similar, subjugated individuals sought to control their territorie for self-determination and self-rule. The term *post-colonialism* thus refers to the struggles of indigenous peoples, their attempts to set right the historical truths, their efforts to bring today light and the unfolding of the bitter experiences they had under the colonialists. In the methodological terms its influence as post-colonial studies has earned it a reputation as a correctional study of the historical misinterpretation and misrepresentation of facts by the colonial rulers. Thus, as an important area of study for intellectual inquiry post colonialisme is seen as addressing those questions that emerge in relation to the aftermath of imperialism. The current study of IKS is thus a slice of the same exercise aimed at reexamining the positive side of the sufferers of colonial onslaught - the indigenous and the local communities in these colonies under imperialism. This is proposed in order to bring out the truth about the indigenous population, their strengths and weakness and linking it to the academic studies in the 21st century to reestablish their lost identity. It is further proposed to learn from the knowledge and experiences of the indigenous peoples the secrets of their survival amidst nature, their need to live in communities, their

understanding of the ecosystems etc., thus to bringing in a shift in the process of learning and redesigning the courses for higher education in the current century which hither too had neglected such practical ways of knowing and had oriented itself in mere theory. At a time when we are experiencing the wrath of nature it is felt that a course correction is possible and that in order to benefit the future generations through this course correction these living knowledge needs to be scientifically studied and understood. This will further help us demolish the myths of a so-called inferior society tag given to those colonized people. Thus the need to integrate the IKS into our mainstream learning, hence the significance of post-colonial studies and IKS.

Higher Education and its importance

Higher education institutions in developing societies have always played a central role in the production of knowledge, distribution of wealth, empowerment through enlightenment and achieving social justice to the less fortunate. Nations through knowledge dissemination process have thus encouraged their people to know the truth about themselves and their own history thus legitimizing the processes of democracy bringing a level playing field for them to act and participate. This exercise has been taken up seriously by post-colonial studies to steer and strengthen their societies by exposing them to the realities of their socio-cultural and political history which was otherwise twisted in favour of few advantaged like the imperialists. Thus, apart from many other reasons one of the important and core reasons for the need to have discourses on indigenous knowledge systems in our mainstream education is to give their knowledge and experience a scientific basis and framework so that their place in higher education is safeguarded for the posterity. This will provide the victims of colonial legacy an opportunity to correct the historical injustice done to them - this undoubtedly is a subject of vital interest to both social movements and scholarly critique in higher education[2].

IKS and Higher Education

From the above paragraphs it is clear that the impact of colonialism on indigenous cultures has been profound and deeper than it was thought to be. From dispossession of land to suppression of their cultural traits and destruction of their environmental richness, the calamitous and dividing legacy of colonialism continues to affect indigenous communities till today. It's another thing to say that the indigenous peoples despite these atrocities on them have shown incredible resilience. And this brave stance of the indigenous peoples, their efforts to protect their heritage and fight for justice are worth emulating and appreciating. However, we should realize that it is essential that we not only recognize and support the indigenous cultures, their rights and knowledge systems but work towards protecting them and provide to them a milieu to have a more equitable and sustainable future. This is not an easy task but requires the involvement of the state and the society to jointly work towards achieving this goal. In this context is important for us to realize that there is an urgent need to integrate indigenous sources and practices of knowledge into higher education, addressing the limitations of colonial curriculum that is ruling the roost as on this day.

In order to do this paper advocates for a holistic approach to recognise the depth of indigenous knowledge systems beyond certain recognized areas like the field of agriculture. Since the facets of IKS extends and explores disciplines like environmental sciences, healthcare, cultural studies, community development, entrepreneurship, environmental conservation, and digital documentation etc., there is a need to work in a methodical way to encompass this vastness of knowledge store house. For example, in sociology the IKS can throw light on the symbiotic relationship between communities and their heritage. If these are overlooked it may deepen the gap between community knowledge and formal education and thus may delink the realities of life from our education. This paper therefore while acknowledging these facts proposes a shift towards a culturally relevant educational framework to embracing approaches that enables universities to overcome colonial limitations, fostering inclusivity and cultural enrichment. This initiative being transformative in nature would empower communities and supports in preserving indigenous heritage. The final aim

though is to establish a crucial step towards an equitable, culturally sensitive higher education with a curriculum that ensures a comprehensive educational experience.

Indigenous knowledge as is to be understood is a systematic way of thinking. This is applied to phenomenon across biological, physical, cultural and spiritual systems without barriers of any kind. Most of it outcomes include insights that are based on evidence and acquired through direct and long-term experiences. It can also be called as science as this comes of age beyond time and space as there is in these knowledge systems anextensive multigenerational observation, lessons and skills. It is in fact a live discipline as this has developed over millennia and still is developing in a recognizable process and is being passed on from generation to generation. It is because of this that the National Oceanic and Atmospheric Administration (NOAA) consultation handbook (Issued 10/06/04 (reprint); Effective 09/23/04 Reviewed Last: 06/24/2019) defined IK 'as cumulative body of knowledge, practice and belief evolving by adaptive processes and had handed down through generations by cultural transmission about the relationship of living beings, including humans with one another and with their environment[3]'. This recognition of NOAA is based on formidable research which is also having a moral and ethical foundation.

The knowledge systems of the IKS consists of agents, practices and institutions which are actually organically connected and helps in organizing the knowledge, its production, transfer and use. It is true that the knowledge systems are basic to any society that are connected to our cosmos and are manifested in the various parts of the world in different forms of cultural traditions, such as language, customs, and social institutions. IKS in that sense is a dynamic one and has evolved over time, integrating new information and experiences. The NOAA therefore has made it clear that any study/collaboration that happens in this direction involving the indigenous peoples and their life must be based on three principles which include; a. Cause no harm b. Free prior and informed consent and c. Knowledge sovereignty[4] to avoid any harm being caused to the indigenous peoples. Although this is adopted by the NOAA this appears to be a reasonable ground to do research in IKS by anyone interested.

A critical aspect of the management of IK lies in building trust and understanding. This is necessary to bridge the gaps that may exist in its varied perspectives, especially when used in continuation with the knowledge derived from ecological and social sciences. Unfortunately to achieve this, indigenous communities are underrepresented in the echelons of higher education in general and research in particular. There is a need to enrol more of indigenous students in the higher education and work to stop their dropout rate. Institutions must work to create more equitable pathways in admissions and keep some reserved seats too. They should be supported with an indigenous cell and monitor their special needs if any on the campus. The increased visibility in the curriculum at higher education and some specialized areas of study would thus represent them equitably at the higher educational levels. Reservation of posts for them among the faculty and university leadership would help build their confidence and continuity. It is time that the academicians instead of treating them as outsiders must start listening and learning from the living experiences of these indigenous people thus integrate IKS as a part of the HE.

Indigenous peoples make up 6% of the global population, but they protect 80% of the world's remaining biodiversity is a known fact. As such the higher education which is entrusted with the task of shaping the future leaders and innovators must adequately recognize this contribution and incorporate indigenous perspectives and knowledge into their curriculum. Undoubtedly this has for reaching consequences as this knowledge is crucial for addressing most of our pressing challenges of sustainability, land management, environmental challenges. This will help us establish the knowledge gaps and take up research for mutual benefits. Thus, the need of the hour is to emphasize the urgent need to integrate indigenous knowledge into higher education, addressing the limitations

of colonial curriculum. Acknowledging these issues, the paper proposes a shift towards a culturally relevant educational framework in the higher education to foster inclusivity and cultural enrichment.

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Voices of Ancestors: Preserving Indigenous Knowledge for the Future

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Abstract:

Indigenous knowledge systems represent some of the most enduring and complex reservoirs of wisdom known to humanity. Passed down through generations via oral storytelling, ritual, observation, and lived experience, these systems reflect a deep understanding of the environment, human behavior, and the interdependence of life. From sustainable agriculture and land stewardship to medicine, spiritual practices, and language, indigenous knowledge is a tapestry woven over millennia. Yet, as modern societies continue to expand and globalize, these knowledge systems face threats of erasure. Colonization, forced assimilation, climate change, and economic pressures have contributed to the decline of indigenous traditions across the globe.This essay explores the importance of preserving indigenous knowledge by examining its value, the challenges it faces, and the strategies necessary for its protection and revitalization. The voices of ancestors must not only be remembered; they must be amplified as guides for future generations seeking sustainability, equity, and resilience in an uncertain world.

Keywords: *Indigenous Knowledge, Cultural Preservation, Sustainability, Traditional Practices, Intergenerational Transmission.*

The Value of Indigenous Knowledge

Indigenous knowledge is holistic, localized, and deeply rooted in place and culture. It is not only a system of intellectual understanding but a way of life—intertwining language, ethics, spirituality, and ecology.

Environmental Stewardship and Sustainability

Long before the advent of modern environmental science, indigenous communities practiced forms of sustainable management based on observation and adaptive practices. For instance, Aboriginal Australians used controlled burning, also known as "fire-stick farming," to regenerate vegetation and manage ecosystems sustainably (Bird et al., 2008). Similarly, the rotational rice terraces of the Ifugao people in the Philippines are examples of sustainable agricultural engineering that have lasted for centuries (Conklin, 1980).

Traditional Medicine and Health

According to the World Health Organization (WHO, 2002), traditional medicine is used by approximately 80% of the global population. Indigenous medicinal knowledge includes herbal treatments, spiritual healing, and holistic health practices that are deeply rooted in local ecosystems. For example, the Asháninka people of the Amazon utilize hundreds of plant species for therapeutic purposes, often combining them with ritual practices (Clement, 1999).

Linguistic and Cultural Heritage

Languages are vessels of cultural knowledge. Many indigenous languages encode unique classifications of plants, animals, and ecological phenomena that are absent in dominant global languages. As Crystal (2000) notes, when a language dies, a unique worldview dies with it.

According to UNESCO (2021), one indigenous language disappears every two weeks, highlighting the urgency of language preservation as a strategy for cultural survival.

Threats to Indigenous Knowledge

While the value of indigenous knowledge is increasingly recognized, it remains under constant threat from systemic and structural forces.

Colonialism and Cultural Suppression

The colonial period was marked by the suppression of indigenous languages, customs, and belief systems. Policies such as Canada's residential school system aimed to "kill the Indian in the child" by eradicating indigenous identity through forced assimilation (Truth and Reconciliation Commission of Canada, 2015). These actions disrupted traditional knowledge transmission and caused intergenerational trauma that continues to affect communities today.

Globalization and Economic Pressures

The spread of Western consumer culture and economic models has marginalized indigenous ways of life. As younger generations migrate to urban centers or adopt modern lifestyles for economic survival, their connection to ancestral knowledge weakens. This shift is compounded by the fact that mainstream educational systems often neglect or undervalue indigenous epistemologies (Battiste, 2002).

Climate Change and Environmental Degradation

Many indigenous communities live in regions highly vulnerable to climate change. The degradation of ecosystems not only threatens physical livelihoods but disrupts the symbiotic relationship between land and knowledge. For example, rising sea levels in the Pacific are displacing communities like the Marshallese, threatening the loss of oral history, navigation skills, and spiritual practices linked to specific islands (Johnson, 2015).

Intellectual Property Theft and Exploitation

Bioprospecting and the commercialization of traditional knowledge without consent or fair compensation—commonly referred to as biopiracy—are major concerns. The case of the neem tree and turmeric patents illustrates how indigenous knowledge can be appropriated for profit by corporations in the Global North, often without benefiting the communities from which it originates (Shiva, 2007).

Strategies for Preserving Indigenous Knowledge

Preserving indigenous knowledge requires holistic, respectful, and community-centered strategies.

Community-Led Documentation and Archives

Oral traditions are resilient but vulnerable to disruption. Many communities are using digital tools to record stories, languages, songs, and rituals. Initiatives such as the Endangered Languages Project and the First Nations Knowledge Keeper program in Canada demonstrate how technology can aid in cultural preservation (Perley, 2012). However, documentation should always be guided by community ownership and ethical frameworks such as Free, Prior, and Informed Consent (FPIC).

Intergenerational Knowledge Transmission

Ensuring that elders pass knowledge to younger generations is central to preservation. Programs like land-based education—where students learn on the land with elders—have proven effective in places like Nunavut, Canada (Kral, 2016). Such initiatives help restore pride, confidence, and identity among indigenous youth while reinforcing cultural continuity.

Legal Recognition and Policy Reform

Governments must enact legal protections for indigenous knowledge, land, and languages. Instruments like the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007) provide frameworks for safeguarding cultural rights, but implementation remains inconsistent.

National legislation can also help. For example, Bolivia's 2009 constitution officially recognizes indigenous languages and legal systems, offering a foundation for broader cultural respect.

Benefit-Sharing and Ethical Research

When external researchers or corporations engage with indigenous knowledge, they must ensure equitable partnerships. The Nagoya Protocol (2010) on Access and Benefit-sharing aims to ensure that benefits derived from genetic resources and traditional knowledge are fairly shared. Yet enforcement depends on both legal mechanisms and the willingness of researchers to respect indigenous sovereignty (Greiber et al., 2012).

Conclusion

Preserving indigenous knowledge is not a nostalgic or symbolic endeavor—it is a critical strategy for building a more just, sustainable, and diverse future. Indigenous knowledge systems offer tested models of resilience, stewardship, and collective well-being. They are not relics of the past, but living systems that continue to evolve and adapt. To honor the voices of the ancestors is to recognize that these voices still speak, and that they carry vital wisdom for a planet in crisis. As societies face ecological collapse, cultural homogenization, and widening inequality, it is imperative to learn not only from modern science, but from those who have lived in balance with nature for millennia. The future depends, in part, on remembering and revitalizing what the ancestors have already known.

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New Education Policy and Indigenous Knowledge System: *A Paradigm Shift in Indian Education*

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Abstract: The New Education Policy (NEP) 2020 has been launched to transform the Indian education system using holistic development of the learners. This framework provides a comprehensive and integrated strategy for the growth of the education system. The Indian Knowledge System (IKS) is one of the significant aspects of the NEP curriculum. IKS encompasses diverse and rich heritage knowledge of India that covers various domains such as science and technology, literature, philosophy, culture, medicine (ayurveda) and yoga.

NEP has focused on multidisciplinary, interdisciplinary and transdisciplinary knowledge and it can integrate the contemporary knowledge vested with IKS to address the current and future challenges. The IKS covers the knowledge assets from the pre-historic to the current period. NEP fosters the creation of language resources and technology to facilitate the IKS as it recognizes its importance for disseminating indigenous knowledge. The integration of IKS with NEP will help to understand the underlying contemporary societal issues and to carry out further research on these issues. It will foster the growth and understanding of rich and diverse indigenous knowledge among various stakeholders and rejuvenate traditional knowledge with the help of modern technology.

Key Words: NEP 2020 and IKS, Multidisciplinary, Curriculum

Introduction

Education is a cornerstone of national development and cultural continuity. In India, the traditional indigenous education system once thrived through gurukuls, madrasas, pathshalas, and various community-led learning platforms. Over time, colonial influence marginalized this system in favor of Western paradigms. With the introduction of the **National Education Policy 2020**, India has embarked on an ambitious journey to reclaim and integrate its rich indigenous knowledge base into a modern educational framework.

Methodology

This study is based on secondary data. It seeks to explore the intersection of IKS in NEP. Study also focuses on how the NEP 2020 (National Education Policy) recognizes and promotes Indigenous Knowledge Systems (IKS), which encompass India's rich and diverse cultural and knowledge traditions. NEP 2020 aims to integrate IKS into the curriculum, fostering a holistic and multidisciplinary approach to learning by connecting contemporary knowledge with traditional wisdom.

This seminar paper explores the interface between India's National Education Policy (NEP) 2020 and the Indigenous Education System (IES). It traces the historical context of indigenous education in India, analyzes the objectives and implementation of NEP 2020 and assesses how the policy aims to revitalize and integrate traditional knowledge systems within modern educational frameworks. The paper argues that NEP 2020 marks a significant step towards the decolonization of education in India and the resurgence of cultural identity through knowledge rooted in indigenous values.

Historical Background of Indigenous Education in India

The NEP 2020 recognizes the rich heritage of ancient and eternal Indigenous knowledge and thought as a guiding principle. This knowledge system comprise of Jnan, Vignan, and Jeevan Darshan that have evolved out of experience, observation, experimentation, and rigorous analysis. This tradition of validating and putting into practice has an impact on our education, arts, administration, law, justice, health, manufacturing, and commerce. This has also influenced the classical and other languages of Bharat that were transmitted through textual, oral, and artistic traditions. This "Knowledge of India" is specific to education, health, environment and indeed all aspects of life.

Before colonial intervention, India's education system was decentralized and deeply embedded in the local cultural context. Some key features included are

- **Gurukul System**: Knowledge was imparted orally in the gurukul in the various forms like experientially, covering philosophy, mathematics, astronomy, arts, and vocational skills.
- **Community Learning**: Villages had local institutions of learning that emphasized moral values, nature, and spiritual development.
- **Diversity of Knowledge**: Ayurveda, Yoga, Vastu Shastra, classical music, Sanskrit literature, and regional languages flourished.

Colonial policies dismantled this traditional knowledge system by replacing it with an English-centric, exam-oriented structure that alienated learners from their cultural roots and ancient traditions.

Review of literature

Several scholars have highlighted the profound significance of integrating IKS into modern education. According to Agarwal (2021), traditional Indian knowledge systems provide a rich repository of holistic and sustainable practices that can complement and enhance contemporary scientific approaches. The inclusion of disciplines such as Ayurveda, Yoga, ancient mathematics, and Vedic literature can foster a multidisciplinary learning environment, promoting critical thinking and ethical reasoning among students (Sharma & Gupta, 2020). Traditional Indian knowledge systems encompass a vast array of disciplines, including Ayurveda, Yoga, ancient mathematics, astronomy, literature, philosophy, and environmental science. These systems offer valuable insights and methodologies that have stood the test of time, provided sustainable solutions and fostered a deep connection with nature and society.

Rao (2022) suggests establishing centres of excellence for traditional knowledge as a strategy for successful implementation. These centres can serve as hubs for research, training, and dissemination of IKS.

Mehta (2021) highlights the role of technology and digital platforms in facilitating wider access and engagement with traditional knowledge and also curricular reforms.

Mukherjee (2022) highlights the need for balanced curricula that integrate both traditional wisdom and modern scientific methodologies. Singh and Kumar (2020) advocate for collaborative efforts between traditional knowledge holders and academic institutions to develop effective educational content. Developing flexible and modular curricula that allow the integration of traditional knowledge systems.

Mishra, Subhashree, Dr. Atal Bihari Tripathy, Dr. P. Rashmita Patro in their work Integrating traditional Indian knowledge system in Indian higher education, (in nep 2020 perspectives) points out the strategies of integrating the traditional knowledge system in higher education with reference to the NEP course.

National Education Policy (NEP) 2020: An Overview

NEP 2020 provides a **modern structure** for India's education, while **IKS** provides the **cultural and intellectual roots**, aiming to create a balanced, well-rounded, and culturally grounded learner. The **NEP 2020** is India's first major education reform in over three decades. Some of its transformative features include:

Holistic and Multidisciplinary Education: Emphasizing flexibility, critical thinking, and promoting creativity. It encourages a broad-based education across sciences, arts, and vocational subjects.

Mother Tongue-Based Learning: Instruction in home languages till Grade 5, promoting cognitive and cultural development. **Regional Language Instruction which p**romotes education in the local language until at least Grade 5.

Inclusion of Indian Knowledge Systems (IKS): Curriculum to integrate ancient Indian art, sciences, linguistics, and moral values.

Vocational Training and Experiential Learning: Bridging the gap between theory and practice.

Teacher Training and Autonomy: Professional development with focus on pedagogy and local context, conducting the Faculty Development Programme, orientations and workshops.

Flexibility in Subjects: Students can choose subjects across streams, which are multi-displinary, Inter-disciplinary and trans-disciplinary in nature.

Skill Development: Emphasizes critical thinking, ethics, and practical knowledge. By introducing Skill Enhancing Courses (SEC), Employability skills, promoting research skills.

Technology Integration: Encourages the use of digital tools in teaching and learning. Promoting students to use Financial literacy, Digital Fluency, and Artificial Intelligence in their courses.

Focus on Indian Culture and Values: This is where **IKS** becomes relevant. Constitutional Moral Values, Yoga and Wellness are the major value oriented courses were studied.

Reviving Indigenous Knowledge Systems through NEP

NEP's framework emphasizes the **mainstreaming of indigenous knowledge**, which includes:

Curriculum Reforms: Textbooks now include chapters on ancient Indian mathematicians, philosophers, and scientists like Aryabhata, Panini, and Charaka. Revive and research ancient Indian contributions.

Integration of Local Knowledge: Focus on region-specific practices such as tribal healing traditions, folk art, and traditional farming. Incorporate Indian values, culture, and knowledge into modern curricula.

Promotion of Sanskrit and Regional Languages: Encouraging linguistic diversity and original Indian literature.

Research and Innovation in Indian Sciences: Establishment of dedicated institutes and research centers on Ayurveda, Yoga, and other indigenous sciences. Promote research in traditional knowledge systems and their application in contemporary contexts.

Cultural Literacy and Ethics: Fostering respect for pluralism, ecology, and spirituality rooted in Indian traditions.

Challenges in Implementation

Despite the policy's vision, there are challenges:

Lack of Resources and Training: Teachers need training in indigenous content and pedagogies.

Curriculum Overload: Balancing modern and traditional content requires thoughtful planning.

Standardization vs. Localization: Ensuring relevance without compromising academic rigor.

Political and Ideological Interpretations: Risk of distortion or selective promotion of cultural narratives.

Recommendations

To strengthen NEP's indigenous education agenda:

Inclusive Curriculum Development: Involve local scholars, tribal leaders, and traditional practitioners.

Digital Documentation of Oral Traditions: Use technology to archive and teach regional knowledge

Public Awareness Campaigns: Highlight the value of IKS in national development.

Robust Assessment Mechanisms: Evaluate learning outcomes in both traditional and modern domains.

Ways of Integrating IKS with NEP

Curriculum Content: NEP emphasizes incorporating IKS into school and college syllabi.

Teacher Training: Teachers are being trained to understand and teach IKS-based content.

Research and Innovation: Establishment of IKS Division under AICTE to fund and promote research in ancient Indian sciences and systems.

Language and Literature: Promotion of Sanskrit and regional literature as part of the classical language revival.

Conclusion

The NEP 2020 represents a turning point in India's educational evolution. By valuing and integrating the Indigenous Education System, it not only honors India's civilizational heritage but also equips future generations with a holistic, culturally grounded, and globally relevant education. This fusion of the old and new has the potential to make Indian education truly transformative.

The **Indian Knowledge System** is an initiative to integrate traditional Indian wisdom and indigenous knowledge into modern education. It spans multiple disciplines including philosophy, mathematics, astronomy, medicine (Ayurveda), architecture (Vastu), metallurgy, yoga, Sanskrit, music, art, and more.

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Reflection of Indian Rama Rajya Concept in Modern Concept of Welfare State: An Analysis

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Abstract:

The concept of a welfare state—where governance is aligned with social justice, equality, and the well-being of all citizens—is often traced back to Western political and economic thought. However, Indian civilizational ethos provides an indigenous model in the form of Rama Rajya, a term denoting the ideal rule of Lord Rama as narrated in ancient Indian epics. This paper explores how Rama Rajya reflects the core principles of modern welfare states and critically analyses the convergence and divergence between the two. The study relies on textual references, cultural interpretations, and contemporary political discourse to contextualize the relevance of Rama Rajya in the framework of welfare governance today.

Keywords: Welfare State, Rama Rajya, Justice, Policy, Secularism.

Introduction:

The modern concept of the welfare state emerged predominantly in 20th-century Europe as a response to socio-economic disparities and industrial capitalism. It envisions a state that guarantees basic human needs—such as education, healthcare, and economic security—irrespective of class or social status. Simultaneously, Indian cultural and political history offers the vision of Rama Rajya, a just and moral rule grounded in Dharma (righteousness), as depicted in Valmiki's Ramayana. This paper investigates how the ideals of Rama Rajya can be seen as an indigenous expression of the welfare state model.

The juxtaposition of Rama Rajya with modern welfare state ideals provides not only a comparative study of ancient and modern governance models but also highlights the enduring relevance of traditional Indian concepts in present-day administrative thought. Understanding Rama Rajya in its entirety requires delving into not only textual traditions but also oral, folkloric, and philosophical articulations, which have continually shaped Indian political imagination.

Conceptual Foundations:

Defining the Welfare State: A welfare state is one in which the government assumes responsibility for the well-being of its citizens through direct and indirect mechanisms. It typically includes state-funded health care, social security, public education, and employment welfare measures. T.H. Marshall's concept of social citizenship—a blend of civil, political, and social rights—underpins much of this ideology.

In Western history, the welfare state emerged in the aftermath of World War II, particularly in Europe, where countries like the United Kingdom, Germany, and the Scandinavian nations institutionalized social welfare through robust legal frameworks. The Beveridge Report (1942) in Britain and Germany's social insurance programs under Bismarck are pivotal developments. These systems aim to mitigate the risks associated with unemployment, illness, old age, and poverty.

Understanding Rama Rajya: Rama Rajya is not merely mythological but deeply rooted in Indian philosophical thought. It symbolizes an era where the ruler is ideal—just, benevolent, morally upright, and focused on the people's happiness. In Ramayana, Valmiki writes that during Rama's reign, people were free from sorrow, disease, and fear. The centrality of Dharma in governance, and the king's role as a moral exemplar, are defining characteristics of this vision.

Rama Rajya encompasses a holistic system of governance that incorporates political stability, moral integrity, societal harmony, and economic sufficiency. These ideals are echoed in the works of later thinkers such as Kautilya in the Arthashastra and in the Bhakti and Sant traditions, where good kingship is equated with moral and spiritual elevation.

Rama Rajya as Proto-Welfare State:

A. Justice and Rule of Law: Rama's adherence to Dharma ensured that the law was supreme, even above personal relationships. For instance, his decision to exile Sita, though controversial, was portrayed as an act of duty towards public opinion and moral leadership. In a welfare state, the rule of law and justice are paramount, establishing institutions to mediate fairness for all, including marginalized groups.

In Rama Rajya, justice was not just retributive but also restorative and preventive. There are accounts where Rama actively participated in listening to the grievances of his subjects, embodying the idea that governance must be transparent and accountable. The modern equivalent may be found in ombudsman systems and public grievance redressal mechanisms.

B. Economic Welfare and Livelihood:The Ramayana depicts a time when poverty was absent, and all citizens had adequate livelihoods. Rama ensured that economic activities were regulated for the common good, not personal profit. This aligns with modern principles where states intervene to reduce economic inequality through policies like minimum wages, taxation, and subsidies.

Agriculture, cattle rearing, and trade flourished under Rama's reign, signifying a self-sufficient economic model. The absence of famine, unemployment, and inflation in Rama Rajya finds parallels in the developmental objectives of planned economies and modern welfare models. State-supported cooperatives and community development schemes in post-independence India are contemporary reflections of these ancient practices.

C. Health and Well-being: Textual descriptions suggest a society free from disease and suffering: "Na putrashokam... na api bhayam kimchana." While this may be idealistic, it symbolizes a governance model responsible for public health—a pillar of the welfare state as manifested in the National Health Services in the UK or the Ayushman Bharat scheme in India.

Beyond physical health, Rama Rajya emphasized emotional, environmental, and spiritual wellness. The idea of holistic well-being, integral to Indian thought, includes balance among body, mind, and spirit, which is increasingly finding resonance in contemporary wellness paradigms.

D. Education and Cultural Flourishing: Though not elaborated in great detail in the Ramayana, Rama Rajya valued learning and cultural vibrancy. Gurukulas, public discourses, and access to sacred knowledge were encouraged. This resembles modern welfare states' focus on free and compulsory education as a tool for empowerment.

UNESCO's vision of education as a human right resonates with this ethos, as do India's Right to Education Act (2009) and National Education Policy (2020), which aim to democratize access to quality learning.

Ethical and Spiritual Dimensions:

Modern welfare states are mostly secular, focusing on material well-being. Rama Rajya, however, intertwines ethics, spirituality, and governance. The belief that the ruler must be spiritually grounded and morally upright is in contrast to the value-neutral stance of modern welfare states. In Indian traditions, welfare is not just physical comfort but Lokasangraha (universal welfare). This view considers spiritual elevation, ecological balance, and harmony among beings. These principles find echoes in Gandhian thought, where Rama Rajya was seen as a moral polity rather than a theocratic state. The emphasis on ethical leadership in Rama Rajya advocates for qualities like self-restraint, empathy, non-violence, and humility—qualities that are increasingly being demanded in contemporary political leadership worldwide.

Mahatma Gandhi's interpretation of Rama Rajya deeply influenced modern Indian political thought. For Gandhi, Rama Rajya meant Justice for all, especially the weakest. He clarified that Rama Rajya had no place for religious intolerance. It was not a Hindu theocracy but an ethical society. This conception strongly aligns with the Directive Principles of State Policy in the Indian Constitution, which reflect welfare ideals such as equality, livelihood, and health. Gandhi's decentralization model, based on village republics, sought to empower local governance structures and reduce dependence on centralized authorities. His vision of Rama Rajya was thus deeply democratic and participatory, prefiguring modern ideas of community-driven development and inclusive governance.

Modern Indian Welfare State: Continuities and Departures

A. Constitutional Framework: The Indian Constitution, especially through Articles 38, 39, 41, and 47, outlines the role of the state in ensuring justice, education, employment, and health. While these are modeled on Western welfare principles, they resonate with the values of Rama Rajya—justice, moral governance, and public welfare.

B. Political Usage and Symbolism: Contemporary political discourse often evokes Rama Rajya. Leaders like Gandhi, Nehru (in secular terms), and contemporary politicians have used the term to convey good governance. However, the usage today is often symbolic or ideological rather than policy-driven, sometimes leading to controversies about religious majoritarianism. Despite this, the symbolic power of Rama Rajya continues to influence electoral rhetoric, administrative policies, and public expectations. Schemes such as Pradhan Mantri Awas Yojana (housing), Ujjwala Yojana (clean cooking), and Jan Dhan Yojana (banking access) are presented as means of achieving a modern-day Rama Rajya.

C. Welfare Policies in Practice: Government programs such as MNREGA, PM-JAY, and National Food Security Act aim to realize welfare state ideals. However, unlike Rama Rajya, where governance was personal and moral, the modern welfare state is bureaucratic and institutionalized, often detached from ethical leadership. While Rama Rajya was based on direct accountability and moral authority, modern systems depend on codified laws, elected officials, and judicial oversight. The impersonality of bureaucracy often leads to inefficiencies, corruption, and alienation, which contrast with the personal engagement characteristic of Rama's rule.

Critical Reflections:

A. Idealism vs. Pragmatism: Rama Rajya is an ideal that blends moral, social, and spiritual governance. Welfare states, in contrast, are products of practical economics and politics. They face limitations like budget constraints, political lobbying, and social divisions. The infallibility of a ruler like Rama is also an unattainable ideal in modern democracy.

B. Inclusivity and Diversity: Rama Rajya is often critiqued for upholding Brahmanical patriarchy and social hierarchy. Sita's exile and caste-based references in ancient texts raise questions about inclusivity. The welfare state model, especially post-WWII, seeks egalitarianism and the upliftment of marginalized groups regardless of religion, caste, or gender.
C. Decentralization and Democracy: Rama Rajya was monarchical, albeit benevolent. The welfare state operates within democratic frameworks and emphasizes citizen participation, rights, and transparency. Gandhi's emphasis on Gram Swaraj attempted to blend these ideals.
D. Global Influence of Indian Ethical Governance: As the world grapples with the moral crisis in politics and ecological degradation, Indian ethical models like Rama Rajya can offer insights into sustainable governance. Concepts such as Sarvodaya (welfare of all), Aparigraha (non-possession), and Ahimsa (non-violence) contribute to global discourses on ethical statecraft and ecological responsibility.

Conclusion:

The reflection of Indian Rama Rajya on the modern welfare state reveals both profound similarities and essential differences. While both aim at the well-being of the people, Rama Rajya offers a culturally rooted, moral vision of governance that complements the structural and rights-based approach of the welfare state. In India's quest for equitable and just governance, drawing upon the ethical compass of Rama Rajya while remaining committed to democratic pluralism can provide a meaningful path forward.

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8.

Indigenous Knowledge Systems and Sustainable Development in Environmental Economics

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Abstract: Indigenous Knowledge Systems (IKS) and Sustainable Development within the discipline of Environmental Economics. Indigenous communities have developed sustainable practices over generations, rooted in their cultural, spiritual, and ecological understanding of the environment. As global attention shifts toward sustainability, integrating IKS offers valuable insights for resource management, biodiversity conservation, and climate adaptation. This study uses qualitative research methods to assess the role, relevance, and application of IKS in contemporary environmental economic frameworks. It highlights both the challenges of integrating Indigenous knowledge and the opportunities it presents for equitable, sustainable environmental governance.

Keywords:
Indigenous Knowledge Systems (IKS), Sustainable Development, Environmental Economics, Biodiversity Conservation, Climate Adaptation, Sustainability, Environmental Governance

Introduction:

Sustainable development has become a central focus of environmental economics, emphasizing the need for balance between economic growth, environmental preservation, and social equity. Indigenous Knowledge Systems represent a body of traditional ecological knowledge that offers sustainable solutions honed over centuries. However, these knowledge systems are often marginalized in formal economic models and policy-making processes. Recognizing the role of IKS in sustainable environmental practices provides a culturally inclusive path toward achieving Sustainable Development Goals (SDGs). This paper investigates how IKS contributes to environmental sustainability and how environmental economics can integrate Indigenous practices into its theoretical and practical approaches. Swami Vivekananda has rightly explained Sustenance of Nature as basis of existence in following phrase 'All nature is bound by law, the law of its own action; and this law can never be broken. If you could break a law of nature, all nature would come to an end in an instance. There would be no more nature' (Vivekananda, 2016).The technological developments in the past decades have raised the standard of living of mankind.

Meaning of Sustainable Development:

The idea of 'sustainable development' became widespread with the 1987 publication of '***Our Common Future***', a report from the World Commission on Environment and Development (the Brundtland Commission).Its definition of "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" still provides the broad underpinning for current thinking and practice, based on balancing people's economic and social needs with the preservation and enhancement of natural resources and ecosystems.Sustainable development can be understood as primarily a *process* (a way of doing things, including principles and values) and as implying *practical goals* or desirable outcomes, such as the **UN Sustainable Development Goals** being developed in 2015.However, there are different ways of thinking about how sustainable development is best conceptualised—and put into practice. Our understanding continues to change, particularly with increasing scientific knowledge of environmental impacts, as

well as through participatory processes which help pin down and determine priorities and desired goals

Objectives

1. To examine the role of Indigenous Knowledge Systems (IKS) in promoting sustainable environmental practices.
2. To analyse the integration of IKS into the theoretical and practical frameworks of Environmental Economics.
3. To identify specific examples and case studies where Indigenous knowledge has contributed to resource conservation, biodiversity protection, and climate resilience.
4. To explore the challenges faced in incorporating Indigenous knowledge into formal environmental policy and economic systems.
5. To evaluate the potential opportunities for using IKS to achieve the Sustainable Development Goals (SDGs).

Research Methodology:

This study adopts a qualitative, exploratory research design, using the following methods:

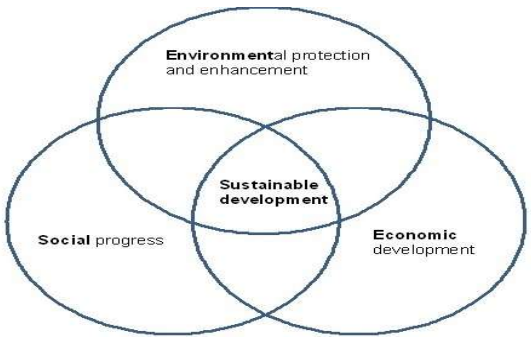
- Literature Review: Academic articles, case studies, and policy reports were reviewed to identify key themes in the integration of IKS with environmental economics.
- Theoretical Framework: Grounded in ecological economics and common property resource theory to interpret the role of community-led and knowledge-based management systems.

Data Sources:

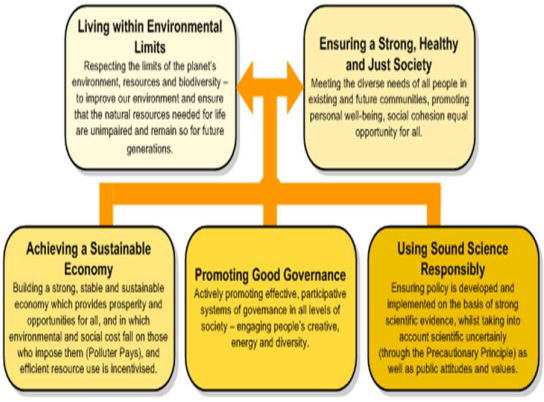
- Peer-reviewed journals (e.g., *Ecological Economics*, *Environment and Development Economics*)
- UN and World Bank reports on Indigenous knowledge and sustainability
- Government and NGO publications

Andrea Westall adds:

Sustainable development is often illustrated by a simple diagram showing three overlapping circles representing social, economic and environmental progress, implying the need for balancing and managing the trade-offs between them.

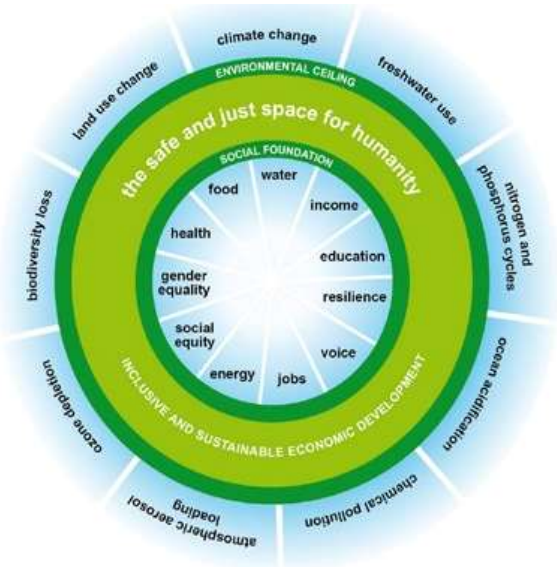


However, other approaches either reframe these relationships or set out principles and goals to guide policy-making. The UK government, for example, proposed a **five principle** approach incorporating good governance and 'sound' science.



The Welsh government's **Wellbeing of Future Generations (Wales) Bill** has set out seven wellbeing goals, partly determined through widespread consultation, to be achieved through sustainable development principles.

Greater scientific understanding around '**planetary boundaries**' has reinforced the idea of limits, leading to a different model of relationships between the environmental, the social and the economic, with non-negotiable environmental constraints on human activity. **Kate Raworth**, then at Oxfam, created a useful model of a safe operating space for humankind, including both environmental limits and a social 'floor' or minimum set of needs.



The distinction between 'strong' and 'weak' sustainability can also lead to very different practical policies and ways forward. Strong sustainability is not optimistic about **the role of technology in solving all environmental challenges**, implying changes to our lifestyles and economic models; whereas 'weak' sustainability believes more strongly in the potential for innovation to solve resource and pollution challenges.

The language itself has caused some tensions, and proved a barrier to widespread engagement. 'Development' is often used only in relation to relatively income-poor countries, implying that sustainable development is not relevant everywhere. On the other hand, the phrase can usefully imply that more 'developed' countries have not reached an endpoint but need to rethink their strategies to ensure continued economic, social and environmental wellbeing.

There is also a tendency for discussions of this kind to dwell on the negatives, the potential restrictions on people's lives and the overall difficulties of any such change. With increasing attention to ideas of '**wellbeing**', as well as moves towards creating productive circular economies, sustainable development can be seen much more optimistically. As former UN Secretary-General Kofi Annan said: *"Far from being a burden, sustainable development is an exceptional opportunity – economically, to build markets and create jobs; socially, to bring people in from the margins; and politically, to give every man and woman a voice, and a choice, in deciding their own future."*

Challenges and Opportunities

Challenges:

1. **Marginalization and Epistemological Bias:**
   - Mainstream economics often views IKS as unscientific.
   - Indigenous voices are underrepresented in policymaking.
2. **Documentation and Transmission:**
   - IKS is largely oral and at risk of being lost with aging knowledge holders.
   - Limited academic documentation hampers integration into formal systems.
3. **Legal and Institutional Barriers:**
   - Intellectual property rights over traditional knowledge are poorly defined.
   - Conflicts between customary land use and national laws hinder community control.
4. **Globalization and Climate Change:**
   - Modernization disrupts traditional practices and leads to loss of cultural identity.
   - Climate change alters ecosystems in ways that challenge long-standing practices.

Opportunities:

1. **Community-Based Natural Resource Management (CBNRM):**
   - Involving Indigenous communities in co-management of resources leads to better outcomes.
   - Example: Namibia's community conservancies.
2. **Policy Integration and Recognition:**
   - Frameworks like the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) support the recognition of IKS.
   - Environmental Impact Assessments (EIAs) increasingly incorporate local knowledge.
3. **Enhancing Economic Valuation:**
   - IKS can improve ecosystem service valuation by including spiritual and cultural dimensions.
   - Supports more holistic cost-benefit analyses in policy decisions.
4. **Sustainable Agriculture and Conservation:**

   - Traditional farming techniques promote biodiversity and soil conservation.
   - Sacred groves and traditional taboos act as natural conservation mechanisms.

The United Nations Declaration on the Rights of Indigenous People (UNDRIP) provide a systematic framework for recognition of Indigenous rights, including the right to maintain, control, protect and develop their traditional knowledge.

Indigenous Knowledge and Sustainability

- **Decline in Consumption of Wild Edible Fruits:** In Uttarakhand, India, a study found a significant decrease in the consumption of wild edible fruits over recent decades, from 8,016.67 grams per person per year in 1985–1994 to 2,225 grams in 2015–2024. This decline is attributed to factors such as rural migration, generational gaps, and changing dietary preferences.
- **Bioregional Mapping Initiatives:** Participatory mapping efforts by Indigenous communities, such as the "dream maps" created by Adivasi women in Odisha, India, highlight the

importance of local ecological knowledge in land management and climate adaptation strategies.

Policy and Institutional Recognition

Recognizing the value of IKS, institutions like the World Bank have emphasized that Indigenous-led initiatives often yield more sustainable outcomes than externally imposed solutions. These practices prioritize long-term ecological health, a vital consideration in sustainable resource management worldwide.

In Canada, the Deshkan Ziibi Conservation Impact Bond (CIB) exemplifies a collaborative effort between financial institutions, conservation organizations, the Canadian government, and Indigenous peoples to fund biodiversity preservation. This initiative showcases the significant role that financial institutions can play by partnering with Indigenous communities who have historically managed natural resources sustainably.

Integrating Indigenous Knowledge into Environmental Economics

Incorporating IKS into environmental economics involves:

- **Valuing Ecosystem Services:** Recognizing the contributions of Indigenous practices to ecosystem services, such as water purification and soil fertility.
- **Supporting Community-Based Resource Management:** Empowering Indigenous communities to manage natural resources through participatory governance models.
- **Promoting Sustainable Livelihoods:** Encouraging economic activities that align with traditional knowledge and conservation goals.

By integrating IKS into environmental economics, societies can develop more inclusive and sustainable economic models that respect cultural heritage and promote ecological balance.

Conclusion

Indigenous Knowledge Systems provide a valuable, yet underutilized, foundation for promoting sustainable development within environmental economics. They offer practical, time-tested methods of resource management, rooted in ecological balance and social cohesion. Despite systemic challenges, there is growing recognition of the importance of integrating IKS into economic models, policy frameworks, and sustainability practices. Environmental economists, policymakers, and development practitioners must prioritize inclusive approaches that respect Indigenous rights and knowledge. By bridging traditional wisdom with modern science, a more equitable and sustainable future can be achieved.

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9.

Revisiting Colonial Historiography with Indigenous Insights: Towards a Pluralistic and Decolonized Historical Narrative

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Abstract: Colonial historiography has long served as an epistemic extension of imperial power, framing colonized societies through Eurocentric paradigms while marginalizing indigenous voices and epistemologies. This paper revisits and critiques colonial historiographical methods through indigenous insights, drawing on postcolonial, subaltern, and decolonial theories. It evaluates how indigenous knowledge systems, oral traditions, and cultural memory challenge the hegemony of colonial historical narratives. Through comparative case studies across South Asia, Africa, Oceania, and the Americas, this research illustrates how a shift from Eurocentric to pluralistic historiography can reframe resistance, culture, and identity in ways that affirm indigenous agency and knowledge sovereignty. The paper argues for an interdisciplinary, ethically engaged, and community-based approach to historical reconstruction.

Keywords: Colonial Historiography, Indigenous Epistemology, Decolonial Theory, Subaltern Studies, Knowledge Sovereignty, Postcolonial Critique, Oral History

1. Introduction

The act of writing history is never neutral; it is a political practice deeply intertwined with structures of power. Under colonial regimes, historiography became a vehicle of imperial control, legitimizing conquest by constructing indigenous societies as backward, ahistorical, and in need of civilizing. While traditional historiography prioritized the archives and voices of colonial administrators, missionaries, and settlers, this paper argues for the re-centering of indigenous perspectives—rooted in diverse knowledge traditions and often marginalized in mainstream academia.

The objective is not to merely add indigenous voices to existing narratives but to reconceptualize the foundations of historical inquiry itself. This paper combines theoretical insights from postcolonial and decolonial thinkers with empirical case studies to offer a methodology for a more inclusive and ethical historiography.

Colonial Historiography: Intellectual Framework and Legacy

2.1 Epistemic Violence and Historical Construction

Colonial historiography functioned as a form of **epistemic violence** (Spivak, 1988), systematically erasing indigenous worldviews and replacing them with Eurocentric narratives. History, as defined by colonial scholars, often began with European "discovery," relegating indigenous pasts to the realm of myth or folklore.

2.2 Institutionalization of Colonial Knowledge

Colonial historiography was legitimized through institutions such as the **Asiatic Society of Bengal**, **British Royal Geographical Society**, and missionary schools. These institutions produced knowledge that served the administrative and ideological needs of empire, creating categories like “tribe” and “caste” that reified social hierarchies.

2.3 Archival Bias and Silencing

The colonial archive privileged written documentation over oral, performative, or symbolic histories. As Ann Laura Stoler (2002) asserts, archives are not neutral repositories but cultural products of colonial governance.

3. Indigenous Epistemologies: Theoretical and Methodological Shifts

3.1 Epistemological Diversity

Indigenous epistemologies are embedded in land, language, spirituality, and kinship. They reject the dichotomy between subject and object, history and myth, past and present.

"To be indigenous is to remember forward." — Māori proverb

3.2 Methodologies of Indigenous Historiography

- **Oral Histories and Story work**: As theorized by scholars like Archibald (2008), oral narratives offer both cosmological and historical insights, often transmitted through performative traditions.
- **Decolonial Hermeneutics**: Approaches that prioritize indigenous interpretive frameworks over Western historical logic.
- **Land-Based Histories**: History inscribed in geography—sacred sites, migration routes, ancestral lands.

3.3 Ethical Considerations

Indigenous research protocols emphasize reciprocity, consent, and relational accountability (Kovach, 2009). Researchers must co-produce knowledge rather than extract it.

4. Revisiting Key Historical Themes Through Indigenous Lenses

4.1 Resistance as Continuum, Not Disruption

Colonial records often depict resistance as episodic. Indigenous historiography understands it as **intergenerational resistance**—through language preservation, ceremonies, education, and storytelling.

- *Example*: The Lakota Sun Dance as both spiritual and political resistance.
- *South Asia*: Adivasi revolts (e.g., Santhal Rebellion) reframed not as disruptions but as assertions of indigenous governance.

4.2 Civilizational Narratives and Eurocentric Progress

Colonial discourse cast European civilization as universal. Indigenous knowledge challenges this with complex social, ecological, and scientific systems—e.g.,

- Polynesian oceanic navigation,
- Incan agronomy (terrace farming),
- Bhil and Gond ecological calendars in India.

4.3 Gender and Indignity

Women were framed as invisible. Indigenous feminist scholarship reveals women as land protectors, knowledge holders, and community leaders—e.g., Lozen (Apache), Gaura Devi (Chipko movement), and Tongan matrilineal governance.

5. Global Case Studies

5.1 South Asia: Subaltern Studies and Beyond

While Subaltern Studies (Guha, Chatterjee, Spivak) challenged nationalist and colonial elites, it often spoke *about* the subaltern rather than *with* them. New scholarship emphasizes collaborative, field-based oral histories among tribal and Dalit communities.

5.2 North America: Truth and Reconciliation

- The **Canadian Truth and Reconciliation Commission (TRC)** highlighted residential schools' impacts and affirmed indigenous memory as a valid historical source.
- The **American Indian Movement (AIM)** uses cultural revivalism as a tool of historical reclamation.

5.3 Oceania: Decolonizing the Pacific

- The work of Epeli Hau'ofa reclaims Oceania as a "sea of islands" interconnected through history, trade, and kinship—contrasting colonial representations of isolation and dependency.

5.4 Africa: Language and Memory

- Ngugi wa Thiong'o advocates for a return to African languages in historical writing.
- Griot traditions in West Africa maintain centuries-old genealogical and political histories.

6. Challenges in Integrating Indigenous Histories

- **6.1 Methodological Barriers**
  Western academia demands citation, chronology, and documentation—often incompatible with indigenous modes of knowing.

- **6.2 Institutional Resistance**
  Colonial historiography still dominates textbooks, archives, and syllabi. Decolonization threatens entrenched academic and nationalistic narratives.

- **6.3 Tokenism and Appropriation**
  Risk of surface-level inclusion of indigenous knowledge without structural change in epistemology.

7. Towards a Decolonial Historiographical Framework

7.1 Interdisciplinary Praxis

History must draw from anthropology, ecology, linguistics, and indigenous cosmologies.

7.2 Decolonizing the Archive

- **Creating Indigenous Archives**: Digital platforms, community repositories.
- **Reinterpreting Colonial Records**: Reading against the grain, exposing silences.

7.3 Knowledge Co-Production

Academia must partner with indigenous communities as equals, with community ownership of data, narratives, and intellectual property.

8. Conclusion

Revisiting colonial historiography through indigenous insights is both a scholarly necessity and a justice-oriented endeavor. It requires not only rewriting history but reimagining the act of historical thinking itself. Only by acknowledging the plurality of epistemologies and centering historically silenced voices can we arrive at a historiography that is ethical, inclusive, and liberatory. The future of historical scholarship lies in collaboration, humility, and the courage to unlearn.

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10.

The Applicability of the Indian Knowledge System in Sociological Inquiry

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Abstract: This paper argues for the transformative potential of integrating the Indian Knowledge System (IKS) into sociological inquiry, particularly within the Indian context. While acknowledging the contributions of Western sociological paradigms, it critiques their limitations in fully capturing the nuances of Indian social realities shaped by unique historical, philosophical, and socio-cultural specificities. The paper explores the applicability of key IKS concepts such as Dharma, Karma, Maya, and Vasudhaiva Kutumbakam in offering alternative theoretical frameworks for understanding social structures, interactions, and transformations. It demonstrates how Dharma can illuminate ethical underpinnings of social order, Karma can provide insights into perceptions of inequality and mobility, Maya can deconstruct socially constructed realities, and Vasudhaiva Kutumbakam can foster a more inclusive global sociological perspective. Furthermore, the paper discusses potential methodological innovations inspired by IKS, emphasizing holistic understanding, experiential learning, and narrative-based approaches. It also addresses the ethical considerations and challenges inherent in integrating indigenous knowledge systems into academic disciplines, stressing the need for respectful engagement and rigorous scholarship. Finally, this paper advocates for a synergistic approach that leverages the strengths of both Western sociology and IKS to develop a more culturally grounded, contextually relevant, and globally informed sociological understanding, enriching the discipline and fostering more effective social analysis and interventions.

Key Words: Sociology, Indian Knowledge System, Sociological Enquiry

Introduction:

The discipline of sociology, as it has evolved and been predominantly practiced, bears the indelible stamp of its Western origins. While offering valuable frameworks for understanding social phenomena, its universal applicability, particularly within non-Western cultural contexts like India, has been increasingly questioned. The unique historical trajectories, philosophical underpinnings, and socio-cultural specificities of India often find themselves inadequately explained or even misrepresented by theoretical lenses developed in vastly different societal settings. This necessitates a critical engagement with indigenous knowledge systems, particularly the rich and multifaceted Indian Knowledge System (IKS), to develop a more nuanced, contextually relevant, and ultimately more insightful sociological understanding.

The IKS, encompassing a vast body of knowledge spanning philosophy, ethics, metaphysics, logic, mathematics, arts, and sciences, offers a wealth of concepts and perspectives that hold significant relevance for sociological inquiry. This paper posits that by consciously integrating key tenets of IKS, sociology can move beyond the limitations of imposed frameworks and develop a more holistic and culturally sensitive understanding of Indian society. This exploration is not about a wholesale rejection of Western sociology but rather about a synergistic approach that leverages the strengths of both traditions to create a more comprehensive and globally relevant discipline.

Limitations of Western Sociology in the Indian Context:

Several scholars have highlighted the inherent biases and limitations of applying Western sociological theories uncritically to the Indian context. Concepts like individualism, secularization,

and the linear progression of modernity, central to many Western sociological frameworks, often struggle to adequately capture the collectivistic ethos, the pervasive influence of religion, and the complex interplay of tradition and modernity in India. For instance, the Western emphasis on individual agency often overlooks the significance of kinship networks, community bonds, and ascribed identities like caste in shaping individual behavior and social structures in India. Similarly, the Western narrative of secularization often fails to account for the continued centrality of religion in public and private life in India.

Furthermore, the very categories and concepts used in Western sociology may not always have direct equivalents or carry the same connotations in the Indian context. Terms like 'class' and 'power' need to be carefully re-examined when applied to a society structured by the complex and historically entrenched system of caste. Therefore, relying solely on Western frameworks risks producing a skewed and incomplete picture of Indian social realities, often leading to misinterpretations and a failure to grasp the underlying dynamics of social life.

Exploring Key Concepts from the Indian Knowledge System for Sociology:

The IKS offers a treasure trove of concepts that can provide fresh perspectives and analytical tools for sociological inquiry. This section will explore a few key concepts and their potential applications:

Dharma: Far exceeding the Western notion of 'religion,' Dharma in IKS refers to the inherent nature of things, one's duty, righteousness, ethics, and the principles that uphold cosmic and social order. Applying the concept of Dharma in sociology can provide a deeper understanding of the normative frameworks that govern social behavior, the ethical underpinnings of social institutions, and the diverse ways in which individuals and groups understand their roles and responsibilities within society. Studying Dharma can illuminate the moral dimensions of social action and the cultural logics that shape social justice and conflict.

Karma: The principle of Karma, often simplified as 'what goes around comes around,' encompasses the idea that actions have consequences, shaping not only the present but also future possibilities. In a sociological context, understanding Karma can offer insights into perceptions of social mobility, the justifications for social inequalities, and the cultural mechanisms of accountability. It can also shed light on how individuals and communities understand their agency within the framework of past actions and their potential future repercussions. However, it is crucial to critically analyze the application of Karma to avoid deterministic interpretations and to understand its potential role in both perpetuating and challenging social hierarchies.

Maya: Often translated as 'illusion,' Maya in IKS refers to the perceived reality that is ultimately transient and not the absolute truth. Sociologically, engaging with the concept of Maya can lead to a deeper understanding of the socially constructed nature of reality, identities, and social categories. It can encourage a critical examination of how social norms, beliefs, and ideologies shape our perceptions and create seemingly fixed social structures. By recognizing the illusory nature of certain social constructs, sociology can potentially foster a more fluid and dynamic understanding of social change and the possibilities for deconstructing oppressive systems.

Vasudhaiva Kutumbakam: This profound concept, meaning 'the world is one family,' emphasizes the interconnectedness and interdependence of all beings. In an increasingly globalized world, Vasudhaiva Kutumbakam offers a powerful ethical and philosophical framework for understanding global social relations, fostering inclusivity, and addressing issues of social justice and environmental sustainability on a global scale. It challenges narrow nationalist perspectives and promotes a sense of universal responsibility and interconnectedness, which can be invaluable in navigating the complexities of a multicultural and interdependent world.

Methodological Innovations Inspired by IKS: Integrating IKS into sociology is not merely about applying new concepts; it also necessitates exploring potential methodological innovations.

Traditional Indian knowledge systems often emphasized holistic understanding, experiential learning, and the integration of the observer within the observed. This can inspire the development of research methodologies that go beyond purely quantitative or detached qualitative approaches.

For instance, the emphasis on introspection and self-awareness in many Indian philosophical traditions could inform more reflexive and participatory research methods. The rich tradition of storytelling and oral narratives in India suggests the potential for incorporating narrative-based research approaches that capture the lived experiences and perspectives of communities in culturally relevant ways. Furthermore, the focus on interconnectedness in IKS might inspire methodologies that explore social networks and relationships in a more holistic and dynamic manner, moving beyond linear cause-and-effect models. The study of sacred texts and traditional knowledge systems using hermeneutic approaches rooted in Indian intellectual traditions can also offer valuable insights into social norms, values, and historical trajectories.

Ethical Considerations and Challenges:

The integration of IKS into sociological study is not without its ethical considerations and challenges. It is crucial to approach this endeavor with respect and sensitivity, avoiding cultural appropriation or the misinterpretation of complex philosophical concepts. Engaging with IKS requires a deep understanding of its nuances and a commitment to rigorous scholarship. Sociologists must be mindful of the potential for essentializing or romanticizing indigenous knowledge systems and should strive for a critical and balanced perspective.

Furthermore, the diverse and often contested nature of IKS itself presents a challenge. There is no single, monolithic 'Indian Knowledge System,' but rather a plurality of traditions, schools of thought, and regional variations. Sociologists must engage with this diversity thoughtfully, acknowledging the different perspectives and potential contradictions within IKS. Collaboration with scholars of Indian philosophy, Indology, and other relevant disciplines is essential to ensure accurate and nuanced interpretations.

Moving Towards a Culturally Grounded Sociology:

The application of the Indian Knowledge System in the study of sociology holds immense promise for creating a more relevant, inclusive, and insightful understanding of social realities, particularly within the Indian context. By engaging critically and creatively with the rich intellectual heritage of India, sociology can move beyond the limitations of purely Western frameworks and develop new theoretical perspectives, methodological approaches, and ethical considerations.

This endeavour is not about replacing Western sociology but about enriching it through a meaningful dialogue with indigenous knowledge systems. It is about fostering a pluralistic and globally informed sociological imagination that recognizes the value and relevance of diverse intellectual traditions. By embracing the wisdom embedded within the Indian Knowledge System, sociology can contribute to a more nuanced and culturally sensitive understanding of the human condition, both in India and in the wider world. This will not only enhance the academic rigor of the discipline but also contribute to more effective and culturally appropriate social interventions and policies. The journey of re-envisioning the social through the lens of IKS is a complex but ultimately rewarding one, paving the way for a truly global and inclusive sociology

Conclusion

The exploration of the Indian Knowledge System's application in sociology reveals a fertile ground for intellectual innovation and a more profound understanding of social realities, particularly within India. By moving beyond the uncritical application of Western frameworks, sociology can gain valuable insights from concepts like Dharma, Karma, Maya, and Vasudhaiva Kutumbakam, which offer alternative lenses for analyzing social order, inequality, the construction of reality, and global

interconnectedness. The integration of IKS also inspires the consideration of novel methodological approaches rooted in indigenous traditions, potentially leading to more holistic and culturally sensitive research practices.

However, this integration demands careful navigation of ethical considerations, including the avoidance of cultural appropriation and the recognition of the diversity within IKS itself. Collaboration across disciplines and a commitment to rigorous scholarship are crucial for ensuring nuanced and respectful engagement with this rich intellectual heritage. Ultimately, the application of IKS in sociology is not about replacing existing paradigms but about enriching and expanding the discipline's capacity for understanding the complexities of human social life. By embracing this synergistic approach, sociology can evolve into a more globally relevant and culturally grounded discipline, capable of offering more effective analyses and contributing to more just and equitable social outcomes within India and beyond. The journey of integrating IKS into sociological inquiry promises a more nuanced and comprehensive understanding of the social world, fostering a truly inclusive and globally aware sociological imagination.

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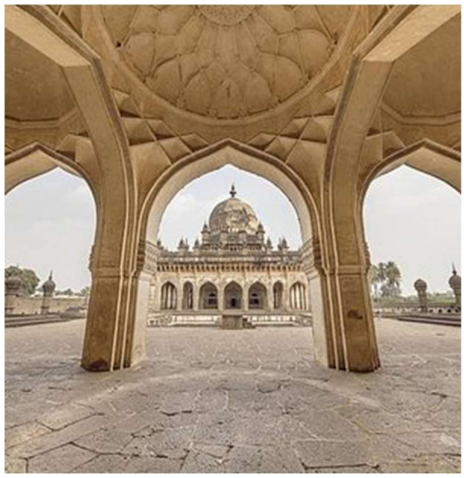
ಮಧ್ಯಕಾಲೀನ ಭಾರತದ ಚರಿತ್ರೆಯಲ್ಲಿ ಅನೇಕ ಆಡಳಿತಗಾರರು, ಮಂತ್ರಿ, ಅಧಿಕಾರಿ ವರ್ಗವು ರಾಜ್ಯ ಸ್ಥಾಪನೆ ಮತ್ತು ಅಸ್ಥಿತ್ವಕ್ಕೆ ಬಹುಮುಖ್ಯ ಪಾತ್ರ ವಹಿಸಿರುವುದನ್ನು ನೋಡಬಹುದು. ಆ ನಿಟ್ಟಿನಲ್ಲಿ ಮಹ್ಮದ್ ಗವಾನ, ಜಾಫರ್‌ಖಾನ್, ಮಲ್ಲಿಕಾಫರ್‌ನಂತಹ ಹೆಸರುಗಳು ನೆನಪಿಗೆ ಬರುತ್ತವೆ. ಹಾಗೇ, ವಿಜಯಪುರದ ಆದಿಲ್‌ಶಾಹಿಗಳ ರಾಜ್ಯ ಸ್ಥಾಪನೆಯಲ್ಲಿ ಬಹುಮುಖ್ಯ ವ್ಯಕ್ತಿಯೆಂದರೆ ಅಸದ್‌ಖಾನ್(ಸಿಕ್ಕಂದರಖಾನ್ ಮಹಮ್ಮದ ಲ್ಹಾರಿ). ಆದರೆ ಆದಿಲ್‌ಶಾಹಿಗಳ ಚರಿತ್ರೆಯ ರಚನೆಯ ಸಂದರ್ಭದಲ್ಲಿ ಈ ವ್ಯಕ್ತಿಯ ಚರಿತ್ರೆ ಗೌಣವಾಗಿರುವುದು ವಿಷಾಧನೀಯ. ಬಹಮನಿ ರಾಜ್ಯ ವಿಭಜನೆ ಆದನಂತರ ವಿಜಯಪುರದ ಪ್ರಾಂತ್ಯಾಧಿಕಾರಿಯಾದ ಯೂಸುಫ್ ಆದಿಲ್‌ಶಾಹಿಯು ಕ್ರಿ.ಶ ೧೪೯೯ರಲ್ಲಿ ಆದಿಲ್‌ಶಾಹಿ ಎಂಬ ಸ್ವತಂತ್ರ್ಯ ರಾಜ್ಯವನ್ನು ಸ್ಥಾಪಿಸಿ ಸುಲ್ತಾನ ಎಂದು ಘೋಷಿಸಿಕೊಂಡು ಆಡಳಿತ ನಡೆಸಿದನು. ಯೂಸೂಫ್ ಆದಿಲ್‌ಶಹ ಸಿಂಹಾಸನ ಪಡೆದುಕೊಳ್ಳುವಲ್ಲಿ ಸಹಾಯಕನಾದ ನಿಷ್ಟಾವಂತ ಸೈನ್ಯದ ದಂಡನಾಯಕನಾದ ಸಿಕ್ಕಂದರಖಾನ್ ಮಹಮ್ಮದ ಲ್ಹಾರಿಯನ್ನು ಮುಖ್ಯ ಸೇನಾ ದಂಡನಾಯಕನಾಗಿ ನೇಮಕಗೊಳಿಸಿದನು. ಯೂಸೂಫ್ ಆದಿಲ್‌ಶಹ ಮರಣದ ನಂತರ ಸಿಂಹಾಸನಕ್ಕಾಗಿ ಗಲಭೆ ಉಂಟಾಯಿತು. ಯೂಸುಪ್ ಆದಿಲ್‌ಶಹನ ಮಗನಾದ ಇಸ್ಮಾಯಿಲ್ ಆದಿಲ್‌ಶಹನಿಗೆ (ಕ್ರಿ.ಶ ೧೫೧೦ ರಿಂದ ೧೫೩೪) ಸಿಂಹಾಸನವನ್ನು ಒದಗಿಸಲು ಸಹಾಯ ಮಾಡಿದ ಪರದೇಶಿ(ಅಫಕಿ) ಸರದಾರರ ನಾಯಕನಾದ ಸಿಕ್ಕಂದರಖಾನ್ ಮಹಮ್ಮದ ಲ್ಹಾರಿ ಪ್ರಮುಖ ಕಾರಣಿಕರ್ತನಾಗಿದ್ದಾನೆ. ಈತನ ಸಾಹಸಕ್ಕೆ ಮೆಚ್ಚಿ ಸುಲ್ತಾನ ಇಸ್ಮಾಯಿಲ್ ಆದಿಲ್‌ಶಹ **ಅಸದ್‌ಖಾನ್(ಹುಲಿಯಂತಹ ವ್ಯಕ್ತಿ)** ಎಂಬ ಬಿರುದನ್ನು ನೀಡಿ **ಬೆಳಗಾವಿ** ಪ್ರದೇಶವನ್ನು ಜಹಗೀರಾಗಿ ನೀಡಿದನು.

- ಅಸದ್‌ಖಾನ್‌ನ ಮೂಲ ಹೆಸರು ಸಿಕ್ಕಂದರಖಾನ್ ಮಹಮ್ಮದ್ ಖುಸ್ರೊ. ಈತ ಇರಾನ ಮೂಲದ ಖುಸ್ರೊ ಜಿಲ್ಲೆಯ ಲ್ಹಾರ ಎಂಬ ಹಳ್ಳಿಯಲ್ಲಿ ಕ್ರಿ.ಶ ೧೪೪೪ರಲ್ಲಿ ಜನಸಿದನು.೧
- ಅಸದಖಾನ ಸ್ವತಃ ಜ್ಯೋತಿಷ್ಯ, ಹಸ್ತ ಸಾಮುದ್ರಿಕೆ ಮತ್ತು ಮುಖ ಲಕ್ಷಣಗಳನ್ನು ನೋಡಿ ಭವಿಷ್ಯ ಹೇಳುವ ಕಲೆಯಲ್ಲಿ ಪರಿಣಿತನಾಗಿದ್ದನು.
- ಇಸ್ಮಾಯಿಲ್ ಆದಿಲ್ ಷಾ ಅಸದಖಾನನ ಮಗಳನ್ನು ಮದುವೆ ಆದನು. ಅವನ ಮಗಳ ಉದರದಿಂದ ಜನಸಿದ ಮಗುನಿಗೆ ನನ್ನ ನಂತರ ಬಾದಶಾಹನಾಗಿ ಮಾಡುತ್ತೇನೆ ಎಂದು ಪ್ರತಿಜ್ಞೆಗೈದನು.
- ಅಸದಖಾನನು ಇಸ್ಮಾಯಿಲ್ ಮರಣದ ನಂತರ ಆತನ ಹಿರಿಯ ಮಗನಾದ ೧ನೇ ಇಬ್ರಾಹಿಂ ಆದಿಲ್ ಶಾಹನನ್ನು ಸಿಂಹಾಸನಕ್ಕೆ ತರಲು ದೊಡ್ಡ ಮಾರಣ ಹೋಮವನ್ನು ನಡೆಸಿದನು. ಅವನಿಂದ ಆಡಳಿತದ ಪ್ರಮುಖ ಹುದ್ದೆಯಾದ – ಪ್ರಧಾನ ಸಿಪಹ ಸಾಲಾರ ಪಡೆದನು. ಅದರೊಂದಿಗೆ ಬೆಳಗಾವಿ ಆಡಳಿತವನ್ನು ನೋಡಿಕೊಳ್ಳತ್ತಿದ್ದನು.
- **೧ನೇ ಇಬ್ರಾಹಿಂ** ಆದಿಲ್ ಶಾಹನ ನಂತರ ಸಿಂಹಾಸನವನ್ನು ನಿರ್ದರಿಸುವಲ್ಲಿ ಅಸದಖಾನ ಮತ್ತೇ ಪ್ರಮುಖ ಪಾತ್ರ ವಹಿಸಿದನು. **೧ನೇ ಅಲಿ ಆದಿಲ್‌ಶಾಹನನ್ನು** ಅಧಿಕಾರಕ್ಕೆ ತಂದನು.
- ಅಸದ್‌ಖಾನ್ ಕ್ರಿ.ಶ ೧೫೧೧ ರಿಂದ ೧೫೪೯ ರವರೆಗೆ ಸುಮಾರು ೩೮ ವರ್ಷಗಳ ಕಾಲ ಬೆಳಗಾವಿಯನ್ನು ಕೇಂದ್ರವಾಗಿ ಮಾಡಿಕೊಂಡು ಆಳ್ವಿಕೆ ಮಾಡಿದನು.

ಅಸದಖಾನ ಬೆಳಗಾವಿಯನ್ನು ಆದಿಲ್‌ಶಾಹಿಗಳ ಕಾಲದ ಪಶ್ಚಿಮದ ಪ್ರಮುಖ ರಾಜಧಾನಿ ಆಡಳಿತ ಕೇಂದ್ರವಾಗಿ ರೂಪಿಸಿದನು. ಈತನ ಆಳ್ವಿಕೆ ಸಂದರ್ಭದಲ್ಲಿ ಬೆಳಗಾವಿ ಮಧ್ಯಕಾಲೀನ ಕರ್ನಾಟಕದ ಸ್ಮಾರಕಗಳ ಭವ್ಯ ನಗರವಾಗಿ ರಚನೆಗೊಂಡಿದೆ.



ಅಸದ್‌ಖಾನ್‌ನ ಆಡಳಿತಾತ್ಮಕ ಸಾಧನೆಗಳು

ಬೆಳಗಾವಿಯನ್ನು ಜಹಗೀರವಾಗಿ ಪಡೆದ ನಂತರ ಅಸದ್‌ಖಾನ್ ಆಡಳಿತಾತ್ಮಕವಾಗಿ ವಿಜಾಪುರದ ಸೈನ್ಯದ ಮುಖ್ಯ ದಂಡನಾಯಕನಾಗಿ ಮುಂದುವರೆದನು. ಪೊರ್ಚಗೀಸರು ಮತ್ತು ವಿಜಯನಗರದ ಅರಸರ ವಶದಿಂದ ಬೆಳಗಾವಿ ಭಾಗದ ಆಡಳಿತವನ್ನು ಸ್ಥಿರಗೊಳಿಸಿದನು.

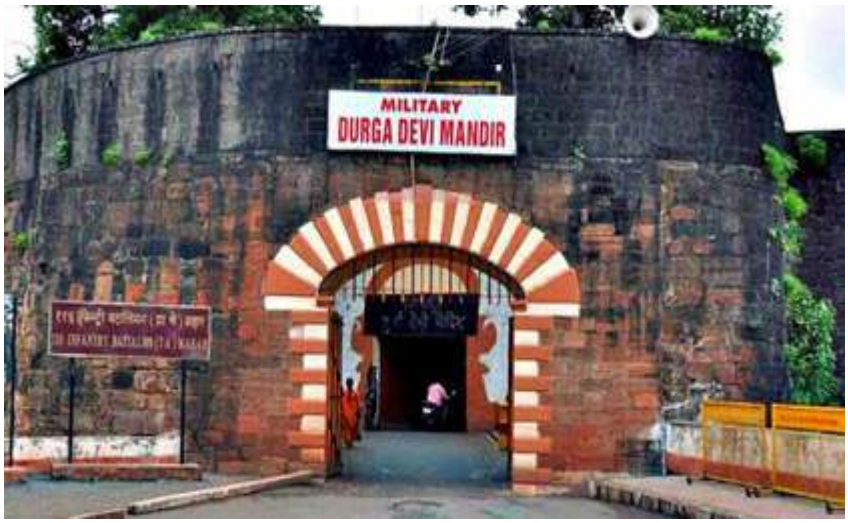
- ಬೆಳಗಾವಿಯ ಸರದಾರನಾಗಿ ಹಾಗೂ ವಿಜಾಪುರ ಸೈನ್ಯದ ಮುಖ್ಯ ದಂಡನಾಯಕನಾಗಿ ಆಳ್ವಿಕೆ ಮಾಡುವ ಸಂದರ್ಭದಲ್ಲಿ ಕ್ರಿ.ಶ ೧೫೧೫ರಲ್ಲಿ ಅಮೀರ ಬರೀದ್‌ನ ನೇತೃತ್ವದಲ್ಲಿ ಬಂದಂತಹ ಸೈನ್ಯವನ್ನು ಹಿಮ್ಮೆಟ್ಟಿಸಿದನು.

- ಕ್ರಿ.ಶ ೧೫೩೩ರಲ್ಲಿ ಇಸ್ಮಾಯಿಲ್ ಆದಿಲ್‌ಶಹನ ಸೈನ್ಯದ ಮುಖ್ಯ ಸರದಾರನಾಗಿ ಯುದ್ಧಗಳಲ್ಲಿ ಭಾಗವಹಿಸಿದನು.
- ಕ್ರಿ.ಶ ೧೫೩೩ರಿಂದ ಒಂದನೇ ಇಬ್ರಾಹಿಂ ಆದಿಲ್‌ಶಹನ ಕಾಲಘಟ್ಟದಲ್ಲಿ ಸರದಾರನಾಗಿ ಮುಂದುವರೆದನು.
- ಕ್ರಿ.ಶ ೧೫೫೨ ರಲ್ಲಿ ತನ್ನ ಪದವಿಗೆ ರಾಜಿನಾಮೆ ನೀಡಿ ತನ್ನ ಜಹಗೀರ್‌ಗೆ ಹಿಂದುರುಗಿದನು.[೨]
- ಅಸದ್‌ಖಾನ್‌ನು ತನ್ನ ಜಹಗೀರ್ ಭಾಗವಾದ ಬೆಳಗಾವಿ ಆಗಮಿಸಿ ಅನೇಕ ಸ್ಮಾರಕಗಳನ್ನು ನಿರ್ಮಿಸಿ ನಗರವನ್ನು ಮಧ್ಯಕಾಲಿನ ಆಡಳಿತದ ಭವ್ಯ ಸ್ಮಾರಕಗಳ ಕೇಂದ್ರವಾಗಿಸಿದ್ದಾನೆ.

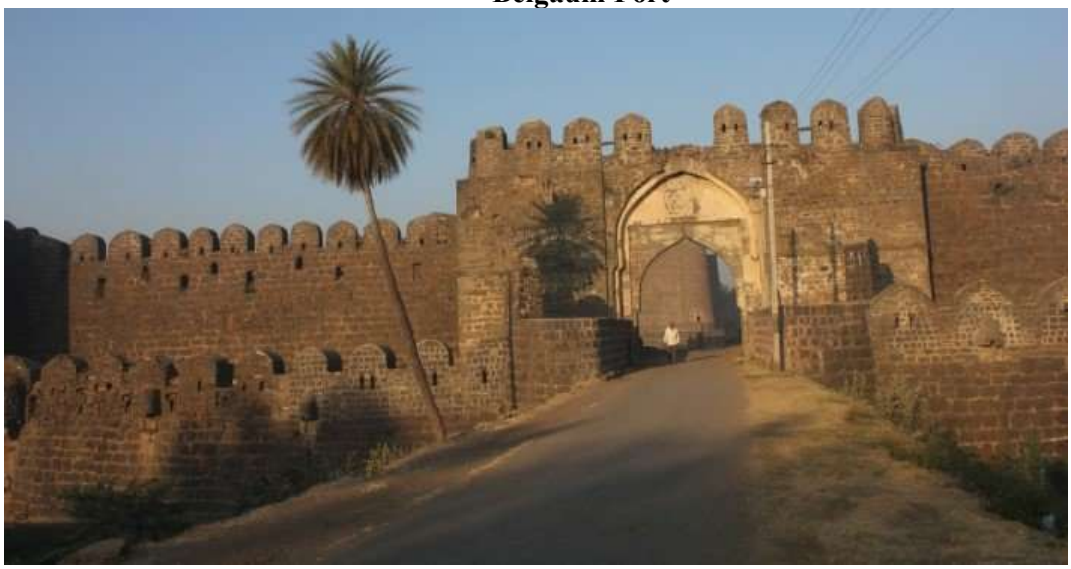
೧) ಬೆಳಗಾವಿ ಕೋಟೆ

- ಅಸದ್‌ಖಾನನು ರಟ್ಟರ ಕಾಲದಲ್ಲಿ ನಿರ್ಮಾಣವಾದ ಮಣ್ಣಿನ ಕೋಟೆಯನ್ನು ಪುನರ್ ನವೀಕರಿಸಿ ಕಲ್ಲಿನಿಂದ ನಿರ್ಮಿಸಿದಂತೆ ಕಾಣುತ್ತದೆ.

- ಅಸದ್‌ಖಾನ್ ಆಡಳಿತದಲ್ಲಿ ಯಾಕುಬ್‌ಖಾನ್ ಎಂಬ ಅಮೀರನು(ಕೋತ್ವಾಲ) ಬೆಳಗಾವಿ ಕೋಟೆಯ ಉತ್ತರ ದಿಕ್ಕಿನ ಮುಖ್ಯ ಗೋಡೆಯನ್ನು ಪುನರ್ ನಿರ್ಮಿಸಿದರ ಬಗ್ಗೆ (ಹಿಜರಿ ಶಕೆ ೯೩೭) ಕ್ರಿ.ಶ ೧೫೩೦ ಕೋಟೆ ಗೋಡೆಯ ಶಾಸನ ಉಲ್ಲೇಖಿಸುತ್ತದೆ.[೩]
- ಅಸದ್‌ಖಾನ್ ಈ ಕೋಟೆಯ ಒಳಗಡೆ ತನ್ನ ವಾಸಕ್ಕಾಗಿ ಮಹಲನ್ನು ನಿರ್ಮಿಸಿದ್ದನು. ಈ ಮಹಲನ್ನು ಕ್ರಿ.ಶ ೧೮೧೮ ರಲ್ಲಿ ಬ್ರಿಟಿಷ್ ಅಧಿಕಾರಿ ಮನ್ರೊ ನೆಲಸಮಗೊಳಿಸಿದನು. ಈಗ ಮಹಲನ ಅವಷೇಶಗಳು ಹಾಗೂ ಮುಖ್ಯ ದ್ವಾರ ಮಾತ್ರ ಕಾಣುತ್ತವೆ.[೪]



Belgaum Fort



೨) ಯಳ್ಳೂರ ಕೋಟೆ ಅಥವಾ ರಾಜಹಂಸಗಡ ಕೋಟೆ

ಅಸದ್‌ಖಾನ್‌ನು ಈ ಕೋಟೆಯನ್ನು ನಿರ್ಮಿಸಿದ್ದಾನೆ ಎಂದು ಎಸ್.ಕೆ.ಜೋಷಿಯವರು ಅಭಿಪ್ರಾಯಪಟ್ಟಿದ್ದಾರೆ. ಈ ಕೋಟೆಯು ಬೆಳಗಾವಿ ನಗರದಿಂದ ೭ ಕಿ ಮೀ ಅಂತರದಲ್ಲಿದ್ದು ನಗರದ ದಕ್ಷಿಣ ಭಾಗದಲ್ಲಿ ಎತ್ತರವಾದ ಗುಡ್ಡದ ಮೇಲೆ ನಿರ್ಮಿಸಲಾಗಿದೆ. ಈ ಕೋಟೆಯು ಆದಿಲ್‌ಶಾಹಿಗಳ ರಾಜ್ಯದ ಪಶ್ಚಿಮ ಭಾಗದ ವಿಕ್ಷಣಾ ಕೋಟೆಯಾಗಿತ್ತು.[೫]

Rajahanshaghad Fort

೩) ಸಫಾ ಈ ಮಸೀದಿ

ಅಸದ್‌ಖಾನ್‌ನು ಬೆಳಗಾವಿ ಮುಖ್ಯ ಕೋಟೆಯ ಪೂರ್ವ ಭಾಗದಲ್ಲಿ ಸಫಾ ಈ ಮಸೀದಿಯನ್ನು ಕ್ರಿ.ಶ ೧೫೧೧ರಲ್ಲಿ ನಿರ್ಮಾಣ ಕಾರ್ಯವನ್ನು ಪ್ರಾರಂಭಿಸಿ ೧೫೧೯ ರಲ್ಲಿ ಪೂರ್ಣಗೊಳಿಸಿದ ಕುರಿತು ಎರಡು ಪರ್ಶಿಯನ್ ಶಾಸನಗಳು ಉಲ್ಲೇಖಿಸುತ್ತವೆ.[೬] ಈ ಮಸೀದಿಯನ್ನು ಮೊಘಲ್ ಹಾಗೂ ದಖ್ಖನ್ ಶೈಲಿಯ ಮಿಶ್ರಣದೊಂದಿಗೆ ಬ್ರಹತ್ತಾದ ಗುಮ್ಮಟ ಮತ್ತು ಕಮಾನುಗಳನ್ನು ಅಳವಡಿಸಿ ನಿರ್ಮಿಸಲಾಗಿದೆ.[೭] ಈ ಮಸೀದಿ ನಿರ್ವಹನೆಗೆ ಅಸದ್‌ಖಾನ್ ಭೂಮಿಯನ್ನು, ದಾನವಾಗಿ ನೀಡಿದ್ದನು ಎಂಬ ಉಲ್ಲೇಖವನ್ನು (ಹಿಜರಿ ಶಕೆ ೯೨೯) ಕ್ರಿ.ಶ ೧೫೧೯ರ ಪರ್ಶಿಯನ್ ಶಾಸನ ಉಲ್ಲೇಖಿಸುತ್ತದೆ.[೮] ಈ ಮಸಿದಿ ಮೂಲತಹ ಯಾದವರ ಕಾಲದ ಹಿಂದೂ ದೇವಾಲಯವಾಗಿತ್ತು ಎಂದು ಅಲ್ಲಿಯ ಶಾಸನದಿಂದ ತಿಳಿದು ಬರುತ್ತದೆ.

SAFA E MAsjid

೪) ಹಜರತ ಸಯ್ಯುದ್ಧಿನ್ ಶಹಾ ಬದ್ರುದ್ಧಿನ್ ಚಿಸ್ತಿ ದರ್ಗಾ

ಅಸದ್‌ಖಾನ್ ಕೋಟೆಯ ಒಳಗಡೆ ಚಿಸ್ತಿ ಸಂಪ್ರದಾಯದ ಸಂತರಾದ **"ಹಜರತ ಸಯ್ಯುದ್ಧಿನ್ ಶಹಾ ಬದ್ರುದ್ಧಿನ್ ಚಿಸ್ತಿ"** ದರ್ಗಾವನ್ನು ನಿರ್ಮಿಸಿದ್ದಾನೆ. ಇದರೊಂದಿಗೆ ಖಾನಕಾಗಳು, ಮಸೀದಿಗಳು, ಕೋಟೆಯ ಒಳಭಾಗದಲ್ಲಿ ಕಛೇರಿ, ಮಹಲ್, ಸೈನಿಕರ ವಸತಿ ನೆಲೆಗಳನ್ನು ನಿರ್ಮಿಸಿದ್ದನು. ಕ್ರಿ.ಶ ೧೮೧೮ರಲ್ಲಿ ಬೆಳಗಾವಿಯು ಬ್ರಿಟಿಷರ ವಶವಾದ ನಂತರ ಹಲವಾರು ಕಟ್ಟಡಗಳನ್ನು ನಿರ್ನಾಮ ಮಾಡಿದರು. ಹಾಗೂ ಕೆಲವು ಕಟ್ಟಡಗಳನ್ನು ಪುನರ್ ನವೀಕರಿಸಿ ಬಳಿಸಿಕೊಂಡಿದ್ದಾರೆ. ಇಂತಹ ಹಲವಾರು ಅವಶ್ಯಕ ಕಟ್ಟಡಗಳನ್ನು ಅಸದ್‌ಖಾನ್ ನಿರ್ಮಿಸಿರಬಹುದು, ಅವು ನಂತರದಲ್ಲಿ ಬ್ರಿಟಿಷರ ಆಳ್ವಿಕೆ ಒಳಪಟ್ಟು ಇಲ್ಲವೆ ಭವಿಷತ್ತಿನ ಆಧುನಿಕ ಜಗತ್ತಿನ ನಿರ್ಮಾಣದಲ್ಲಿ ತಮ್ಮ ಗತ ವೈಭವವನ್ನು ಇತಿಹಾಸದ

ಪುಟಗಳಲ್ಲಿ ಮಾತ್ರ ಉಳಿಸಿಕೊಂಡಿವೆ. ಹೀಗೆ ಅಸದಖಾನ್‌ನು ಬೆಳಗಾವಿ ನಗರದಲ್ಲಿ ಸುಮಾರು ೩೦ ವರ್ಷಗಳ ಕಾಲ ಸುದೀರ್ಘ ಆಳ್ವಿಕೆ ಮಾಡಿ ಆದಿಲ್‌ಶಾಹಿಗಳ ಏಳ್ಗೆಗೆ ಕಾರಣರಾದ ಸರದಾರ(ಪ್ರಧಾನ ಮಂತ್ರಿ)ಗಳಲ್ಲಿ ಪ್ರಮುಖನಾಗಿದ್ದಾನೆ. ಬೆಳಗಾವಿ ಇಂದು ನಗರ ಸ್ವರೂಪ ಪಡೆಯಲೂ ಈತನೇ ಕಾರಣೀಭೂತನಾಗಿದ್ದಾನೆ. ನಗರದಲ್ಲಿ ಹಲವು ಸಾಧು ಸಂತರಿಗೆ ಆಶ್ರಯ ನೀಡಿ, ಜನ ಹಿತಕರ ಆಡಳಿತವನ್ನು ನಡೆಸಿ ಮಧ್ಯಕಾಲೀನ ಕರ್ನಾಟಕದ ಇತಿಹಾಸದಲ್ಲಿ ಶಾಶ್ವತವಾದ ಸ್ಥಾನ ಪಡೆದಿದ್ದಾನೆ. ಅಸದ್‌ಖಾನ್‌ನಿಗೂ ಮತ್ತು ೨ನೇ ಇಬ್ರಾಹಿಂ ಆದಿಲ್‌ಶಹನಿಗೂ ಆಡಳಿತಾತ್ಮಕ ಕೆಲವು ವಿಷಯದಲ್ಲಿ ಕಲಹ ಏರ್ಪಟ್ಟಿತ್ತು. ಸುಮಾರು ಕ್ರಿ.ಶ ೧೫೯೯ರಲ್ಲಿ (೧೦೪) ವಯಸ್ಸಿನಲ್ಲಿ ಯೋಜನೆಯಂತೆ ಬೆಳಗಾವಿ ನಗರದಿಂದ ೫ ಕಿಮೀ ಅಂತರದಲ್ಲಿರುವ ಮಂಡೋಳ್ಳಿಗೆ ವಿಶ್ರಾಂತಿಗೆ ತೆರಳಿದಾಗ ಹತ್ಯೆಗೈಯ್ಯಲಾಯಿತು ಎನ್ನಲಾಗಿದೆ.[೯] ಈತನ ಅಂತ್ಯ ಸಂಸ್ಕಾರಕ್ಕೆ **೨ನೇ ಇಬ್ರಾಹಿಂ ಆದಿಲ್‌ಶಾಹ** ಪಾಲ್ಗೊಂಡಿದ್ದನು. ಅಸದ್‌ಖಾನ್‌ನ ಸಮಾಧಿ ಈಗ ನಗರದ ಕಂಟೋನ್‌ಮೆಂಟ್ ಭಾಗದಲ್ಲಿ ಕಂಡುಬರುತ್ತದೆ. ಈಗಲೂ ಈತನ ವಂಶಸ್ಥರು ಬೆಳಗಾವಿ ನಗರದಲ್ಲಿ ವಾಸವಾಗಿದ್ದಾರೆ. ಇಂದು ಈತನ ಅನುಯಾಯಿಗಳು ಈತನನ್ನು ದೇವ ಮಾನವ ರೂಪದಲ್ಲಿ ಈತನಿಗೆ ದರ್ಗಾ ನಿರ್ಮಿಸಿ ಆರಾಧಿಸುತ್ತಿದ್ದಾರೆ.

ಅಸದಖಾನ್ ಒಬ್ಬ ಶೂರ, ಚತುರ ಹಾಗೂ ಬಲಾಡ್ಯ ಆಡಳಿತಗಾರ ಎನ್ನುವದಕ್ಕೆ ಇನ್ನು ಇಂತಹ ಹಲವಾರು ಉದಾಹರಣೆರಗಳು ದೊರೆಯುತ್ತವೆ. ಆದರೆ ಭಾರತೀಯ ಚರಿತ್ರೆ ಪುಟಗಳಲ್ಲಿ ಇಂತಹ ಸಾಮಾನ್ಯ ಆಡಳಿತಗಾರರ ಸಾಹಸ, ಧೀರತನ, ಸಾಧನೆಗಳನ್ನು ಗೌಣವಾಗಿಸಿರುವುದು ಹೇಯಕರ ಸಂಗತಿ. ಕೆಲವು ಪೂರ್ವಗ್ರಹ ಪೀಡಿತ ವಿದ್ವಾಂಸರು ಕೆಲವು ಜಿಡ್ಡು ಹಿಡಿದ ಸಿದ್ಧಾಂತಗಳಿಗೆ ತಮ್ಮನ್ನು ಸೀಮಿತವಾಗಿಸಿಕೊಂಡು ಚರಿತ್ರೆ ನೋಟವನ್ನು ದಿಕ್ಕು ತಪ್ಪಿಸುತ್ತಿದ್ದಾರೆ. ಸಾಮಾನ್ಯನಿಂದ ಹಿಡಿದು ರಾಜ ಮಹಾರಾಜರ ಚರಿತ್ರೆಯನ್ನು ಜಾತಿ, ಧರ್ಮಗಳನ್ನದೆ ಸತ್ಯಾಸತ್ಯತೆಯನ್ನು ರಚಿಸುವುದು ಮುಖ್ಯ ಉದ್ದೇಶವಾಗಿಬೇಕು. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಆದಿಲ್‌ಶಾಹಿಗಳ ಕಾಲದ ಒಬ್ಬ ಪ್ರಸಿದ್ಧ ಆಡಳಿತಗಾರನ ಚರಿತ್ರೆಯನ್ನು ಸಮಾಜೀಕರಣಗೊಳಿಸುವುದು ಈ ಪತ್ರಿಕೆಯ ಮೂಲ ಧ್ಯೇಯೊದ್ದೇಶವಾಗಿದೆ.

<u>ಆಧಾರ ಗ್ರಂಥಗಳು</u>

೧. ಬೆಳಗಾವಿ ಕಾ ಆಯನಾಮೆ, (ಲೇ), ಅಯನ್ ಖಾನೆಪುರೆ. ೨೦೧೦, ಓಮೇಗಾ ಪ್ರೆಸ್, ಶೆಟ್ಟಿ ಗಲ್ಲಿ ಬೆಳಗಾವಿ

೨. ಬಿಜಾಪುರದ ಆದಿಲ್‌ಶಾಹಿಗಳು, (ಲೇ), ಕೃಷ್ಣ ಕೋಲ್ಹಾರ ಕುಲಕರ್ಣಿ. ೨೦೦೨. ಸಿಕ್ಯಾಬ್ ಆದಿಲ್ ಶಾಹಿ ಅಧ್ಯಯನ ಸಂಸ್ಥೆ, ವಿಜಾಪುರ

೩. ಬೆಳಗಾವಿ ಬೆಳಕು, (ಸಂ), ಗುಂಜಾಳ, ಎಸ್, ಆರ್. ೨೦೦೩, ಅಖಿಲ ಭಾರತ ೭೦ನೇ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಸಮ್ಮೇಳನ ಬೆಳಗಾವಿ

೪. ಬೆಳಗಾವಿ ಕೋಟೆ ಕೊತ್ತಲಗಳು, ಅರುಣ ಕಲ್ಲೋಳಿಕರ. ೨೦೦೩, ಅಪ್ರಕಟಿತ ಪಿಎಚ್ ಡಿ ಪ್ರಬಂಧ. ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ ಧಾರವಾಡ

೫. ಬೆಳಗಾವಿ ಪಾರಂಪರಿಕ ಕಟ್ಟಡಗಳು. ಎಸ್, ಕೆ, ಜೋಷಿ ಇತಿಹಾಸ ದರ್ಶನ, ಸಂ, ೧೧

೬. ಕರ್ನಾಟಕದ ಪರ್ಶಿಯನ್, ಅರೆಬಿಕ್ ಮತ್ತು ಉರ್ದು ಶಾಸನಗಳು, (ಸಂ), ಕ್ಯೂದ್ದೊಸಿ ಯಾಸೀನ್, ೨೦೦೧, ಪ್ರಸಾರಾಂಗ, ಕನ್ನಡ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಹಂಪಿ

೭. ಬೆಳಗಾವಿ ಭವ್ಯ ಪರಂಪರೆ, ಸ್ಮಿತಾ ಸುರೇಬಾನಕರ. (ಲೇ), ೨೦೦೩, ಬೆಳಗಾವಿ ಜಿಲ್ಲಾ ಪರಿಷತ್ತು

೮. ಕರ್ನಾಟಕದ ಪರ್ಶಿಯನ್, ಅರೆಬಿಕ್ ಮತ್ತು ಉರ್ದು ಶಾಸನಗಳು, (ಸಂ), ಕ್ಯೂದ್ದೊಸಿ ಯಾಸೀನ್, ೨೦೦೧, ಪ್ರಸಾರಾಂಗ, ಕನ್ನಡ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಹಂಪಿ.

೯. ತಾರೀಖೆ ಹಪ್ತಕುರ್ಸಿ, ಆದಿಲ್ ಶಾಹಿ ಸಾಹಿತ್ಯ ಸಂಪುಟ– ೬. ಅನುವಾದ ಡಾ.ಕೃಷ್ಣ ಕೋಲಾರ ಕುಲಕರ್ಣಿ, ಡಾ.ಮುಹಮ್ಮದ್ ಸಿಬುಘತ್ ಉಲ್ಲಾಹ್.ಮಗೌಲಾನ ಮದನಿ, ಡಾ ಅರ್,ಕೆ.ಕುಲಕರ್ಣಿ.ಪ್ರಕಾಶಕರು: ವಚನಪಿತಾಮಹ ಡಾ.ಫ.ಗು.ಹಳಕಟ್ಟಿ ಸಂಶೋಧನಾ ಕೇಂದ್ರ ಬಿ.ಎಲ್.ಡಿ ಸಂಸ್ಥೆ ಬಿಜಾಪುರ.

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Indigenous Knowledge and Sustainable Resource Management

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Abstract: Indigenous knowledge systems represent a rich repository of environmental understanding and sustainable practices developed through generations of lived experience and cultural transmission. This paper explores the integral role of Indigenous knowledge in the sustainable management of natural resources, emphasizing its relevance in addressing contemporary environmental challenges. Drawing on examples from various Indigenous communities around the world, the study highlights traditional practices in agriculture, forestry, water conservation, and biodiversity management that align with ecological sustainability. It also examines the barriers to recognizing and integrating Indigenous knowledge into mainstream environmental policies, including issues of marginalization, loss of cultural heritage, and lack of institutional support. The findings underscore the need for inclusive and collaborative approaches that respect Indigenous sovereignty and knowledge systems. Ultimately, the paper argues that meaningful partnerships with Indigenous communities can enhance global efforts toward sustainability and environmental resilience.

Literature Review

The importance of Indigenous knowledge in sustainable resource management has gained increased attention in academic and policy discussions over the past few decades. Scholars such as Berkes (1999) and Gadgil et al. (1993) have emphasized that Indigenous ecological knowledge (IEK) represents a holistic understanding of local ecosystems, developed through long-term interaction with the environment. This knowledge includes not only empirical observations but also cultural, spiritual, and ethical components that guide human-nature relationships.

Studies have shown that Indigenous communities across the globe have effectively managed forests, fisheries, water systems, and agricultural land through traditional practices that emphasize sustainability, resilience, and interdependence. For instance, the rotational farming systems practiced by the Karen people in Thailand (Timmermann & Félix, 2015) or the fire management techniques of Aboriginal Australians (Gammage, 2011) have been recognized for their ecological benefits.

Despite its value, Indigenous knowledge has often been marginalized or undervalued in scientific and policy frameworks. The imposition of Western development models has led to the erosion of traditional practices and knowledge systems, often accompanied by land dispossession and cultural assimilation. Recent literature, however, calls for the integration of Indigenous knowledge into co-management frameworks and adaptive governance models (Agrawal, 2002; Ens et al., 2015).

Overall, the literature supports a shift toward recognizing Indigenous peoples not just as knowledge holders but as active partners in resource governance. This recognition requires ethical engagement, respect for Indigenous rights, and mechanisms for meaningful participation.

Methodology

This study employs a qualitative research methodology to explore the role of Indigenous knowledge in sustainable resource management. The approach is interdisciplinary, drawing from environmental studies, anthropology, and Indigenous studies.

1. Data Collection:

Literature Analysis: A comprehensive review of peer-reviewed journal articles, books, and policy reports from the past 25 years was conducted to gather insights on Indigenous knowledge systems and their application in environmental management.

Case Studies: The study examines selected case studies from diverse geographical regions, including the Amazon Basin (South America), Northern Australia, and East Africa. These cases were chosen for their documented use of Indigenous practices in sustainable resource governance.

Interviews (if applicable): In some contexts, semi-structured interviews with Indigenous knowledge holders, community leaders, or environmental practitioners may be used to supplement secondary data.

2. Data Analysis:

Thematic analysis was employed to identify key patterns and themes, such as Indigenous principles of stewardship, traditional land-use practices, and challenges in knowledge integration. The analysis emphasizes the contextual and cultural dimensions of Indigenous knowledge.

Recent Developments in Indigenous Knowledge and Sustainable Resource Management.

In recent years, there has been growing global recognition of the value of Indigenous knowledge in addressing complex environmental challenges such as climate change, biodiversity loss, and unsustainable land use. International frameworks, national policies, and grassroots movements are increasingly incorporating Indigenous perspectives into sustainable resource management, marking a significant shift from past exclusionary practices.

1. Inclusion in International Frameworks

Organizations such as the United Nations have emphasized the importance of Indigenous knowledge in sustainable development. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Convention on Biological Diversity (CBD) recognize the rights of Indigenous peoples to maintain and use their traditional knowledge and practices. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) now includes Indigenous knowledge alongside scientific data in its global assessments.

2. Co-Management and Collaborative Governance

In many countries, there has been a move toward co-management of natural resources, where Indigenous communities share decision-making power with government agencies. Examples include the management of protected areas in Canada (such as the establishment of Indigenous Protected and Conserved Areas – IPCAs), and joint forest management initiatives in Australia and New Zealand. These models aim to merge traditional ecological knowledge (TEK) with scientific methods to enhance conservation outcomes.

3. Legal Recognition and Land Rights

Legal reforms in countries such as Bolivia, Colombia, and Norway have led to increased recognition of Indigenous land rights, enabling communities to assert more control over their natural resources. These legal protections often go hand-in-hand with the revitalization of traditional practices, such as rotational agriculture, customary fishing techniques, and ceremonial land stewardship.

4. Integration in Climate Change Adaptation

Indigenous knowledge is increasingly being utilized in climate change adaptation strategies. For example, Indigenous fire management practices are being applied to mitigate wildfire risks in Australia and the western United States. In the Arctic, Indigenous communities are contributing

crucial observational data on seasonal changes, ice conditions, and animal migration, complementing scientific climate models.

5. Digital and Educational Initiatives

Recent developments in technology and education have facilitated the documentation and dissemination of Indigenous knowledge. Projects like digital mapping of sacred sites, community-based monitoring apps, and traditional knowledge databases are helping to preserve and share Indigenous wisdom while ensuring cultural sensitivity and intellectual property protection. Additionally, universities and research institutions are creating platforms for Indigenous-led research and knowledge co-production.

Conclusion of Section

These developments reflect a growing acknowledgment of the relevance and resilience of Indigenous knowledge systems in the pursuit of sustainable resource management. However, genuine inclusion requires more than token gestures—it necessitates respect for Indigenous sovereignty, equitable partnerships, and sustained efforts to dismantle systemic barriers that have historically marginalized Indigenous voices.

3. Ethical Considerations:

The research adheres to ethical standards for working with Indigenous communities, including the principles of Free, Prior, and Informed Consent (FPIC), recognition of intellectual property rights, and respect for cultural protocols

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Role of Indigenous Knowledge and Sustainable Resource Management towards the Nation

Indigenous knowledge plays a vital role in promoting sustainable resource management, which in turn contributes significantly to a nation’s environmental health, cultural preservation, food security, and socio-economic development. Rooted in generations of experience and spiritual connection to the land, Indigenous practices foster a balanced relationship between people and nature. As nations face pressing challenges such as climate change, deforestation, water scarcity, and biodiversity loss, integrating Indigenous knowledge offers practical, low-cost, and culturally respectful solutions.

1. Environmental Protection and Biodiversity Conservation

Indigenous communities have long been stewards of diverse ecosystems. Their traditional practices—such as rotational farming, controlled burning, sacred groves, and water harvesting—help maintain biodiversity and restore degraded landscapes. These practices contribute to: Climate regulation through forest preservation and carbon sequestration. Soil and water conservation. Protection of endangered plant and animal species.

By embracing these methods, nations can reduce their environmental footprint and fulfill international obligations under agreements like the Paris Climate Accord and the Convention on Biological Diversity.

2. Strengthening National Resilience and Adaptation

As climate-related disasters increase, Indigenous knowledge enhances a country’s ability to adapt. For example: Traditional warning signs of floods, droughts, or seasonal changes can supplement scientific data for early warning systems. Indigenous crop varieties and water-saving irrigation methods offer resilient agricultural alternatives during extreme weather. These approaches support national disaster preparedness and climate resilience, particularly in rural and vulnerable regions.

3. Cultural Heritage and National Identity

Indigenous knowledge systems are an integral part of a nation's cultural heritage. Recognizing and promoting these systems reinforces: National unity through cultural diversity. A sense of pride and identity among Indigenous and non-Indigenous citizens. The preservation of languages, oral

histories, and worldviews that enrich national narratives. This cultural wealth can also support cultural tourism, adding economic and educational value to a nation's development.

4. Economic Development and Livelihood Support

Many Indigenous communities sustainably manage resources such as forests, fisheries, and medicinal plants, creating opportunities for: Eco-tourism and community-based tourism. Non-timber forest products like honey, herbs, and crafts. Sustainable agriculture and fisheries that supply local and national markets. Supporting Indigenous knowledge systems enables rural economic growth, reduces poverty, and promotes equitable resource sharing—key pillars of sustainable national development.

5. Promoting Inclusive Governance

Integrating Indigenous knowledge into national policy-making fosters inclusive and participatory governance. It ensures that environmental decisions are not top-down but involve local voices that deeply understand their landscapes. This: Builds trust between governments and Indigenous peoples.

Encourages more effective and long-lasting conservation strategies. Supports human rights, particularly the right to land, culture, and development.

Conclusion of Section

The role of Indigenous knowledge in sustainable resource management is multifaceted and deeply valuable to the well-being and future of any nation. By respecting and incorporating Indigenous practices, countries not only protect their natural heritage but also strengthen their resilience, economy, and social fabric. Promoting Indigenous knowledge is not only a moral obligation—it is a strategic investment in national sustainability and inclusive progress.

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13.

Health Issues and Solutions Before and After Covid – 19: An Analysis

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Abstract: The COVID-19 pandemic has had a profound impact on global health, reshaping the landscape of medical challenges and solutions. Before the pandemic, common health issues included chronic diseases, mental health disorders, and infectious diseases. The healthcare system focused on prevention, early detection, and management through a combination of medical interventions, public health initiatives, and lifestyle changes. The onset of COVID-19 introduced new challenges, such as the emergence of a novel virus, widespread mental health crises, disruptions in routine healthcare, and increased vulnerability of certain populations. In response, healthcare systems adapted by implementing telemedicine, accelerating vaccine development, and enhancing public health measures like social distancing and mask-wearing. This abstract explores the evolution of health issues and solutions from pre-pandemic times to the present, highlighting key changes and innovations in the healthcare sector that have emerged as a result of the pandemic.

Keywords: Pandemic , chronic, telemedicine, vaccine,morbility, mortality.

Introduction:

The COVID-19 pandemic has been a defining global health crisis, profoundly affecting individuals, communities, and healthcare systems worldwide. Prior to the pandemic, health issues primarily encompassed chronic diseases such as diabetes, heart disease, and hypertension, as well as mental health disorders and various infectious diseases. These conditions were managed through a combination of clinical interventions, preventive care, public health campaigns, and lifestyle modifications.

However, the emergence of COVID-19 introduced unprecedented challenges and shifted the focus of healthcare. The virus's rapid spread strained healthcare systems, led to significant morbidity and mortality, and necessitated urgent innovations in medical treatment and public health strategies. New health concerns arose, including the long-term effects of COVID-19 (long COVID), increased mental health problems due to isolation and anxiety, and the disruption of routine healthcare services.

To address these challenges, healthcare systems and governments worldwide implemented a range of solutions. The rapid development and distribution of vaccines became a cornerstone in controlling the pandemic, while the expansion of telemedicine provided continued access to care amidst lockdowns. Public health measures such as social distancing, mask mandates, and hygiene protocols were crucial in mitigating the spread of the virus. Additionally, there was a heightened focus on mental health support and the management of chronic diseases, as these conditions were exacerbated by the pandemic's effects.This introduction explores the complex landscape of health issues and solutions before and after the onset of COVID-19, examining how the pandemic has transformed healthcare delivery and highlighted the need for adaptive and resilient healthcare systems. It also underscores the importance of ongoing research, public health preparedness, and global cooperation in addressing both current and future health challenges.

Methodology :

The study employs a mixed-methods approach to explore health issues and solutions before and after the COVID-19 pandemic. A systematic review of existing literature from medical journals, government reports, and public health publications was conducted.

Data was gathered from reputable databases such as the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), and national health departments. This data includes

statistics on disease prevalence, healthcare access, and vaccination rates before and after the pandemic.A comparative analysis was conducted to identify significant changes in health issues and solutions pre- and post-COVID-19. This includes assessing the effectiveness of telemedicine, vaccination campaigns, and public health measures.

Qualitative data were coded and categorized to identify recurring themes and patterns.All data sources were reviewed for reliability and ethical compliance. Secondary data were used to avoid patient confidentiality issues. The study acknowledges potential limitations, including the variability in data availability across regions and the evolving nature of the COVID-19 pandemic.This methodology provides a structured approach to examining the shifts in health issues and solutions due to COVID-19.

Pre-COVID Health Landscape :

Before the onset of the COVID-19 pandemic, global health systems faced a wide array of challenges, largely centered around the management of chronic diseases, infectious diseases, mental health issues, and health disparities. The focus was primarily on prevention, early diagnosis, and treatment, with significant efforts directed toward lifestyle modification and health education.

1. Chronic Diseases : Chronic non-communicable diseases (NCDs) such as cardiovascular diseases, diabetes, respiratory diseases, and cancers were leading causes of morbidity and mortality globally. The rise of these conditions was attributed to factors like aging populations, sedentary lifestyles, unhealthy diets, and tobacco use. Health systems aimed to manage these diseases through regular monitoring, medication, and public health initiatives promoting healthy living.

2. Infectious Diseases: Infectious diseases, including HIV/AIDS, tuberculosis, malaria, and seasonal influenza, remained significant concerns, especially in low- and middle-income countries. Vaccination campaigns, antimicrobial treatments, and public health interventions were critical components in controlling these diseases. There were also ongoing efforts to manage emerging infectious threats like Zika, Ebola, and various strains of influenza.

3. Mental Health: Mental health issues such as depression, anxiety, and substance abuse were increasingly recognized as critical components of public health. Despite growing awareness, access to mental health services was often limited, and stigma surrounding mental illness persisted in many societies. Efforts were made to integrate mental health services into primary care and to promote awareness and acceptance.

4 .Healthcare access and disparities : Access to healthcare varied widely across regions and demographics. While some countries had robust healthcare systems offering comprehensive care, others faced challenges due to limited resources, infrastructure, and healthcare workforce shortages. Disparities in access to healthcare, particularly among marginalized and low-income populations, were significant issues.5. Health Technology and Innovations: The pre-COVID era saw advancements in medical technologies, including the development of new diagnostic tools, treatments, and digital health technologies. Telemedicine was emerging but not widely adopted, and electronic health records were becoming more prevalent in many healthcare systems.

Post-COVID Health Landscape :

The COVID-19 pandemic brought about profound changes in the global health landscape, impacting every aspect of healthcare delivery, public health policies, and societal attitudes toward health.

1. Emergence of COVID-19 and Its Impact: The rapid spread of SARS-CoV-2, the virus causing COVID-19, overwhelmed healthcare systems worldwide. The pandemic resulted in unprecedented morbidity and mortality, particularly among older adults and those with pre-existing conditions. It also exposed vulnerabilities in healthcare infrastructure, supply chains, and pandemic preparedness.

2. Healthcare System Adaptations: In response to the pandemic, healthcare systems implemented several critical changes.

• Telemedicine: The use of telemedicine surged as in-person visits became limited due to lockdowns and social distancing measures. This shift enabled continued access to care for non-COVID-19-related health issues and became a vital tool for managing chronic diseases and mental health conditions.

• Vaccination Campaigns: The rapid development and distribution of COVID-19 vaccines represented a significant scientific achievement. Global vaccination efforts aimed to achieve herd immunity, reduce transmission, and protect vulnerable populations.

• Public Health Measures: Governments and health organizations implemented measures such as lockdowns, mask mandates, social distancing, and hygiene practices to control the virus's spread. These interventions, while necessary, had varying levels of public compliance and impact.

3. Mental Health Crisis: The pandemic exacerbated mental health issues, with increased rates of anxiety, depression, and substance abuse. The isolation, uncertainty, and economic impact of the pandemic took a toll on mental well-being. In response, there was a heightened focus on mental health services, including virtual counseling and helplines.

4. Delayed and Disrupted Care: The pandemic led to delays in routine healthcare, including preventive screenings, elective surgeries, and treatment for chronic conditions. This disruption had long-term consequences, potentially worsening outcomes for many patients.

5. Public Health Awareness and Preparedness: COVID-19 heightened public awareness of health issues and the importance of public health infrastructure. The pandemic underscored the need for better pandemic preparedness, including surveillance systems, emergency response capabilities, and international cooperation.

6. Health Equity and Disparities: The pandemic highlighted and often exacerbated existing health disparities. Vulnerable populations, including racial and ethnic minorities, low-income individuals, and frontline workers, experienced disproportionate impacts. This has led to renewed calls for addressing social determinants of health and improving access to healthcare.

7. Long COVID and Post-Acute Sequelae: As the pandemic progressed, a new condition known as "long COVID" emerged, characterized by persistent symptoms and health issues following acute infection. This condition posed new challenges for healthcare providers and highlighted the need for ongoing research and care strategies.

Healthcare Adaptations During COVID-19 :

The COVID-19 pandemic prompted healthcare systems worldwide to rapidly adapt and innovate to manage the unprecedented crisis. These adaptations were crucial in ensuring continued patient care, controlling the spread of the virus, and addressing the various challenges posed by the pandemic. Below are some key healthcare adaptations that occurred during this period:

1. Telemedicine and Virtual Care :

One of the most significant shifts was the widespread adoption of telemedicine. As in-person visits became risky due to the potential spread of the virus, healthcare providers quickly transitioned to virtual consultations. This allowed patients to receive medical advice, diagnosis, and treatment without leaving their homes. Telemedicine platforms were utilized for various purposes, including:

• Routine check-ups and chronic disease management

• Mental health counseling and therapy sessions

• Follow-up appointments and specialist consultations

• Screening and triaging of COVID-19 symptoms

2. Expansion of Testing and Diagnostic Capabilities :

To identify and control the spread of COVID-19, healthcare systems rapidly expanded testing and diagnostic capabilities. This included the development and deployment of various types of tests, such as PCR, rapid antigen, and antibody tests. Testing sites were set up in diverse locations, including hospitals, community centers, and drive-through facilities, to increase accessibility.

3. Rapid Vaccine Development and Distribution :

A major healthcare adaptation was the accelerated development and approval of COVID-19 vaccines. Researchers and pharmaceutical companies collaborated globally to create effective vaccines in record time. Governments and health organizations implemented large-scale vaccination campaigns, prioritizing vulnerable populations and frontline workers. The logistics of vaccine distribution, storage, and administration were crucial components of these efforts.

4. Reorganization of Healthcare Facilities :

Hospitals and healthcare facilities underwent significant reorganization to manage the influx of COVID-19 patients. This included:

• Creating COVID-19 Dedicated Units: Separate units or entire floors were designated for COVID• 19 patients to prevent cross-infection.

• . Expanding ICU Capacity: Intensive care units (ICUs) were expanded, and additional equipment, such as ventilators, was procured.

• .Field Hospitals and Temporary Facilities: In some regions, temporary field hospitals and healthcare facilities were established to handle overflow patients.

5. Personal Protective Equipment (PPE) and Infection Control :

The pandemic highlighted the critical importance of personal protective equipment (PPE) for healthcare workers. Hospitals implemented stringent infection control measures, including the use of PPE, frequent sanitization, and revised protocols for patient interactions. The global demand for PPE surged, leading to challenges in supply and distribution.

6. Mental Health Support and Workforce Well-being :

Healthcare workers faced immense stress and burnout due to the increased workload and emotional toll of the pandemic. In response, healthcare systems implemented support programs, including :

• Mental Health Counseling: Access to mental health services was provided for healthcare workers.

• Resilience Training: Programs to build resilience and coping strategies were introduced.

• Workforce Management: Strategies to manage staff rotations and provide adequate rest periods were implemented.

7. Public Health Communication and Education :

Effective communication became a cornerstone of the pandemic response. Healthcare organizations and governments used various channels to disseminate accurate information about COVID-19, including symptoms, prevention measures, and vaccination benefits. Public health campaigns aimed to educate the public on hygiene practices, social distancing, and mask-wearing.

8. Digital Health and Data Analytics :

The pandemic accelerated the adoption of digital health technologies and data analytics. Electronic health records (EHRs), mobile health apps, and health information exchanges became more widely used to track patient data, monitor outbreaks, and manage healthcare resources. Data analytics played

a crucial role in predicting case surges, optimizing resource allocation, and evaluating public health interventions.

9. Collaboration and Research Initiatives :

COVID-19 fostered unprecedented collaboration among governments, research institutions, and the private sector. Joint research initiatives focused on understanding the virus, developing treatments, and conducting clinical trials for vaccines and therapeutics. International cooperation also facilitated the sharing of data, best practices, and resources.

10. Adapting to Evolving Guidelines and Protocols :

The rapidly changing nature of the pandemic required healthcare providers to adapt to evolving guidelines and protocols from health authorities, such as the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC). This included updates on testing criteria, treatment protocols, and vaccination recommendations.

Future Strategies for Managing COVID-19 :

As the world continues to navigate the COVID-19 pandemic and its aftermath, developing robust future strategies is essential for managing the virus and preparing for potential future outbreaks. Scholarly strategies should address various aspects, including healthcare preparedness, public health policies, research and development, and societal impacts. Here are some key strategies:

1. Strengthening Healthcare Infrastructure :

• Enhanced Pandemic Preparedness: Develop comprehensive pandemic preparedness plans that include surge capacity, resource allocation, and response protocols. This involves investing in healthcare infrastructure, increasing ICU and hospital bed capacities, and ensuring the availability of critical medical supplies and equipment.

• Healthcare Workforce Support: Implement strategies to support and expand the healthcare workforce, including mental health support, training programs, and policies to address burnout and retention.

2. Advancing Research and Development :

• Vaccine and Therapeutic Research: Continue research into vaccines and treatments for COVID-19 and its variants. Focus on improving vaccine efficacy, developing broad-spectrum antivirals and exploring new vaccine platforms and delivery methods.

• Variant Surveillance: Establish robust surveillance systems to monitor and analyze emerging variants of SARS-CoV-2. This includes genomic sequencing and tracking to identify mutations that may impact transmissibility, vaccine effectiveness, or treatment options.

3. Enhancing Public Health Systems :

• Integrated Surveillance Systems: Develop integrated systems for monitoring and responding to infectious diseases. This includes improving data sharing across borders and enhancing digital health infrastructure for real-time reporting and analysis.

• Public Health Communication: Strengthen public health communication strategies to counter misinformation and build public trust. Use evidence-based approaches to provide clear, accurate information about health measures, vaccines, and treatment options.

4. Promoting Global Cooperation and Equity :

• Equitable Vaccine Distribution: Ensure equitable access to vaccines and treatments globally, especially in low- and middle-income countries. Support initiatives like COVAX and strengthen international partnerships to improve vaccine distribution and healthcare access.

• Global Health Security: Foster international cooperation to enhance global health security. Collaborate on pandemic preparedness, response strategies, and share best practices and resources across countries and organizations.

5. Implementing Adaptive Public Health Measures :

• Flexible Response Strategies: Develop adaptive public health measures that can be adjusted based on the evolving situation. This includes flexible lockdown policies, travel restrictions, and social distancing guidelines that can be modified in response to changes in infection rates and healthcare capacity.

• Community Engagement: Engage communities in public health efforts through education, outreach, and participation in decision-making processes. Tailor measures to local contexts and involve community leaders to enhance compliance and effectiveness.

6. Strengthening Health Data and Analytics :

• Data Integration and Utilization: Improve the integration and utilization of health data for decision-making. This includes using advanced analytics, machine learning, and artificial intelligence to predict trends, optimize resource allocation, and evaluate the effectiveness of interventions.

• Privacy and Security: Ensure the protection of personal health data while enhancing data sharing capabilities. Implement robust data privacy and security measures to maintain public trust and comply with ethical standards.

7. Addressing Societal Impacts :

• Mental Health Support: Develop and expand mental health support services to address the psychological impacts of the pandemic. This includes increasing access to counseling, therapy, and support networks for individuals affected by stress, anxiety, and depression.

• Economic Recovery and Resilience: Implement strategies for economic recovery and resilience. Support affected businesses and workers through financial assistance, training programs, and policies to stimulate economic growth and mitigate inequalities exacerbated by the pandemic.

8. Promoting Vaccine Literacy and Acceptance :

• Education and Outreach: Launch educational campaigns to promote vaccine literacy and address vaccine hesitancy. Provide accurate information about vaccine safety and efficacy and engage trusted community figures to advocate for vaccination.

• Policy and Incentives: Consider policies and incentives to encourage vaccination, such as integrating vaccination requirements for certain activities or offering incentives for those who get vaccinated.

9. Enhancing Environmental and Health Interventions :

• Environmental Health: Incorporate environmental health considerations into pandemic response strategies. Address issues such as pollution and climate change that may influence public health outcomes and pandemic susceptibility.

• Infection Control Innovations: Invest in research and development of new infection control technologies and practices, such as improved air filtration systems, contactless technologies, and antimicrobial surfaces.

Future Strategies for Managing COVID-19 :

As the world continues to navigate the COVID-19 pandemic and its aftermath, developing robust future strategies is essential for managing the virus and preparing for potential future outbreaks. Scholarly strategies should address various aspects, including healthcare preparedness, public health policies, research and development, and societal impacts. Here are some key strategies:

Conclusion:

The COVID-19 pandemic has significantly transformed the landscape of global health, revealing both longstanding vulnerabilities and new opportunities for improvement. The health issues encountered before the pandemic, including chronic diseases, healthcare access disparities, and evolving infectious disease threats, were exacerbated by the crisis. The pandemic underscored the need for robust health systems capable of withstanding such shocks and highlighted the critical importance of preparedness, resilience, and adaptive response strategies.

Before the Pandemic: Pre-COVID health issues such as rising chronic disease prevalence, healthcare inequities, and the need for advancements in preventive care remained pressing concerns. Chronic conditions, including cardiovascular diseases, diabetes, and respiratory illnesses, continued to challenge health systems and required ongoing management and intervention. Additionally, disparities in healthcare access, influenced by socio-economic factors, persisted, underscoring the need for systemic reforms to ensure equitable care.

During the Pandemic: The pandemic introduced new health challenges, including the acute burden of COVID-19 cases on healthcare systems, the strain on resources, and the emergence of long-term complications such as long COVID. It also intensified existing issues, such as healthcare workforce shortages and the unequal impact of the virus on marginalized communities. The rapid adaptation to virtual care, accelerated vaccine development, and the emphasis on public health measures provided critical solutions and highlighted the potential for future innovations in healthcare delivery and disease management.

After the Pandemic: In the post-COVID era, addressing the lasting impact of the pandemic involves leveraging lessons learned to strengthen health systems, enhance global cooperation, and address health disparities. Future strategies must focus on improving pandemic preparedness, investing in healthcare infrastructure, advancing research and development, and ensuring equitable access to healthcare services. Emphasizing mental health support, integrating digital health technologies, and fostering resilience within communities will be vital in building a more robust and equitable health system.

The post-pandemic landscape offers an opportunity to reevaluate and transform health systems to better address both pre-existing and emerging health issues. By incorporating the innovations and lessons from the COVID-19 experience, societies can enhance their capacity to manage future health crises, reduce disparities, and promote a healthier, more resilient global population. The path forward requires a concerted effort to address the complex interplay of factors influencing health and to build systems that are not only reactive but also proactive in safeguarding public health.

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14.

Oral Traditions and Folk Histories as Repositories of the Indigenous Knowledge System of the Tribes of Arunachal Pradesh

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Abstract:

Oral Traditions and folk histories are invaluable sources that transcend written records capturing the lived experiences, cultural practices, and beliefs of communities. The state of Arunachal Pradesh in the North East India is a treasure house of oral traditions that are vital means of preserving historical knowledge of the numerous tribal communities. This paper explores the significance of oral traditions in reconstructing the ancient past of Arunachal Pradesh, a region characterized by rich tribal diversity and a lack of extensive written records. The indigenous tribes, such as, Adi, Apatani, Monpa, Nyishi, Nocte, Wancho, etc have relied on storytelling, folklore, songs, and rituals to transmit knowledge across generations. These oral traditions serve as vital repositories of historical, cultural, and socio-political insights, shedding light on the origins, migrations, clan structures, and environmental adaptations of tribal societies.

The methodology of collecting oral history includes interviews with community elders, participation in festivals and rituals, and comparative analysis with secondary sources as journals, articles and library books. Central themes emerging from these narratives include migration patterns linked to the mythical Abo Tani lineage, inter-tribal conflicts and alliances, agricultural innovations like Apatani terrace farming, and interactions with neighboring regions such as Tibet and Assam. The paper emphasizes the importance of preserving oral traditions through documentation, educational integration, and cultural promotion. By incorporating tribal narratives into the modern education system and institutional frameworks, oral history not only fills historical gaps but also reinforces identity, sustains cultural continuity, and enriches our understanding of Arunachal Pradesh's ancient civilization.

(Keywords: Oral tradition; Tribes of Arunachal Pradesh; Folk history; Migration narratives; Cultural continuity)

Introduction:

Oral Traditions and folk histories are invaluable sources as they help us understand the daily lives, customs, cultural practices and beliefs of communities, more than records of writing can. Arunachal Pradesh, a region known for its rich tribal diversity, depends on oral history to share and protect its heritage. Because of paucity of early writings and elaborate written documentation, these traditions give us valuable insight into the way the region's early people organized the socio-political, cultural, and economic structures of their societies.

The indigenous tribes of Arunachal Pradesh—such as the Adi, Nyishi, Apatani, Monpa, Nocte, Wancho and others—have long relied on storytelling, folklore, songs, and rituals to transmit knowledge across generations. Experienced community members, especially the elders, tell stories of their people's beginnings, moves to new places and past struggles, often embedding moral and ethical teachings within the narratives. Many of these tales mix stories of gods and deities with real events, showing how supernatural elements intervened with the lives of the tribes. Mythical stories and moral fables merge imaginative material with factual memory, portraying the worldview, ethics, and historical experience of the group. Their historical narratives often describe wars and feuds reflecting cultural transformations and intertribal interactions. Folk narratives as songs, ballads, legends, epics, and oral stories complement genealogies as crucial historical resources. These

narratives preserve collective memory and provide multifaceted vision into the ancient and medieval period of Arunachal Pradesh.

As for instance, tribal songs like the *Aabang* of the Adis often tell of key events like wars and alliances, so they function as oral epics of the community. The Noctes also have rank-wise composition of some songs, such as, songs to be sung at the Chief's house, songs for common people, and songs for performing at public gathering and so on. They have special songs to be sung at their important place called *Morung* (a community hall where the male members gather to hold meetings and take important decisions, or give verdicts as per their customary law and tradition). During festival time, they sing special songs at the *morung* to boost up the morale of youths and to encourage them to be proud of their ancestry and legacy. Such songs usually performed during festivals or rituals, recount battles, migrations, romance, and heroic exploits, serving both as entertainment and as vessels of historical information. Monpa songs, like the *Baryii* song, narrate mythological stories, history and religious beliefs. Their folkdance called *Ache Lhamo*, involves music, dance, costumes and masks to tell stories, often featuring royal, celestial, and symbolic figures. This art form of the Monpas depicts a rich history with strong connections to Tibetan performing arts.

Similarly, ceremonies and festivals such as the Apatani's *Myoko* Festival are active documents of social organization and communal values. Their legends describe how they migrated from the northern regions and finally settled in and around Ziro valley. Their stories often talk about the conflicts and feuds over agricultural land, forests and water resources. This throws light on the significance of the tribe's land management in a very scientific way. The Mishmis of the northeastern parts of the state also have numerous legends of their trade and commercial relations with the plains people and Tibetan traders. They usually bartered commodities like tree fiber, medicinal herbs, hides and skins, musk, dyes, etc for other essential items.

As a result of the vibrant oral traditions, the people of Arunachal Pradesh protect their ancestral heritage and indigenous knowledge with much reverence, offering unique perspectives on the region's past.

Methodology:

Gathering Oral History from Arunachal Pradesh requires immersive and respectful interaction with the local indigenous people. Multiple methods of collecting data have been employed to ensure a comprehensive capture, as well as authenticity of the story. Interview with the elders of the community is essential as they are the ones who, in most cases, are the bearers of history in the community. They are interviewed in order to get accounts of stories pertaining ancestral origins; migration and migration routes and settlements; mythological stories; rituals and customs; and day to day activities; etc

Personal observation and at times active participation in tribal rituals helps to appreciate the meaning of certain stories; understand the nuances of the narratives and the underlying symbols. Secondary sources like library texts, internet articles and research papers have also been used to ensure that there is authenticity and relevance in terms of its historical importance.

Major Themes in Arunachal Pradesh's Oral Tradition:

One of the major themes of Oral tradition constitutes the etiological narratives like origin of the tribes and their migration narratives. For example, most of the tribes claim to have descended from *Abo Tani,* a legendary ancestor of humankind who is revered as the first man on earth. The tradition

brings together several tribes with a common cultural and ancestral heritage. These narratives integrate the disparate tribes into several core elements of culture and of homogenous ancestry.

Migration narratives such as the Adis' migration from Tibet hint to traces of ancient pathways, changing environments as well as socio-cultural transformation. Similarly, the migration stories of the Noctes reveal their tough journeys from Hukong Valley, Burma to their present habitats traversing the Patkai hills. Some themes explore the social structure of the tribes giving us an idea about the clan and kinship Systems that exists within them. Oral tradition explains how clans originated, functioned, and developed hierarchies, helping reconstruct early community organization.

Narratives of inter-tribal conflicts and strategic alliances illustrate the complex political landscape of ancient tribal societies. For example, the Nocte narratives abound in stories of war and encounters with the Ahoms over the possession of Salt-springs located in the hills of Tirap. These narratives of conflicts and alliances throw light on the inter-tribal relationships, as well as their relationships with the outside world.

Tribal oral traditions also contain numerous tales about their agricultural practices. Stories about terrace farming, particularly among the Apatanis, reveal indigenous innovations in sustainable agriculture. The rituals, myths, and cosmological beliefs give us a glimpse of the spiritual life and value systems of the tribes.

Oral tradition also encompasses the interactions of the tribes with neighboring regions. Some narratives cite trade and cultural exchanges with the adjacent regions such as Tibet, Bhutan, and Assam, which underline the historical position of Arunachal Pradesh in trans-Himalayan networks.

Historical Understanding through Tribal Narratives

Since there are no early written accounts, tribal oral history is a living archive that provides detailed reconstructions of Arunachal Pradesh's distant past. While mainstream historiography presents a single strand of narrative, tribal oral history portrays a diversity of voices and experiences, making the past come alive thereby enriching our understanding of the past. For instance, the oral tradition of the Monpa tribe shows evidence of strong Tibetan Buddhist influence. Tales of old monasteries, religious leaders, and the dissemination of Buddhist teachings speak volumes about a historical connection to Tibetan culture and the importance of religion in shaping Monpa identity.

Similarly, the Nyishis, one of the largest tribes of Arunachal Pradesh, have a rich oral tradition centered upon ancestry, migration, and inter-tribal relations. Their epic stories record historical meetings, wars, and alliances, serving as both cultural heritage and informal records of socio-political occurrences.

Some testimonies emphasize native knowledge systems and eco-friendly practices, indicative of a long-standing compatibility and harmony with nature. For instance, the Apatanis are known for their advanced agro-pastoral methods, especially terrace farming and irrigation management. Their oral history describes the origin of these innovations, which have been transmitted through generations in a close-knit, clan-based society. These tales unveil their knowledge of ecology and social organization.

Oral history not just records the past but also maintains tribal identity, reaffirming cultural continuity in times of social and political transformation. The Wanchos, for example, share a martial history of headhunting and elaborate rituals that symbolize courage, justice, and defense of the community. The Anglo-Wancho war of 1875 records the Wancho's resistance to colonial intrusion wherein a group of Wancho warriors attacked a British expedition team at Ninu, resulting in a

significant number of casualties on the British side, including the death of Lieutenant Holcombe. Their narratives demonstrate their socio-political organization and values and constitute a record of their warrior culture and modes of conflict resolution.

Genealogies as Sources of History:

Genealogies are an essential part of the oral tradition in Arunachal Pradesh, providing organized and long-lasting accounts of descent, leadership, and communal structure. Much more than family trees, such oral documents are active instruments for the conveyance of social, political, and cultural information from generation to generation. It functions as follows-

Genealogies are utilized to demonstrate the ancestors of tribal leaders and powerful clans. Through tracing their lineage to respected ancestors or founders, tribal communities substantiate claims to power and authority. For instance, the Tagin and Nyishi tribes maintain intricate genealogical accounts of their clan ancestors, utilizing them to assert continuity and prestige in tribal governance.

Genealogical records also offer a chronology for understanding major events of history, such as migrations, inter-tribal wars, and league formations. Lineages become benchmarks for placing events in time, providing a relative chronology in the absence of written records.

Through genealogies, the internal social strata of tribes are revealed. They establish the function and status of various members of the society—like warriors, shamans, elders, and commoners—reflecting the social order and models of governance of the tribe.

Genealogies also consolidate cultural identity and continuity. By retaining information about ancestral values, rituals, and customs, they assist in retaining a sense of heritage and unity in the face of external transformations and modernization.

Challenges and Limitations of Oral History

Oral accounts tend to be influenced by personal viewpoint and may differ among narrators or groups. Rivalries amongst different tribal groups create prejudices which may alter the narratives. The intermixture of myth with history, sometimes, obscures factual fidelity.

As each generation passes, elements of the oral tradition might be changed, lost, or forgotten, particularly with modernization and outside cultural influences. Such transmission loss may lead to distortion of narratives. Oral histories are often recorded in informal, colloquial speech, which can be difficult to transcribe accurately.

In contrast to written sources, oral histories need proof from outside sources in the form of archaeology or anthropology, which cannot always be feasible. Besides, the diversity of languages and dialects present significant challenges for researchers working to document and analyze oral histories.

Initiatives Undertaken to Preserve the Folk History in Arunachal Pradesh

Government agencies and NGOs are actively documenting oral traditions in audio-visual form. Attempt is also being made to publish them both in local languages and English.

Integrating folk history into school curricula encourages cultural pride and ensures transmission to new generations. Inclusion of tribal elders in educational initiatives ensures the continuation of these traditions with authenticity and pertinence.

Tribal festivals celebrating oral storytelling are encouraged as part of Arunachal Pradesh's cultural heritage. Museums throughout the state are collecting artifacts and audio-visual material to document and display these living histories.

Oral narratives and folk histories of tribal communities, as components of the Indigenous Knowledge System (IKS), are crucial in the contemporary education system for a number of reasons:

Cultural Heritage Preservation: Indigenous oral traditions hold centuries of accumulated wisdom, history, and identity. Their incorporation into education serves to safeguard threatened cultures and languages and ensure transmission to future generations.

Encouraging Inclusive and Diverse Education: Modern education tends to reflect dominant cultures and homogenized systems of knowledge. Incorporating tribal narratives guarantees a pluralistic and inclusive curriculum that honors and represents marginalized voices.

Encouraging Critical Thinking and Story-Based Learning: Oral traditions employ storytelling in teaching morals, social norms, and problem-solving skills. These stories enhance analytic and interpretive minds, creativity, and empathetic learning—abstractions needed for contemporary education.

Environmental and Sustainable Knowledge: Oral traditions of indigenous tribes have an intimate relationship with nature and the environment. They provide sustainable practice, knowledge on resource management, and climate adaptation technology that are key areas in current environmental education.

Enhancing Community Participation: Placing Indigenous stories in the classroom bridges the gap between formal education and community living. Engaging elders and tribal knowledge-keepers as resource persons intensifies intergenerational learning.

Decolonizing the Curriculum: Identifying Indigenous Knowledge Systems assists in deconstructing Eurocentric biases in the curriculum. It legitimates diverse alternatives to knowing, instilling cognitive justice and tolerance for multiple worldviews.

Identity and Self-Esteem: For tribal students, the visibility of their culture in the curriculum fosters a greater sense of identity, pride, and belonging, which is associated with better learning outcomes.

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15.

Tribal Food System- Indian knowledge of Sustainable Food Habits

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Abstract: India has a rich and diverse culinary heritage, deeply rooted in its traditions and ecological systems. One of the most fascinating and sustainable food systems is found in the tribal communities, where indigenous knowledge of utilizing local resources has been developed over centuries. This paper explores the traditional food systems of various tribes in Karnataka, including the Soligas, Jenu Kurubas, Gaulis, Kammars, and others. These communities have historically relied on the forest as a primary source of sustenance, employing a holistic approach to food procurement, preparation, and consumption. They systematically utilize a wide variety of forest produce, such as honey, bamboo, mushrooms, fruits, vegetables, and roots, all of which are integrated into their daily diets.

Key words: IKS, Tribal Food, Traditional food, Sustainability

The paper examines the unique dietary practices and the ecological principles embedded within these food systems. For example, honey is not just a sweetener but is also used for medicinal purposes, while bamboo shoots are a key component of their protein intake. Mushrooms, both wild and cultivated, form an important part of the tribe's diet and are rich in nutrients. In addition to these, the tribes harvest a diverse range of fruits and vegetables, many of which are native to the region and have high nutritional and medicinal values.

Forest tribes know what food is available during what season. How to collect and eat it, is a key element of food culture. Tribal's have adopted diet based on their traditional understanding and needs. What kind of fruit, mackerel, leafy vegetables and nuts are available in what season? Knowledge of what size and how to collect them is usually known to all Tribal's. He has a dietary intake with time consciousness. It is necessary to find out how much of logical way in the culture of Tribal's is associated with the timing of dietary supplements and dietary supplements. Because, no system in any culture is supernaturally born. While researching the traditional dietary system, it is important to identify food items that are used in the diet, which is important for the discovery of such identification materials. But our research should go deeper and work on finding the food principles contained in such foods. The task of identifying the ideas of dietary principles and the understanding of the principles of such principles is to take place especially in the context of a particular cultural context and the need to use certain foods during a particular period.

The roots values that belong to the tradition of our heritage have come from Tribal's communities. Food related knowledge is no exception. Tribals recognize their existence in the midst of nature. They were getting their cats from nature. Nature will change naturally in time. As the nature changes, Tribal's body conditions can vary accordingly. The human body needs time to adapt to rainfall, winter and summer. Changes in the body state of those who are unable to fit into those times will change. It is natural and the human relationship of human nature.'[1] this leads to a greater understanding of the health and illness of birth. Tribals have balanced the human body's disordered illness when replaced by nature, with the consumption of herbs and herbs in nature. The Tribal have not left any vegetable leaf, nut, fruit, drunk, and scab. The foods that Tribals use for seasonal season is discussed with which of the nutrients in which foods are possible.

Mushrooms

There is an old history of mushrooms available in narratives. man has used mushrooms in his diet since ancient times. If some mushrooms give the human body a boost, then some mushrooms will cause humans to die. Mushrooms grow in a more moist atmosphere. Mushrooms are of two types of edible mushrooms and toxins. Poisons are also called forbidden mushrooms. These mushrooms cause harm to the human body. The mushrooms that cause damage to the human body are mushroom and oil mushrooms. The wood mushroom is yellow and is very toxic. It is also known as mad mushroom. It is not worth eating. Oil mushroom is black. It's also poisonous. The tribes remember places where the mushrooms were raised at the time when mushrooms were found mostly in the monsoon. Then go to the same place during the monsoon and collect mushrooms.

Pharmaceutical properties in mushrooms

1. Mushrooms contain large amounts of pork acid. This will eliminate anemia.
2. It is used as cancer prevention.
3. Mushrooms contain malaria-resistant, fungal, and anti-virus chemical substances.
4. It can be converted to 'D' vitamin in the human body.

Bamboo

Bamboo are heavily found in Biligirirangan Betta, Malemahadeshwara Betta, Hunusur and N Beguru in Karnataka. These bamboo plants come once every sixty years and become small wheat grains. The bamboo that gave rice crops then dies. The tribal atmosphere is created in Tribal's during bamboo rice leave. This is because of the drought that comes from bamboo cultivation. Bamboo is a bud that buds from the seedlings and sprouts into its buds as it grows into plants. Year-to-day shoots come from plants of plants. The brown buds appear on the bamboo basin in a month beginning with the rainy season. These are called 'stealing'. When they grow up to one and a half feet tall, the sword is cut off from the base and used for food. The puzzle is about the bamboo paddy valleys "once year rice per year".

Bidirakki: (Bamboo Rice) Bamboo rice is called lucky rice, snail rice. Bamboo leaves at least sixty years and gives rice crops. Then the bamboo supplement ends. Traditionally, the adolescent is understood to have collected three adults from four bags to four bags. In the summer season, the sprayer was used in accordance with food requirements. In a container cooked with water and broth and cooked with butter. Tribal's say that they prepare bread and eat bread from a bowl of sparkling grains.

Fruits

In human diet systems, fruits are balanced nutrients that can make human health more potent. You may have to eat the fruits immediately. Because it's delicious to eat. Attraction to look for and digest food. That's why everyone likes children from old age. "Human beings want to be more healthy and have to eat at least 85 grams of fruits each. Fruits are considered as protective foods as they contain vitamins, proteins, phosphorus, lime, and iron from the consumption of fruits."[7] These ingredients are found in Tribal's; fruits are rich sources of energy because of the appetite of sugar or starch in the form of fruits. The fruits of this fruit are "Organic Acids", which provide better digestion and digestion. Fruits are usually available in citric acid and malic acid, and organic acids are hidden. There are a lot of enzymes in various fruits, which promote the digestive tract."[8] Tribal's can be said to have medicinal properties in one way or another.

Tribals are consuming hundreds of wild species of fruits, in accordance with time. All the members of the family consume fruits such as Sulefruit, Bayalada fruit, Kudagali fruit, Nellikai, Nerale fruit, Geru fruit, Sote fruit, Karli fruit, Hippe fruit, Ale fruit, Nagare fruit, Seeme fruit, Kavale

fruit, jackfruit, mango fruit, Chelle fruit, Kare fruit, Elichi fruit, etc. Citizens do not even hear the names of the fruit in the wild. If you say that eating these fruits is healthy and longevity of Tribal's, it cannot be wrong. The root cause is the high nutritional value of the fruit.

Gotti fruit: The cord leaves the tree to the ground. April, which comes to crops in May, has a white color and is sweet to eat.

Sagara fruit: May come crops in May. Fruit is found on the inside of the nipple. White will come when ripe. This fruit is sweet to eat.

Tobarada Fruit: This fruit comes in the month of June. The crop comes in August. It was reddish and thick and tastier

Challe Fruit: This fruit comes in the month of August. In the beginning green is reddish white when ripe. Sweet and slightly sticky. Tribal's eat these fruits while wandering in the jungle.

Kummali Fruit: The plant is 5 to 6 feet tall. April comes in crops in May. The elderly tribes say that the fruits are tasteless and red to eat

Dadashina Fruit: This fruit comes in the month of July and August. The shorter trees are found on shore trees. The fruit is yellow. Fruits are sweet. The wooden fiber is used to prevent hair loss and to maintain the balance of body temperature in the body. I put the shovel in my hands and body. It is a very favorite food for lush green bark and bark elephant.

Bhatley Soodli Fruit: This fruit comes in the month of April crops in May. Sweet to eat. Tribal's understanding is that stomach pain is healed if the bark of the plant is mixed with water from the stone and prepared for the stomach and given to stomach ache.

Mango: Mango is the main crop of every state of the country. There are plenty of opportunities for mango fruit extraction. In India, Mango is grown from ancient times. It is thought to be the tropical best fruit. Agricultural experts believe there are not enough mango breeds in our country in any other country. Mango fruit is also called 'king of fruit'.

Honey hunting and storage

There are thousands of insects on Earth. There is a class that stores the flower nectar in mass-like insects. Bee flies are one of the insects that can be stored as a food for man. Man has used many kinds of animals for his good life. Since ancient times, humans have also introduced the sweet honey bee. "Honey bees have been providing us with delicious honey since ancient times. Honey is known for medicinal properties. It contains 80% sugar content. About 38% of the sugar content is tiwulos, with a percentage of 23% of dextrose maltose and other sugar content being 9%. Enzymes and pigments are about 2%. One percent of the bore and 1% 18% water is the leading place for honey in Ayurveda and Unani medicine. Honey has rheumatism and subconscious properties "Honey has a special place in human digestion for her traditional heritage. Having learned about the medicinal properties of herbs, fibers are used to mix and consume honey ghee along with herbs, when it comes to the disorders that the Tribal's have found through their knowledge of heritage.

Festival as New Millet (Hosa Ragi Roti Habba)

The legendary festival of loneliness is to honor the land mother. It decides to celebrate on a special day with people of the respective people. This festival is usually held in the middle of December or January, usually with a crop. On the day of the feast, one has to eat, not eat any unleavened food, eat raw food, and eat raw foods such as fruits and spices. This rule needs to be adhered to. On that day all the community cleaned the house and handed the house to the kitchen and started cooking during the evening. As mentioned earlier, this is a new festival. In the meantime, the special cuisine of the festival will be fresh and delicious, and in the modern days, rice, soup, milk, and pulses can be seen in the modern face. The cow has been brought to the woods by the woods,

and the woods are arranged together. All new men who celebrate the festival celebrate the milky dough on a banana leaf or pearl leaf and burn it in the fire. The men are the responsibility of preparing the roasted bread and burning it in the pot and preparing the pottery.

The research highlights how these traditional food systems are not only ecologically sustainable but also resilient to modern agricultural practices. By integrating forest resources in a sustainable manner, these communities have developed a food system that is both adaptive to local environmental conditions and able to maintain biodiversity. The paper also explores how these practices contribute to food security, health, and cultural preservation among tribal communities. It underscores the need for recognizing and preserving these traditional food systems as they hold immense potential for sustainable development in the face of global environmental challenges.

In conclusion, the tribal food systems in Karnataka exemplify a harmonious relationship between human societies and nature, offering valuable lessons for modern food security strategies, sustainable agriculture, and ecological conservation.

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16

Reimagining Psychology Education with Indigenous Wisdom

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Abstract: The dominant model of self in psychology education in India remains heavily shaped by Western thought, particularly the notion of the self as autonomous, rational, and individualistic (Bhatia, 2002; Misra & Gergen, 1993). This paper argues that such a model is not universally valid and often alienates Indian students whose cultural experiences of identity are relational, spiritual, and community-oriented (Chaudhary, 2004; Kakar, 1981). Drawing from Indigenous psychologies and cultural traditions within India, this paper presents a conceptual exploration of how rethinking the self through Indigenous frameworks can enrich higher education (Sinha, 1997; Raghavan, 2021).

Specifically, it explores implications for curriculum development, teaching practices, and student well-being. Indigenous approaches such as those rooted in eco-spirituality, ancestral knowledge, and interconnectedness challenge the epistemic dominance of Western psychology and open the door to psychological pluralism (Battiste, 2002; Dudgeon & Walker, 2015). These frameworks not only align more closely with the lived realities of many Indian students but also support more holistic and culturally responsive understandings of human development and mental health (Patel, 2011; Saini & Chaudhary, 2023).

Through reflections as a psychologist and educator, I suggest ways in which Indigenous knowledge systems can be thoughtfully integrated into psychology curricula to create a more inclusive and contextually grounded education. This paper advocates for psychological pluralism that affirms multiple ways of being and knowing, ultimately contributing to both epistemic justice and pedagogical innovation in Indian higher education (Pandey, 2004; Kirmayer et al., 2011).

Keywords: Indigenous Psychologies, Higher Education, Indian Psychology, Epistemic Justice, Decolonial Pedagogy, Cultural Identity, Pluralism, Curriculum Reform.

Introduction

Psychology's Crisis of the Self

The discipline of psychology in Indian higher education continues to reflect an overwhelming dominance of Western frameworks particularly the notion of the self as autonomous, bounded, and rational (Sinha, 1997; Kakar, 1981). While this model has contributed to advances in clinical and developmental psychology, it inadequately captures the diverse ways in which selfhood is experienced in India, where notions of identity are deeply embedded in family, caste, community, and spirituality (Chaudhary, 2004; Saraswathi & Misra, 2010).

The uncritical adoption of Euro-American paradigms results in a psychology curriculum that is often culturally dislocated, leaving students alienated from their own traditions and languages of understanding. As a clinical psychologist and educator in India, I've often found myself questioning the frameworks we pass on to our students. Much of psychology education still follows Western models of the mind and self especially the idea of the individual as rational, self-contained, and goal-oriented. While these ideas offer structure and utility, they often feel distant from the lived experiences of Indian students, clients, and communities.

Many students I teach have grown up in environments where identity is shaped through family, community, and spiritual traditions. When they engage with concepts like "self-actualisation" or "ego-development" rooted in Western theory, they sometimes express discomfort or confusion. The mismatch between these ideas and their own experiences is not just theoretical it affects how they relate to psychology itself. This dissonance is not new. Indian scholars have long critiqued the over-reliance on Western psychological models in our classrooms (Bhatia, 2002; Misra & Gergen, 1993; Sinha, 1997). Nevertheless, there's a growing urgency now to decolonize psychology education by acknowledging other worldviews, especially Indigenous ones.

This paper explores how Indigenous conceptions of the self can offer a more grounded, relational, and pluralistic understanding of identity, healing, and development in Indian higher education. It argues that Indigenous knowledge systems especially Indigenous psychologies can serve as powerful correctives. By reframing the self through relational, ecological, and ancestral perspectives, these frameworks offer students more culturally relevant and inclusive models of human experience. Drawing on Indian scholars, Indigenous methodologies, and decolonial pedagogy, this paper explores how higher education can integrate these alternative ontologies into the teaching of psychology.

The Indigenous Self: Rooted, Relational, and Ecological

Indigenous psychologies across cultures, including those within India, understand the self not as an isolated ego but as fundamentally embedded in webs of social, spiritual, and ecological relations (Kirmayer et al., 2011; Dudgeon & Walker, 2015; Sinha, 1997). In tribal and rural Indian communities, identity is often defined through 'we'-ness, kinship, land, and ritual practices (Chaudhary, 2004; Mishra, 2011). The notion of 'atman' in Indian philosophy, or the relational 'manas' in everyday Hindi and Sanskrit-derived discourses, reflects a self that is not only inner but also interdependent (Paranjpe, 1998; Sharma, 2020; Rao, 2002).

In Ayurveda and other Indian systems, 'swasthya' (well-being) is defined not merely by mental or physical health, but by harmony within the body, between the self and society, and between human life and nature (Sharma, 2020; Srivastava, 2013). Many Adivasi worldviews perceive psychological health as harmony with nature, ancestors, and community not merely the absence of distress (Pfeifer & Mohan, 2018; Chaudhary, 2004). Similarly, Indigenous healing practices often involve rituals, storytelling, and communal participation, which contrast sharply with the private, talk-based models of Western psychotherapy (Raghavan, 2021; Duran, 2006). These practices are not primitive remnants but valid and sophisticated epistemologies that sustain mental health.

In my own clinical encounters, I've seen how people draw on rituals, ancestral stories, and community relationships to understand their emotions and distress. During a therapy session with a young adult, she shared how chanting and visiting her grandmother's shrine helped her cope with anxiety something Western diagnostic models might overlook or pathologise. Such experiences reflect what scholars of Indigenous psychologies describe as "relational ontologies" (Dudgeon & Walker, 2015; Wilson, 2008) where the self is defined through connection, not separation.

Similarly, Indigenous knowledge systems in tribal communities such as the Bhil, Dongria Kondh, or Nyishi offer rich frameworks for understanding mental and emotional well-being. These often include respect for natural cycles, spiritual forces, and communal harmony (Saini & Chaudhary, 2023; Patel, 2011). While these are not always written in textbooks, they remain part of everyday practice for many Indians. Such models question the core assumptions of Western psychology autonomy, pathology, and individual progress and offer instead a pluralistic, situated understanding of human experience. Recognizing these ontologies expands the field's epistemic horizon and allows students to encounter the self as plural, porous, and processual (Smith, 2012; Battiste, 2002).

Educational Implications: Teaching Through Plural Frameworks

Bringing Indigenous worldviews into the psychology classroom has transformed how I approach teaching. When I ask the students to reflect on their own cultural understandings of identity and distress, the discussions become more meaningful and grounded. Students begin to see psychology not as a foreign subject, but as something connected to their lives (Kumar, 2021).

A pluralistic approach to the curriculum invites us to teach psychological concepts through multiple lenses. For example, developmental psychology can include Indigenous life-stage models alongside Erikson's theory (Shweder et al., 1998), or teaching theories of development or well-being alongside tribal perspectives or Gandhian thought allows students to see psychological knowledge as context-bound and plural (Misra & Gergen, 1993; Raina, 1996). Discussions on mental health can explore how healing practices vary across regions from temple healing in Tamil Nadu to traditional counselling practices in the North-East (Halliburton, 2005; Gaiha et al., 2020).

Integrating Indigenous content is not about rejecting Western theory but expanding the space for multiple truths. It means giving students the tools to critically evaluate what they are taught and encouraging them to draw from their cultural roots while engaging with global knowledge. First, it compels educators to decolonize the syllabus moving beyond the token inclusion of non-Western thinkers to actively reframe core psychological concepts (Smith, 2012; Patel, 2011).

Second, pedagogical practices must shift to accommodate Indigenous methods such as storytelling, dialogical learning, and experiential inquiry (Wilson, 2008; Battiste, 2002). Oral traditions, folklore, and community narratives can become legitimate forms of psychological evidence and exploration (Dudgeon et al., 2014). In Indian classrooms especially, using regional languages and metaphors such as 'swasthya' (well-being) or 'sangha' (community) can bridge the gap between theory and lived experience (Pandey, 2004; Sharma, 2020; Srivastava, 2013).

Furthermore, integrating Indigenous frameworks enriches the discipline's ethical dimension. It encourages reflexivity, cultural humility, and relational accountability qualities often underemphasized in mainstream psychology education (Kirmayer, 2012; Duran, 2006). Students learn not only about others but also about themselves as historically situated, culturally shaped beings.

Benefits to Students: Identity, Belonging, and Critical Thinking

Reimagining psychology education through Indigenous lenses does not only serve the goal of epistemic justice; it also has significant pedagogical and personal benefits for students. One of the most immediate advantages is increased cultural relevance. When students encounter worldviews, languages, and ontologies that reflect their own lived realities, learning becomes more meaningful (Chaudhary, 2004; Battiste, 2002; Dei, 2008). Indigenous psychologies foster epistemological pluralism the ability to hold multiple truths and navigate different ways of knowing (Sinha, 1997; Raghavan, 2021; Patel, 2011). Pluralistic thinking cultivates humility, reflexivity, and cross-cultural empathy, which are essential for ethical practice in psychology (Kirmayer, 2012; Duran, 2006).

When students encounter psychological models that reflect their own worldviews, something shifts. One student once said, "I didn't realise my grandmother's prayers and teachings were part of mental health." Another, while studying trauma, connected the concept to community grief rituals from their hometown. These moments of recognition and resonance help students feel seen, respected, and empowered (Wilson, 2008; Tuck & Yang, 2012). Indigenous perspectives also build critical thinking students begin to question the supposed universality of psychological theories and recognise that knowledge is culturally shaped and historically situated (Smith, 2012; Sundararajan, 2020). This awareness fosters intellectual humility and openness, essential traits for future psychologists and educators.

Moreover, Indigenous frameworks offer resilience-based, community-grounded models of well-being that contrast with deficit-based diagnostic approaches in Western psychology. Rituals, storytelling, ancestral guidance, and community caregiving often dismissed as "unscientific" can be re-understood as valid and effective psychological mechanisms (Kirmayer et al., 2011; Saini & Chaudhary, 2023; Dudgeon et al., 2014). Many students express a disconnect between what they study and what they live. By validating Indigenous knowledge, we support them in developing a stronger sense of identity, cultural confidence, and belonging (Naidoo, 2016; Kumar, 2021).

Finally, a pedagogy rooted in Indigenous psychologies helps students reimagine the self not as isolated, but as a relational, ecological, and spiritual being (Kakar, 1981; Sharma, 2020; Duran, 2006). This reframing of the self has the power to shift their understanding of development, distress, and healing offering a more holistic, situated, and grounded psychology. It enables students to not just learn about mental health but to feel mentally and culturally well in the process of learning.

Reflections on Implementation: **Small Steps Toward Change**

Integrating Indigenous psychologies into higher education isn't easy it demands systemic change. Curricula are often rigid, faculty may lack exposure to alternative frameworks, and resources to support decolonial pedagogy remain limited (Smith, 2012; Dei, 2008). But transformation is possible even through small shifts in content, language, and pedagogy.

A key first step is syllabus reform, where departments actively audit and redesign content to include Indigenous thinkers, concepts, and epistemologies as foundational rather than supplementary (Sinha, 1997; Dudgeon & Walker, 2015). Rather than treating Indigenous psychology as a token module, it must be interwoven into core topics like development, psychopathology, assessment, and therapy (Sundararajan, 2020; Teo, 2015). Assignments can include community interviews, reflective essays on family rituals, or comparative analyses of Western and Indigenous ideas of well-being, identity, or suffering. These changes may be modest, but they open the door to deeper conversations about whose knowledge counts in education (Battiste, 2002; Patel, 2011).

Equally important is pedagogical transformation. We must move beyond lecture-based delivery to embrace participatory, community-based, and dialogical teaching methods (Freire, 1970; Raghavan, 2021; Wilson, 2008). Involving students in oral history projects, ethnographic fieldwork, or cross-cultural psychology modules can deepen engagement and respect for multiple knowledge systems (Sharma, 2020; Naidoo, 2016). Storytelling, collective reflection, and embodied learning practices are all hallmarks of Indigenous pedagogy and help situate psychology within real lives and places (Duran, 2006; Kovach, 2009).

Language is another crucial dimension. Using regional metaphors such as 'atman' (soul/self), 'swasthya' (well-being), or 'sangha' (community) bridges the cultural disconnect between textbook psychology and lived experience (Pandey, 2004; Chaudhary, 2004). These terms are not just translations they carry philosophical depth and cultural resonance that Western terms often lack. Teaching in culturally grounded ways revalidates students' heritage knowledge, making psychology more accessible and embodied (Kakar, 1981; Misra & Gergen, 1993).

Faculty development is critical for sustaining this shift. Educators need training in culturally responsive, decolonial pedagogies and access to resources that support pluralistic teaching (Smith, 2012; Kumar, 2021). Moreover, change cannot rest on the faculty alone. Student-led initiatives, such as decolonial reading groups, Indigenous psychology collectives, or cultural mental health clubs, can generate grassroots energy and make transformation collaborative and sustainable (Tuck & Yang, 2012; Bhatia, 2021). These efforts not only enrich the academic space but also foster a sense of shared ownership and accountability in reimagining what psychology can be.

Conclusion

The dominance of Western individualist psychology in Indian higher education is not simply an academic imbalance it is a crisis of epistemic justice. It limits how we define the self, detaches students from their cultural moorings, and marginalizes Indigenous ways of knowing, healing, and being. When psychology is taught as if culture were peripheral, students are left estranged from both their heritage and their discipline.

Reimagining the self through Indigenous lenses offers more than critique it offers renewal. It opens the door to a psychology that is contextual, relational, and life-affirming. A psychology that does not just explain the mind, but teaches how to live well with oneself, with others, with land, and with spirit. This is not merely a pedagogical shift; it is a transformation of education into a space of belonging, plurality, and introspection.

For students, such an education becomes more resonant, grounded, and empowering one that validates their lived realities and ancestral wisdom. For institutions, it demands the courage to rethink what counts as knowledge, and who gets to define it. Embracing plural psychological ontologies challenges the hegemony of singular truths and opens space for humility, dialogue, and coexistence.

In doing so, Indian psychology education can reclaim its role not just as a site of technical training, but as a transformative space for cultural healing, critical reflection, and ethical imagination. It can become a place where diverse knowledge is not merely included but is foundational. Where learning is not about assimilation into dominant paradigms, but about co-creating a more inclusive, decolonial, and compassionate future for the discipline.

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The Kunbi Community of Uttara Kannada: A Comprehensive Study of Migration, Culture, and Livelihoods"

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ABSTRACT: Karwar region (Uttar Kannada), a coastal district in Karnataka, stands out for its remarkable natural beauty, boasting the highest forest cover in the state and abundant natural resources. The region is a melting pot of diverse tribes and communities, enriching its vibrant folk traditions. This research article provides an in-depth exploration of the Kunbi tribal community of Uttara Kannada, encompassing the Kunbi and Atte Kunbi endogamous groups. It delves into their poignant history of migration from Goa, driven by religious persecution, and their subsequent settlement in the remote forested taluks of Yellapur, Joida, Karwar, Ankola, and Haliyal. The study investigates the diverse interpretations of the name 'Kunbi', linking it to both familial ('Kutumbin') and agricultural ('Kun' meaning 'who', 'bi' meaning 'seed') origins, reflecting their traditional identity as farmers. Further the article details their multifaceted livelihoods, primarily centered on rice cultivation and supplemented by forest resources, traditional crafts like bamboo and cane work, and increasingly, formal employment in government and non-government sectors. It further examines their physical appearance and distinctive attire, highlighting traditional garments like the 'lungi' and 'seere', along with unique accessories and adornments. A significant portion of the research focuses on their intricate social customs and life cycle rituals. This includes their 'kitl' based exogamous clan system, marriage traditions involving the 'thali' and acceptance of cross-cousin marriages, and specific practices surrounding pregnancy (the 'Kubsa' ceremony), childbirth (including gender-biased celebrations), and naming ceremonies. The unique "Seere Udaso Karyakrama" puberty rite for Atte Kunbi girls and their menstrual practices are also discussed. Finally, the article celebrates the vibrant folk music and dance traditions of the Kunbi, particularly the energetic Fugdi dance, emphasizing their role in community cohesion and cultural preservation. Overall, this article paints a comprehensive picture of the Kunbi community's resilience, cultural richness, and evolving socio-economic landscape.

KEY WORDS: Kunabi, Karwar, Uttar kannada, Tribe, Culture, Customs.

1. Introduction

Uttara Kannada district is home to several distinct tribal communities, each contributing to the rich tapestry of its folk culture. Prominent among them are the Siddhis, Halakki Vokkaligas, Kunbi, Gond, and Gouli tribes. These groups are instrumental in the widespread preservation and evolution of the region's folk traditions. The Kunbi tribal community of Uttara Kannada district, comprising two distinct endogamous groups—the Kunbi and Atte Kunbi—carries a rich and poignant history of migration. Their ancestral journey began in Goa, a land they departed to escape the severe religious persecution inflicted by the Portuguese during the infamous Goa Inquisition. This courageous exodus was driven by a resolute desire to preserve their cherished cultural and religious identity. Venturing along the coastal region, these resilient communities eventually found refuge in Karnataka, establishing their settlements deep within the remote, verdant forests of Uttara Kannada. Today, their presence is concentrated across five specific taluks: Yellapur, Joida, Karwar, Ankola, and Haliyal. Here, scattered village settlements dot the landscape amidst semi-evergreen and moist deciduous forests, serving as testaments to their enduring spirit. Despite the passage of generations, the Kunbi have fiercely safeguarded their unique cultural practices and strong connections to their Goan

heritage. Their traditional way of life is intrinsically linked to the forest, showcasing a profound knowledge of its resources, with the cultivation of various tubers forming a vital part of their diet and economy.

2. Unraveling the Origins of the Kunbi Name

The etymology of the name Kunbi is rich with diverse interpretations and regional variations. Across different parts of India, this term has manifested in various forms, reflecting linguistic nuances and historical contexts. In Bombay, the community is sometimes referred to as Kulambi, while in the South Konkan region, they are known as ‘Kulwadi’. Moving towards Gujarat, the name transforms into ‘Kanbi’, and in Belgaum, it is commonly heard as ‘Kulbi’. Several scholars have offered compelling theories regarding the derivation of "Kunbi." Pandit Bhagawanlal suggests that the word originates from the Sanskrit term 'Kutumbin'. This Sanskrit root signifies "one possessing a family or a home," as noted by Enthoven in 1922, highlighting a connection to settled, family-oriented life. Another perspective comes from Singh (1994), who proposes a more agricultural interpretation. According to Singh, the term "Kunbi" is a compound of two words: 'Kun', meaning "who," and 'bi', meaning "seed." This derivation logically leads to the understanding that Kunbi are "those people who germinate seeds," directly identifying them as farmers. This aligns with the historical and occupational identity of many Kunbi communities, who have traditionally been engaged in agriculture.

3. Livelihoods of the Kunbi: Sustenance from Land, Forest, and Skill

The Kunbi and Atte Kunbi communities, predominantly farmers, largely sustain themselves through agriculture. Most families own land, which they diligently till to cultivate rice, their staple food. Any surplus rice harvested beyond their annual needs is sold in the local market. For preservation, paddy is traditionally stored in large bamboo baskets, meticulously plastered with cow dung and sealed with a lid to ensure longevity. Paddy designated for daily consumption, however, is typically kept in gunny bags. Beyond their agricultural pursuits, the Kunbi supplement their diet with the flesh of wild animals, though they strictly adhere to a custom of not killing domestic animals for meat. For those without land, daily wage labor, often in Brahmin households, provides an alternative source of income.

In recent times, the community has seen a shift in occupational patterns, particularly among the younger generation. While some educated men have secured positions in government and non-government services, a notable number also work as contract laborers, including in areas like Kaiga. Educated women are increasingly finding roles as teachers, clerks, and peons in schools, reflecting a growing emphasis on education and diversification of livelihoods. The Kunbi also possess traditional skills that contribute to their economy. The Kunbi of Joida, for instance, are renowned for their expertise in knitting bamboo mats and cane baskets. One Atte Kunbi family is particularly noted for their craftsmanship in manufacturing and selling cane chairs in nearby towns. Individual entrepreneurial spirit is also evident, with Ramachandra, an Atte Kunbi, successfully running a grocery shop in Bankolli. Furthermore, a family in Taremani has mastered the unique skill of creating caps and flower vases from creepers, showcasing their resourcefulness and artistic ability. A significant trend observed today is the increasing aspiration among educated youth to pursue stable employment in fields such as teaching, clerical work, and military service, indicating a move towards more formal and structured careers. This evolving occupational landscape reflects the community's adaptability and desire for improved opportunities.

4. The Appearance and Attire of the Kunbi Community

The Kunbi and Atte Kunbi communities generally exhibit a light brown skin color, with darker complexions being less common. Both men and women are typically of moderate stature and possess a lean body build.

Men's Attire and Accessories

At work, Kunbi men commonly wear a 'lungi', a two-meter cotton cloth wrapped around the waist, covering the lower body, and a banyan on top. A cotton towel is often seen draped over their shoulder. A distinctive accessory is a small bag, known as 'dheullo' by the Kunbi and 'Kalu Sanch' by the Atte Kunbi, which hangs across the chest and contains betel nut, betel leaves, and tobacco. When venturing outside the village for work, men typically opt for full trousers and a shirt. Most wear leather sandals, while a few also wear shoes.

Women's Attire and Adornments

Women wear a 'seere', a five to six-meter cloth wrapped around the waist to cover the lower body, paired with a stitched blouse. Interestingly, elderly women among the Atte Kunbi have a distinct practice of covering their chest with a piece of cloth and wearing a 'seere' that reaches their knees, opting not to wear a blouse. Both women and girls commonly wear glass or plastic bangles. Ear piercing is prevalent for both men and women. Girls often adorn their ears with golden rings or artificial gold rings. Nose piercing is common among women, who typically wear a golden ornament called a 'Nattu' on their nose. Kunbi women are known for their long, dark hair, which they oil with coconut oil before combing. They often tie their hair in knots and decorate them with fresh flowers. A common sight is a necklace of black beads with a gold pendant at its center, completing their traditional look.

5. Social Customs and Life Cycle Rituals of the Kunbi Community

The social customs and life cycle rituals prevalent among the Kunbi community, encompassing both the Kunbi and Atte Kunbi subgroups, residing in the Uttara Kannada district. The community's social structure is fundamentally organized around exogamous clans, known as 'kitls', each with distinct patron deities. Intermarriage within the same 'kula' is strictly prohibited, underscoring a strong adherence to clan exogamy. While arranged marriages are the societal norm, inter-group marriages with non-Kunbi communities are forbidden. Notably, cross-cousin and uncle-niece marriages are accepted and commonly practiced within both Kunbi subgroups, reflecting unique kinship patterns.

Marriage ceremonies are characterized by symbolic exchanges of clothes and ornaments between the families. A central element of the wedding ritual is the tying of a golden 'thali' by the groom around the bride's neck, which includes two small golden cups, each provided by a respective set of parents, signifying the bride's married status. Wedding expenses are shared mutually between the families. The 'Shobam' (first night) is customarily arranged at the groom's residence after the fifth day of the bride's menstrual cycle. The community permits widow remarriage, and while polygyny is allowed for men, women are restricted to monogamy.

Life cycle rituals begin with the 'Kubsa' ceremony, performed in the husband's home during the sixth month of pregnancy. This public announcement of pregnancy is marked by a special dinner, an oil bath for the expectant mother, and her adornment in green attire and bangles, symbolizing fertility. Following this, the pregnant woman returns to her parents' home for her first delivery, typically assisted by a local nurse, with hospital transfers reserved for emergencies.

The birth of a boy is met with celebratory plate-beating and sweet distribution, a stark contrast to the subdued reception of a female child's birth. Post-delivery, the mother observes a period of 'pollution' and isolation, during which she is given 'meerpud' (a mixture of pepper powder and ghee) for pain relief. The naming ceremony occurs on the twelfth day, officiated by a Brahmin priest who performs a 'Hom' and selects the child's name. Common male names include Mono, Puna Koiru, and Bhiko, while female names often include Devi, Janki, and Santai. At three months, the maternal uncle performs the ear-piercing ceremony, receiving a shirt piece from the child's parents, followed by a celebratory dinner for guests.

Among the Atte Kunbi, a distinctive "Seere Udaso Karyakrama" ritual is observed before a girl's first menstruation, where her parents present her with a green 'seere' and bangles, teaching her how to wear it. Women in the community observe a five-day period of 'pollution' after each menstrual cycle. The Kunbi community collectively participates in and celebrates all major Hindu festivals, integrating their traditional practices with broader Hindu religious observances.

6. The Rhythmic Heart of the Kunbi: Exploring Their Folk Music and Dance Traditions

The Kunbi communities of Uttara Kannada are distinguished by a remarkably vibrant and expressive folklore, primarily showcased through their rich traditions of folk music, songs, and dances. This cultural repertoire is not merely entertainment but deeply interwoven with their daily lives, often categorized by its ritualistic, seasonal, or functional significance. Communal song and dances are integral to Kunbi social life. Whether it's the joyous occasion of a wedding, the celebratory atmosphere of a moonlit night after the paddy harvest, or simply a gathering in open spaces or threshing grounds, Kunbis readily engage in these collective expressions. Their dance forms powerfully embody their community spirit. Dancers frequently hold hands, waists, or shoulders, moving in unison with simple, repetitive steps, all set to the compelling rhythms of traditional instruments such as the Gumat and Manddlem.

Among their diverse dance forms, the Fugdi dance stands out as a particularly vibrant hallmark of Kunbi women's cultural expression. This energetic folk tradition is especially prominent during festivals and religious gatherings. Characterized by its rhythmic clapping and dynamic movements, Fugdi is often performed in circles or rows, creating an engaging visual spectacle. Adorned in their traditional Kunbi sarees, the dancers move in captivating unison, fostering a lively and joyful ambiance. More than just a dance, Fugdi serves as a spirited affirmation of life, a reinforcement of community bonds, and a powerful testament to the rich cultural legacy of the Kunbi tribe. This intricate blend of music, song, and dance reflects not only their artistic prowess but also their profound connection to their land, traditions, and collective identity.

7. Conclusion

The Kunbi community of Uttara Kannada district, comprising the Kunbi and Atte Kunbi subgroups, represents a resilient and culturally rich tribal population with a compelling history of migration from Goa. Their arduous journey, driven by the desire to preserve their cultural and religious identity against Portuguese persecution, led them to establish deep roots in the remote forested taluks of Karnataka. The study has illuminated the multifaceted nature of their identity, from the debated etymology of their name, linking them to both familial and agricultural heritage, to their adaptive livelihoods. Predominantly farmers, they skillfully integrate traditional rice cultivation with forest-based sustenance and increasingly embrace modern occupational avenues. Their distinct physical appearance and traditional attire, characterized by specific garments and adornments, further underscore their unique cultural identity.

Central to the Kunbi way of life are their intricate social customs and life cycle rituals. The adherence to exogamous 'kitls', unique marriage practices including cross-cousin unions, and gender-specific rituals surrounding birth and puberty, such as the 'Kubsa' ceremony and "Seere Udaso Karyakrama," highlight a deeply structured social fabric. Despite external influences, these practices, alongside their vibrant participation in Hindu festivals, maintain their cultural continuity. Finally, the Kunbi's profound connection to their heritage is vibrantly expressed through their rich folk music, songs, and dances. The communal engagement in these artistic forms, particularly the energetic Fugdi dance, serves not only as entertainment but as a powerful affirmation of their collective spirit, community bonds, and enduring cultural legacy. In essence, the Kunbi of Uttara Kannada stand as a testament to the resilience of tribal communities in preserving their distinct identity while adapting to evolving socio-economic landscapes.

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Integration and Relevance of Indian Knowledge System (IKS) in Higher Education

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Abstract

The Indian Knowledge System (IKS) encompasses a vast and diverse body of knowledge developed since ancient times. This system includes philosophy, science, medicine, mathematics, architecture, arts, literature, linguistics, spirituality, environment, yoga, and other domains deeply rooted in India's culture and traditions. The Indian knowledge tradition strives for sustainable development and universal welfare. However, it was neglected after the adoption of modern education systems. To position India once again as a capable global leader and "Vishwaguru," it is essential to revive and mainstream Indian ways of knowledge globally. Integrating IKS at all levels of education and developing its strategies has become crucial.
In this regard, the Ministry of Education (MoE) and the Ministry of Skill Development and Entrepreneurship (MSDE) jointly organized the Second Akhil Bharatiya Shiksha Samagam (ABSS) on July 29–30, 2023, to celebrate the third anniversary of the National Education Policy (NEP) 2020. Through this initiative, efforts were made to recognize India's rich and enduring knowledge heritage and its historical significance. By incorporating experiential knowledge, traditional practices, indigenous medicine, sustainable agriculture, forest management, and yogic disciplines into curricula, the initiative aims to provide the youth with the benefits of India's wisdom tradition.

Keywords: *Indian Knowledge System, Higher Education, Modern Relevance*

Introduction

The Indian Knowledge System (IKS) has significantly shaped India's intellectual, cultural, spiritual, and moral landscape. It represents an enduring and evolving tradition that integrates both material and spiritual dimensions, influencing global thought. However, during the process of globalization and under the impact of the 1835 English Education Act (Macaulay's Minutes), India's traditional knowledge systems were neglected.[1]

Traditionally, IKS has been described as comprising 14 Vidyas (four Vedas, four Upavedas, and six Vedangas) and 64 Kalas (arts). It integrates philosophy, applied education, arts, crafts, agriculture, health, and sciences. Integrating IKS into the education system can bring transformative changes across disciplines.

After nearly 200 years, the NEP 2020 provides a framework for incorporating IKS into all curricula to help understand India's deep cultural roots and extend its relevance to interdisciplinary domains.[2]

Objectives

1. To examine the various dimensions and historical evolution of India's knowledge systems.
2. To analyze the integration of IKS in higher education under NEP 2020, along with key initiatives and strategies.
3. To recognize the contemporary relevance of India's traditional knowledge systems in the modern world.

Research Methodology

This study adopts a descriptive research method. Information was gathered from books, journals, reports, newspapers, research papers, and primary resources such as *Indian Knowledge Systems Volume 1 & 2*, MyGov.in, official programs from the IKS Division under the Ministry of Education, and documents like NEP 2020, UGC guidelines, reports from MoE and MSDE (ABSS), and PIB releases.[3]

Major Reasons for Integrating IKS in Higher Education

1. **Our Heritage, Our Pride:**
   India, with its rich cultural legacy, holds a place of respect globally. Its goal is unity in diversity.
2. **Addressing Contemporary Problems:**
   Integrating ancient systems such as traditional agriculture, defense, health, and Ayurveda with modern methods helps address complex societal challenges.[4]
3. **Human Values:**
   A value-based education system fosters holistic personality development. IKS emphasizes compassion, love, empathy, respect, honesty, truth, and integrity. By nurturing moral leadership, sustainable practices, and social responsibility, it encourages harmony and resilience in society.
4. **Engagement with Local Culture:**
   IKS connects individuals to their local traditions, customs, and beliefs, fostering self-reliance and appreciation of one's heritage.
5. **Holistic Pedagogy:**
   A holistic teaching method promotes physical, emotional, social, and spiritual growth. IKS-based pedagogy highlights interconnectedness, experiential learning, ethics (*dharma*), sustainability, community orientation, and overall well-being, encouraging a global yet culturally rooted outlook.
6. **Neuroscientific Benefits:**
   Practices such as yoga, meditation, mantra chanting, and Ayurvedic rituals enhance mental focus, manage stress, and strengthen the mind-body connection.[5]

IKS and Higher Education

Following the NEP 2020 guidelines, systematic efforts have been made to integrate IKS into school and higher education. It includes indigenous and local learning traditions across fields such as science, arts, literature, yoga, environment, architecture, linguistics, and sports. Beyond historical value, these have practical applications, enriching higher education in the following ways:

1. **Interdisciplinary Understanding:**
   IKS interlinks subjects like mathematics, philosophy, art, literature, and environment, promoting holistic knowledge and overall development.
2. **Sustainable Practices:**
   Traditional Indian wisdom emphasizes harmony with nature and sustainability, offering solutions to environmental challenges like global warming and climate change.
3. **Holistic Approach:**
   IKS encourages balance and interconnection among disciplines, fostering comprehensive and integrated worldviews.[6]
4. **Ethical Leadership Development:**
   Concepts like *dharma*, *karma*, *viveka* (wisdom), and emotional balance cultivate moral leadership. Yogic philosophy and *Kautilya's Arthashastra* guide ethical decision-making and leadership in modern contexts.
5. **Well-being (Yoga-Kshema):**
   IKS promotes physical, mental, and spiritual health. Practices like yoga, meditation, and Ayurveda enhance well-being. The NEP 2020 integrates yoga into curricula to help youth live healthy, stress-free lives.

   In *Bhagavad Gita* 9.22, Lord Krishna tells Arjuna:
   "To those who always think of Me and worship Me with unwavering devotion, I carry what they lack and preserve what they have."[7]

6. **Spiritual Development in Indian Education:**
   IKS bridges the material and spiritual realms. Scriptures like the Vedas, Upanishads, Puranas, Ramayana, Mahabharata, and the Bhagavad Gita instill profound moral and ethical values, guiding youth through lessons on ideal leadership, civic duties, and moral governance (*Ramarajya*).
7. **New Research and Innovation:**
   Historically, Indian thinkers contributed significantly to philosophy, physics, architecture, and the arts. In mathematics, the invention of "zero" (0) symbolizes India's lasting impact on global knowledge.[8]

Mahatma Gandhi's Viewpoint

"A nation's culture resides in the hearts and in the soul of its people." Through initiatives like *Bharat Vidya*, the Indian Knowledge System preserves and celebrates the depth and continuity of ancient Indian wisdom, illuminating the path for future generations.[9]

Government Initiatives

1. **NEP 2020 Guidelines:** Aim to integrate IKS at all levels of education.[10]
2. **IKS Division under MoE:** Established in **October 2020** in New Delhi under AICTE, it promotes research, preservation, and dissemination of IKS through academic and social applications.
3. **UGC Guidelines:** Encourage students to take at least **5% of their credits** from IKS-related courses.[11]
4. **National Credit Framework:** Aligns IKS courses in traditional sciences and arts with NEP 2020.
5. **Curriculum Integration:** Includes subjects like Yoga, Ayurveda, and traditional Indian sciences.

6. **Research and Training: 32 IKS divisions** have been established at higher education institutions to promote IKS-related research and programs.[12]
7. **IGNCA (Indira Gandhi National Centre for the Arts):** Established in **2013**, it preserves and disseminates Vedic chants, Upanishads, and other ancient texts.
8. **Projects like Project Mausam and Project Dhara:** Organize conferences and research fellowships to promote IKS knowledge and collaboration.[13]

Conclusion

The Indian Knowledge System (IKS) remains deeply relevant in the modern era. It offers valuable insights into managing stress, sustainability, and overall well-being. Its vast wisdom can transform individuals and societies by fostering cross-cultural understanding and bridging the gap between traditional wisdom and contemporary science. Integrating IKS into higher education curricula promotes inclusivity, diversity, and holistic learning.

It equips students with moral integrity, intellectual depth, and cultural rootedness to face global challenges confidently. The impact of IKS initiatives extends beyond classrooms, inspiring educators to design engaging and culturally aware courses. Higher education institutions (HEIs) thus play a pivotal role in shaping culturally conscious, ethically grounded citizens and in advancing India as a **knowledge-based society** through IKS.

Footnotes

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An Analysis of Indian Indigenous Knowledge Integration in Higher Education in India

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Abstract: Indian Indigenous Knowledge (IIK) represents the wisdom, practices, and cultural heritage developed by local communities over centuries. This paper explores the application of IIK in Indian colleges, examining how traditional knowledge systems are incorporated into curricula, teaching methodologies, and student engagement. The study relies entirely on secondary data including curriculum documents, policy frameworks, institutional reports, and academic literature. Findings suggest that while some institutions have made meaningful progress, widespread implementation remains limited due to systemic, pedagogical, and infrastructural barriers. The paper concludes with recommendations for policy frameworks and educational reforms to better integrate IIK into higher education.

Keywords: Indian Indigenous Knowledge, Higher Education, Traditional Knowledge Systems, Curriculum Integration, Educational Reform

1.Introduction

India possesses a rich reservoir of indigenous knowledge, including traditional medicine (Ayurveda), agriculture, ecological management, linguistics, arts, and crafts. These knowledge systems are deeply rooted in the diverse cultural and ecological contexts of the country. In recent years, there has been growing recognition of the value of IIK in addressing contemporary issues such as sustainability, health, and cultural preservation. Higher education institutions play a crucial role in preserving and disseminating IIK. This paper aims to examine how Indian colleges are integrating IIK into their academic and extracurricular activities, assess the effectiveness of these initiatives, and propose strategies for improvement based on existing literature and documented practices.

2. Review of Literature

Numerous studies highlight the importance of IIK in sustainable development and cultural identity (Rangan, 2000; Gupta, 2006). According to Agrawal (1995), indigenous knowledge systems are vital for biodiversity conservation and resource management. The National Education Policy (NEP) 2020 also emphasizes the inclusion of Indian knowledge systems in education to foster a sense of pride and identity among students. Despite these acknowledgments, research indicates limited institutional efforts in implementing IIK-based curricula (Sharma & Singh, 2018). The literature underscores a gap between policy and practice, with few case studies illustrating successful integration at the college level.

3. Need for the Study

There is an urgent need to explore and enhance the integration of Indian Indigenous Knowledge in higher education due to its immense potential in enriching academic discourse and societal development. With the growing global emphasis on sustainable living, cultural inclusivity, and indigenous rights, IIK offers contextually relevant solutions and frameworks that are often overlooked in Western-centric curricula. Despite progressive policies like NEP 2020 advocating for the inclusion of indigenous knowledge, implementation at the grassroots level—especially in

colleges—remains minimal and inconsistent. A study grounded in secondary data can help assess the existing landscape, highlight successful models, and identify gaps in policy execution. Furthermore, understanding how IIK can be systematically incorporated into higher education is crucial for promoting cultural pride, fostering innovation rooted in local traditions, and preparing students to engage with global challenges through a culturally sensitive lens. This study, therefore, addresses a critical gap in educational research and policy implementation.

4. Research Methodology

This study is based exclusively on secondary data sources. Data were collected through:

- **Document analysis**: Reviewing curriculum documents, institutional reports, and policy frameworks from educational bodies such as UGC and MHRD.
- **Literature review**: Analyzing peer-reviewed articles, books, and academic reports on the integration of IIK in higher education.
- **Case studies**: Examining published case studies of colleges that have integrated IIK into their programs.

  The data were analyzed using thematic analysis to identify recurring patterns, approaches, and challenges documented in the literature.

5.Objectives

The primary objectives of this study are:

1. To investigate the current status of IIK integration in Indian colleges using secondary data.
2. To understand the methodologies and approaches used for incorporating IIK.
3. To identify the challenges and opportunities in implementing IIK-based curricula.
4. To propose recommendations for effective integration of IIK in higher education.
5. **Analysis and Interpretation**

   The secondary data review revealed several insights:

- **Curriculum Design**: Few colleges have dedicated IIK courses. Institutions like Banaras Hindu University and Nalanda University offer modules on Ayurveda, Sanskrit texts, and traditional art forms. However, most colleges lack structured content.
- **Pedagogical Approaches**: According to the literature, experiential learning, community engagement, and interdisciplinary teaching are effective in delivering IIK content. Published reports emphasize the importance of field visits and interaction with local knowledge holders.
- **Student Perception**: Secondary sources, such as surveys reported in academic journals, suggest that students appreciate the relevance of IIK but feel its scope is limited within mainstream education. Interest in structured and credit-based IIK modules is noted.
- **Institutional Support**: According to UGC reports, colleges with strong leadership and access to external funding are more successful in IIK implementation. Institutional inertia and lack of clear frameworks are noted as key barriers.

7. Findings and Suggestions

Findings:

- There is an increasing awareness of IIK's value in higher education as reported in national policies and academic literature.
- Institutional efforts are fragmented and lack standardization across regions and disciplines.
- Faculty development and training in IIK methodologies are minimal according to UGC reviews.
- There is a disconnect between policy directives and implementation at the institutional level.

Suggestions:

1. **Curriculum Development**: Develop elective and core courses on IIK in consultation with cultural scholars and practitioners. These courses should cover indigenous systems of health, agriculture, philosophy, and environmental management. Institutions can integrate such

courses into liberal arts, science, and social science streams to ensure cross-disciplinary engagement.

2. **Faculty Training**: Utilize online platforms and national workshops to upskill faculty in IIK content and pedagogies. Faculty can be encouraged to attend certification programs, collaborative training with traditional knowledge holders, and sabbaticals in institutions specializing in indigenous studies. This ensures not only content familiarity but also culturally sensitive delivery.
3. **Policy Support**: Translate NEP 2020 goals into actionable steps with periodic evaluations. Clear guidelines and frameworks should be provided by UGC and state education departments, detailing how IIK can be embedded in curriculum structures, learning outcomes, and institutional benchmarks.
4. **Resource Allocation**: Provide grants for IIK documentation, digitalization, and integration. Colleges should receive funding to create digital repositories of local practices, language preservation initiatives, and oral histories. This requires infrastructure investments in libraries, audio-visual equipment, and collaboration with anthropologists, linguists, and local elders.
5. **Community Involvement**: Encourage partnerships with indigenous communities for contextual learning. Institutions should establish outreach programs, internships, and immersion projects where students learn directly from traditional practitioners, artisans, and farmers. This real-world engagement enriches understanding and fosters mutual respect.
6. **Technology Integration**: Create digital archives and learning platforms to preserve and disseminate IIK. Mobile apps, MOOCs (Massive Open Online Courses), and interactive websites can make IIK accessible to a broader audience. These platforms should host multilingual content, case studies, documentaries, and open educational resources for students and educators.
7. **Conclusion**

Integrating Indian Indigenous Knowledge into higher education is a transformative step toward inclusive and culturally grounded learning. While the literature shows a growing policy interest and isolated institutional initiatives, a broader and more systematic approach is needed. Institutional commitment, faculty engagement, and robust policy execution are essential for IIK to become an integral part of Indian higher education. This study, grounded in secondary data, underscores the need for sustained efforts to bridge the gap between intent and implementation.

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The Role of Higher Education in Integrating Indigenous Knowledge through ICT

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Abstract: *The main objective of this paper is to explore the role of higher education in integrating ICT and Indigenous Knowledge Systems (IKS) that are deeply embedded in our customs, beliefs, rituals and lifestyles of the community. These systems are increasingly at risk due to modernization, and globalization. In this context, the role of higher education is crucial in integrating ICT tools to document, safeguard and disseminate Indigenous Knowledge. The present paper critically examines how the higher education can bridge the gap between the traditional wisdom and modern academia through the use of the digital platforms like mobile applications, online repositories, audio-visual archives. The study adopts a qualitative and exploratory research design focusing on the intersection of ICT, Indigenous Knowledge, and higher education. The findings of the study indicate that ICT has become a very powerful tool in capturing, safeguarding, and sharing Indigenous Knowledge Systems in modern era and also explored that the Universities and Colleges are gradually recognizing the significance of indigenous knowledge in academic discourse now a days and some of them have even introduced IKS focused-interdisciplinary courses and research projects, and digital documentation initiatives in collaboration with tribal communities.*

Key words: IKS; Indigenous Knowledge Systems; higher education; digital platforms; ICT; Information and Communication Technology.

Introduction:

Indigenous Knowledge Systems (IKS) reflect a close association with nature, cultural identity and community well-being through the oral transmission through rituals, storytelling and daily practices including the traditional, experiential, and comprehensive understandings of communities that have evolved over generations. According to Jessen et al. (2022) Indigenous Knowledge (IK) is the is the collective term indicating the wisdom and knowledge that has been developed by Indigenous communities over generations, based on their connection to specific places and cultures. Jessen et al. (2022) further add that that although Indigenous people have applied this knowledge to manage the environment for thousands of years, only recently this knowledge has been recognized by western management practitioners and scientists and included in their works.

As per the reports, though Indigenous Knowledge System is very rich and relevant, this has long been ignored within formal education system. However, in recent years, the value of IKS has been increasingly recognized in areas such as health, climate resilience, biodiversity conservation and sustainable living. Singha,2021 explored that indigenous knowledge (IK) remains valuable and significant for society in the North-Eastern (NE) region of India and the people have deep respect and pride in their traditional knowledge systems, recognizing them as important cultural assets. But, due to modernization, globalization, generational shifts and urban migration, this knowledge is at risk of erosion. Singha,2021 further explored that the respondents raised a unanimous concern: although certain forms of IK continue to be practiced in their communities, the overall scenario is not very encouraging indicating a noticeable decline in the practice and transmission of indigenous knowledge and emphasising the need for proactive efforts to preserve and promote it.

By exploring the critical role of higher education institutions in integrating ICT for preserving and

safeguarding IKS, the study examines how digital tool such as online repositories mobile applications and audio-visual platforms play a vital role in bridging the gap between traditional wisdom and modern academia. As the traditional knowledge is at the risk of erosion due to globalization and modernization, the ICT has emerged as a powerful tool to ensure the survival and relevance of IKS in this digital era. By leveraging digital tools and platforms, ICT facilitates the documentation, storage, access, and sharing of IKS, thereby supporting cultural continuity, community empowerment, and sustainable development.

The significance of the study:

Safeguarding of cultural heritage is very essential in the present scenario. Indigenous Knowledge System is very important to identify the culture and heritage of communities. In this Context, Higher Educational Institutions have a greater role to play in integrating Indigenous Knowledge system through ICT. The use of ICT can promote a more inclusive and diverse knowledge framework in higher education. The digital platforms can bridge the gap between traditional wisdom and contemporary academic practices. So, the role of Information and Communication Technology (ICT) is very crucial in safeguarding, promoting, and spreading of Indigenous Knowledge Systems (IKS).

Objectives of the Study:

1. To assess the role of higher education institutions in integrating IKS, documenting and disseminating Indigenous Knowledge.
2. To explore the role of Information and Communication Technology (ICT) in the preserving and promoting Indigenous Knowledge Systems (IKS).
3. To identify the challenges and opportunities in adopting ICT-based approaches for safeguarding IKS within academic institutions

Research Questions:

1. What is the role of ICT in promoting preservation, dissemination of IKS
2. Have Higher Educational Institutions initiated the integration of ICT and IKS in their education system
3. What are the challenges faced by educational institutions in adopting ICT based approaches in safeguarding IKS within academic institutions
4. What strategies can be recommended to promote IKS

Research Methodology

1. Research Design:

Qualitative and exploratory research design has been adopted for the present study to understand the relationship of ICT and Indigenous Knowledge Systems (IKS) within the context of higher education system. The objective is to gather insights into how academic institutions play a role in adopting and using digital technologies to preserve IKS

2. Data Collection Methods

National and International journals, policy documents like UGC, Ministry of Tribal Affairs and project reports relating to digital archiving were reviewed to explore global and Indian perspectives.

Analysis and interpretations:

The Importance of Indigenous Knowledge Systems:

According to Sharma (2025) IKS can promote an innovative, a creative and a more inclusive interdisciplinary academic environment by connecting traditional knowledge with modern scientific methodologies and he further adds that the learning of Indian wisdom and moral values hidden in IKS prepares youths to lead responsible, balanced, and meaningful lives.

The Role of Higher Education in promoting Indigenous Knowledge Systems:

In recent years, Higher education institutions are gradually recognizing the value of both modern

technologies and traditional knowledge systems. Now a days the universities and colleges are playing a significant in role promoting digital preservation efforts and safeguarding Indigenous Knowledge Systems (IKS) by integrating them into contemporary academic discourse. According to Sharma (2025) Integration of Indigenous Knowledge Systems (IKS) into higher education system, as proposed by NEP (the National Education Policy 2020, is a transformative move towards developing an educational framework that is deeply rooted in India's cultural heritage as well as aligned with global standards. Sharma, 2025) further adds that incorporation of traditional Indian Knowledge into Indian higher education system exhibits the rich intellectual traditions of India by promoting a holistic approach to education that nurtures ethical, intellectual, and emotional growth among youths.

Amorim, J. P. (2023) identified significant factors influencing the representation of indigenous culture within the school environment and explored that indigenous knowledge is frequently relegated in the formal education system, facing key challenges in its integration into school curricula.

For the successful integration of IKS, the initiatives like curriculum development, targeted training and awareness programs are essential(Sharma, 2025). Balogun & Kalusopa (2021) explored that currently there are no digital preservation policies in place within the education institutions, particularly relating to the long-term preservation of Indigenous Knowledge Systems (IKS) Balogun & Kalusopa (2021) further added that some of the education institutions are in the process of designing policies covering the management and preservation of IKS collected within their repositories.

ICT being the platform in enhancing digital learning and exchange of information and IKS being the local, traditional knowledge developed over centuries by indigenous communities should be integrated for promoting inclusive, culturally relevant and sustainable education. In this context, the higher educational institutions are increasingly embedding IKS into their curriculum by using ICT tools that facilitate preservation and promotion of regional traditions, values and knowledge systems. They are slowly bridging the digital divide by making IKS more accessible to youths and urban populations who are unfamiliar with traditional practices.

Recently, the value of IKS has been increasingly recognized and Higher Education Institutions are using ICT with digital platforms like mobile apps, enable documentation, preservation, and dissemination of Indigenous Knowledge, enhancing its accessibility to both academic audiences and indigenous youth. According to Sharma (2025) Indigenous Knowledge, if incorporated effectively into curriculum and teaching methods, enhances thought development among youths and can lay a solid foundation for a culturally relevant and ethically grounded education system.

The Initiative of UGC for integration of IKS in Higher Education:

The University Grants Commission of India has taken keen initiative in this regard to integrate IKS into Higher Education. It has issued some guidelines to all higher education institutions to incorporate IKS into UG and PG programs, mentioning the allocation of 5% of total credits to IKS related subjects(*India Today*, 2023). In India, integration of Indigenous Knowledge Systems (IKS) aligned with the National Education Policy (NEP) 2020 into higher education curricula is truly progressing. In this background, over 1000 university teachers have been trained related to IKS in various cities like Delhi, Chennai, Nagpur, Varanasi, Srinagar and Guwahati targeting to train 1.5 million teachers by 2025(*The Hindu*, 2023.) This move indicates a nationwide integration of IKS into higher education. Various institutions like Kalinga Institute of Social Sciences and Chinmaya Vishwavidyapeetha have already introduced programs focusing on tribal studies and Knowledge System. In Karnataka the following institutions have taken initiative to integrate Indigenous Knowledge System into their curricula.

S. No	Higher Education Institution	Place
1	Kristu Jayanti College	Bengaluru
2	Karnataka Samskrit University	Bengaluru
3	Karnataka Folklore University	Shiggaon
4	University of Agricultural and Horticultural Sciences	Shimoga
5	Karnataka State Rural Development and Panchayat Raj University	Gadag

Source: *Thematic Session, Government of India, Ministry of Education*, 2023

This move indicates the commitment of UGC and the state to incorporate indigenous knowledge into higher education and disseminate it to safeguard the culture and heritage.

Examples of India-Focused cases:

- Digital India Mission supporting digitalization efforts extending even to IKS.
- UGC and NCERT have introduced programs to insert local knowledge in education.
- Integration of local wisdom in agriculture and herbal medicines by State universities in North-East India and Tribal

In spite of this progress in this regard, there exist several challenges before Higher education in integrating IKS in to education system. In this context, Sharma (2025) identifies many challenges before Higher Education Institutions in integrating of IKS into higher education such as limited awareness, lack of understanding among teachers, inadequate training among faculty members, etc.,

The Role of ICT in promoting Indigenous Knowledge Systems:

The strategic use of ICT to preserving, safeguarding and promoting IKS ensures that traditional wisdom continues to enlighten contemporary society. By digitalizing, documenting, and disseminating IKS, ICT not only protects cultural heritage but also enables Indigenous communities and enhances the framework of global knowledge. An ethical, collaborative and inclusive approach is important to connect the full potential of ICT in safeguarding humankind's diverse cultural wealth.

The role of ICT in promoting IKS can be elaborated as follows:

1. Digitalization of IKS:

Information and Communication Technology facilitates digital documentation of Indigenous knowledge System by using tools such as digital camaras, audio-visual archivers, scanners, digital cameras, can digitalize cultural practices, oral histories, artifacts, manuscripts, and traditional ecological knowledge. These digital archives serve as a means of preserving and safeguarding Indigenous Knowledge Systems for future generations and protecting them from erosion due to environmental degradation or generational discontinuity.

2. Digital Documentation:

Indigenous knowledge**,** once digitalized, can be stored in digital records, knowledge management systems and databases. These digital platforms can be structured to enable controlled access, by considering the respect of intellectual property rights and community protocols while making the information accessible for education, research and cultural preservation.

3. Integration of IKS:

ICT-enabled e-learning platforms are offering new and new opportunities for the IKS integration into formal and informal education systems by presenting traditional knowledge in multimedia formats,

enabling both Indigenous and non-Indigenous learners to understand and appreciate traditional practices, cultural heritage, and local innovations.

4. Dissemination of IKS through Social Media:

Mobile applications and social media have provided scope for knowledge sharing and community engagement through the platforms like WhatsApp, YouTube and Facebook, to share cultural heritage, mobilize support for cultural rights and promote local languages. Many mobile applications can also serve as repositories of linguistic resources, folk medicine and farming practices

5. Enhancement of Sustainable Development:

ICT supported integration of Indigenous Knowledge System enhances sustainable development by encouraging traditional practices that are often environmentally sound and socially cohesive. It also enables to align local cultural values with contemporary sustainability goals, contributing to environmental stewardship and community resilience.

Challenges in IKS Integration:

- There is digital infrastructure gap especially in rural or under-sourced educational institutions.
- There exists Intellectual Property Concerns such as misappropriation of indigenous knowledge.
- There exists resistance to change among both academic and indigenous communities due to skeptical of integration efforts.

Strategies for Effective Integration:

- Higher Educational Institutions should develop such curriculum so as to include Indigenous Knowledge in relevant subjects such as agriculture, anthropology, environmental science etc., through the use of ICT tools.
- HEI's should emphasize on capacity building programs to train teachers to adopt and use ICT effectively and to appreciate the value of Indigenous Knowledge System.
- To promote IKS, HEI's should generate digital repositories in local languages with community participation.
- The integration needs policy support including government and institutional policies that fund and mandate the preservation and use of Indigenous Knowledge Systems in digital formats.

Examples of India-Focused cases:

- **Digital India Mission** supporting digitalization efforts extending even to IKS.
- **UGC and NCERT** have introduced programs to insert local knowledge in education.
- Integration of local wisdom in agriculture and herbal medicines by State universities in North-East India and Tribal

7. Conclusion

In recent years, Higher Education has been playing a significant role in integrating Indigenous Knowledge Systems (IKS) through Information and Communication Technology (ICT), enhancing a balanced approach that values both modernization and traditional wisdom. The strategic use of ICT can help preservation, protection, and promotion of IKS, ensuring that this traditional wisdom continues to enlighten contemporary society. By digitizing, documenting, and disseminating Indigenous knowledge, higher education institutions can protect the cultural heritage and also empower Indigenous communities and enrich global knowledge systems. However, to truthfully harness the potential of ICT in this context, it is essential to adopt an ethical, collaborative, and inclusive approach that respects and upheavals humanity's diverse cultural wealth.

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Classical Foundations to Contemporary Frameworks: India's Enduring Role in Shaping Global Knowledge Systems

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Abstract: *This paper explores the evolution of India's contributions to global knowledge systems, from its classical philosophical and political traditions to their relevance and adaptation in contemporary thought. It analyses the enduring influence of ancient Indian epistemologies, statecraft, social philosophies, and scientific inquiry, and investigates their reinterpretation in postcolonial, global, and comparative political contexts. Emphasizing an interdisciplinary approach, the study highlights how Indian knowledge systems offer alternative frameworks to Western paradigms, contributing to discourses in governance, ethics, intercultural dialogue, and epistemic justice.*

Keywords: India, knowledge systems, political thought, classical philosophy, epistemology, post-colonialism, global governance

Introduction: India, since ages, has acted as a melting pot of multidisciplinary scholarship and new philosophical creativity. The subcontinent nurtured exceptional intellection underpinning's, which did not remain confined within the parochial borders of geography, starting from the Vedas moving onto the constitution of India. Classical schools of Vedanta and Nyaya, alongside modern contemporaries like Gandhi or Ambedkar, demonstrate the distinct ability of India to transform received knowledge within the framework of the emerging global situation. In this article, I seek to explain the unique contribution of such traditions in the construction of the system of global knowledge and the contemporary issues facing politics and epistemology.

Objectives:

- To examine the philosophical and political contributions of classical Indian thought to the development of governance.
- To analyse how India's historical political institutions and knowledge traditions have influenced contemporary global political thought.
- To investigate India's role in postcolonial reconfigurations of global knowledge systems, particularly through the lens of non-alignment.
- To assess the contemporary application and relevance of India's civilizational and philosophical heritage in shaping international policy framework.

Research Methodology: This study employs a qualitative, interpretive research design, appropriate for tracing the intellectual, philosophical, and political evolution of India's contributions to global knowledge systems. The approach is historical-analytical and comparative, aiming to analyse classical Indian epistemologies and their transformations through colonial, postcolonial, and contemporary global contexts.

Classical Indian Knowledge Systems:

The Roots: India's classical periods featured rigorous examinations of metaphysics, logics, ethics, and politics. The 6 orthodox schools (ṣaḍdarśanas) as well as heterodox systems such as Buddhism and Jainism cultivated rich philosophical traditions. Kautilya's Arthashastra was a

political economic treatise that articulated the principles of statecraft, realpolitik, and economic governance which is in harmony with modern realist paradigms.

Classical pramāṇa (means of knowledge) was centered on perception (pratyakṣa), inference (anumāna), and testimony (śabda). These constructs contested the binary model of truth and legitimacy offered by Western rationalism through plurality, blending different frameworks and logics.

Contributions to Social Philosophy and Ethical Thought:

The ethical dimensions of Indian philosophy—particularly dharma, karma, and ahimsa—provide normative frameworks for political behavior, justice, and social responsibility. These concepts have shaped India's moral discourse and found resonance globally through figures like Gandhi. The dharmic worldview promotes a dialogical and duty-based ethics, which contrasts with the rights-based liberal tradition. Furthermore, Buddhist traditions of deliberative democracy in ancient republics like the Mahajanapadas prefigure contemporary discussions on participatory governance and decentralized power.

Science, Technology, and Epistemology: A Civilizational Contribution:

Indian contributions to mathematics, astronomy, and medicine—such as the invention of zero, decimal system, and early surgical practices—demonstrate the empirical sophistication of ancient Indian science. These contributions were rooted in a holistic epistemology that integrated observation with metaphysical insight, offering an alternative to the Cartesian divide. In a global context, these knowledge traditions have been influential in shaping intercultural scientific dialogues and decolonial approaches to the philosophy of science.

Colonial Encounters and Knowledge Reconfigurations:

British colonial rule disrupted indigenous systems of knowledge and education, replacing them with Eurocentric models. However, Indian intellectuals engaged with colonial modernity not as passive recipients but as active negotiators. Thinkers like Raja Ram Mohan Roy, Vivekananda, and Tagore reasserted Indian values while engaging with modern science, ethics, and political theory.

The nationalist movement became a site of epistemic resistance, reimagining Indian identity through the lens of ancient knowledge while demanding global recognition of its legitimacy.

Postcolonial Developments and Global Engagement:

Post-independence India has continued to synthesize classical traditions with contemporary needs. Ambedkar's fusion of liberal constitutionalism with Buddhist ethics, Nehru's secular scientific temper, and Gandhi's political-spiritual philosophy illustrate how India has developed unique models of governance and social reform. In education, institutions like Nalanda University (revived), IITs, and centers for Indic studies represent efforts to globalize Indian intellectual heritage while maintaining academic rigor.

Contemporary Relevance in Global Discourses:

In the 21st century, Indian knowledge systems contribute to global debates on sustainable development, pluralism, and epistemic justice. As the limitations of Western-centric models become apparent in environmental crises, social fragmentation, and ethical relativism, Indian frameworks offer holistic, integrative alternatives. India's role in international platforms—through yoga diplomacy, Ayurveda, spiritual philosophy, and global South-South knowledge exchanges—underscores its soft power and intellectual capital.

Suggestion and Recommendations:

1. Integrate Indigenous Epistemologies into Mainstream Curriculum: Indian classical and postcolonial knowledge systems should be systematically incorporated into university curricula

across disciplines—especially in political science, philosophy, international relations, and development studies. This would correct epistemic imbalances and promote intellectual pluralism.

2. Promote Comparative Political Theory: There is a need to institutionalize comparative political theory in Indian academia, encouraging engagement between Western and non-Western thought traditions. This will position India not merely as a subject of global theory but as a producer of it.

3. Establish Knowledge Archives and Translation Projects: To facilitate global access and interdisciplinary engagement, classical texts in Sanskrit, Pali, Prakrit, and regional languages should be translated and annotated with contemporary relevance. Archival digitization and open-access platforms would enhance scholarly dissemination.

4. Encourage Interdisciplinary Research on Classical-Modern Continuities: Scholars should be encouraged through fellowships and grants to explore continuities between ancient Indian thought and current debates in global governance, ethics, and sustainability—e.g., connecting dharmic ecological thinking to climate justice discourse.

5. Support Decolonial and Global South Research Networks: India should take the lead in fostering South-South intellectual collaborations that challenge the Western monopoly over knowledge production. Partnering with African, Latin American, and Southeast Asian institutions could create new global epistemic alliances.

6. Rethink India's Soft Power Strategy through Knowledge Diplomacy: Indian foreign policy can strategically leverage its civilizational heritage—not just through yoga and Ayurveda—but also via ancient philosophy, statecraft (Arthashastra), and pluralist traditions. Think tanks and MEA initiatives should emphasize knowledge diplomacy as a form of soft power.

7. Engage with the Indian Diaspora as Knowledge Ambassadors: The Indian diaspora, especially in academia and policy sectors abroad, can serve as bridges between classical Indian thought and contemporary global discourse. Structured diaspora engagement policies should include knowledge diplomacy and collaborative research.

8. Institutionalize Epistemic Justice in Policy-making: Public policy bodies and education councils should consciously work toward epistemic justice by recognizing the legitimacy and sophistication of indigenous and subaltern knowledge. This should inform NEP (National Education Policy) revisions, research funding, and academic evaluation systems.

Conclusion:

India’s intellectual journey from its classical philosophical roots to its contemporary global engagements reveals a rich and enduring tradition of knowledge production, which was often ignored in mainstream academic discourse. This research-investigation undertook an effort to restore and critically examine the foundational ideas embedded in Indian classical sources-Aarthashastra, Upanishads, Buddhist and Jain canons, et cetera-and trace their history in time, notably towards colonial disjunction and postcolonial modernity interventions. Using an interdisciplinary postcolonial approach, this study has argued that Indian systems of knowledge are not retrograde disciplines but living systems that still inform contemporary discourses around governance, ethics, diplomacy, and social justice. Figures such as Kautilya, Gandhi, Ambedkar, and Tagore stand out as examples of how classical traditions found expressions in light of modern needs without ever losing their indigenous mooring.

In an increasingly multipolar order and resurrecting cultural narratives globally, India has always been crucial in shaping global knowledge systems, historically significant and strategically relevant. Reclaiming this role thus requires the decolonization of epistemology, along with an active re-engagement with India's own intellectual heritage on its terms. Through comparative political

theory, curricular reform, and knowledge diplomacy, India can reclaim its status as one of the major global centres of thought.

The crux is that the perpetual relevance that underwrites classical Indian thought does not lie with its antiquity but rather with its adaptability and profundity, through which it offers a paradigm that is at the same time structured, rooted and dynamic, particular and universal, historical and akhiri-yugam-anantaram (fully relevant to the contemporary times).

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Integrating Indigenous Knowledge Systems into Information Literacy Frameworks: A Library Perspective

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Abstract: *This article explores the intersection between information literacy and indigenous knowledge systems (IKS) from a library perspective. In the context of global knowledge dissemination, libraries have traditionally centered around Western epistemologies, often marginalizing or undervaluing indigenous ways of knowing. As the information landscape diversifies, there is a growing need for libraries to play a pivotal role in both preserving and integrating indigenous knowledge while fostering information literacy that is inclusive, culturally sensitive, and empowering. This paper examines the theoretical framework of information literacy, the characteristics of IKS, and the role of libraries in bridging these domains. It also discusses practical strategies for incorporating IKS into information literacy initiatives and library services.*

Keywords : *Information Literacy, Indigenous Knowledge Systems (IKS), Library Science , Knowledge Preservation, Cultural Sensitivity , Decolonizing Libraries, Oral Traditions, Inclusive Information Practices , Knowledge Equity, Traditional Knowledge, Intellectual Property Rights, Library Services, Digital Repositories.*

1. Introduction

Information Literacy has become an indispensable skill in navigating the complexities of the modern information environment. Defined broadly as the ability to recognize when information is needed and to locate, evaluate, and use information effectively, IL underpins academic success, informed citizenship, and lifelong learning. Prominent frameworks such as those articulated by the American Library Association (ALA) and the Association of College and Research Libraries (ACRL) emphasize critical thinking, evidence-based reasoning, and the ethical use of information. These models, however, are deeply rooted in Western epistemologies that privilege written, documented, and peer-reviewed knowledge, often sidelining alternative knowledge traditions.

Indigenous Knowledge Systems (IKS) represent dynamic, living knowledge traditions that are orally transmitted, deeply contextual, and interconnected with cultural, spiritual, and ecological relationships. Unlike Western knowledge paradigms that emphasize objectivity and universalism, Indigenous knowledge is relational and situated, embodying ways of knowing that are inseparable from community, place, and identity. The marginalization of IKS in IL frameworks perpetuates epistemic injustices, where Indigenous voices and worldviews are underrepresented or misunderstood.

This paper explores how libraries—institutions traditionally positioned as guardians and disseminators of knowledge—can play a pivotal role in bridging this divide. By integrating Indigenous epistemologies into IL instruction and programming, libraries can foster environments of cultural inclusion, promote decolonization, and support equitable knowledge systems.

2. Objectives

The primary objective of this research is to explore how Indigenous Knowledge Systems (IKS) can be meaningfully integrated into existing information literacy (IL) frameworks from a library perspective. Specifically, the study aims to:

1. **Examine the epistemological differences** between Indigenous Knowledge Systems and traditional Information Literacy models.
2. **Identify the challenges and barriers** faced by libraries in incorporating Indigenous ways of knowing into IL instruction and services.
3. **Document best practices and case studies** where IL programs have successfully engaged with Indigenous communities or included Indigenous knowledge components.
4. **Develop practical recommendations** for academic and public libraries to decolonize their IL frameworks and embrace more inclusive, culturally relevant pedagogies.
5. **Promote ethical collaboration** between libraries and Indigenous communities in knowledge sharing, curriculum development, and information access.

3. Methodology

This study adopts a **qualitative research approach**, focusing on the collection and analysis of data through document analysis, case studies, and expert interviews.

1. Document Analysis

- A comprehensive review of IL frameworks such as the **ACRL Framework for Information Literacy for Higher Education** will be conducted.
- Policy documents, strategic plans, and library instruction modules that mention or incorporate IKS will be analyzed to assess inclusion levels and approaches.

2. Case Studies

- Selected case studies from academic and public libraries (e.g., in Canada, Australia, and India) that have attempted to integrate IKS into their library services or instruction will be explored.
- These case studies will help identify successful strategies and common obstacles.

3. Semi-structured Interviews

- Interviews will be conducted with:
  - Librarians involved in IL instruction.
  - Indigenous knowledge keepers or elders.
  - Academics working in Indigenous studies or decolonial pedagogy.
- The goal is to capture perspectives on the possibilities and ethical considerations in blending IL and IKS.

4. Data Analysis

- Data will be coded thematically using a grounded theory approach.
- Key themes such as "epistemic conflict," "library practice," "community engagement," and "curriculum reform" will guide analysis.

5. Ethical Considerations

- All participants will be engaged with **informed consent**.
- Care will be taken to ensure **respect for Indigenous knowledge sovereignty**, with findings validated through participant feedback where applicable.

4. Challenges in Reconciling Information Literacy and Indigenous Knowledge Systems

4.1 Epistemological Differences

Information Literacy frameworks are generally grounded in Western scientific paradigms, emphasizing objectivity, linear logic, empirical evidence, and documented knowledge. In contrast, Indigenous Knowledge Systems are holistic and relational, emphasizing the interconnectedness of humans, the environment, and spiritual entities. Indigenous knowledge is often transmitted orally through stories, rituals, ceremonies, and lived experiences rather than written documentation, making it difficult to incorporate within IL frameworks that prioritize textual or digital information.

This epistemological divergence challenges the alignment of IKS with dominant IL models. The ACRL Framework, for example, is organized around concepts like "Authority is Constructed and Contextual" and "Information Creation as a Process," which are meaningful within a Western worldview but may not fully capture the relational and spiritual aspects intrinsic to Indigenous knowledge.

4.2 Invisibility of Oral and Experiential Knowledge

IL pedagogy emphasizes information that is recorded, peer-reviewed, and publicly accessible. Indigenous knowledge, however, relies heavily on oral traditions, songs, ceremonies, and direct experiential learning. These modes of knowledge transmission are often invisible or invalidated within library classification systems and IL rubrics, which focus on bibliographic materials and digital content.

As a result, Indigenous knowledge holders' contributions risk exclusion, and students of Indigenous descent may find their cultural heritage underrepresented or misunderstood.

4.3 Language and Terminology Barriers

Many Indigenous languages lack direct translations for terms such as "information," "literacy," or "research." The dominance of English and other colonial languages in IL instruction marginalizes Indigenous linguistic frameworks and epistemologies. This linguistic disconnect can create barriers for Indigenous learners and librarians seeking to articulate Indigenous knowledge within Western IL paradigms.

4.4 Cultural Appropriation and Ethical Concerns

Libraries must navigate complex ethical issues related to the stewardship of Indigenous knowledge. Without proper community consent and understanding, efforts to collect, digitize, or disseminate Indigenous materials risk cultural appropriation. Sacred or secret knowledge must be protected according to Indigenous protocols, yet these protections are not always supported by standard library policies or intellectual property frameworks.

The risk of misrepresentation, exploitation, or loss of control over Indigenous knowledge remains a significant concern.

4.5 Lack of Representation in Information Systems

Library classification systems, such as the Library of Congress Subject Headings (LCSH), often reflect colonial worldviews and do not adequately represent Indigenous knowledge domains. Indigenous authors and materials are frequently under cataloged or categorized in ways that obscure their cultural context, reinforcing epistemic marginalization.

Digital repositories and databases also often exclude Indigenous voices or treat Indigenous knowledge as exotic or static rather than dynamic and evolving.

4.6 Rigid Institutional Structures

Educational institutions and libraries operate within Eurocentric frameworks with standardized curricula, accreditation requirements, and assessment models. These structures limit flexibility for integrating alternative knowledge systems that emphasize community participation,

oral transmission, and non-linear learning. Such rigidity can impede the development of culturally responsive IL instruction.

4.7 Training and Awareness Gaps Among Librarians

Many librarians lack formal training in Indigenous studies, decolonization, or cultural humility. Without this knowledge, efforts to include IKS can become tokenistic or superficial. Librarians may also fear misappropriating or misrepresenting Indigenous knowledge, leading to avoidance rather than engagement.

4.8 Power Imbalances and Historical Trauma

Colonial histories have created deep mistrust between Indigenous communities and academic institutions. Attempts to integrate Indigenous knowledge into libraries may be met with skepticism if not undertaken in genuine partnership and with respect for Indigenous sovereignty.

Decolonizing IL requires acknowledging these historical wounds and addressing power asymmetries.

4.9 Digital Divide

Indigenous communities often face limited access to digital infrastructure and technology. This divide exacerbates marginalization in digital IL initiatives and online knowledge dissemination, making equitable participation in the digital knowledge economy difficult.

5. Role of Libraries in Bridging the Divide

5.1 Libraries as Inclusive Knowledge Hubs

Libraries have the potential to serve as inclusive knowledge environments that recognize and validate diverse epistemologies. By expanding their collections, classification schemes, and instructional approaches to include Indigenous knowledge, libraries can foster epistemic pluralism. Such inclusivity supports diverse learners and promotes cultural respect.

5.2 Community Engagement

Successful integration of IKS requires authentic engagement with Indigenous communities. Libraries can collaborate with Indigenous elders and knowledge holders to co-create programs, digitize community archives, and develop oral history projects. This participatory approach respects community agency and knowledge sovereignty.

5.3 Information Literacy Programs

Designing IL instruction that incorporates Indigenous storytelling, experiential learning, and local knowledge practices makes IL more relevant and accessible for Indigenous learners. Including Indigenous co-facilitators enriches the learning experience and bridges cultural divides.

5.4 Ethical Stewardship and Intellectual Property

Libraries must develop and adhere to ethical protocols that respect Indigenous knowledge ownership and access rights. Tools such as the Traditional Knowledge (TK) Labels created by Local Contexts help libraries manage permissions and cultural sensitivities around Indigenous materials.

Conclusion

Integrating Indigenous Knowledge Systems into Information Literacy frameworks presents a vital opportunity to transform libraries into more inclusive, equitable, and socially responsible institutions. Although epistemological differences and institutional barriers pose significant challenges, this research highlights that intentional collaboration, cultural humility, and ethical stewardship can enable libraries to bridge Western and Indigenous worldviews.

Moving beyond tokenistic gestures, libraries must engage in sustained partnerships with Indigenous communities, honor Indigenous knowledge sovereignty, and rethink IL pedagogy through decolonial lenses. Such efforts contribute to epistemic justice and enrich the global knowledge ecosystem by recognizing the legitimacy of diverse ways of knowing.

The path forward demands humility, ongoing dialogue, and a commitment to respecting knowledge in all its cultural, spiritual, and relational complexity.

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Information Literacy and Indigenous Knowledge: A Library Perspective

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Abstract: In an era of rapid digital transformation and information overload, the significance of **Information Literacy (IL)** has become more pronounced than ever. At the same time, the preservation, promotion, and integration of **Indigenous Knowledge (IK)** systems are gaining renewed attention across academic and cultural institutions. Libraries, as custodians of knowledge and facilitators of learning, are uniquely positioned to bridge the gap between formal information systems and traditional epistemologies. This article explores the intersection of Information Literacy and Indigenous Knowledge from a library science perspective, examining how libraries can serve as inclusive spaces for both technological fluency and cultural continuity.

Introduction

In today's knowledge-driven society, the ability to effectively find, evaluate, and use information is fundamental to academic success, professional competence, and informed citizenship. This competency is encapsulated in the concept of Information Literacy (IL), which the American Library Association (ALA) defines as the ability to "recognize when information is needed and to locate, evaluate, and use effectively the needed information." Information literacy empowers individuals not only to navigate the vast and often overwhelming information landscape but also to make critical decisions in personal, academic, and professional contexts.

However, not all knowledge is codified within books, articles, or digital databases. Indigenous Knowledge (IK) represents a distinct and equally valuable system of understanding the world. It encompasses the deep, experiential wisdom held by Indigenous peoples across generations, often transmitted orally through storytelling, songs, rituals, and direct experience with the natural environment. Unlike formal academic knowledge, IK is not confined to written records; it is holistic, deeply spiritual, and closely tied to the land, community, and cultural identity. It reflects a way of life and worldview that has evolved through centuries of interaction with local ecosystems, social structures, and spiritual beliefs.

Traditionally, libraries have been seen as custodians of documented knowledge, primarily focusing on preserving and disseminating print and digital resources aligned with academic curricula. However, in an increasingly interconnected and culturally diverse world, this traditional role is expanding. Libraries now face a dual challenge and opportunity: on one hand, to equip users especially students, researchers, and educators with robust information literacy skills; and on the other, to recognize, preserve, and integrate Indigenous Knowledge systems that have often been marginalized or excluded from mainstream discourse.

This evolving mandate calls for a reimagining of library spaces and services transforming them into inclusive, participatory, and culturally responsive institutions. Libraries must not only curate and conserve IK but also collaborate respectfully with Indigenous communities to ensure authenticity, ethical use, and mutual benefit. By bridging the structured frameworks of IL with the organic

richness of IK, libraries can serve as powerful platforms for epistemological pluralism, ensuring that no form of knowledge is deemed inferior or irrelevant.

Thus, this article examines how libraries can harmonize Information Literacy and Indigenous Knowledge, leveraging their institutional potential to foster inclusive learning, cultural preservation, and social justice.

Information Literacy in the Digital Age

Modern libraries have evolved far beyond their traditional role as repositories of books. In the information age, they serve as dynamic learning hubs that empower individuals with the skills needed to navigate, interpret, and critically assess an ever-expanding digital and informational landscape. One of the most significant contributions of contemporary libraries is the systematic promotion of Information Literacy (IL) across diverse user group's students, researchers, educators, professionals, and the general public.

To this end, libraries provide structured IL programs and workshops that introduce users to the fundamentals of information seeking and evaluation. These programs are often tailored to different disciplines and user needs, covering topics such as effective search strategies, understanding scholarly versus popular sources, and recognizing misinformation. By embedding these programs into academic curricula or offering them as standalone community initiatives, libraries cultivate critical thinking and lifelong learning.

In addition, libraries ensure access to digital databases, scholarly journals, e-books, and research tools resources that are essential for academic research and professional development. Through partnerships with universities, publishers, and knowledge networks, libraries offer gateways to reputable, peer-reviewed content that would otherwise be inaccessible or unaffordable to many individuals.

Another crucial role of libraries lies in guiding users to evaluate the credibility, relevance, authority, and bias of information sources. In an age of rampant misinformation, fake news, and algorithm-driven echo chambers, these skills are vital. Librarians teach users to ask critical questions about authorship, publication context, and evidence quality, helping them to become discerning consumers and producers of information.

Equally important, libraries educate users on ethical use of information. This includes instruction in proper citation formats (APA, MLA, Chicago, etc.), understanding plagiarism, and fostering academic integrity. By teaching responsible content creation—such as respecting intellectual property rights and using open-access resources—libraries support ethical scholarship and professional honesty.

However, despite these comprehensive efforts, it is important to recognize a critical shortcoming in mainstream IL frameworks: they tend to prioritize information that is written, digitized, and institutionally validated, often neglecting knowledge systems that exist outside these parameters. This limitation inadvertently excludes Indigenous Knowledge (IK)—which is often orally transmitted, experiential, and embedded in cultural rituals and environmental interactions.

Such exclusion not only marginalizes Indigenous communities but also narrows our collective understanding of knowledge. Therefore, the integration of Indigenous Knowledge into information literacy education is not merely an act of inclusion—it is a necessary step toward epistemic justice. Libraries, with their evolving role in knowledge democratization, are uniquely positioned to bridge this gap by acknowledging, validating, and preserving multiple ways of knowing.

Understanding Indigenous Knowledge (IK)

Indigenous Knowledge is:

- Context-specific, rooted in local environments and cultural histories.
- Often passed through oral traditions, storytelling, songs, and rituals.

- Holistic and interconnected with spirituality, nature, and identity.
- Collaborative and community-oriented, rather than individualistic.

Unfortunately, IK systems have historically been undocumented, misunderstood, or dismissed by dominant academic discourses. Libraries, by embracing inclusivity, can play a transformative role in validating and archiving these voices.

The Role of Libraries in Bridging IL and IK

Libraries can act as **mediators** between IL and IK by:

1. **Creating Inclusive Collections**
   - Include oral histories, ethnographies, and indigenous language texts.
   - Digitize local cultural materials with permission from communities.
   - Archive tribal newsletters, folklore, herbal knowledge, and ritual practices.
2. **Collaboration with Indigenous Communities**
   - Involve elders and knowledge keepers in curating IK resources.
   - Respect intellectual property and cultural sensitivities.
   - Enable community-driven documentation projects.
3. **Promoting Culturally Responsive Information Literacy**
   - Redefine IL programs to include critical perspectives on knowledge hierarchies.
   - Highlight the value of alternative knowledge validation systems.
   - Teach users to appreciate diverse epistemologies.
4. **Designing Safe and Accessible Library Spaces**
   - Provide multilingual signage and resource guides.
   - Host cultural events, oral storytelling sessions, and exhibitions.
   - Integrate traditional art, crafts, and symbols in library environments.

Challenges and Ethical Considerations

- **Cultural Appropriation:** Libraries must avoid exploiting indigenous content for academic or institutional gain.
- **Consent and Ownership:** Information must be collected and shared with informedconsent and proper attribution.
- **Digital Divide:** Indigenous communities often face limited access to digital technologies; library outreach must address this gap.

Conclusion

Libraries today stand at a pivotal crossroads between tradition and transformation. No longer confined to the quiet halls of book-lined shelves, libraries have emerged as dynamic knowledge ecosystems vibrant, inclusive, and adaptive to the changing demands of society. They are places where learning is not limited by format or medium, where digital innovation coexists with oral tradition, and where diverse knowledge systems find a common ground.In this evolving context, the integration of Information Literacy (IL) with Indigenous Knowledge (IK) is not only timely but essential. As custodians of both academic and cultural knowledge, libraries have the responsibility and the opportunity to foster inclusive environments that honour multiple ways of knowing. By doing so, they challenge dominant paradigms that privilege written, Western-centric epistemologies while marginalizing traditional and localized forms of knowledge.

Such integration promotes epistemic justice the idea that all knowledge systems, regardless of origin, deserve equal recognition and respect. It also strengthens cultural preservation, ensuring that Indigenous languages, stories, rituals, and ecological wisdom are not lost to time but actively shared with future generations. More importantly, it nurtures an education system that is truly inclusive, empowering learners to value both critical inquiry and cultural identity.

The future of libraries lies in their dual commitment: to preserve the wisdom of the past including Indigenous traditions and to prepare communities for the challenges of the future through digital literacy, critical thinking, and global awareness. In becoming spaces that embrace diversity in all its forms, libraries can serve as bridges between generations, between cultures, and between knowledge

traditions. Ultimately, a library that respects Indigenous Knowledge while promoting Information Literacy is not just a building or a service it is a living testament to the power of knowledge in all its forms to enrich, empower, and unite communities.

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Revisiting Colonial Historiography with Indigenous Insights: A Computational Perspective

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Abstract: Colonial historiography has long shaped our understanding of scientific development by privileging European narratives and sidelining indigenous contributions. In the realm of computer science, this bias has obscured the profound algorithmic and logical innovations present in ancient Indian traditions. This paper explores how colonial frameworks marginalized computational ideas embedded in Indian linguistic, mathematical, and philosophical systems. Through a focused case study on Panini's grammar, Vedic mathematics, and Indian logic schools like Nyaya and Navya-Nyaya, the paper illustrates how these systems contain fundamental principles of formal language theory, recursion, binary logic, and inference mechanics—all vital to contemporary computing. It examines how colonial education policies disrupted the transmission of these knowledge systems and framed them as religious or mystical rather than scientific. The modern reclamation of these insights, particularly in computational linguistics, AI ethics, and mathematical pedagogy, underscores the need for a decolonized and pluralistic historiography of science. By integrating indigenous epistemologies into computer science, we open new pathways for innovation grounded in cultural diversity, historical justice, and intellectual inclusivity.

Keywords: Colonial Historiography, Indigenous Computing, Panini Grammar, Vedic Mathematics, Nyaya Logic, Computational Linguistics, Decolonizing STEM, Algorithmic Thinking, Indian Logic Systems, AI Ethics

1. Introduction

The dominant historiography of science has often reflected the colonial lens, positioning Western thought as the pinnacle of rationality and innovation. This perspective marginalized or erased the epistemic systems of colonized cultures, including those of India. In computer science, many foundational concepts—like formal languages, rule-based logic, and algorithms—were already present in ancient Indian knowledge systems. By revisiting colonial historiography through the lens of indigenous insights, this paper seeks to deconstruct the Eurocentric narrative and highlight the overlooked computational heritage of India.

2. Colonial Historiography and the Science Narrative

During colonial rule, the British established a dichotomy between the “rational West” and the “mystical East.” Scientific contributions from India were either ignored or reinterpreted through Orientalist frameworks. Macaulay’s Minute on Indian Education (1835) institutionalized English education, sidelining traditional Indian systems of knowledge. Indigenous sciences, particularly in logic and mathematics, were thus delegitimized. This historiographical framing not only affected global perceptions but also influenced the self-image of scientific inquiry within postcolonial societies.

3. Indigenous Computational Thought in India

3.1 Panini’s Grammar as an Early Computational System

Panini’s Ashtadhyayi (circa 500 BCE) is one of the earliest known formal systems. With approximately 4,000 rules, Panini devised a meta-language using recursion, transformation rules, and optimization techniques akin to modern programming languages and formal grammar theory. His use

of markers (anubandhas) functions like metadata or tags in computational parsing. Modern linguists, including Noam Chomsky, have acknowledged Panini's influence on formal language theory.

3.2 Vedic Mathematics and Algorithmic Efficiency

Texts such as the Sulba Sutras and Vedic Mathematics reveal advanced numerical algorithms designed for mental computation. These rule-based techniques anticipated principles in modern algorithm design, such as divide-and-conquer and estimation heuristics. Colonial scholars dismissed these as 'religious lore,' ignoring their practical and pedagogical value.

3.3 Nyaya and Navya-Nyaya Logic as Formal Reasoning Systems

The Nyaya school developed systematic approaches to inference, debate, and logical categorization. Navya-Nyaya, in particular, constructed a highly formalized system for epistemology and logic—akin to symbolic logic used in artificial intelligence. These systems recognized validity, fallacies, conditional logic, and context-sensitive reasoning long before Western logic formalized similar concepts.

4. Colonial Displacement of Indigenous Computation

Colonial education systems dismantled indigenous institutions like pathshalas, madrasas, and gurukulas. Indian scholars were forced to publish in English, often through Western epistemological frameworks, resulting in further dilution of native methodologies. Panini's grammar was studied for its philological utility, not for its computational brilliance. Vedic mathematics was trivialized, and Nyaya logic was reframed as metaphysics rather than proto-computational logic.

5. Contemporary Reclamation and Integration

5.1 Computational Linguistics and Panini's Legacy

Institutes like IIT Kanpur and JNU have spearheaded Sanskrit NLP projects using Paninian models. These projects demonstrate that Panini's rules can be algorithmically encoded for natural language understanding, parsing, and machine translation.

5.2 AI Ethics and Indigenous Logic

Contemporary AI raises ethical questions around bias, explainability, and justice. Indian philosophical frameworks like dharma offer nuanced insights into fairness and contextual reasoning. Nyaya's methods of evaluating truth claims can contribute to developing more inclusive AI systems.

5.3 Educational Reform and Decolonizing STEM

India's National Education Policy 2020 emphasizes integrating local knowledge systems into formal curricula. Open-source platforms and interdisciplinary initiatives now explore how ancient computational ideas can enrich computer science education, particularly for underrepresented communities.

6. Conclusion: The history of computer science, like much of science, must be revisited through a lens that respects cultural multiplicity. Reclaiming India's indigenous computational heritage—Panini's grammar, Vedic mathematics, and Nyaya logic—challenges colonial narratives and expands the epistemological foundations of computing. A decolonized approach to science and technology can democratize innovation and recognize the intellectual sovereignty of all cultures.

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Integration of Indian Knowledge System in Management and Commerce

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Abstract: The process of collecting, conserving, and disseminating Indian knowledge to the rest of the world through recorded traditions is known as the Indian Knowledge System (IKS). It covers many topics, such as philosophy, art, medicine, physics, mathematics, social sciences, and religious studies, and it has a universal perspective. It may be used in a variety of ways to benefit both individuals and enterprises, and it had a big influence on many facets of life, including business. Students' problem-solving abilities and adaptability are enhanced by the Indian Knowledge System's emphasis on experiential learning and knowledge application in the actual world. Students may benefit from this as they become ready for the demands of the working world. People can learn business-related lessons from the IKS, like how to overcome their fear of failure and improve their abilities and competency. There are several economic, research, social, and cultural opportunities available through the IKS. By bringing in a new era of mental freedom and intellectual empowerment, the IKS can contribute to the transformation of the education system. Numerous facets of life, including as education, the arts, administration, law, justice, health, and manufacturing, have also been affected. As India develops, the IKS can be used in real-world ways to help its people and the international community.

Keywords: Indian Knowledge System, Commerce, Business, Education, Opportunities

INTRODUCTION:

Experience, observation, experimentation, and analysis form the foundation of the Indian knowledge system (IKS). It can be used to help people discover and achieve their purpose in a variety of spheres of life, such as management and business.

Execution of IKS into commerce and management:

Ethical value: - The IKS can help managers develop a deeper understanding of ethical conduct.	**Mindfulness: -** The IKS can help managers incorporate mind fullness practices like meditation and yoga into the work place. This can help improve focus, reduce stress, and promote employee well-being.
Interconnectedness:- The IKS can help managers understand the interconnectedness of individuals and systems.	**Corporate Lessons** The IKS can be used to learn corporate lessons from scriptures like the Mahabharata, Ramayana and Bhagwat Gita.

The Vedas, Upanishads, and Upvedas serve as the foundation for the IKS. In order to revitalize and incorporate the knowledge system into modern research and education, the Indian government founded the IKS in 2020. It should be incorporated into education at all levels, according to the National Education Policy (NEP) 2020.

The Indian Knowledge System (IKS) is a methodical way for knowledge to be transmitted from one generation to the next. It is an organized system and a means of knowledge transfer rather than a custom. The Indian Knowledge System is based on the Vedic literature, the Upanishads, the Vedas, and the Upvedas. The vast heritage of ageless Indian philosophy and wisdom serves as the

foundation for the National Education Policy, or NEP 2020. India's Jnan, Vignan, and Jeevan Darshan knowledge systems have evolved via trial, observation, experience, and careful study. This tradition of validating and implementing has impacted our manufacturing, commerce, education, arts, administration, law, justice, and health. The classical and other languages of Bharat that -were transmitted through literary, oral, and creative traditions have been impacted by this. It includes information on ancient India, its successes and setbacks, as well as an awareness of India's future objectives in terms of ecology, health, education, and every other aspect of life.

Commerce:-

The exchange of products and services between two or more entities is referred to as commerce. Usually, it entails purchasing and selling valuable items. Trade can occur between companies and customers, or between companies and customers. Value is exchanged in commerce, and one of the parties frequently makes money as a result. It also covers services offered by businesses and other institutions that support trade.

Importance of commerce to our society

- ❖ Commerce connects producers and customers.
- ❖ Commerce raises the standard of living.
- ❖ Commerce generates employment opportunities.
- ❖ Commerce generates profit.

Understand that commerce is not the same as business; it is a subset of what we term business. Commerce also includes the distribution of items created by manufacturers, excluding the manufacturing or production processes.

Management: -

Management is an activity that is required whenever there is a group of individuals working in an organization. People in the organization perform a variety of roles, but their ultimate goal is the same. Management is also defined as the process of completing tasks in order to achieve objectives in an effective and efficient manner.

The notion of management emphasizes three fundamental elements:

Process: A process is a set of activities or functions that are required to complete work. These functions include planning, organizing, staffing, directing, and controlling.

Effectiveness: Effectiveness refers to a condition in which goals are met within a specified timeframe. It is concerned with the end outcome, namely the completion of the task. So, effectiveness or successfully organizing work entails completing the assigned task or reaching the goal.

Efficiency: Efficiency refers to the ability to do a task at the lowest possible cost. The assignment is accomplished correctly, making the best use of available resources. It involves a cost-benefit analysis. It seeks to maximize advantages while using fewer resources. So using less resources and providing greater advantages leads to efficiency.

SIGNIFICANCE OF THE STUDY:

This study examines the integration of the Indian knowledge system with commerce and management. It gives background from the National Education Policy regarding the incorporation of indigenous knowledge. Some potential ways to incorporate Indian knowledge systems include management concepts and practices from ancient texts, case studies of traditional and contemporary Indian businesses, and the history of ancient Indian commerce. Teachers and curriculum developers can work to ground lessons in the Indian context through stories, examples, and field visits. While textbooks are one option, a comprehensive strategy spanning the institutional culture is required.

Care must be made to properly interpret sources and create structured instructional materials. NEP 2020's primary tenet of "a rootedness and pride in India, and its rich, diverse, ancient and modern culture, knowledge systems, and traditions" reflects the inclusion of IKS as a crucial component of Indian education. It now envisions an education system based on Indian ethos.

OBJECTIVES OF THE STUDY:

i) To study the significance of Indian Knowledge System in Commerce and Management.
ii) To analyze the association between Commerce and Management in the context of Indian Knowledge System.
iii) To identify the developments in commerce & management in IKS.

METHODOLOGY OF THE STUDY:

i) Research Design : The study is both exploratory and descriptive in character. Since the goal of the study is to determine the significance of the Indian knowledge system in management and commerce, it is exploratory.
ii) Sources of Data : Secondary data served as the study's foundation. The information is gathered from papers, and online research and journals are used to do the literature review.

RELATIONSHIP BETWEEN COMMERCE AND MANAGEMENT

The Indian knowledge system (IKS) has greatly influenced many facets of life, such as management and commerce, and it may be used in a variety of ways to benefit both individuals and companies. Understanding the people who work for an organization through commerce and management gives them a clear picture of how it should run on a daily basis, how it will maximize profits, and how it will lead to employee satisfaction, which will further keep them inspired and motivated for longer periods of time—not because they have to, but because it keeps them informed and interested in the work they are assigned to. When applied effectively and cooperatively, management and commerce may assist overcome any mismanagement that may exist and be utilized to promote economic development and improve people's quality of life. Despite being two distinct concepts, management and commerce are related. It need the impact of both to function in an organization since without commerce, management cannot thrive and without management, commerce cannot function. The other cannot function without the first.

DEVELOPMENTS IN COMMERCE

I) The new method is e-commerce.

Thanks to technological advancements, individuals may now operate their businesses or launch new ventures with ease using a laptop or desktop computer. With the development of websites, people can even work from home and do their regular 9–5 employment. As a result of individuals conducting business, working, and even learning from home during the current COVID-19 epidemic, networks have made enormous profits. Smartphones, which are significantly less expensive than PCs or laptops, may be utilised for business purposes by searching for and doing their respective professions on social media platforms like Facebook, Instagram, and LinkedIn. During the present epidemic, applications like Zomato or Big Basket can be created to provide delivery services to those in need because these are the versions that can be relied upon in such situations. Therefore, integrating technology and commerce makes it simple to access a variety of methods for conducting business and employment.

II) Product Visualization in Virtual Reality: A Marketing Opportunity

There is a significant difference between seeing a something online and actually purchasing it. What we see is not necessarily what we receive; the goods may be damaged, lose color, or have a different texture than what is depicted in the photo. As a result, the customer is extremely unhappy with the product, which hurts the business that sells it. Since most buyers like to try products before buying

them, virtual reality and artificial intelligence work together to provide a real-time, flawless image of the product's appearance, making it simple for buyers to comprehend before making a purchase. The company's revenues and brand recognition both rise as a result.

III) Collaboration and Recognition:

Many businesses plan their marketing strategies by working together with other businesses to combine two items into one, and the profit is then divided evenly. By focusing on the customer segments that they know would buy it, this short-term marketing strategy—often referred to as co-branding—increases brand recognition for both businesses and is also cost-effective and profitable.

DEVELOPMENTS IN MANAGEMENT

I) **Variability in Gender:**

We all know that gender is either male or female, but there are other genders that we aren't as aware of or haven't given much thought to yet. These individuals have access to information and abilities that we don't know about or that may be useful. In order to eliminate conflict in the workplace, corporations utilize this feature and hire people of different genders to collaborate with them and establish a balance in the workplace. This allows everyone to contribute their expertise and problem-solving abilities in order to overcome different barriers and gaps. Corporate does this to ensure that its mission and vision are not disrupted and to send a message to the world that everyone is equal and that everyone matters regardless of their gender.

II) Employment of Data Analyst:

Employment of Data Analyst is now an utmost importance that is being done not only by Corporate but by private agencies like CIA of USA, MI6 of UK even CBI of India as millions and billions of data are being prepared and data analyst are hired to analyse the trends occurring in the given data to find out possible solutions relating to different problems. This data gives results relating to finding out trends and fashion changes among the people, finding out the best possible scenario of sustainability and helping in finance to depict cost and cost control measures. Big Companies like Google, Amazon etc. releases trillions of data that are being taken care by the data analyst everyday whether be it in machine learning techniques, programming, coding etc.

III) Corporate Social Responsibility:

In addition to making sure that its profits run smoothly so that it can continue to operate, a corporation should utilize its profits to support economic growth or aid nations in times of need.

SUGGESTIONS

I) Software for firewalls and anti-malware

One may simply secure their e-commerce firm from potentially dangerous viruses or malwares that jeopardize the system by using robust firewalls or by utilizing appropriate antivirus or anti-malware software. In this manner, the hackers will also be prevented from taking over the system since a strong firewall not only prevents their access but also hides the IP address that they mostly want in order to enter a system without authorization.

II) Associating among Top, Middle and Lower-Level Management

In order to create perfect harmony and solve various problems like finance, production, and marketing quickly and efficiently, which not only saves time but also saves resources, it should be the duty of every department level, regardless of position, to come and discuss various solutions relating to various problems by ignoring the ranks posed by upper, middle, and lower-level management.

RESULTS : Despite being two distinct concepts, management and commerce are related. It needs the impact of both to function in an organization since without commerce, management cannot thrive and without management, commerce cannot function.

The other cannot function without the first. Both have shortcomings, and for things to go as planned, appropriate coordination and communication are needed. Management is responsible for addressing any disparities that arise, however if there are environmental disparities, they fall under this category.

Commerce is responsible for identifying and fixing environmental issues. To put it succinctly, in order for an economy or the people themselves to flourish, they must possess the necessary knowledge and abilities in both areas. This will not only help the economy but also enhance the standard of life for people without having an adverse effect on the environment.

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Indigenous Knowledge System in Indian Higher Education: A Computer Science Perspective

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Abstract: India's Indigenous Knowledge Systems (IKS) represent a vast pool of traditional, empirical, and philosophical knowledge developed over millennia. The National Education Policy (NEP) 2020 emphasizes the revival and integration of IKS in higher education. This paper examines how Indigenous Knowledge can intersect with Computer Science education in Indian universities. It explores linkages between classical Indian logic, algorithmic thought, linguistic models, and computational ethics. Furthermore, it discusses actionable strategies for including IKS in curricula, thus fostering a more rooted, ethical, and innovative technological ecosystem.

Keywords: Indigenous Knowledge Systems, Computer Science, Indian Higher Education, Algorithms, Sanskrit Grammar, Ethics, Curriculum Integration, NEP 2020

Introduction: India has been a cradle of diverse knowledge traditions—ranging from astronomy, mathematics, and medicine to logic, language, and technology. The Indigenous Knowledge System (IKS) is not merely historical; it is a dynamic, contextual, and problem-solving approach that evolved through observation and reasoning. With the advent of the NEP 2020, there is renewed momentum to reconnect education with India's indigenous intellectual heritage. In this context, Computer Science, as a driver of innovation and global relevance, offers an exciting canvas to draw from traditional Indian thought—particularly in the domains of logic, algorithm design, language processing, and ethical computing.

Understanding Indigenous Knowledge Systems: Indigenous Knowledge Systems are local, community-based bodies of knowledge derived from generations of experiences, cultural practices, and intellectual inquiries. In the Indian context, these systems are found in the Vedas, Upanishads, classical treatises, local technologies, and oral traditions.

Key elements relevant to Computer Science include:

- Paninian Linguistic Model: A formal system of Sanskrit grammar offering rule-based language processing.
- Nyaya and Navya-Nyaya Logic: Systems of inference and logical reasoning similar to propositional logic.
- Vedic Mathematics: Techniques of mental computation that align with modern algorithmic strategies.
- Dharmic Ethical Frameworks: Culturally embedded principles guiding responsible technological innovation.

Relevance to Computer Science:

1. Paninian Grammar and Formal Language Theory

Panini's *Ashtadhyayi* consists of nearly 4000 concise rules that generate Sanskrit grammar. This system is equivalent to formal grammars used in compiler construction and syntax analysis. Its meta-rules reflect the concept of automata, recursion, and transformation rules in computer programming.

2. Logic and Reasoning

Nyaya Shastra and Navya-Nyaya contribute structured methods for inference, debate, and hypothesis testing. These frameworks closely mirror Boolean logic and predicate calculus, fundamental in Artificial Intelligence and database systems.

3. Vedic Algorithms and Problem Solving

Vedic Mathematics provides efficient methods for arithmetic operations that can help in understanding time-complexity and algorithm optimization. This form of indigenous computation encourages intuitive learning.

4. Ethical and Value-Based Computing

Indian philosophical schools such as Vedanta and Jainism promote self-regulation, non-violence, and truth. These values can be incorporated into the ethical foundations of data privacy, cyber security, and AI responsibility.

Integrating IKS into Higher Education Curriculum:

a. Curriculum Modules

Computer Science syllabi can include modules such as:

- Panini and Programming
- Logic in Indian Philosophy and AI
- Indigenous Mathematics and Algorithms
- Ethics and Dharma in Technology

b. Project-Based Learning

Students can:

- Build NLP tools using Paninian rules.
- Create mobile applications using Ayurvedic diagnostic frameworks.
- Explore logic gates through Navya-Nyaya logic modeling.

c. Interdisciplinary Courses

Joint courses between Sanskrit, Philosophy, and Computer Science departments can foster holistic understanding and collaboration.

d. Research and Innovation Labs

Establishing IKS research cells in technical institutions can enable exploration of indigenous logic models, traditional data encoding techniques, and more.

Opportunities and Benefits

Aspect	Potential Impact
Computational Thinking	Rooted and creative approach to algorithm design
Natural Language Processing	Enhanced language understanding with classical models
Ethics in AI	Culture-based frameworks for responsible technology
Pedagogical Enrichment	Increased engagement through culturally relevant content

Challenges and Recommendations

Challenges

- Limited expertise among faculty in IKS-related content
- Perception of IKS as outdated or non-scientific
- Absence of standardized teaching materials

Recommendations:

- Faculty development workshops on IKS integration
- Digital repositories and translation projects of classical texts
- Collaborative curriculum development with scholars of traditional knowledge

Case Examples:

Example 1: IIT Kharagpur has developed computational models using Paninian grammar for Sanskrit NLP research.

Example 2: IIT Delhi launched a course titled "Artificial Intelligence and Indian Logic" that introduces students to ancient inferential frameworks.

Conclusion

The integration of Indigenous Knowledge Systems into Indian Higher Education, particularly in Computer Science, can transform both the content and character of education. By leveraging India's intellectual heritage, students can gain deeper insight into computation, logic, and ethics—while also cultivating cultural confidence and innovation rooted in indigenous perspectives. The journey toward Atmanirbhar Bharat in the digital domain must pass through the corridors of IKS and culturally aware technological education.

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Economic Implications of AI in Public Policy and E-Governance

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Abstract: The objective of this conceptual research paper is to provide a theoretical framework for the contribution of artificial intelligence (AI) to equitable and sustainable economic development by examining the various economic implications of AI in public policy and e-governance. The influence of AI-driven e-governance on employment dynamics, public spending, and resource allocation is carefully examined, and key facilitators and enduring obstacles to its successful integration into governmental procedures are noted. This research synthesizes concepts into a novel paradigm that emphasizes the necessity of responsible, human-centric AI governance, based on a thorough review of the available literature. The results demonstrate how AI has the potential to greatly increase productivity, improve public services, and promote greater accountability and transparency, all of which might result in significant cost savings and better use of available resources. These advantages, however, are only possible if significant issues, including algorithmic bias, labor market upheaval, digital inequality, cybersecurity threats, and the difficulties of integrating AI with legacy systems, are resolved. To guarantee that AI acts as a potent catalyst for just and sustainable societal advancement, the paper ends with strategic policy proposals that place a strong emphasis on human capital development, digital infrastructure, adaptive governance, and international cooperation.

Key words: AI in governance, economic sustainability, public policy, e-governance, employment impact, and digital transformation.

Introduction:

One of the 21st century's most revolutionary technologies, artificial intelligence (AI) has broad ramifications for many industries, including government. AI has the ability to completely transform public policymaking and e-governance systems in India, a nation distinguished by its enormous population, intricate administrative structure, and socioeconomic diversity. Through programs like Digital India, India AI, and the National e-Governance Plan (NeGP), the government is embracing digital transformation more and more. AI is being positioned as a vital tool to improve policy outcomes, improve service delivery, and guarantee more transparent and inclusive governance.

Significant financial gains are anticipated from the incorporation of AI into public administration, ranging from improved policy targeting and citizen empowerment to cost reductions and operational efficiency. Real-time decision-making, routine task automation, and evidence-based policymaking are all made possible by AI-driven solutions including chatbots, data analytics, machine learning models, and natural language processing. But there are drawbacks to AI adoption as well, such as worries about algorithmic bias, data privacy, job displacement, and regulatory monitoring.

This study examines the economic effects of implementing AI in India's e-governance and public policy environments, weighing the advantages and disadvantages. It explores how artificial intelligence (AI) may transform public service delivery, boost economic growth, increase the effectiveness of government, and promote digital inclusion. It also emphasizes the necessity of ethical frameworks and capacity-building programs to guarantee responsible and equitable deployment.

Objectives:

1. To propose a theoretical framework outlining how AI can contribute to inclusive and sustainable economic development through public policy.
2. To identify the potential impact of AI-driven e-governance on employment, public expenditure, and resource allocation.
3. To identify key enablers and barriers to economically effective AI adoption in government processes.

Methodology:

This study examines the economic effects of artificial intelligence (AI) in e-governance and public policy using a conceptual and qualitative methodology. Being a non-empirical research, it develops insights and puts forth a theoretical framework by utilizing secondary data, theoretical reasoning, and a synthesis of the body of current scholarly literature.

Data Collection Method:

Peer-reviewed journal articles, Policy briefs from international organizations (e.g., World Bank, OECD, APEC), Government and institutional reports, Case studies on AI applications in governance, Relevant AI strategy documents from various countries

1. AI's Revolutionary Impact on the Public Sector

As a general-purpose technology (GPT) similar to other game-changing inventions like the electric dynamo and computers, artificial intelligence (AI) is quickly changing economies and civilizations around the world. Its incorporation into several fields, including public administration, offers previously unheard-of chances for improved service delivery, efficiency, and creativity. The potential of AI to modernize operations, enhance public services, and tackle intricate socio-economic problems is being investigated by governments worldwide more and more. This involves improving decision-making procedures, increasing public safety, expediting government services, and automating compliance and reporting.

But there are also a lot of risks and difficulties associated with AI's quick development and broad use. These include the potential to worsen already-existing disparities, privacy issues, algorithmic bias, risks to autonomy among people, and disruptions to the job market. As a result, the economic effects of AI on public policy and e-governance are complex, involving both enormous growth and efficiency potential and significant issues with sustainability, governance, and equity. It takes a sophisticated grasp of AI's potential and wider societal effects to navigate this complicated terrain.

2. Theoretical Foundations: AI, Inclusive Growth, and Sustainable Development

In the digital age, inclusive and sustainable economic development is dependent on fair access to resources, with an emphasis not only on growth but also on taking into consideration social equity and environmental concerns. The goal of this is to ensure that the benefits are distributed evenly across all groups of society, which requires the integration of traditional economic measures with social indicators. Both opportunities and problems are presented by the proliferation of artificial intelligence (AI), which is considered to be a technology that may be used to a wide range of

situations. However, if technology is not controlled properly, artificial intelligence has the potential to worsen existing disparities, even though it can generate enormous productivity benefits. To avoid concerns such as environmental degradation and growing social divides, public policy should prioritize utilizing artificial intelligence (AI) to foster overall economic growth while ensuring that its advantages are distributed fairly; this is necessary.

A thorough framework for Responsible AI (RAI) in public policy is necessary to adequately handle the difficulties brought up by AI and guarantee its alignment with equitable and sustainable economic development. Technical soundness, equity, accountability, openness, privacy protection, and compatibility with sustainable development objectives should be given top priority in this framework. Policymakers can incorporate AI into governance in ways that advance equity, encourage innovation, and address ethical issues by creating precise definitions and guiding principles. To build policies that provide equitable benefits and ensure that the revolutionary potential of AI favorably impacts all facets of society, an integrative approach that links AI's technological capabilities to larger societal values is essential.

3. Economic Impact of AI-Driven E-Governance

3.1. Impact on Employment:

Artificial Intelligence (AI) has a big impact on labor markets because it can cause job displacement as well as the creation of new work opportunities. Industries like healthcare and education are seeing strong AI-driven job development, with possible increases of 50% and 60%, while manufacturing and retail may see significant employment losses, estimated at 45% and 35%, respectively. AI is mostly viewed in the public sector as a tool to support employees by automating transactional, repetitive activities. This change enables people to focus their energies on more worthwhile tasks that call for interpersonal, emotional, and critical thinking abilities. AI's effects on employment are complex, though, as automation poses a danger to traditional career paths by eliminating entry-level positions, which can constrict upward mobility and compress work ladders.

Additionally, according to a Goldman Sachs analysis, generative AI may threaten to automate 300 million full-time jobs globally, including complicated jobs requiring extensive education and training as well as low-skilled jobs. AI has the potential to change the job market for educated, well-paid individuals as it continues to infiltrate different industries. However, AI also opens up new career paths in fast-growing industries like AI development, machine learning, and data analytics, which are expected to witness a 55% increase in employment creation between 2015 and 2025. This intricate relationship between job growth and displacement emphasizes the need for workforce adaptation and reskilling programs to handle the opportunities and difficulties posed by AI.

The "AI skills gap," where many people are ill-prepared for new AI-driven professions, is a major issue in the changing labor market. The demand for high-tech occupations rises as a result of this skill gap, while lower-skilled positions run the risk of becoming obsolete, exacerbating economic disparity. Some demographic groups can be disproportionately impacted, which would increase social inequality. Additionally, the integration of AI in the workplace has a detrimental effect on mental health by raising fears about job insecurity and increasing surveillance.

Workers can pursue higher-value tasks with AI, but doing so calls for intentional role redesign and efficient reskilling. Efficiency gains could result in underemployment or unemployment if these areas are not funded. In order to ensure an inclusive transition in the labor market, authorities must create comprehensive workforce adaptation policies, such as updated unemployment insurance and strong social safety nets, rather than depending solely on reactive measures, as highlighted by the quick transformation of AI.

Table 1: Illustrative Impact of AI on Public Sector Employment (Job Augmentation vs. Displacement)

Public Sector Function/Role	AI Application Examples	Primary Impact	Description of Impact
Administrative Support	Automated Document Processing, Tax Filing, License Renewals, Grievance Resolution, FOIA requests	Augmentation / Displacement	Automates routine, repetitive tasks, reducing manual workload and errors; frees up staff for higher-value work. Can lead to job displacement for purely transactional roles.
Citizen Services	Chatbots for FAQs, Virtual Assistants, Call Center Optimization	Augmentation	Provides real-time assistance, triages needs, answers common inquiries, and routes complex issues, improving citizen experience and reducing human agent workload.
Policy Analysis & Decision-Making	Predictive Analytics for Resource Allocation, Trend Monitoring, Simulation Models	Augmentation	Analyzes vast datasets to identify patterns and trends, forecast future needs, and provide insights for informed, proactive policy decisions.
Financial Management & Accountability	Fraud Detection, Budget Optimization, Automated Reporting, Procurement Assistance	Augmentation	Flags irregularities, predicts economic trends, suggests cost-saving measures, and streamlines financial processes, enhancing fiscal responsibility and integrity.
Public Safety & Infrastructure	Predictive Policing, Real-time Infrastructure Data Mapping, Proactive Maintenance	Augmentation	Predicts crime hotspots, optimizes resource deployment, monitors infrastructure for timely repairs, and improves public safety and operational efficiency.
IT/AI Development & Governance	AI Model Development, Data Governance, Cybersecurity	Creation	Creates new specialized roles in AI engineering, data science, ethical AI oversight, and cybersecurity to manage and develop AI systems.
Casework & Human-Centric Services	Data Consolidation for Caseworkers, AI-drafted Communications	Augmentation	Consolidates scattered data, reduces administrative burdens, and assists with communication, allowing human workers to focus on empathy, judgment, and direct citizen impact.

3.2. Impact on Public Expenditure and Cost Efficiency

By automating processes like tax filing and document verification, artificial intelligence (AI) can save government expenses. Employees can concentrate on more difficult jobs as a result of the decrease in manual labor and errors. For instance, Los Angeles used predictive policing to save $9 million in court costs, while Brazil used AI route planning to reduce waste management costs by 45.4%. AI also enhances financial accountability by identifying anomalies in spending. AI integration, however, presents equity issues since, in the absence of appropriate reskilling programs, efficiency benefits could lead to job loss. Rebuilding public confidence, encouraging inclusive growth, and generating financial savings are all necessary for the effective application of AI in government.

Table 2: Quantifiable Examples of AI-Driven Cost Savings in Government Operations

Government Area/Service	AI Application	Quantifiable Benefit	Source/Example	Relevant Snippet IDs
Case Processing	AI-driven automation	Up to 35% budget savings over 10 years in impacted	General (BCG analysis)	[10]

		areas		
Waste Management	AI-powered route optimization	45.4% reduction in collection costs	Brazil (Rio de Janeiro)	[11]
Citizen Support	AI virtual assistant (chatbot)	Eliminated 30,000 misdirected inquiries annually	Estonia (Kratt chatbot)	[11]
Predictive Policing	AI predictive software (PredPol)	7.4% reduction in crimes; saved Los Angeles $9 million in costs (courts, society, victims)	USA (Los Angeles)	[11]
Permit Review	AI processing of unstructured data	Reduced time from 8+ hours to under 20 minutes per document	EU country federal agency (wind turbines)	[10]
Citizen Call Centers	AI solutions for call optimization	Reduced unanswered public calls by 6% within two months	US southeastern state DMV	[10]
Social Protection Administration	Robotic Process Automation (RPA)	Workload reduction equivalent to 41 full-time employees (26 min/claim saved)	Korea Worker Compensation and Welfare Service (COMWEL)	[34]

By supporting data-driven decision-making, artificial intelligence (AI) can significantly enhance government resource allocation and service delivery by empowering policymakers to rank resources according to the demands of citizens. AI predicts future demands through predictive analytics, enabling more targeted interventions in sectors like healthcare and more strategic management of public funds. For instance, it can pinpoint areas with high unemployment or disease rates, guaranteeing effective use of available resources. AI also speeds up service delivery by improving citizen communication through chatbots. But there are obstacles to implementing AI fairly, like algorithmic bias and the digital divide, which can make social inequality worse. Careful planning and legislative actions are necessary to resolve these problems and provide widespread access to AI's advantages, so converting AI can be converted into a tactical instrument for social justice and advancing equity.

4. Key Enablers for Economically Effective AI Adoption in Government

4.1. Robust Digital Infrastructure and Data Ecosystems

The public sector needs dependable digital infrastructure, such as high-performance computing (HPC) capabilities, scalable cloud computing, secure data centers, and strong internet access, for an AI ecosystem to be successful. The scalability, accessibility, and availability of data are guaranteed by this infrastructure, which is crucial for handling the massive data volumes required by AI systems. Data governance and quality are essential elements; tight governance, quality assurance, and data availability policies are essential for accuracy. The "crap in, crap out" notion highlights the dangers of low-quality data, which can impair AI's ability to function and make decisions.

To fully utilize AI's potential, government entities must share data seamlessly, which calls for standard data formats and APIs to eliminate silos. Public policy must make data governance and infrastructure investment a strategic national goal as data turns into a public utility, similar to electricity during industrialization. This emphasis is necessary to close the digital gap, particularly for marginalized communities, and to unleash AI's economic benefits in the public sector. Vulnerable communities cannot take advantage of AI-driven e-governance services without dependable power and high-speed broadband, which further entrenches inequality. To guarantee that all citizens can benefit from AI, improving digital infrastructure is not only a technological requirement but also an important equity measure.

4.2. Human Capital Development and Reskilling Initiatives

The lack of specialized AI skills is a significant obstacle to AI adoption in enterprises, so governments and corporations must prioritize human capital development. This covers a wide range of instruction and training to improve AI literacy, from elementary school to career training in machine learning and data science. For instance, there are a lot of AI training possibilities being promoted by the US government. Governments must also put in place reskilling and upskilling initiatives to help workers get ready for the new job environment brought about by AI. Practical applications and particular AI systems should be the main emphasis of training. Government organizations should also cultivate a "AI-ready culture" by integrating AI into their operations and making strategic investments in technology.

AI adoption success is largely dependent on human labor capabilities; therefore, investing in people is just as important as investing in technology. The economic impact of AI is severely constrained by the skills gap since inadequate training might result in underuse or abuse of the technology. As a result, giving human capital development top priority is crucial, necessitating a sizeable budgetary allotment for training initiatives. Proactive workforce planning is necessary for governments to foresee future skill requirements and provide continuous training, as reactive measures would not be enough. Building a resilient public workforce by taking inspiration from other industries' successful models can support social cohesion and long-term economic stability.

4.3. Comprehensive AI Governance and Regulatory Frameworks

Particularly in light of the quick advancement of technology, strong governance structures are necessary for the moral, open, and responsible development and application of AI. It is crucial to establish unambiguous ethical norms that prioritize justice, accountability, openness, and respect for human rights; intergovernmental benchmarks are set by recommendations like the OECD AI Principles. Depending on the level of development of the AI ecosystem and the unique features of each sector, governments can employ a variety of regulatory strategies, including as self-governance, soft law, regulatory sandboxes, and hard law. In order to ensure that public trust is developed not only as a compliance exercise but also as a crucial component for the successful adoption of AI in governance, effective governance systems must address issues such as algorithmic bias and privacy violations throughout the AI lifecycle.

The demand for "entirely fresh policy approaches" emphasizes the necessity of a proactive governance model that foresees dangers rather than responding to them after they happen. This move to future-proof AI governance highlights how crucial it is for policymakers to be flexible to keep up with the quick advancement of AI. To make sure that governance frameworks stay applicable and efficient, it is necessary to make investments in regulatory competence, AI auditing training, and systems for ongoing feedback. In the end, trust-building strong governance can boost public faith in AI, enabling wider adoption and releasing its full economic potential in public services.

4.4. Fostering Public-Private Partnerships and International Collaboration

Promoting Public-Private Partnerships (PPPs) is essential to quickening the development and application of AI in government. Through these partnerships, governments can take advantage of private sector resources, knowledge, and innovative technology, which lowers risks and lessens companies' reluctance to participate in government AI projects. Furthermore, PPPs increase the efficacy of public sector activities by giving access to specialized personnel and cutting-edge tools that might not be available internally.

Since AI governance crosses international borders, international cooperation is equally important. Harmonizing standards, addressing cross-border issues like cybersecurity risks and disinformation, and making sure AI development is in line with global public goods and egalitarian goals all require cooperation. Global AI standards and inclusive governance frameworks are shaped in large part by institutions like the OECD, G20, G7, and Global Partnership on Artificial

Intelligence (GPAI). The G20 can promote inclusivity, guaranteeing that emerging countries are included in the global AI governance landscape and providing a cogent, productive policy environment for AI globally, while the G7 can take the lead in formulating strong standards.

Conclusions and Recommendations

At this critical point, artificial intelligence presents both complicated economic and societal issues as well as transformative potential for e-governance and public policy. A theoretical framework for Responsible AI in public policy has been presented in this conceptual paper, with a focus on how it contributes to equitable and sustainable economic growth. Along with highlighting important facilitators and obstacles to AI's successful adoption, the analysis has shed light on the technology's complex effects on employment, public spending, and resource allocation.

According to the evidence, artificial intelligence (AI) is a general-purpose technology that has the potential to significantly increase productivity and streamline public services, which will result in huge cost savings. By facilitating data-driven, focused actions, AI-driven e-governance can optimize resource allocation and improve financial responsibility through sophisticated fraud detection. When these advantages materialize, they can promote increased openness and increase public confidence in governmental processes.

The achievement of these advantages, however, is not a given and depends on the proactive and careful formulation of policy. The consequences for the labor sector are especially complex, as AI can create and eliminate jobs, create a large skills gap, and widen wealth gaps. To prevent escalating societal inequality, the financial benefits of AI-driven efficiency must be properly controlled. Furthermore, algorithmic biases and the continued existence of the digital divide can compromise AI's ability to optimize resource allocation for equity, requiring concerted measures to guarantee fair design and universal access to AI-driven services.

To successfully leverage AI for inclusive and sustainable economic development, several important recommendations are:

1. **Invest in Robust Digital Infrastructure and Data Ecosystems:** Governments need to make large public and private investments in dependable digital infrastructure, such as cloud computing, high-speed broadband, and secure data centers, a top priority. To dismantle data silos and facilitate smooth data sharing throughout agencies, strict data quality initiatives and interoperability standards are necessary. In addition to enabling AI's full economic potential, treating data as a vital public utility will help close the digital divide and provide fair access to AI-driven services.
2. **Prioritize Human Capital Development and Adaptive Workforce Strategies:** To close the AI skills gap and equip the public sector workers for changing job positions, extensive and ongoing reskilling and upskilling programs are essential. Vocational training, practical project experience, and support systems for displaced workers should all be a part of these programs. To ensure that the "augmentation dividend" of AI results in higher-value work and greater job satisfaction rather than unemployment, it is imperative to cultivate an "AI-ready culture" through effective change management.
3. **Establish Comprehensive and Adaptive AI Governance Frameworks:** Throughout the whole AI system lifespan, governments must create and execute strong, human-centered AI governance frameworks that incorporate moral values like justice, accountability, openness, and privacy. A combination of regulatory strategies, such as legally binding rules for high-risk applications and regulatory sandboxes for innovation, should be used in these frameworks. It is crucial to practice proactive risk management, especially concerning algorithmic bias and data protection. Importantly, the broad acceptance and effectiveness of AI in government depend heavily on the direct mechanism of transparent governance for establishing and preserving public confidence.

4. **Foster Public-Private Partnerships and Strengthen International Collaboration:** To take advantage of the resources, experience, and state-of-the-art technology of the private sector for AI development and implementation, governments ought to aggressively seek Public-Private Partnerships. To solve cross-border issues like cybersecurity risks and disinformation, harmonize AI standards, and make sure AI is in line with global public services and sustainable growth, international cooperation is also essential. A cohesive global AI policy framework that encourages responsible innovation and inclusive growth requires cooperation through institutions like the G7, G20, OECD, and GPAI.

Policymakers can successfully negotiate the challenges of integrating AI, minimize possible negative effects, and guarantee that AI acts as a potent catalyst for a more just, effective, and sustainable future in e-governance and public policy by putting these strategic ideas into practice.

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A Critical Analysis of NEP 2020's Vision for Indian Knowledge Systems

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Abstract: The inclusion of Indian Knowledge Systems (IKS) in the core curriculum is emphasized in the National Education Policy (NEP) 2020, which represents a pivotal moment in India's educational history. Examining the main points of NEP 2020 regarding IKS, evaluating its focus on interdisciplinary learning alongside traditional knowledge, analyzing the possible implementation issues, and contrasting international viewpoints on the integration of indigenous knowledge systems in education, this paper critically analyzes this vision. With this thorough examination, the study seeks to offer a nuanced understanding of the challenges and opportunities involved in achieving NEP 2020's lofty objectives for IKS.

Keywords: *National Education Policy 2020, Indian Knowledge Systems, Multidisciplinary Learning, Indigenous Knowledge, Implementation Challenges, Global Perspectives.*

1. Introduction:

The Indian government's National Education Policy (NEP) 2020 lays forth a revolutionary vision for the country's educational system. The explicit acknowledgement and prioritizing of Indian Knowledge Systems (IKS), which span a wide range of India's traditional and ancient learning, including its philosophies, sciences, arts, languages, and sustainable practices, is a fundamental component of this approach. Reconnecting India's youth with their rich intellectual and cultural legacy is the goal of this emphasis, which marks a shift away from an educational model that is mostly Western-centric. The policy sees IKS as a dynamic and pertinent body of knowledge that may enhance modern education and advance national development, rather than only as a historical footnote. This essay aims to critically examine NEP 2020's IKS concept, exploring its main features, including. In order to objectively examine NEP 2020's vision for IKS, this study will examine its main features, how it is articulated within a multidisciplinary framework, any potential implementation challenges, and how it compares to other methods to incorporating indigenous knowledge into education around the world.

Objectives:

- To examine the key provisions of NEP 2020 concerning Indian Knowledge Systems (IKS)
- To assess the policy's emphasis on multidisciplinary learning and IKS
- To critically analyze the implementation challenges
- To compare global perspectives on indigenous knowledge systems

Methodology:

This study uses a mixed-methods framework with a qualitative focus to evaluate the National Education Policy (NEP) 2020's vision for Indian Knowledge Systems (IKS) critically. It explores policy texts, implementation issues, and international comparisons by combining different analytical frameworks. Critical Policy Analysis (CPA) serves as the main lens through which the research design examines the power structures, underlying ideologies, and unforeseen consequences of NEP 2020. South Africa, China, and New Zealand are among the nations whose IKS integration plans are

examined using a comparative case study methodology. In order to identify new implementation issues, stakeholder interviews are inductively coded using grounded theory components.

2. Examining the Key Provisions of NEP 2020 Concerning Indian Knowledge Systems (IKS):

A number of important clauses in NEP 2020 highlight the organization's dedication to incorporating IKS throughout all educational levels. A comprehensive and culturally grounded educational experience is the goal of these measures, which are not discrete but rather integrated into the policy's larger framework.

- **Curriculum Integration:** The incorporation of IKS in the curriculum, from elementary school to higher education, is expressly required by the policy. It recommends integrating IKS into disciplines such as physics, math, social sciences, languages, the arts, and vocational training. With an emphasis on India's historical achievements and intellectual traditions, the goal is to give students a culturally appropriate knowledge of these fields. For example, the strategy aims to explore sustainable agriculture practices based on traditional knowledge or educate astronomy and mathematics by citing old Indian literature and academics.

- **Multilingualism and Indian Languages:** NEP 2020 aggressively encourages multilingualism and the use of Indian languages as teaching mediums, particularly in the early grades, in recognition of languages as essential conduits of culture and information. Given that many traditional knowledge systems are preserved and conveyed through regional languages, this emphasis is inextricably tied to IKS. As essential sources of intellectual and scientific understanding, the policy also promotes the study of classical Indian languages and literature.

- **Establishment of New Institutions and Centers:** NEP 2020 suggests creating new institutes and centers of excellence devoted to Indian Knowledge Systems in order to promote IKS research, documentation, and dissemination. In order to investigate and validate conventional knowledge, these centers are intended to serve as centers for interdisciplinary research, bringing together academics from many disciplines.

- **Faculty Development:** The policy recognizes that in order to give teachers the information and pedagogical abilities they need to successfully incorporate IKS into their lessons, faculty development programs are essential. This covers instruction on the IKS material as well as creative ways to present it in a modern classroom.

- **Promotion of Indian Arts and Culture:** Indian arts, culture, and philosophy should be incorporated into the curriculum, according to NEP 2020, in order to promote critical thinking, creativity, and a greater awareness of India's rich cultural legacy. Promoting classical dance, music, theater, art, and philosophy is part of this.

- **Focus on Ethics and Values:** The goal of the policy is to inculcate in students fundamental values like empathy, compassion, truth, and non-violence by drawing on India's rich ethical and philosophical traditions. IKS is regarded as a useful tool for teaching morality and ethics.

3. Assessing the Policy's Emphasis on Multidisciplinary Learning and IKS:

NEP 2020 fervently supports an approach to education that transcends strict departmental lines and is multidisciplinary and holistic. IKS integration is intended to be a crucial component of this multidisciplinary architecture. The policy contends that taking into account a subject's philosophical, cultural, and historical foundations, many of which are ingrained in IKS, enhances comprehension of that subject.

- **Synergistic Learning:** NEP 2020 seeks to promote synergistic learning through the integration of IKS with contemporary disciplines. For instance, knowing the fundamentals of Ayurveda might enhance the study of contemporary medicine by providing other viewpoints on health and well-being. Analyzing ancient Indian astronomical computations can also give contemporary mathematics and astronomy a historical perspective.
- **Holistic Development**: The goal of NEP 2020 is to promote synergistic learning by incorporating IKS with contemporary subjects. Knowing the fundamentals of Ayurveda, for instance, might enhance research into contemporary medicine by providing different viewpoints on health and wellbeing. Analyzing astronomical computations from ancient India can also give contemporary mathematics and astronomy a historical perspective.
- **Critical Thinking and Innovation:** According to the policy, exposing pupils to IKS which includes the arts, philosophy, and ethics helps them develop holistically, fostering not just their academic but also their emotional, social, and spiritual aspects.19. This is in line with NEP 2020's overarching objectives to develop well-rounded people.
- **Contextual Relevance:** According to the policy, exposing pupils to IKS—which includes the arts, philosophy, and ethics—helps them develop holistically, fostering not just their academic but also their emotional, social, and spiritual aspects.19. This is in line with NEP 2020's overarching objectives to develop well-rounded people.

Critical questions are also brought up by the focus on IKS and transdisciplinary learning, though. How can the essential ideas of each subject be preserved while these disparate knowledge systems are successfully integrated? Which teaching strategies will help close the knowledge gap between conventional wisdom and contemporary scientific understanding? The key challenge will be to make sure the integration enhances the learning process in a meaningful way rather than being tokenistic or superficial.

4. Critically Analyzing the Implementation Challenges:

NEP 2020's goal for IKS is admirable, but there are many important obstacles in the way of its successful execution that call for careful thought and strategic preparation.

- **Curriculum Design and Development:** Creating a thorough and cohesive curriculum that incorporates IKS into different disciplines and grade levels is a challenging task. Finding correct and pertinent information from a large and varied body of knowledge, making sure it is age-appropriate, and coordinating it with learning objectives are all necessary. Complex classical ideas run the risk of being oversimplified or misrepresented.
- **Teacher Training and Capacity Building:** The shortage of suitably qualified educators who have the pedagogical know-how to successfully incorporate IKS into their lessons as well as a thorough grasp of it is a major impediment. Large-scale, ongoing teacher preparation programs will be required, emphasizing both topic understanding and cutting-edge teaching strategies that connect conventional and contemporary learning paradigms.
- **Availability of Quality Resources and Materials:** One major obstacle is the dearth of highly qualified educators who have the pedagogical know-how to successfully incorporate IKS into their lessons as well as a thorough comprehension of it. It will be essential to implement extensive and ongoing teacher training programs that emphasize both topic understanding and cutting-edge teaching strategies that connect classic and contemporary learning paradigms.

- **Standardization vs. Diversity:** It will be difficult to strike a balance between the enormous diversity of IKS throughout India's various regions and groups and the requirement for some degree of curricular standardization. Excessive uniformity may cause important local knowledge traditions to be overlooked.
- **Assessment and Evaluation:** Creating suitable evaluation techniques to gauge students' comprehension of IKS and how it relates to other disciplines would be essential. Assessing the sophisticated comprehension and application of traditional information may not be a good fit for standard assessment techniques.
- **Funding and Infrastructure:** A substantial financial investment in curriculum development, teacher preparation, research institutes, and learning resource development will be necessary to realize the IKS vision. Having sufficient and ongoing funding will be essential. Equal access to IKS-integrated education may also be hampered by regional infrastructure differences.
- **Potential for Misinterpretation and Misuse**: IKS runs the risk of being misunderstood or presented selectively for ideological reasons. To prevent the spread of false information or limited interpretations, it is crucial to deliver IKS with academic rigor, critical analysis, and a balanced viewpoint.
- **Integration with Modern Science and Technology:** Careful thought will be needed to bridge the epistemic gaps between contemporary science and technology and traditional knowledge systems effectively. Rather than either accepting or rejecting traditional claims without scientific scrutiny, the integration should encourage a culture of inquiry and critical appraisal.

5. Comparing Global Perspectives on Indigenous Knowledge Systems:

The importance of indigenous knowledge systems (IKS) in education and sustainable development is becoming more acknowledged on a global scale. Though their methods and degrees of success have varied, several nations with sizable indigenous populations have been actively attempting to incorporate their traditional knowledge into their educational systems.

- **Canada:** Particularly in areas with sizable Indigenous populations, Canada has worked to integrate Indigenous ideas and expertise into its educational system. This involves incorporating traditional ecological knowledge, Indigenous languages, histories, and cultures into the curriculum. In order to guarantee respectful and culturally appropriate integration, initiatives frequently entail cooperation with Indigenous groups.
- **Australia:** Additionally, Australia has been attempting to integrate the knowledge and traditions of Aboriginal and Torres Strait Islander people into its educational system. This entails creating curricula that are suitable for the culture, assisting Indigenous teachers, and using education to advance reconciliation. Ensuring uniform and significant integration across all states and territories continues to present difficulties.
- **New Zealand:** An important case study is New Zealand's approach to Māori education, which includes reviving the Māori language and incorporating Māori knowledge (Mātauranga Māori) into the curriculum. The creation of Māori-medium schools and the creation of curricula that are culturally appropriate show a strong dedication to protecting and advancing indigenous knowledge.

- **Latin America:** A number of Latin American nations, like Bolivia and Ecuador, have acknowledged the value of indigenous knowledge in their constitutions and are attempting to include it into the curriculum. Programs for bilingual and intercultural education that honor and support native languages and cultural customs are frequently a part of this.

- **Africa:** The value of African knowledge systems in education and development is becoming more widely acknowledged in many African countries. Initiatives concentrate on integrating traditional technology, African languages, history, and philosophy into the curriculum. Nonetheless, issues with curriculum creation, teacher preparation, and resources continue to exist.

A comparison of these international viewpoints identifies a number of recurring issues and themes. Constant concerns include the necessity of developing curricula that are sensitive to cultural differences, the significance of teacher preparation, the value of community involvement, and the continuous fight against the historical marginalization of indigenous knowledge. Through the use of effective tactics and the study of the difficulties encountered by other countries in their attempts to incorporate indigenous knowledge into education, NEP 2020 can learn a great deal from these international experiences.

6. Conclusion:

NEP 2020 aims to integrate Indian Knowledge Systems into Indian education, which is a bold and potentially transformative approach. It has the potential to provide a more comprehensive, culturally aware, and current educational system because of its emphasis on interdisciplinary learning and acknowledgment of India's rich intellectual legacy. This study illustrates the enormous potential as well as the huge obstacles that lie ahead by looking at the policy's main provisions, evaluating its multidisciplinary approach, and critically analyzing the major implementation issues. Comparing viewpoints from throughout the world on the integration of indigenous knowledge systems also highlights how crucial community involvement, culturally aware teaching, and a persistent dedication to achieving this lofty goal are.

Careful planning, sufficient funding, efficient teacher preparation, and a sincere dedication to honoring the richness and diversity of Indian knowledge traditions are all necessary for the IKS objective of NEP 2020 to be successful. For IKS to be a meaningful and enriching experience for all students and to help create a more informed, culturally aware, and empowered generation of Indians, educators, legislators, researchers, and holders of traditional knowledge must work together. In order to guarantee that NEP 2020's vision for Indian Knowledge Systems is converted into observable and significant educational outcomes, ongoing assessment, adaptation, and a dedication to academic rigor will be essential going ahead.

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Translation as a Cultural Bridge between Languages and its Role in Strengthening Indian Knowledge System

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Abstract: This paper explores the role of translation in bridging gap between Indian Knowledge Systems and English literature. The current study examines the contemporary significance of translation and its aim to demonstrate how translation serves as a vital tool in cross cultural understanding and literary exchange between Kannada and English-speaking world. There is also focus on the challenges and opportunities presented by translation in preserving and promoting the cultural identity and global perceptions of Indian thought and creativity. Translation is crucial in our increasingly global world and calls for greater recognition of the skills and expertise in fostering cultural bridges.

Key words: IKS, translation, cultural identity, Kannada regional diversity, folktales, colonial impact, modernity, cross-cultural exchange

INTRODUCTION

The National Education Policy (2020) framework provides a comprehensive and integrated strategy for the holistic development of learners. Indian Knowledge system is one of the significant aspects of the curriculum. It covers various domains such as science and technology, literature, philosophy, culture, medicine, and yoga. It helps the stakeholders to understand the underlying contemporary issues and to carry out further research on these issues.

Role of Translation in IKS:

India's diverse languages are one of its greatest treasures but they also create barriers. With 22 official languages and hundreds of dialects much of literary richness often remains confined to one region or one language group. Translation is vital in breaking these barriers, allowing stories and ideas to follow across India's many linguistic communities. The role of translation is to connect different cultures and unfold the ancient history and their knowledge to the outside world.

Translation becomes crucial in Indian Knowledge Systems by facilitating cross-cultural understanding, preserving linguistic diversity, and promoting global access to Indian traditions and thought. Introducing Indian classics to the Western canon has challenged and diversified powerful literary standards which are Eurocentric. Through translation of Indian texts there is paradigm shift in representing global literary landscape. English translation acts as a catalyst in globalising regional literature.

The National Translation Mission (NLTM) launched by the Government of India aims to make knowledge texts accessible to educational resources and promoting inclusive knowledge society. Organisations like Sahitya Akademy actively promote translations of classics and modern literary texts from various Indian languages into English and vice versa. For Indian Knowledge Systems in NEP curriculum Kannada like any other Indian Literature provides valuable insights into the historical, social, cultural, and intellectual traditions of that region.

When it comes to literary translations from Kannada into English or other languages, the process goes beyond mere word to word conversion. It becomes a bridge between rich cultural heritage of Kannada literature and global audience. It also helps to know the historical development of language reflecting social, political and cultural factors.

Why translation matters?

Without translation, a beautiful novel/ story/poem written in Kannada might never be read by someone who speaks Hindi. A powerful poem in Bengali or Assume could remain unknown to Tamil speakers. English translation ensures that these works can reach new audiences and helping us all to understand each other in a better way. U. R. Anantha Murthy said, "A good translation is like a fine piece of architecture which transcends the limits of time and place." He tried to capture how translation connects us across languages, allowing to explore other cultures without leaving our own.

Through translation, literature becomes shared experience. A literary text written originally in any language, once translated gets the power to touch readers far beyond its birthplace. The power of comparative literature: opens new ways of thinking. These texts reflect unique culture of the region they come from. Recently, ***Heart Lamp and Other Stories***, which is originally written in Kannada, titled- ***Haseena Mattu Itara Kathegalu*** by Banu Mushtaq, one of the greatest contemporary writers, received the prestigious International Booker Prize 2025, recognised globally only when translated into English by Deepa Bhashti. The translator played crucial role in bridging the gap between Kannada literature and global audience. She is known for her ability to not only translate words but also to capture the essence, emotional impact of the original text resonates with wider readership. She is also the first Indian translator to win this international award. Her success serves as an inspiration for many translators to work with Indian literature, promoting cross cultural understanding.

Another well-known Kannada poet and prose writer, Jayant Kaikini, who won Sahitya Akademy Award in 1974, penned the excellent short story collection - *No Presents Please*. It was translated by Tejaswini Niranjana won the DSC prize for South Asian Literature. That collection introduced readers around the world to vignettes of life in Mumbai. The stories vividly portray the identities and the spirit of Mumbaikars.

More than just words: Translation as cultural exchange

Cultural translation of any literary text is not just moving from one language to other language. It's about sharing experiences, emotions and stories. The readers should feel the empathy and understand circumstances presented by the regional writer. Translation allows us to appreciate the richness of regional cultures. For example, Vachanas written in 12^{th} century by the shivasharanas in Kannada are manifestation of philosophical and ethical aspects of mankind like nobility, kindness, equality, faith, courage, scientific temperament, hard work, sacrifice and so on.

Translations are less about transposing words and more about carrying over meaning, emotion, and intent from one culture to another. This task requires a unique set of skills and an intimate understanding of both the source and target languages. Translators are adept at considering the broader context, the subtle cultural nuances and the specific audience for whom the translation is intended.

This approach ensures that our translations do more than convey the literal meaning of the original text. They capture the original message's essence, tone, and subtleties, delivering it in a culturally appropriate and relevant way to the target audience.

A good translators must be language experts, equipped with the skills and knowledge necessary to navigate the complexities of cross-cultural communication. The successful translation goes beyond mere linguistic proficiency. It requires an in-depth understanding of the cultures associated with the source and target languages. Cultural connoisseurs, who are proficient in interpreting idioms, colloquialisms, and cultural references are much in demand. They utilize their

extensive cultural knowledge to translate content accurately and meaningfully. They understand that idioms and colloquialisms often carry nuances that can get lost in literal translation. Therefore, they strive to preserve these subtleties in their translations, ensuring that the translated content resonates with the target audience and is culturally appropriate.

Furthermore, cultural references can be challenging to translate as they are deeply rooted in a specific culture's history, traditions, and customs. It requires the expertise to handle such complexities, transforming them into understandable and relatable content for the target audience. In the academics, English teachers have shifted their paradigm from Anglo American texts to Indian literature in English Translations.

The Challenges of Translating Literary texts from Kannada into English

Kannada is one of the major literary languages of Dravidian family. It has a fine and valuable literary tradition since Ninth century and has also been assimilated with Sanskrit and Prakrit languages. Later the language came in contact with other languages like Marathi, Tamil, and Urdu. Many texts are translated from Kannada into these languages and vice versa.

In the late eighteenth century many translations from Sanskrit scripts and texts were translated into English and through translation the rich cultural heritage with the history of more than 5000 years ago has been exposed to the west. The name of Kittel stands foremost in the field of Kannada English dictionary, almost 200 years ago. He learnt Kannada and even translated innumerable Kannada works. There exists continuous Kannada literary tradition since 9th century which includes several world classic works yet to be translated into other languages. Here English can act as a link language. The term translation is now defined as dynamic term of cultural encounter.

From Kannada, abundant literary works have been translated into English and other Indian languages. From old Kannada literature of Pampa, Harihara and Raghavanka to modern works of Kuvempu, Bendre, A.Na. Krishnarai, Shivaram Karanth, U.R. Anantha Murthi, Girish Karnad, Masti, S.L. Bhairappa have been translated. Through translating these texts into English, the rich and diverse cultural heritage of Kannada language and the multifaceted life of Kannadigas will be known to the readers, belonging to different nations. Kannada literature in English translation plays significant role in bridging the cultural gaps and connecting various kinds of readers globally.

Vanamala Vishwanath's acclaimed English translation of Raghavanka's *Harishchandra Kavyam* as *The Life of Harishchandra*, is an important landmark in the cultural history of Karnataka. This is the first major Kannada classic to be translated in its entirety into English. Vanamala who is an award-winning translator, working with Kannada and English, also introduced the first Kannada novel *Indira Bai: The Truimph of Truth and Virtue* originally written by Gulvadi Venkata Rao, who hailed from South Kannada region. It's about a child who gets married at an early age and becomes a widow. She rebelled against the patriarchy that denies educating girls.

Shivarama Padikkal, a joint faculty at the *Centre for Comparative Literature at the University of Hyderabad* said, "there were two things opposed by upper caste especially brahmins in late 19th and 20th century, one being novel and the other coffee". This novel also describes as to how a nation is conceived and perceived by elite people of the late 19th and 20th century. *Indira Bai* novel demonstrates the social reforms and as a woman-centric text, it stages all the major debates of 19th century colonial India such as child marriage, widow remarriage, and women's education. This novel construct's national identity, regional identity, and the idea of modernity.

Oxford University Press, in addition to some titles in Indian English literature, also brought out influential works in translation. The series of Indian Drama in English introduced Girish Karnad, Vijay Tendulkar, Mohan Rakesh and Badal Sircar and paved the way for a 'National Theatre'. Girish Karnad his plays like *Tughlaq, Nagamandala, Taledanda, Yayati* drew sources from history, epics,

myths and folklore profusely. A fairly substantial body of translations from Kannada into English and other languages was created.

In 2004 P. Lankesh's *Kallu Karaguva Samaya mattu Itara Kathegalu* an anthology of short stories which won the Sahitya Akademy Award was translated into English as *When Stone Melts and Other Stories.* Among the translators were S Bageshree, Basavaraj Urs, OL Nagabhushana swamy, Padma Ramachandra Sharma, Sherry Simon, KV Tirumalesh and edited by Vanamala Vishwanath. D R Nagaraj, one of India's great intellectuals, described Lankesh as the "genius of the 20th century". His plays transformed the very ethos of Kannada theatre.

Kannada Sahitya Parishad has published series of works dealing with life literature and culture of people belonged to dalit and tribal classes. Karnataka Lekhakiyara Sangha, a feminist writers organisation founded in 1978, played an important role in giving feminist touch to social values and preserving the rich culture.

Each translation came with its own set of challenges, more so because the plays belong to different genres. Jnanpith Awadee Chandrasekhar Kambar, one of the stalwart playwrights of this country, began his literary career when the Kannada theatre in the 20th century was beginning to adopt new forms and new ways of expression. Kambar drew upon his native North Karnataka folk roots. He brought the mythopoetic imagination into this *navya* theatre.

Rishyashringa, which was originally released in 1970, takes off from Chandrashekhar Kambar's long poem, *Helatini Kela* (written in 1960s) and has strong elements of North Karnataka mythologies. *Mahmoud Gawan*, on the other hand, is set in 15th century Bahamani Sultanate. The language Kambar used changed as well. While North Karnataka folk idioms were not employed in *Mahmoud Gawan*, Kambar did use them for *Rishyashringa*. "I was conscious of the rhythm of the folk language but to recreate it can be challenging," says the translator Krishna Manavalli, who is proficient in both languages.

Another challenge she strives to avoid, is the orientalising of a text. "Sometimes, translators become ethnographers but this only mars the readability," she says, pointing out the use of excessive footnotes in some translations. "A reader should be able to find meaning themselves. So, my aim is to write in English that is fluid yet readable," she says. Krishna Manavalli has translated several works of Chandrashekhar Kambar, including the novels *Karimayi* and *Shiva's Drum*. Her translations have been praised for their ability to capture the nuances of Kannada language and culture.

Poornachandra Tejaswi an active thinker and change maker was a key figure in Navya movement. He remains distinguished for his ability to not only entertain but also pursue intellectual thought in his works. Remembered for exploration for his ontology and metaphysical in his writings. *Carvalho* is on Indian Novels Collective's first list of novels that are being translated. DA Shankar has translated this book into English, where he tried to capture the essence of Malnad region and the sense of humour. It is widely read and admired by the Kannadigas and other language speakers for its exploration of various facets of life including mystery, adventure, and inner worlds. Prof. Krishna Murthy Chandar who translated Tejaswi's last novel *Mayaloka* is a faithful rendition of the original Kannada text. Chandar said, "the most daunting task was Tejaswi's eye for the comic. Next were the culture specific words, rural setting which are replaced by the equivalent English words.

The translations of Kuvempu, Bendre, Karant, Karnad, P. Lankesh, Kambar, Bhairappa and Tejaswi make the canonical Kannada literature accessible and they opened the door to cultural, intellectual, and emotional rhythms of their region to the outside world.

CONTEMPORARY RELEVANCE OF TRANSLATION

If we look at the history of translation in India, besides the innumerable translations/retellings within the Indian Languages, the earliest were those of European literary classics into the various vernaculars. In the last few decades there has been a profusion of translations of creative works from

bhashas into English, received for their ethnic interest or for their socio-cultural significance as products of emerging societies and modernities.

In today's globalised world translation continues to serve as an essential medium for cultural and intellectual exchange. The increased accessibility of digital platforms has created opportunities for Kannada literature to reach global audiences. Translation projects recognise and promote the translation works from Indian language into English, emphasising the demand of modern readers. Moreover, machine translation and AI tools are opening new possibilities for real time translation, although these technologies often struggle with nuanced culturally rich texts. Hence human translations remain essential for authenticity and depth of Indian Knowledge systems and literary texts.

In 1996, the Akademi also set up a centre for translation that functions as a resource centre for all kinds of translation across the country. It also plans to bring out the first-ever and the most comprehensive history of translation in India. Katha, a non-government organization set up in 1988, is equally, if not more, committed to translation. Like the Akademi, Katha also conducts workshops, seminars, institutes awards and forms advocacy groups to improve the lot of translation activity in India. Through these efforts the Indian Knowledge System can be studied, interconnecting different disciplines and perspectives.

Conclusion

Translation is an indispensable bridge connecting Indian Knowledge Systems with English literature, fostering cross cultural exchange and intellectual dialogue. Through historical translation efforts, colonial influences and postindependence developments, the translation has significantly impacted both Indian and English literary landscapes.

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Integrating Indigenous Knowledge into Sustainable Agricultural Practices: A Pathway to Rural Economic Development

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Abstract: Indigenous knowledge (IK), accumulated over centuries by rural and indigenous communities, provides crucial insights for sustainable agricultural practices that balance ecological integrity with economic viability. This paper explores the integration of IK into sustainable agriculture as a vital strategy to advance rural economic development. It begins by examining the distinctive characteristics of indigenous agricultural systems, which emphasize biodiversity conservation, natural resource management, and adaptation to local environmental conditions. The study then addresses the challenges involved in blending IK with modern scientific methods, including issues related to knowledge preservation, policy recognition, and intellectual property rights. By employing a qualitative research approach that includes extensive literature review and case study analysis, the paper highlights how IK contributes to environmental stewardship, strengthens food security, and improves livelihoods for rural populations. Finally, the study recommends policy interventions and practical measures to promote the effective integration of IK into mainstream agriculture. The paper emphasizes that recognizing and incorporating indigenous knowledge is fundamental to achieving sustainable rural development and empowering communities economically.

Keywords: Indigenous knowledge, sustainable agriculture, rural development, traditional farming practices, ecological sustainability, economic empowerment.

Introduction

Agriculture remains the primary source of livelihood for a significant portion of the global population, especially in rural areas of developing countries. It contributes substantially to national economies by providing employment, ensuring food security, and generating income. However, the dominance of industrialized and input-intensive farming methods has resulted in environmental degradation, soil depletion, loss of biodiversity, and increased vulnerability to climate change (Ramakrishnan, 2001). These challenges threaten the sustainability of agriculture and the economic well-being of rural communities.

In contrast, indigenous knowledge (IK)—the traditional wisdom and practices developed by indigenous and rural populations over generations—represents a holistic approach to managing natural resources. IK in agriculture includes practices such as crop diversification, organic fertilization, water conservation, pest management, and seed selection, all adapted to local environmental conditions. Such knowledge systems emphasize sustainability, biodiversity conservation, and resilience, which are essential for long-term agricultural productivity and rural prosperity (Berkes, 2018).

Despite its benefits, indigenous knowledge is often undervalued or marginalized in modern agricultural development programs. The integration of IK into sustainable agricultural practices is thus a promising strategy to address the ecological and economic challenges facing rural areas. This

paper explores how this integration can foster sustainable agriculture and stimulate rural economic development. It also examines the barriers to effective integration and proposes practical recommendations to harness the potential of indigenous knowledge.

Methodology

This study adopts a qualitative research methodology, primarily utilizing an extensive literature review and case study analysis. It draws on diverse sources including scholarly articles, reports from international organizations such as the Food and Agriculture Organization (FAO) and the World Bank, as well as relevant policy documents addressing indigenous knowledge and agricultural practices. The research aims to explore both the challenges and opportunities involved in integrating indigenous knowledge (IK) into sustainable agricultural systems. By examining how such integration can contribute to rural economic development, the study synthesizes findings from multiple contexts to develop a holistic understanding of the subject. The analysis highlights key barriers such as knowledge erosion, policy gaps, and intellectual property concerns, alongside the potential benefits like ecological sustainability, climate resilience, and community empowerment. Ultimately, the research provides actionable recommendations to facilitate the effective incorporation of IK into modern agricultural frameworks, promoting sustainable rural livelihoods and economic growth.

Challenges in Integrating Indigenous Knowledge into Sustainable Agricultural Practices

- **Erosion of Indigenous Knowledge**

One of the primary challenges is the rapid erosion of indigenous knowledge due to modernization, urbanization, and changes in social structures. Young generations increasingly migrate to urban centers or adopt modern lifestyles, leading to a loss of oral traditions and farming skills (Ayele & Teshome, 2020). This generational gap threatens the continuity of IK.

- **Lack of Documentation and Scientific Validation**

Indigenous knowledge is predominantly transmitted orally and is often context-specific, which complicates documentation and dissemination (FAO, 2017). The lack of formal validation mechanisms further marginalizes IK within agricultural research and policy frameworks, limiting its acceptance in mainstream agriculture.

- **Policy and Institutional Barriers**

Agricultural policies in many countries emphasize modernization, mechanization, and the use of chemical inputs, often overlooking the value of IK (World Bank, 2019). The absence of supportive institutional structures hampers the integration of indigenous practices into formal extension services.

- **Intellectual Property Rights and Benefit Sharing**

When IK is commercialized, issues related to intellectual property rights (IPR) arise. Indigenous communities often face exploitation due to weak legal protections and lack of equitable benefit-sharing mechanisms, discouraging knowledge sharing (Mazzocchi, 2006).

- **Compatibility Issues between Traditional and Modern Practices**

Traditional farming methods may sometimes conflict with modern agricultural techniques or market demands. For example, organic practices based on IK might yield lower short-term outputs compared to intensive chemical farming, posing challenges for farmers balancing productivity with sustainability (Ramakrishnan, 2001).

Opportunities for Integrating Indigenous Knowledge

- **Enhancing Ecological Sustainability**

Indigenous practices promote soil conservation, biodiversity, and efficient water use. For example, agroforestry systems practiced by many indigenous communities increase soil organic matter and provide multiple products, fostering ecosystem health (Berkes, 2018).

- **Climate Change Adaptation and Resilience**

IK embodies adaptive strategies developed over centuries to cope with environmental variability. Techniques such as intercropping, mulching, and use of drought-resistant crops increase resilience to climate extremes, making IK crucial for climate-smart agriculture (Ayele & Teshome, 2020).

- **Economic Empowerment of Rural Communities**

By reducing dependency on external inputs, IK lowers production costs, improving farm profitability. Additionally, the cultivation and marketing of indigenous crops and products create new income sources (Gagnon & Berteaux, 2009).

- **Social and Cultural Revitalization**

Recognizing and validating IK fosters community pride and social cohesion. It supports participatory approaches where farmers are active agents in agricultural innovation and development (FAO, 2017).

- **Synergy with Modern Science**

Integrating IK with scientific methods can optimize agricultural outcomes. Collaborative research has shown that combining traditional pest control with biological methods improves crop protection effectively (Kassam & Faiz, 2021).

Case Studies

Case Study 1: Indigenous Rainwater Harvesting in Rajasthan, India

In the arid regions of Rajasthan, indigenous rainwater harvesting systems such as johads and kunds have been revived to support sustainable agriculture and water security. These community-managed structures enable groundwater recharge, improve soil moisture, and enhance crop yields. The revival led to increased agricultural productivity and strengthened rural livelihoods, demonstrating the economic benefits of indigenous water management practices.

Case Study 2: Agroforestry in the Amazon Basin

Indigenous communities in the Amazon practice diverse agroforestry systems integrating fruit trees, medicinal plants, and staple crops. This system conserves biodiversity and generates multiple income sources from forest products. NGOs and research institutions have collaborated with indigenous farmers to improve market access for these products, enhancing economic development while preserving cultural heritage.

Suggestions

To effectively integrate indigenous knowledge into sustainable agricultural practices and promote rural economic development, the following actions are proposed:

- **Documentation and Digital Archiving:** Encourage participatory documentation projects involving elders and youth to preserve indigenous agricultural knowledge in accessible formats.
- **Policy Recognition and Support:** Governments should formally recognize IK in agricultural policies and provide resources for integrating IK in extension services and rural development programs.
- **Capacity Building and Education:** Incorporate indigenous knowledge into agricultural education curricula at various levels to build awareness and respect among younger generations and practitioners.
- **Equitable Intellectual Property Rights:** Develop legal frameworks that protect indigenous knowledge holders and ensure benefit sharing in commercialization ventures.
- **Participatory Research and Innovation:** Promote collaborative research between scientists and indigenous farmers to adapt and validate IK alongside modern technologies.

- **Market Development and Value Chain Support:** Assist communities in branding, certification (e.g., organic), and marketing indigenous products to increase income and sustainability.
- **Climate-smart Agriculture Integration:** Include indigenous practices in climate adaptation strategies and programs to build resilient rural farming systems.

Conclusion

Integrating indigenous knowledge into sustainable agricultural practices presents a viable pathway for enhancing rural economic development. Indigenous knowledge contributes ecological wisdom, resilience, and social capital essential for sustainable agriculture in the face of environmental and economic challenges. Despite barriers such as erosion of knowledge, lack of policy support, and intellectual property concerns, these can be overcome through strategic documentation, supportive policies, education, and equitable benefit-sharing frameworks.

Collaboration between indigenous communities, scientists, policymakers, and development agencies is critical to harness the full potential of IK. Such integration not only supports sustainable agricultural production and rural livelihoods but also helps preserve cultural heritage and promotes social empowerment. Consequently, this approach is indispensable for achieving inclusive and sustainable rural development in the 21st century.

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Reimagining Indigenous Knowledge Systems from the Mahabharata: Contributions to Contemporary Science and Technology

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Abstract: Indigenous Knowledge Systems (IKS), as reflected in India's ancient epic *Mahabharata*, contain complex scientific and philosophical understandings that parallel modern technology. This paper explores key knowledge domains within the Mahabharata— astronomy, medicine, architecture, warfare, and ecology—and maps them to current innovations in science and defence. By referencing divine weapons (astras), ecological balance, and education systems within the epic, the study proposes a fusion model of ancient insights with contemporary research, emphasizing the role of cultural heritage in shaping future technological paradigms.

Keywords: Mahabharata, Indigenous Knowledge Systems, Technology, Astras, Ayurveda, Vastu Shastra, Indian Defence, Education, Smart Cities, Eco-Architecture

1. Introduction

The Mahabharata, one of the longest and most influential epics in human history, is a repository of India's Indigenous Knowledge Systems (IKS). These systems, encoded through metaphorical narratives, encompass advanced knowledge in medicine, warfare, astronomy, metallurgy, and education. This paper analyses these domains, correlating ancient practices with modern technologies, particularly within Indian science and defence ecosystems. It is important to recognize that the characters of the Mahabharata are not merely mythological figures but are revered by many as ancestral embodiments of India's civilizational lineage. As cultural and spiritual ancestors, they represent the philosophical and technological heritage that continues to influence Indian thought and innovation.

2. Indigenous Knowledge Systems in the Mahabharata

2.1 The Philosophy of the Gita and Ethical Technology

Character: Krishna

The Bhagavad Gita, narrated by Krishna to Arjuna, presents a profound philosophy of duty (*dharma*), detached action (*nishkama karma*), and ethical decision-making. These principles promote mental resilience, leadership under pressure, and moral responsibility in the use of power.

Modern Relevance: In today's world, these teachings resonate with ethical leadership, responsible innovation, and artificial intelligence governance. Concepts from the Gita are frequently cited in leadership training, corporate ethics programs, and even AI development frameworks focused on alignment and fairness.

2.2 Architecture and Vastu Shastra

Characters: Arjuna, Krishna

The construction of Indraprastha used principles of Vastu Shastra, similar to modern green building practices and bioclimatic urban planning. Indraprastha was designed with strategic zoning that harmonized residential, administrative, and recreational spaces. The palace was noted for its use of illusions—like crystal floors that appeared as water—which can be seen

as early applications of material science and optics. The city integrated water harvesting systems, efficient waste disposal, and green cover, resembling modern smart city models. Today, its

relevance is echoed in sustainable urban design, energy-efficient architecture, and adaptive reuse of space—all key concerns in contemporary urban planning and smart infrastructure development.

Modern Resonance: Indraprastha's multifunctional urban layout is mirrored in India's smart city initiatives (e.g., GIFT City, Dholera). The use of interactive architecture and ecological zoning prefigures current practices in biophilic design, urban hydrology, and renewable energy integration.

2.3 Genetic Knowledge and Assisted Birth Techniques

Character: Vedavyasa

Vedavyasa played a pivotal role in the unconventional birth of Dhritarashtra, Pandu, and Vidura through the ancient practice of *Niyoga*, where he fathered children on behalf of a deceased or impotent male relative. This practice reflects an early understanding of genetic continuity and surrogate conception. Today, this is mirrored in modern techniques such as In Vitro Fertilization (IVF), artificial insemination, and surrogate motherhood. The ethical and strategic approach to hereditary lineage maintained in the Mahabharata resonates with present-day reproductive technologies and bioethics in assisted reproduction.

2.4 Construction and Submergence of Dwaraka

Character: Krishna

Dwaraka, the city established by Krishna, was built using advanced marine engineering and architectural principles. It was strategically constructed along the western coast of India and was noted for its symmetry, fortifications, ports, and irrigation. Remarkably, Dwaraka submerged into the sea after Krishna's departure, a process described as gradual and ecologically harmonious.

Modern Relevance: The submerged city of Dwaraka, explored through marine archaeology near Gujarat, presents insights into ancient coastal city planning and disaster resilience. Its planned submergence without ecological disruption offers models for present-day climate adaptation strategies such as floating cities, amphibious architecture, and managed retreat

for coastal sustainability.

2.5 Real-time War Communication and Remote Vision

Character: Sanjaya

Sanjaya, the charioteer and advisor to King Dhritarashtra, was divinely granted the power of remote vision (divya drishti) by Sage Vyasa, enabling him to narrate the events of the Kurukshetra war in real time. This early concept of long-distance, real-time observation mirrors modern technologies such as satellite surveillance, live battlefield broadcasting, remote sensing, and drone-based intelligence systems. Sanjaya's ability to provide accurate, on-demand information to a blind and stationary ruler exemplifies the use of augmented perception and secure communication—principles that are foundational in contemporary command and control systems in military operations.

2.6 Education and Knowledge Transmission

Characters: Arjuna, Dronacharya

The Gurukul system emphasized oral tradition, experiential learning, and mentorship, paralleling modern pedagogical innovations and knowledge management systems.

2.7 Shabdavedi Technique in Education

Character: Ekalavya

Shabdavedi refers to the technique of aiming and striking based purely on sound perception. Ekalavya mastered archery through auditory learning, without direct teacher supervision. This technique reflects sophisticated spatial hearing, sensory training, and neuroplastic learning.

Modern Relevance: This technique aligns with contemporary practices in assistive technology for the visually impaired, sound mapping, and AI-based acoustic localization. In education, it mirrors audio-based learning tools, spatial intelligence training, and alternative pedagogies for learners with special needs.

2.8 Astronomy and Timekeeping

Characters: Bhishma, Vidura

Use of celestial events and planetary alignments to determine auspicious times indicates sophisticated astronomical understanding. Techniques resemble today's space navigation and astrophysics.

2.9 Ecology and Environmental Stewardship

Characters: Arjuna, Krishna

The reverence for rivers and forests emphasized a symbiotic relationship with nature, now reflected in sustainability, conservation biology, and climate-resilient planning.

2.10 Metallurgy and Material Science

Characters: Dronacharya

Mentions of indestructible weapons and armor allude to early knowledge of metallurgy and alloy composition, resonating with today's non-corrosive metal tech and materials science.

2.11 Ayurveda and Holistic Medicine

Characters: Vidura, Yudhishthira

References to herbal medicine, surgical procedures, and health constitution (*prakriti*) are precursors to personalized medicine and holistic wellness approaches.

3. Astras: Divine Weapons and Modern Military Technology

The Mahabharata details numerous astras, each with distinct properties. Below is a comparative table outlining their attributes, instances of use, and technological analogues in modern Indian defence:

Astra	**Wielder**	**Features**	**Instance**	**Modern Analogue**
Brahmastra	Arjuna, Ashwatthama	Nuclear-like destruction	Used on unborn child	Nuclear weapons
Pashupatastra	Arjuna	Programmable, thought-controlled	Granted by Shiva	AI-guided missiles
Agneyastra	Multiple	Fire weapon	Used in battles	Thermobaric bombs
Varunastra	Arjuna	Water-based	Counters Agneyastra	Water suppression tech
Nagastra	Karna	Serpent-form, stealth	Used on Arjuna	Guided missiles
Narayanastra	Ashwatthama	Increases with resistance	Pandavas laid down arms	Reactive defence systems
Sudarshana Chakra	Krishna	Spinning disc, self guided, limitless energy	Used in various mythological confrontations	Hypersonic autonomous drones

These weapons were not only destructive but ethically bound, emphasizing responsibility—a concept embedded in India's nuclear policy (No First Use Doctrine).

4. Key Insights & Connections to Indian Armed Forces

Ancient Concept	Modern Military Technology
Ethical use of weapons (e.g. Arjuna refusing Brahmashirsha on civilians)	India's **"No First Use" nuclear doctrine**
Precision targeting (Nagastrā, Brahmastra)	**Precision-Guided Munitions (PGMs)**
Energy-based attacks (Agneyastra, Vajra)	**Directed Energy Weapons (DEW)** like **laser or microwave weapons**
Multi-domain awareness (Arjuna using astras for weather control, illusion)	**Cyber warfare**, **satellite-based surveillance**, **electronic warfare**
Astra invocation through chants or thoughts	Conceptualized today as **mind-machine interfaces** and **voice-activated controls**

Why It Matters Today

The **Mahabharata's depiction of astras** was metaphorical but remarkably futuristic. It reflects:

- The **responsibility** that comes with powerful technology.
- The **integration of science, ethics, and spirituality**.
- The potential to build **indigenous defence tech** rooted in ancient strategic thinking.

5. Discussion: Cultural Heritage and Innovation

Modern science often rediscovered what IKS had long encoded in symbolic forms. The Mahabharata promotes interdisciplinary knowledge, ethical use of power, and sustainability. Reviving these principles can help guide technological advancements toward human-centric and ecologically balanced outcomes.

6. Conclusion

Revisiting the Mahabharata through the lens of Indigenous Knowledge Systems reveals profound insights applicable to current science and technology. These ancient frameworks provide not just inspiration but practical blueprints for a future rooted in sustainability, ethics, and innovation.

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32.

Decolonizing Political Science Curriculum: The Role of Indigenous Knowledge Systems

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Abstract

Calls to decolonize university curricula have intensified across the globe, challenging the dominance of Euro-American canons and methods in the social sciences. Political Science is especially implicated because it studies power, authority, and legitimacy while often privileging theories and experiences from the Global North.[1] This article argues that integrating Indigenous Knowledge Systems (IKS) is central to a meaningful decolonization of Political Science. After clarifying key terms—decolonization, epistemic justice, and Indigenous Knowledge Systems—the paper analyzes how Eurocentric assumptions shape core subfields (political theory, comparative politics, public policy, international relations) and how IKS can widen conceptual horizons, diversify methodologies, and democratize knowledge production.[2] It proposes a multi-level reform agenda encompassing curriculum design, pedagogy, research methods, assessment, and institutional partnerships grounded in reciprocity and community consent.[3]The article anticipates challenges—such as tokenism, translation issues, intellectual property concerns, and institutional inertia—and offers practical safeguards. It concludes that engaging IKS does not replace existing canons; rather, it situates them within a pluriversal, dialogic framework that better prepares students to analyze governance, rights, sustainability, and conflict in diverse societies.[4]

Keywords: *Decolonization; Indigenous Knowledge Systems; Political Science; Epistemic Justice; Curriculum Reform; Methodology; Pluriversality.*

Introduction

Political Science emerged as a modern disciplinary formation during a period of European imperial expansion.[5] Its core concepts—state, sovereignty, citizenship, development, security—often reflect historical experiences of the West, then universalized as theory.[6]This has yielded a curriculum where canonical texts, methodological standards, and "best practices" privilege particular ways of knowing while marginalizing others. Recent movements for curricular reform urge departments to confront this epistemic asymmetry.[7] Decolonization, in this context, is not a mere diversification of reading lists; it is a reorientation of the knowledge project that interrogates how power shapes what counts as knowledge.[8]

Indigenous Knowledge Systems (IKS)—context-specific, relational, practice-based, and transmitted across generations—offer resources to rethink core questions of political life: authority and legitimacy, democracy and deliberation, law and justice, human–nature relations, and diplomacy and

peace.[9] Integrating IKS into Political Science provides students with conceptual breadth, methodological plurality, and ethical reflexivity suited to complex, plural societies.[10]

Decolonization, Epistemic Justice, and IKS: Conceptual Grounding

Decolonization refers to processes that unsettle colonial hierarchies in knowledge, institutions, and social relations.[11] in curriculum terms, it asks whose experiences generate theory, whose voices are authoritative, and which methods are deemed rigorous. Epistemic justice extends this by insisting that communities historically treated as mere "data sources" must be recognized as producers of theory and method.[12]

Indigenous Knowledge Systems are holistic knowledge traditions rooted in place, kinship, memory, and practice.[13] They are often transmitted orally, embodied in ritual, expressed through art and narrative, and validated through long-term community outcomes rather than short-term prediction alone. While heterogeneous, IKS typically emphasize relationality (among people, other beings, and land), consensus-seeking, restorative justice, and stewardship.[14]

IKS are not static "traditions"; they adapt and innovate. Nor are they reducible to folklore. They constitute rigorous epistemologies with their own standards of validation—empirical (ecological observation), ethical (obligations to future generations), and political (communal consent).[15]

Where Euro centrism shapes Political Science—and How IKS Reframes It

1) Political Theory

Dominant framing: Canonical syllabi often revolve around Hobbes, Locke, Rousseau, Mill, Rawls, and contemporary liberal or republican debates. "Non-Western" thought appears as supplement rather than foundation.

IKS contribution: Indigenous philosophies articulate political authority as stewardship, rights as relational obligations, and justice as restoration of balance.[16]Decision-making tends toward consensus and intergenerational accountability. Bringing IKS into theory modules broadens conceptions of legitimacy (beyond contractarianism), rights (beyond individualism), and freedom (beyond private autonomy).[17]

2) Comparative Politics and Governance

Dominant framing: Institutionalist models compare states primarily via electoral rules, party systems, and "good governance" metrics derived from OECD experiences.

IKS contribution: Community councils, elders' forums, clan-based federations, and village assemblies exemplify deliberative practices that defy the state-centric lens.[18] IKS reframes the "local" not as pre-political, but as rich political orders with their own checks and balances.[19]

3) Law, Justice, and Conflict Resolution

Dominant framing: Courses foreground adversarial courts and codified law.
IKS contribution: Many communities employ restorative justice focused on repairing relationships and reintegrating offenders.[20] These practices challenge punitive models and illuminate how justice can be community-driven, dialogic, and preventive—vital for courses on legal pluralism, transitional justice, and peacebuilding.[21]

4) Public Policy and Development

Dominant framing: Technocratic policy analysis privileges cost–benefit logics and centralized expertise.
IKS contribution: Indigenous ecological knowledge informs land use, disaster preparedness, water governance, and food systems.[22]Co-production of knowledge between universities and communities can yield policies that are locally legitimate, ecologically sound, and culturally responsive.[23]

5) International Relations (IR)

Dominant framing: IR syllabi center on sovereignty, anarchy, balance of power, and rationalist cooperation—concepts derived from the European state system.
IKS contribution: Indigenous diplomacy emphasizes treaties as sacred covenants, responsibilities to non-human entities, and peace as balance rather than dominance.[24] Including IKS can decenter Westphalian assumptions, enrich global environmental governance, and foreground justice in climate negotiations.[25]

Principles for Curriculum Reform

1. **Pluriversality over universality:** Present multiple knowledge traditions as co-equal contributors to theory-building.[26]
2. **Relational ethics:** Center reciprocity, consent, and accountability in how knowledge is sourced, taught, and assessed.
3. **Methodological pluralism:** Legitimate oral histories, participatory action research, land-based learning, visual methods, and narrative analysis alongside quantitative tools.[27]
4. **Context and translation:** Acknowledge partiality of all frameworks; teach students how concepts ("sovereignty," "citizenship") travel across contexts and languages.
5. **Co-creation with communities:** Treat communities as partners and co-authors, not as extractive "field sites."[28]

A Scaffold for a Decolonized Political Science Course

(Condensed for readability, citations align with sources on pedagogy and IKS)

Dialogic seminars that juxtapose canonical texts with Indigenous thinkers, land-based learning, and story work can promote deep ethical reflexivity.[29] Assessment diversity—such as community briefs, podcasts, and oral histories—embodies epistemic justice by valuing multiple forms of knowledge expression.[30]

Ethical and Practical Safeguards

Principles like Free, Prior, and Informed Consent (FPIC), data sovereignty, and benefit-sharing are critical to maintaining community autonomy.[31] Anti-tokenism requires embedding IKS throughout curricula, not as isolated case studies.[32] Language respect and long-term partnerships further ensure authenticity and accountability.[33]

Anticipated Challenges—and Responses

Common concerns—rigor, intellectual property, curriculum overload, and faculty preparedness—reflect systemic inertia within academic institutions.[34] addressing these through co-teaching, mentoring, and policy alignment enables sustainable reform.[35]

Research Methodologies for a Decolonized Political Science

IKS invites methodological pluralism: oral history, community-based participatory research, participatory statistics, and land-based learning.[36] these approaches prioritize reciprocity and ethical co-production, aligning with Indigenous research paradigms.[37]

Conclusion

Decolonizing Political Science is a substantive intellectual and ethical project, not a rhetorical gesture. Integrating Indigenous Knowledge Systems invites students to reconsider what counts as political, who counts as a theorist, and how knowledge should be made and shared.[38] When IKS informs theory, method, pedagogy, and institutional practice, the curriculum becomes more analytically powerful and socially accountable.[39]Far from abandoning established canons, decolonization reframes them within a dialogic, pluriversal field where multiple traditions interrogate, refine, and sometimes refuse one another.[40]

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33.

The Endangered Ritualistic-language of the *Zizis* (Shamans) of the *Shertukpen* Tribe of India

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Abstract

West Kameng District of Arunachal Pradesh, located in the north-eastern region of the Indian subcontinent is a home to six major indigenous tribes. The *Shertukpens* are one among the indigenous tribes that inhabit the southern part of the district. The *Shertukpens* exhibit an interesting blend of *Mahayana Buddhism* and indigenous belief system known as *Bon.* This indigenous belief system which predates *Buddhism* remains central to their socio-religious life and are characterized by ceremonies and rituals administered by specialized priests called *zizis.* The rituals and ceremonies involving trance, divination, healing, and protection from malevolent forces require the recitation of hymns using an esoteric and archaic ritualistic language that is incoherent to the general community. This chanting is believed to facilitate communication between the *zizi* and the deities inhabiting the mystical realms and guarding the *Shertukpen* country.

The *zizis* in *Shertukpen* tribe are categorized into *Chandzizi* and *Khikzizi* on the basis of their mode of ordainment. While the *Chandzizis* are considered divinely chosen through series of dreams and visions imparted by tutelary deities, the *Khikzizis* undergo a prolonged process of apprenticeship. Both are considered divinely chosen and after attaining certain level of expertise both are formally recognized, following which, both are believed to receive spiritual authority from the mythical mountain deity *Sungkhit*. Further, the *Khikzizis* are entrusted to performing major community rituals tied to the ritual calendar. Both categories of *zizis* play a crucial role at the community and household levels, administering rites for healing, protection, and collective well-being.

In the recent years, the number of practicing *zizis* has declined sharply. This decline is attributed to several factors including the pressures of modernization, stringent ritual obligations, non-remunerative nature of priesthood, and waning interest among the younger generation. The decline poses a serious threat to the existence of the archaic ritualistic language and the associated oral tradition, which constitute an important component of the *Shertukpens*' intangible cultural heritage and religious-identity.

Employing ethnographic methods such as participant observation, and interviews with zizis, village elders, and traditional council members, the present study aims to contribute to the preservation of an endangered indigenous belief system and its ritual language. Documentation and interpretation of the significance of the rituals performed by the *Khikzizis* constitutes an important component of the study. The study also explored the initiatives undertaken by the community for

promotion and preservation of *zizi*-culture. Measures involving textual transliteration of the chants/ritualistic language, audio-visual documentation of rituals, mechanisms to formally recognize these priests by the Government with proper honorarium, formal apprenticeship workshops and programmes are highly recommended on the basis of the findings of the present study.

Keywords: ***Shertukpen, Khikzizi, Chandzizi, ritualistic-language, socio-religious identity***

Introduction

Shertukpen, an indigenous tribe, numbering around three thousand five hundred people (Census) are settled in the southern part of *West Kameng District*, *Arunachal Pradesh* in north-eastern corner of *Indian sub-continent*. They comprise two consanguineous groups; *Shenjis* (*Sher*), who inhabit the *Shergaon* village and *Thonjis (Tukpen)* inhabiting *Rupa* and adjacent villages. They like to identify themselves as '*Mey*' and speak '*Mey-Nyuk*' which belongs to *Tibeto-Burmese* language family. Minor variations exist in this language even within the *Shertukpen* villages. However, notable differences occur in this language between the *Shenjis* and *Thonjis* in terms of tone and accent. To the north-east of their present land, a similar language is spoken amongst another distinct tribe, the *Shartang*, with whom common ancestral lineage is claimed (Megejee).

Shertukpens follow *Mahayana-Buddhism* and also practice indigenous beliefs called *'Bon'*. In fact, the practice of indigenous belief systems amongst them prevailed even before they turned into *Buddhists* (Sarkar). The priests in *Buddhism* are the monks or *Lamas* whereas, the priests or shamans called *zizis* are the main custodian of their *Bon* religion. The *Buddhist Lamas* perform rituals by chanting the religious texts written in *Bhoti* (Tibetan) script. On the other hand, the *zizis* are required to perform the rituals by chanting in a dialect incoherent to the common men. The chanting is not recorded in any scripted form and hence, the *zizis* learn them by rote. These incantations are believed to be the language of communication between the *zizis* and nature-deities (Y. D. Thongchi).

Statement of the Problem

In *Shertukpen* society, the main practitioners of *Bon* religion i.e. the *zizis* are broadly categorized into two types on the basis of their ordainment; the *Chandzizi* and *Khikzizi*. The *Chandizizis* are the chosen ones of their respective tutelary deities called the *armus.* They are taught the nuances of a *zizi* in a series of dreams and visions by the *armus*, who are believed to be beautiful nymphs. *Zizis* claim that they are married to these *armus* in their preternatural world. Any person who possesses shamanistic instincts and behavioural traits of a *zizi* can be chosen by the deity for the role irrespective of the clan, status, sex and age. More often, any person who has had the family history of being a *zizi* is likely to be chosen. On the other hand, *Khikzizis* are inducted into priesthood after undergoing years of apprenticeship under a master and formal recognition by the traditional council called *Blu* (Megeji et.al). However, the role of *Khikzizis* is entrusted upon two particular clans *Dingla* and *Megeji* since time immemorial. Upon gaining some insights into the nuances of a *Khikzizi*, the person is said to be accepted as his heir by the most powerful mythical mountain-deity, *Sungkhit*. The *Khikzizi* is allocated with *armus* for guidance and incorporeal warriors called *makfeyns* (warrior-deities) for protection by the *Sungkhit*.

It is interesting to note that the incantations of the *zizi* involve a dialect beyond the comprehension of common people. The *zizis* during trance rituals use this archaic language to communicate with the deities and beings of mystical realms. The divinely messages are disseminated through an elderly person (*Changmepo*) who is specialized in assisting *zizis* during trance rituals. The *zizi* on regaining consciousness after completion of the ritual is unable to recount the incantations and prophecies. In addition to following Buddhism, the *Shertukpens* still continue to invoke and appease the nature-gods through *zizis*. Thus, *zizis* are essential to the sustenance of the unique socio-religious values with which the *Shertukpens* are identified with.

Aims and Objectives

In the light of above-mentioned facts, the present study has been carried out with an aim to:

1. Document and interpret the significance of the rituals performed by the *Khikzizis*.
2. Explore the initiatives undertaken by the community for promotion and preservation of *zizi*-culture.
3. Suggest measures for preservation of endangered ritualistic language of the *zizis*.

Methodology

A comprehensive and multi-faceted methodology has been adopted to effectively preserve and understand the archaic dialect of the *Shertukpen zizis* and its profound role in their socio-religious identity. The researchers have extensively collected oral materials used by the *zizis* during their rituals through participant observation method. Audio and video recording of the ritualistic performances were done. In depth interviews with the *zizi*s and village and council members were conducted to explore the challenges the *zizis* face in preserving their tradition and their perspectives on the declining number of *zizi*s. Interview with the *zizi*s and community leaders offered the perspectives on their role in preserving the archaic dialect and *Bon* belief system.

Findings: Role of the *Zizis*

The incoherent language used by the *zizis* is in the form of chants during the performance of various rites. Following is an account of rites performed by the *zizis*:

Ritualistic Practices

Numerous rites are to be administered and performed by both the categories of *zizis*. Services of both *Chandzizi* and *Khikzizi* are sought at household level to perform rites. In addition to performing rites at household level, the *Khikzizis* are required to perform rites annually under the supervision of the *Blu* (*Traditional Council*) to ensure well-being of the community.

Household Level Rites

Phudoh Sonba: *Phudoh Sonba* is performed before the twentieth day of the local month to offer gratitude to the mountain-deities that protect the household members, crops and livestock. This is mandatory ritual in order to perform other important rites.

Yaam Hibah: This rite is performed to appease the spirits that inflict diseases to any household member. Literally, *Yaam* refers to the house and *Hibah* means to observe. Post performance of this ritual, the house is quarantined and outsiders are prohibited to enter the house for the next two days. The ailing person should strictly avoid going outside the house while the family members cannot go far. A cross made of wood called *mamfla* is erected at the main entrance to symbolize that the ritual has been carried out. It is also believed that *mamfla* acts as repellant to the malicious elements.

Sungkhit Sakpo Chhopah: This rite is performed to apprise, seek consent and blessings from the main patron deity, the *Sungkhit*, for performing *Yaam Hibah* ritual.

Yung Lubah: *Shertukpens* are of belief that the soul of a person goes out of his body for a brief moment when he gets frightened or shocked. Such souls are sometimes held captive by the evil spirits as a result of which the person becomes weak and sick for a prolonged period. So, in order to recover the lost soul, this rite is performed.

Sog Shing Sonbah: *Sog Shing Sonbah* is conducted to enhance the life span of an ailing person or to invigorate the life of a person who had been affected by prolonged illness. It is often preceded by *yunglubah* rite.

Yaam Chhag Mohpah: *Yaam Chhag Mohpah*is a rite performed to expel the malevolent entities like the *brangbrokshing* that take refuge in the house and cause troubles by inflicting diseases, quarrels and restlessness.

Hah Nyatpah: It is a kind of exorcism performed to evict the wandering soul of a dead person and lead it to netherworld. The *Zizi*, during this rite, allows the dead soul to transmigrate to his body and confess the sorrows and grievances of the dead person. At the end of the rite, the dead soul is offered with the edibles and are directed to leave the living-world.

Lui Sakpa Chhopa: *Lui Sakpa Chhopa* rite is carried out to propitiate the benevolent spirits called *lui* whose sacredness has been dishonored by rendering their place dirty due to the activities of the people.

Khryuichhyeuh: The *Zizis* treat the people suffering from epilepsy (*xo nyoba*) or other neurological disorders (*luineyzohney*) using sanctified water therapy.

Images: Zizi pouring Khryuichhyeuh (sanctified water)

Lograng Mohpah: *Lograng Mohpah* is a rite performed for the well-being of the new born baby.

Jie-e Sur Ribah: This rite is performed to ward off the soul of a dead person that has transmigrated into a person's body.

Mik Khehpah and Luing Khehpah: These rites are performed in order to cure people of excruciating pain in the muscles and joints which are believed to be perpetrated by the children of the deities during their play.

Thambu Lanbah: *Thambu Lanbah* is a kind of divination to determine the type of disease, cause of disease, whereabout of lost articles or person by throwing dice or examining the yolk of boiled eggs.

Community Level Rites

Dingphon Sonba: This annual ceremony is performed for the peace and prosperity of the entire *Shertukpen* community by the *Khikzizis* at various sacred stones in *Rupa* village.

Phhot Tyoenbah: This annual rite is performed at a designated place called '*Lohblang*' in Rupa village by the *Khikzizis* in order to offer undefiled maize crop to all the guardian deities. *Lhoblang* literally means the abode (*blang*) of deities (*Loh*). The *Shertukpens* are allowed to harvest their maize-crops only after this rite has been performed.


Image: Oblatory-items during *Phhot Tyoenbah*

Phiyaw Tyoenbah: It is the annual rite administered by the *Khikzizis* to offer first harvest of millets to the guardian deities at *Lohblang*.

Thongdok Rek Phuikma: It is an annual ceremony conducted under the supervision of *Khikzizis* that involves ploughing and sowing of millets in designated agricultural field by one of the members of *Thongdok* clan for successful agricultural season. It is only after this ceremony that the *Shertukpens* start cultivating their fields.

Khiksaba: *Khiksaba* is a weeklong rite cum festival of the *Shertukpens* which is performed to worship and propitiate the mountain deities. The *Khikzizis* along with other participants are involved in carrying out elaborate rituals at various scared places during this festival.

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Image 1:*Zizis plaiting nine sacred threads into one during a Khiksaba ritual.*
Image 2: *Zizi offering oblation to the guardian-deities during Khiksaba ritual.*

Major Concerns

The role of the *zizis* in the present-day context has however undergone some limitations. Although the role of *zizis* remains persistent at the community level, however their role in the household level seems to have declined owing to the availability and accessibility of modern medical facilities in nearby regions. Another major concern is the dwindling numbers of *zizi*s in *Shertukpen* villages. This decline is primarily attributed to the reluctance among the younger generation to embrace the challenging role of a *zizi*. The implications of this trend are profound, as it poses a serious threat to the continuity of the archaic dialect and, by extension, the entire *Bon* belief system. Currently, the number of *zizis* has declined to a great extent since the younger generation is not ready to take up the role of their predecessors. Amongst many reasons, the strict food habit a *zizi* has to follow, dissuades the people from turning into *zizis*. There are people who strongly defy and resist the signs of becoming a *zizi* by consuming prohibited food-items such as garlic, onion and pork. During the course of the study, some *zizis* responded that they face myriads of challenges which further discourage individuals from taking up this sacred role. These challenges include strict dietary restrictions that go against modern culinary practices and the necessity to forgo educational and career opportunities. Though, formal recognition through Government initiatives by paying honorarium has been started but the aid does not suffice their needs. The sacrifices demanded by the role of a *zizi* deter potential successors. In the modern times, the profession of a *zizi* is non-remunerative except getting a meager quantity of ration or lump sum amount of money.

The Council heads and village elders, during the interviews, raised their concern about the threat to the *Bon* Belief System. Modernization is identified as a significant contributing factor to the gradual erosion of the *Bon* belief system within the *Shertukpen* tribe. The dwindling number of *zizis* and the oral nature of the tradition make it exceptionally vulnerable to this impact. The *Bon* belief system, deeply intertwined with the archaic language, faces an uncertain future. Hence, they are of the opinion that a systematic approach must be undertaken for the continuity and preservation of the traditional belief system. The concerned members of the community realize the critical importance

of documenting the intangible cultural heritage of the *Shertukpen* tribe. This documentation extends beyond language and rituals; it encompasses the very essence of their socio-religious identity. Preserving this heritage is not merely an academic endeavor but a cultural imperative to ensure that future generations can understand, appreciate, and carry forward the rich legacy of their ancestors.

Suggestive measures

Having unearthed these critical findings, the next logical step is to explore preservation efforts and future directions for safeguarding the cultural heritage of the *Shertukpen* tribe:

1. Archival Efforts: The preservation of the archaic dialect hinges on meticulous archival efforts. Oral materials collected during the research, including incantations and chants should be cataloged and stored in a secure archival repository. These documents are not only linguistic artifacts but also cultural treasures that must be protected for posterity. For this, a field work was conducted for observation and recording of the events during the *Khiksaba* festival. The ritualistic chanting were recorded and documented in the written form by using *Devanagri* script as the Roman script was not sufficient to transcribe some of the sounds.

2. Digital Preservation: In an age of digital technology, the digitization of recorded materials, including audio and video recordings of *zizi* rituals, becomes imperative. These digital archives can serve as accessible repositories for future research and educational purposes.

3. Community Education: Empowering the *Shertukpen* community with knowledge about the significance of their cultural heritage is paramount. Educational initiatives, workshops, and awareness programs can help instill pride in their traditions, encouraging younger generations to take an interest in preserving the Bon belief system and the archaic dialect.

4. Collaborative Documentation: Collaboration with linguists and cultural preservation experts is essential. Establishing partnerships with academic institutions and cultural organizations can provide the *Shertukpen* community with access to resources and expertise necessary for comprehensive documentation and preservation.

5. Oral History Projects: The elder members of the Shertukpen community possess invaluable oral history. Initiatives to capture their narratives, anecdotes, and memories related to the archaic dialect and *zizi* practices can contribute significantly to cultural preservation efforts.

6. Supporting *Zizi*s: Recognizing the challenges faced by *zizis*, efforts should be made to provide them with support and recognition. This may include financial assistance, educational opportunities, and measures to alleviate the dietary restrictions that deter potential successors.

7. Cultural Revival: Promoting cultural revival through festivals, performances, and community gatherings can help rejuvenate interest in the Bon belief system and the archaic dialect. Celebrating and showcasing these traditions can attract both community members and external audiences.

8. Advocacy and Policy: Advocacy at regional and national levels is necessary to highlight the cultural significance of the *Shertukpen* heritage. Advocates can work to influence policy decisions that support the preservation of indigenous cultures and languages.

Conclusion

This comprehensive study serves as an in-depth exploration of the *Shertukpen Zizis*' role in preserving their archaic dialect and the *Bon* belief system. It reveals not only the profound significance of language in their rituals but also the urgent need to address the challenges threatening their cultural heritage. The findings emphasize the necessity of proactive measures and community involvement to safeguard these unique traditions for generations to come. With the advent of modernization, the *Bon* as a belief system is dying a slow death which is a serious concern for the entire *Shertukpen* tribe. Since the tradition is mostly oral in nature, it makes it all the more difficult to preserve the cultural and ritualistic practices. All these reasons make it imperative to carry out proper research and document the oral ritualistic tradition along with its archaic language so that the indigenous faith is not lost.

As we explore the *Shertukpen* narrative, we encounter a pressing reality—the vulnerability of their ritualistic archaic language poses a direct threat to the very essence of their indigenous identity. The echo of their chants and the resonance of their linguistic expressions are at risk of fading into silence posing a tangible threat, echoing a global concern shared by indigenous communities worldwide. Scholars such as *Megejee* and *Sarkar* provide a contextual backdrop, illuminating the challenges faced by tribes like *Shertukpen*. Yet, amid the shadows of potential linguistic loss, there emerges a narrative of resilience and hope as the *Shertukpen* embark on strategies to revitalize and safeguard their unique linguistic legacy.

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34.

Indigenous Knowledge System: Applications and its Challenges in Higher Education

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Abstract:

The paper examines how the Indian knowledge system might help bridge between tradition and modernity by integrating these age-old wisdom traditions into higher education. Traditional wisdom spanning various domains such as science, medicine, philosophy linguistics, holistic, ecological awareness, mathematics. IKS emphasize holistic sustainable development principles but IKS case several challenges including lack of traditional knowledge, structured framework, lack of document cultural erosion, limited recognition, limited institutional support and modern days relevance. This article explores the potential application in higher education and challenges of indigenous knowledge system. An effective fusion of IKS with current educational paradigms could contribute to sustainable future development. Its highlight the importance of integrating IKS into higher education to promote cultural preservation sustainable development and holistic learning rooted in local context strengthen, cultural identity among the students and cultivate innovative problem-solving approaches.

Keywords: Traditional knowledge, IKS, Higher education, Holistic learning.

Introduction:

Indigenous knowledge system was a spectrum of indigenous knowledge that has been cultivated and preserved in India over thousands of years in the field ranging from philosophy, Science, Arts, Medicine Mathematics. IKS is the traditional knowledge and practice accumulated by indigenous communities over generation deeply rooted in their environment and cultural heritage. It is continuously evolving traditionally, shaping India's intellectual, cultural and spiritual landscape. Encompassing material and spiritual dimension. IKS has profoundly influenced global thoughts. It emphasize true knowledge is holistic balancing spiritual wisdom and material understanding to lead a harmonious life. IKS play a Vital role in higher education by enriching learning experience, fostering cultural understanding, bridging the gap between traditional wisdom and modern knowledge.

Objectives:

1. To Study and Examine the benefits of Indigenous Knowledge System
2. To Study the application and challenges of Indigenous Knowledge System.

Research Methodology:

The study is based on the secondary data and the data was collected from books, articles, magazines and internet sources.

Application of IKS in higher education.

1. **Enhancing critical thinking and ethical reasoning**: incorporating IKS can encourage student to analyse complex issues from multiple perspective and developed ethical reasoning skill.

2. **Promoting sustainability**: IKS often emphasize ecological balance and sustainable practice providing a foundation for understanding environmental challenges.

3. **Strengthening cultural identity**: integrating IKS can sense of pride in India heritage and foster respect for diversity and pluralism among student.

4. **Fostering interdisciplinary approaches**: IKS can bridge the gap between contemporary scientific approach and traditional knowledge promoting a more holistic can interconnected understanding of the world.

5. **Practical application and community engagement**: IKS curriculum can include experimental learning and community environment, connecting theoretical knowledge to real world context & building stronger ties between academic institutions and local communities.

6. Holistic learning: IKS emphasize holistic and sustainable development principles promoting intellectual, emotional, social, physical and spiritual aspects.

Benefits of IKS in Higher Education:

1. IKS can help preserve and promote India's rich cultural heritage.
2. IKS emphasizes ethical education and social responsibility commitment.
3. IKS balance spiritual and material understanding it promotes individual and societal wellbeing.
4. It examines contemporary issues and develops solutions & bridges a gap between traditional and modern knowledge.
5. IKS enhances employability to local and global contexts.
6. IKS develop students critical thinking and innovation.

Challenges of IKS in Higher Education:

1. **Lack of structured framework and curriculum**: IKS transmitted orally, making it challenging to translate this knowledge into a structured course. There is no universal framework for integrating IKS into higher education curriculum, making it difficult to implement consistently across institutions.

2**. Limited institutional support and resources**: IKS difficult to promote and provide comprehensive learning of opportunities due to lack of resources and institutional support.

3. **Lack of awareness**: There is a lack of awareness among educator administrative and community about the value and potentials of incorporating IKS.

4. **Language and cultural barriers**: Many IKS documented in ancient text written in regional languages so it is not easily understood for everyone.

5. **Loss of Indigenous knowledge**: The main reason for disappearing IKS these days is globalization, rapid urbanisation and cultural changes.

Suggestion:

1. **Curriculum development**: A complete curriculum should be prepared regarding moral values social development, sustainable future development, interdisciplinary studies and cultural preservation.

2**. Faculty training**: Provide adequate knowledge and training to faculty to learn about IKS, traditional knowledge and how incorporate IKS into their teaching.

3. **Community engagement**: To develop research project and educational programs through collaborating with indigenous communities.

4. **Documentation and digitization**: IKS needs documentation because ancient text written in regional language so it is not easily understood for everyone and need to creates a digital repository of IKS resources then It is easily accessible for everyone.

5. **Awareness programs**: awareness programs of IKS are very essential for teachers, students, public servants, communities.

Conclusion:

Indigenous knowledge system in higher education offers a transformative opportunities to enrich academic discourse, promote sustainable development and preserves Indian unique culture heritage despite challenges such as lack of documentation, resources limited institutional support, cultural erosion and institutional barriers the potential benefits of IKS institution can foster a more inclusive, holistic sustainable cultural identity into disciplinary empowering students to become responsible global citizens. The integration of IKS in higher education can contribute to a more equitable and sustainable future for all.

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35.

Reclaiming Roots: Indigenous Knowledge Systems and Sexual and Gender Minorities in India

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Abstract

This paper explores the dynamic interplay between Indigenous Knowledge Systems (IKS) and the Sexual and Gender Minorities (SGMs) in India. By examining pre-colonial, colonial, and contemporary contexts, it argues that India once possessed rich traditions that acknowledged and integrated non-binary, queer, and gender-diverse identities. These traditions, rooted in spiritual, social, and cultural frameworks, were systematically disrupted by colonial rule and postcolonial modernity. Drawing on interdisciplinary research and queer theory, the paper explores how present-day queer activists are reclaiming indigenous epistemologies as tools of resistance and empowerment. The argument is advanced for incorporating IKS into mainstream discourses to support culturally grounded, inclusive, and decolonial approaches to gender and sexuality.

Keywords: Indigenous knowledge system, Sexual and Gender minorities, colonial disruptions, Diversity,

Introduction

Indigenous Knowledge Systems represent the holistic, place-based knowledge developed and sustained by local communities through generations of lived experience (Battiste,2002). This knowledge encompasses agricultural techniques, healing practices, cosmologies, and cultural norms, including diverse understandings of gender and sexuality. In contrast, Sexual and Gender Minorities (SGMs) refer to individuals whose gender identity, expression, or sexual orientation diverges from societal expectations. These include lesbian, gay, bisexual, transgender, queer, intersex, asexual, and other non-normative identities.

In India, historical evidence points to a nuanced and affirming engagement with gender and sexual diversity within indigenous traditions. Non-binary roles and queer subjectivities were embedded in mythology, rituals, folklore, and community practices. However, colonial and postcolonial institutions imposed rigid heteronormative binaries, criminalizing and erasing indigenous forms of gender and sexual expression. This paper seeks to unravel these erasures and highlight efforts to reclaim IKS in queer resistance movements today.

Objectives

1. To explore how indigenous Indian communities historically recognized and integrated gender and sexual diversity.
2. To analyze the impact of colonial rule on the erasure of indigenous gender frameworks.
3. To investigate contemporary movements reclaiming indigenous queer narratives.
4. To advocate for a decolonial and intersectional approach to queer liberation through IKS.

Methodology

The study employs a qualitative, interdisciplinary framework, drawing from gender studies, history, and cultural anthropology. It utilizes secondary data sources, including academic literature, ethnographies, colonial archives, and contemporary queer narratives. The study examines how gendered and queer indigenous knowledges have been maintained, lost, and reclaimed over time through an intersectional feminist and decolonial lens.

Pre-Colonial Recognition of Gender Diversity in Indigenous Knowledge Systems

The Sexual and gender minorities and related identities have sparked a lot of global discussions & debates. Foucault claimed that sexuality-based identity categories were invented in nineteenth-century Europe and that before this invention, they did not exist (Foucault, 1990). These viewpoints have been challenged by contemporary historians, and issues of queer sexuality are documented in the Indian archive. (Vanita and Kidwai, 2000) queer historians from India, however, date these talks much further back to ancient India. Some people believe LGBTQ is a foreign concept and it goes against our culture. But, Hindu mythology makes constant references to queerness, the idea that questions notions of maleness and femaleness.

Before the arrival of European colonial powers, many indigenous Indian communities exhibited a pluralistic and inclusive understanding of gender and sexuality. These frameworks did not conform to modern Western notions of LGBTQ identity but were rooted in spiritual, social, and ritualistic life. (Reddy, 2005). Prominent among these is the Hijra community, which historically held significant social and religious roles, especially in fertility rites, childbirth ceremonies, and court performances. Hijras were not merely tolerated they were considered auspicious and often revered. Their recognition can be traced back to ancient Hindu texts, such as the *Kama Sutra*, which referenced the "third nature," and Puranic stories like that of *Ardhanarishvara*, a composite deity representing both Shiva and Parvati, symbolizing the fluid unity of masculine and feminine energies.

Similarly, the *Aravanis* of Tamil Nadu, who are linked to the mythological figure Aravan from the *Mahabharata*, participate in the annual *Koovagam* festival, where non-binary and trans individuals are ritualistically married to the deity before mourning his death. This ceremony not only validates gender diversity but celebrates it within a sacred context. The *Jogappas*, gender-nonconforming devotees of the goddess *Yellamma* in Karnataka and Maharashtra, represent another example. Their spiritual roles involved music, dance, healing, and participation in temple rituals. They were culturally embedded as spiritual intermediaries, not as social deviants. (Hinchy, J.2019). These traditions illustrate that gender and sexuality were historically integrated into IKS in complex and culturally resonant ways.

Colonial Disruption of Indigenous Gender Frameworks

British colonialism brought with it a stark imposition of Victorian morality and binary gender norms. This colonial project sought to "civilize" indigenous cultures by enforcing heteronormativity through

law, religion, and education. The introduction of **Section 377 of the Indian Penal Code in 1861**, which criminalized "carnal intercourse against the order of nature," was a direct attack on queer sexualities. The **Criminal Tribes Act of 1871** labeled entire communities, such as Hijras, as inherently criminal, enabling their persecution and social exclusion. (Narrain,2004). These legal instruments disrupted traditional roles and contributed to the marginalization of gender-diverse individuals.

Missionary activities further accelerated the erasure of indigenous sexual and gender diversity. By introducing Eurocentric educational curricula and Christian morality, they delegitimized native cosmologies and ritual practices that had previously accommodated and revered SGMs (Sunder Rajan, 1993). Colonial ethnographies, often written from a voyeuristic or pathologizing gaze, reduced indigenous gender expressions to curiosities or degeneracies, stripping them of spiritual and cultural value.

Gendered Knowledge and the Role of Queer Indigenous Lives

Gendered knowledge within IKS is often maintained through oral traditions, ritual performances, and ecological practices many of which are preserved and transmitted by women, queer individuals, and marginalized castes. However, their contributions are frequently overlooked in mainstream historical and academic narratives. Dalit, Bahujan, and Adivasi communities often harbor more fluid understandings of gender due to their historical distance from Brahminical patriarchy. Among Adivasi groups, gender roles are not strictly binary; many include ceremonial positions for individuals with gender-fluid identities.(Bhan & Narrain, 2005) However, these practices have been endangered by forced assimilation, state intervention, religious conversion, and economic marginalization.

Queer individuals within these communities play crucial roles as storytellers, healers, performers, and cultural custodians. Yet they face multiple layers of discrimination on the axes of caste, gender, and sexuality. Their knowledge and existence challenge dominant paradigms and offer a living archive of resistance and resilience.

Contemporary Reclamation and Political Mobilization

In recent decades, there has been a significant shift in how SGMs in India engage with IKS. Queer activists, particularly those from Dalit and Adivasi backgrounds, are actively reclaiming indigenous traditions to resist cultural erasure and heteronormative domination.

Organizations and collectives such as **Aravani Art Project**, **Dalit Queer Project**, and **Queer Adivasi Trans Lives Matter** have amplified the voices of gender-diverse individuals who draw on their cultural heritage to affirm their identities. These efforts include reviving folk art, storytelling, and oral histories that validate queer presence in their ancestral contexts (Dutta & Roy, 2014). This reclamation is not merely cultural but deeply political. It resists the colonization of queerness by Western identity frameworks that may not align with lived indigenous experiences. These movements assert that queerness in India is not a Western import, but a deeply rooted, historically affirmed reality.

Such projects also contest the tendency of mainstream LGBTQ+ activism in India to focus predominantly on urban, upper-caste, English-speaking narratives. By re-centering IKS, marginalized queer individuals reclaim not just identity, but agency and epistemic authority.

IKS as a Tool for Decolonial Queer Liberation

Indigenous Knowledge Systems provide a potent framework for a decolonial approach to queer liberation in India. Re-engaging with these systems offers a way to deconstruct dominant ideologies and create inclusive futures that honor local histories and ontologies.

IKS fosters a worldview in which gender and sexuality are seen as dynamic, interconnected, and embedded in spiritual and communal life. This contrasts with rigid Western binaries that often dominate legal and academic discourse. Integrating IKS into queer studies and policy-making allows for more culturally sensitive and resonant interventions. Moreover, this approach aligns with **intersectional feminist** frameworks emphasizing the multiplicity of identities and oppressions. It creates space for nuanced understanding, where gender justice is tied to caste equity, environmental sustainability, and cultural autonomy.

Conclusion

The convergence of Indigenous Knowledge Systems and the lived realities of Sexual and Gender Minorities in India opens up a transformative paradigm. Historical records and community memory affirm that Indian societies once embraced gender and sexual diversity through culturally sanctioned roles and rituals. Colonial rule fractured these frameworks, imposing exclusionary and violent norms. Today, SGMs are reclaiming these lost heritages not merely for affirmation, but as acts of political resistance and cultural healing. A decolonial, intersectional approach that centres IKS is not only essential for understanding India's queer past it is vital for shaping a just and inclusive future. It invites scholars, activists, and policymakers to go beyond token inclusion and toward genuine epistemic transformation.

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36.

Decolonizing Karnataka's Past: Revisiting Colonial Historiography through Indigenous Knowledge Systems

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Abstract

The historiography of Karnataka, like much of India, has been profoundly shaped by colonial epistemologies that privileged European frameworks over indigenous modes of knowing. In the post-colonial period, historians have increasingly challenged these narratives, highlighting the importance of oral traditions, folk culture, linguistic heritage, and regional epistemologies in reconstructing Karnataka's past. This paper explores how indigenous knowledge systems can be used to reinterpret colonial records, offering a more balanced and culturally rooted understanding of Karnataka's history. It examines the limitations of colonial historiography, reviews key literature, and discusses examples from archaeology, folklore, and local historiography to demonstrate how Karnataka's indigenous traditions provide alternative lenses for historical reconstruction.

Keywords: *Indigenous Knowledge, Colonial Historiography, Karnataka History, Oral Traditions, Decolonization.*

Introduction

The writing of Indian history under colonial rule was primarily a project of control and cultural dominance. British administrators, missionaries, and orientalists developed frameworks that represented Indian society as static and traditional, legitimizing colonial intervention. In Karnataka, early colonial scholars such as Francis Buchanan and B.L. Rice documented the region's history through gazetteers, reports, and surveys. While these works contributed to the preservation of valuable data, they were often influenced by Eurocentric biases and ignored indigenous voices. In contrast, indigenous knowledge systems—embodied in oral epics, local genealogies, inscriptions, and folk traditions—offer vibrant narratives of the region's past. These sources not only reveal social and cultural continuity but also contest colonial representations. The purpose of this paper is to revisit colonial historiography of Karnataka and reinterpret it through the lens of indigenous insights.

Colonial Historiography in Karnataka:

Colonial historiography in Karnataka emerged in the nineteenth century with a utilitarian motive of governance and resource management. Works such as Gazetteer of Mysore and Gazetteer of Bombay Presidency classified people into rigid categories of caste, tribe, and religion, reflecting colonial administrative priorities. The British portrayed Karnataka's polities—especially the Vijayanagara

Empire and local chieftains—as either despotic or feudal to justify colonial 'modernity'. Historians like D. Washbrook and Nicholas Dirks have shown that the colonial state actively reshaped Indian society through 'ethnographic statecraft'. In Karnataka, this meant codifying customs, standardizing local laws, and redefining land ownership patterns. Indigenous oral histories, however, retained memories of pre-colonial governance rooted in kinship and ritual authority. Colonial historiography, in its reliance on written documents, failed to acknowledge the epistemic validity of oral and ritual knowledge systems.

Indigenous Knowledge Systems: A Conceptual Overview

Indigenous knowledge refers to the collective wisdom of communities developed through generations of lived experience and transmitted through oral, visual, and performative means. It is holistic, localized, and deeply embedded in ecological and cultural contexts. In Karnataka, such knowledge finds expression in janapada sahitya (folk literature), yakshagana, paddanas (oral epics), temple inscriptions, and local chronicles. These indigenous modes of remembering are not merely cultural artifacts but epistemological systems that encode political, environmental, and social histories. For instance, the Pampa Bharata and Chandraprabha Purana integrate myth, ethics, and geography to construct regional consciousness. Similarly, oral ballads about Kittur Rani Chennamma, Sangolli Rayanna, and Onake Obavva preserve anti-colonial resistance narratives absent in colonial texts.

Literature Review

The shift from colonial to post-colonial historiography in Karnataka mirrors larger theoretical movements in Indian historical studies. The Subaltern Studies collective, led by Ranajit Guha, emphasized the recovery of suppressed voices in colonial archives. Though primarily focused on Bengal, this framework inspired regional historians to reassess Karnataka's folk and peasant histories. Scholars such as Burton Stein, in Peasant State and Society in Medieval South India, critiqued earlier colonial interpretations and examined the complex socio-economic structures of the region. Noboru Karashima's work on South Indian inscriptions provided methodological tools to integrate epigraphic and local data. More recent studies by N. Jayaprakash and S. Settar have underscored the importance of vernacular sources in reconstructing Karnataka's history. In addition, Kannada scholars like D.S. Achuta Rao, H.S. Shivaprakash, and M. Chidananda Murthy have shown how indigenous oral and literary traditions contribute to understanding social change and political identity. Folklorists such as A.K. Ramanujan and C. Upadhyaya have also demonstrated that oral narratives act as 'alternative archives' preserving cultural memory.

Indigenous Perspectives in Reconstructing Karnataka's History

Oral epics (paddanas) from North Karnataka recount the lives of local heroes, deities, and reformers such as Mailara Linga and Siddappaji. These narratives contain embedded social commentaries and encode local perceptions of justice, gender, and community. When analyzed alongside colonial records, they reveal contradictions—where colonial texts dismiss local agency, oral traditions celebrate resistance. Inscriptions in Kannada and Sanskrit found across the Tungabhadra and Krishna basins provide detailed records of land grants, donations, and community

relations. Unlike colonial interpretations that viewed these as merely administrative, indigenous readings see them as reflections of socio-religious worldviews. The Keladi Nayaka chronicles, for example, portray political legitimacy through dharma and local ritual rather than Western notions of sovereignty. Indigenous ecological knowledge has preserved water management systems such as kere (tanks) and kalyanis that sustained agrarian societies. These were overlooked in colonial resource surveys that privileged irrigation 'modernization'. Traditional architectural forms like the Hoysala temples demonstrate sophisticated spatial logic rooted in cosmology rather than mere ornamentation.

Revisiting Colonial Narratives through Indigenous Insights

Indigenous perspectives compel historians to revisit the colonial depiction of Karnataka as a passive recipient of external influence. Instead, the region emerges as an active participant in cultural synthesis and technological innovation. For instance, the British portrayal of Tipu Sultan as a fanatic ruler ignored indigenous sources that present him as a visionary modernizer and patron of knowledge. Similarly, the colonial dismissal of local women warriors contrasts with folk songs that celebrate their courage and agency. Using indigenous epistemologies also transforms the methodology of history writing. It requires reading colonial texts against the grain and integrating ethnographic fieldwork with textual analysis. This aligns with the 'decolonial turn' in global historiography that values pluriversal ways of knowing.

Conclusion

Revisiting Karnataka's colonial historiography through indigenous knowledge systems enables a more inclusive and culturally resonant reconstruction of the past. Indigenous epistemologies—rooted in oral memory, performative traditions, and community knowledge—offer critical correctives to colonial misrepresentations. They reaffirm that history is not solely written in archives but also sung, performed, and lived. Decolonizing Karnataka's history thus involves recognizing these plural sources as legitimate and essential. It calls for collaborative scholarship between historians, linguists, anthropologists, and local communities. Only then can the historical narrative of Karnataka reflect the true diversity and resilience of its people.

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37.
Indigenous Knowledge on Sustainable Resource Management: A Survey

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Abstract: Indigenous knowledge (IK) encompasses traditional understandings, practices, and beliefs developed by local communities through generations. This survey paper explores how IK contributes to sustainable resource management (SRM), particularly in areas of agriculture, forestry, water, and biodiversity. By examining case studies across different indigenous groups globally, the paper highlights the value of IK in fostering resilience and sustainability amidst environmental changes. The survey also identifies challenges and opportunities in integrating IK with modern scientific approaches.

Keywords: Indigenous Knowledge, Sustainable Resource Management, Traditional Ecological Knowledge, Biodiversity Conservation, Climate Resilience

1. Introduction

Background: Indigenous communities have long interacted with their environment in ways that ensure sustainability. Their practices, passed orally through generations, reflect a deep understanding of ecological balance.

- **Objective**: This paper aims to survey how indigenous knowledge contributes to SRM, its relevance in modern times, and how it can be integrated into contemporary resource management policies.

  Methodology: The study involves a literature review of scholarly articles, case studies, and reports by organizations such as FAO, UNEP, and UNESCO

2. Literature Survey

The significance of Indigenous Knowledge (IK) in sustainable resource management (SRM) has been well recognized across various disciplines, particularly in ecology, development studies, and anthropology. Over the years, a growing body of literature has explored the depth, applicability, and integration of traditional ecological knowledge (TEK) into modern environmental governance.

Berkes (2012), in his seminal work *Sacred Ecology*, provides a foundational understanding of TEK, framing it as a system of knowledge-practice-belief rooted in adaptive processes. He argues that indigenous communities possess intimate, place-based knowledge critical for biodiversity conservation and ecosystem stewardship. This concept is reinforced by Gadgil, Berkes, and Folke (1993), who assert that indigenous societies have developed complex systems of ecological understanding that promote resource regeneration, not just conservation.

Posey (1999) expands this perspective by emphasizing the cultural and spiritual dimensions of biodiversity within indigenous traditions. Through multiple global case studies, Posey highlights how these spiritual frameworks play a vital role in shaping ethical relationships with nature.

A broad survey by FAO (2009) explores indigenous food systems across the globe, documenting traditional agricultural methods such as intercropping, seed preservation, and forest-garden systems. These practices are not only sustainable but also crucial for food security in marginalized areas.

Houde (2007) identifies six distinct "faces" of TEK—factual observations, management systems, ethical systems, epistemology, cosmology, and worldview—offering a structured approach to understanding IK's complexity. Similarly, Altieri and Toledo (2011) explore the rise of agroecology in Latin America, emphasizing how indigenous farming systems exemplify principles of ecological sustainability and social justice.

UNESCO (2010) and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007) bring a legal and policy dimension to the discussion. These documents recognize the rights of indigenous peoples to preserve and use their traditional knowledge, calling for its protection and integration into national policies.

Davidson-Hunt and Berkes (2003) discuss adaptive learning among Anishinaabe communities, highlighting how social-ecological learning supports sustainable management. Likewise, McGregor (2004) argues for coexistence between scientific and indigenous systems, challenging the dominant paradigm that often marginalizes IK.

A critical discourse is provided by Agrawal (1995), who calls for the dismantling of the dichotomy between "scientific" and "indigenous" knowledge. He argues for a pluralistic knowledge framework where both systems are seen as complementary rather than hierarchical.

Fernandez-Gimenez (2000) provides empirical support from Mongolian pastoralists, demonstrating how their detailed environmental knowledge guides sustainable rangeland management. In a similar context, Johnson (1992) focuses on the methodologies of documenting and preserving IK, stressing the importance of community participation.

Environmental agencies like UNEP (2011) have acknowledged IK in global sustainability assessments. The comprehensive survey by Nakashima et al. (2012) on climate change adaptation presents evidence of how indigenous knowledge systems contribute to early warning systems, adaptive farming, and water management strategies in vulnerable communities.

Overall, the literature indicates a paradigm shift toward recognizing IK as a vital component of sustainable development. However, challenges such as intellectual property rights, loss of language and traditions, and inadequate policy mechanisms remain key issues in the integration of IK into mainstream SRM frameworks.

Understanding Indigenous Knowledge (IK)

- **Definition**: IK refers to the local knowledge unique to a culture or society, encompassing ecological, technological, social, and spiritual domains.
- **Characteristics**:
    - Location-specific
    - Holistic
    - Dynamic and adaptive
    - Transmitted orally

3. Indigenous Approaches to Sustainable Resource Management

3.1. Agriculture

- **Shifting cultivation and agroforestry**: Practiced by tribes in Northeast India and Amazon.
- **Crop rotation and intercropping**: Maintains soil fertility and prevents pests.
- **Traditional seed banks**: Preservation of genetic diversity.

3.2. Forestry

- **Sacred groves**: Protected forest patches, important for biodiversity.
- **Controlled harvesting**: Only taking what is needed; rotating harvest zones.
- **Fire management**: Aboriginal Australians use controlled burning to prevent wildfires.

3.3. Water Management

- **Zabo system (Nagaland, India)**: Rainwater harvesting for irrigation and livestock.
- **Qanats (Middle East)**: Underground channels to manage water in arid regions.
- **Seasonal river usage**: Rotational use and ritual restrictions to avoid overuse.

3.4. Fisheries and Coastal Management

- **Tabu system (Pacific Islands)**: Temporary fishing bans to allow regeneration.
- **Traditional aquaculture**: Fish ponds integrated with rice paddies (e.g., Bali).

4. Case Studies

4.1. The Kayapo Tribe (Brazil)

- Use of polyculture and controlled burns to sustain Amazon biodiversity.

4.2. Maasai Pastoralism (East Africa)

- Rotational grazing and water conservation methods tailored to semi-arid regions.

4.3. Apatani Tribe (Arunachal Pradesh, India)

- Paddy-cum-fish cultivation and sustainable forest management.

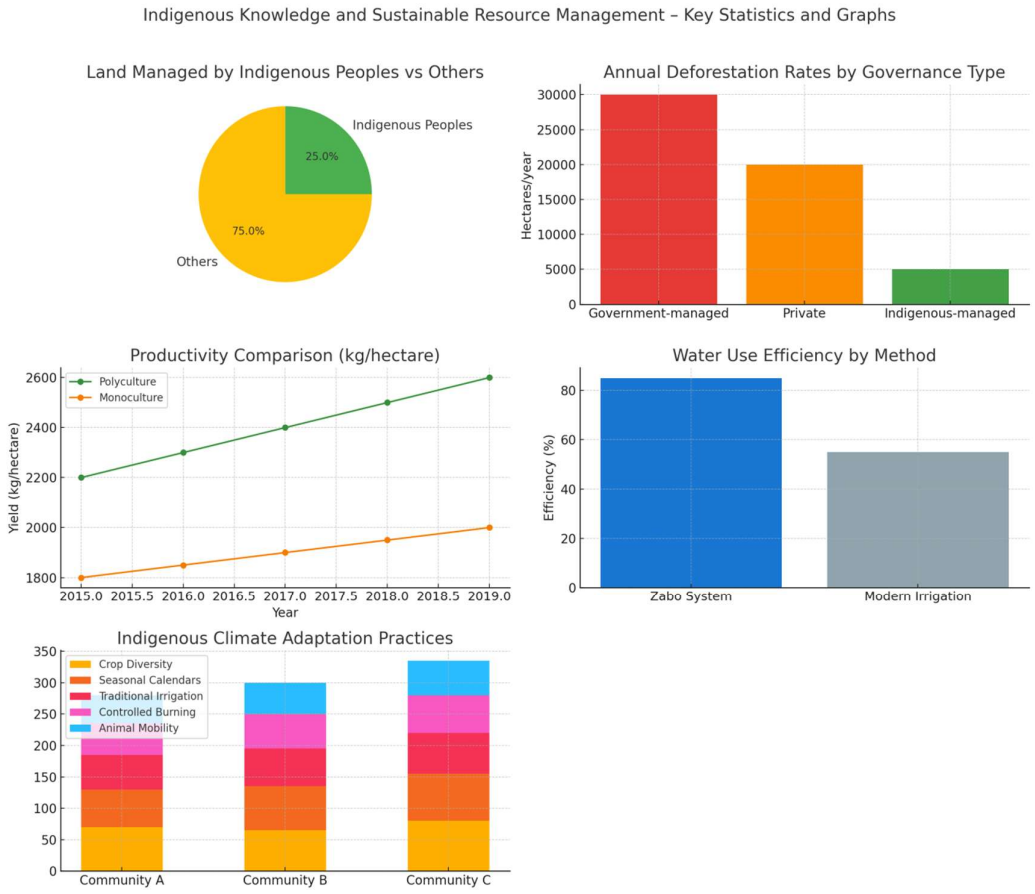
4.4. Ifugao Rice Terraces (Philippines)

- Ingenious irrigation and terrace maintenance practices over 2,000 years old.

5. Integration of Indigenous Knowledge with Modern Practices

- **Benefits**:
    - Cost-effective and sustainable
    - Community-driven
    - Enhances biodiversity conservation
- **Challenges**:
    - Lack of documentation
    - Marginalization of indigenous voices
    - Intellectual property and rights concerns
- **Opportunities**:
    - Policy inclusion (e.g., UNDRIP, CBD)
    - Participatory development models
    - Education and knowledge exchange platforms

Figure 1 Statistical Data & Graphical Illustrations



a. Global Indigenous Population and Land

- **Statistic**: Indigenous peoples comprise less than **6% of the global population**, yet they manage **approximately 20-25% of the Earth's land surface**, which overlaps with **80% of global biodiversity** (UNEP, 2021).

b. Contribution to Biodiversity Conservation

- **Statistic**: Regions managed by indigenous peoples have significantly **lower deforestation rates** and **higher species diversity** than non-indigenous managed regions (FAO, 2019; IPBES, 2019).

c. Agricultural Sustainability

- **Statistic**: In a survey of **60 indigenous farming systems** (Altieri & Toledo, 2011), **85%** showed **higher productivity per unit area** than conventional monoculture systems under similar ecological conditions.

d. Water Management Efficiency

- **Case**: In Nagaland (India), the **Zabo system** led to **50% more efficient water use** compared to government-introduced irrigation systems in similar terrains (Fernandez-Gimenez, 2000).

e. Indigenous Climate Adaptation

- **Statistic**: A UNESCO survey (Nakashima et al., 2012) showed that **70% of indigenous communities** use traditional knowledge for climate adaptation strategies like crop rotation, seed conservation, and seasonal migration.

6. Discussion

- The resilience of indigenous communities during climate crises demonstrates the viability of IK.
- There is a growing recognition of the need to co-produce knowledge between indigenous communities and scientists.
- Empowering indigenous governance systems is key to successful SRM.

7. Conclusion

Indigenous knowledge offers time-tested and sustainable practices for managing natural resources. Integrating IK into mainstream policies can significantly enhance ecological conservation efforts. However, this integration must be respectful, equitable, and community-led to preserve the cultural integrity of indigenous practices.

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38.

Integrating Indian Knowledge System (IKS) in Education: Roles of Teachers, Schools, and Governments

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Abstract:

The Indian Knowledge System (IKS) embodies India's rich cultural, scientific, and philosophical traditions, offering an alternative epistemological framework for contemporary education. Despite its significance, IKS remains marginal in mainstream curricula. This paper explores the critical roles of teachers, schools, and governments in integrating IKS into the education system. It highlights the need for pedagogical innovations, institutional support, and policy frameworks to ensure effective implementation. The study underscores how a holistic inclusion of IKS can contribute to sustainable education and global knowledge dissemination. Additionally, it discusses challenges, best practices, and strategies for fostering an interdisciplinary approach that integrates IKS seamlessly with modern scientific and technological advancements.

Introduction:

In the past decade, 'Indian Knowledge Systems' is re-emerging into the mainstream of national discourse. This resurgence is part of the larger renaissance in Bharat. The ancient civilization is gradually claiming its natural flow towards the future. This renaissance is unfolding in many ways. Mainstreaming of 'Indian Knowledge Systems (IKS)' is one such flow.

This article is focused on

- characterising the paradigm of Indian Knowledge Systems (IKS) essential to imagine a future
- taking stock of the nature of IKS decline
- characterising this reappearance of IKS onto the national mainstream
- establishing the relevance of IKS in the immediate and the long run
- understanding challenges to IKS posed by Contemporary Knowledge Systems (CKS) shaped by Modernity (Liberal Atheism), Industrial Revolution and Colonialism
- crafting a vision/charter for IKS that factors in this flow in time and the challenges

Indian knowledge systems (IKS) encompass a wealth of knowledge, practices, and innovations amassed over ages in India, covering various disciplines, including mathematics, astronomy, medicine, philosophy, and ecology. These knowledge systems have often been neglected in the Indian education system, even though their potential contribution to advancing contemporary science is important.

For centuries, people in India derived knowledge from close observation of nature and the environment, such as insights into sustainable agricultural practices, herbal medicine, ecosystem management, *etc*.

By applying scientific methodologies to study IKS and its associated practices, we can unlock their underlying principles, demonstrate their efficacy, and investigate their potential applications in addressing present-day challenges. Analyzing IKS can also aid in motivating modern innovation across various disciplines.

There is rising recognition of the value of integrating IKS and modern approaches to address contemporary challenges. In India, initiatives like the National Innovation Foundation (NIF) and the Honey Bee Network aim to document, validate, and promote grassroots innovations rooted in IKS.

For example, innovations like the Mitticool refrigerator, using traditional clay cooling techniques, indicate the importance of harmonizing IKS with modern technology to design sustainable solutions for rural communities.

Additionally, IKS offers frameworks demonstrating the connections between humanity, nature, and the cosmos. By integrating IKS with modern scientific knowledge, we can develop more sustainable technologies, innovative healthcare solutions, and urban planning approaches that prioritize environmental balance and human flourishing.

By recognizing the value of IKS and involving local communities in research and development processes, initiatives can promote cultural preservation, foster community resilience, and address intellectual property rights issues.

Some may contend that IKS is extraneous to contemporary challenges and that modern scientific knowledge is more helpful in addressing them. However, this viewpoint overlooks the beneficial contributions and insights that IKS can offer in tackling present-day issues. While modern scientific knowledge has advanced greatly in recent centuries, dismissing the wealth of expertise ingrained within IKS would be short sighted.

One of the strengths of IKS lies in its holistic approach, which integrates multiple dimensions of knowledge, including empirical observations, theoretical frameworks, experiential wisdom, and spiritual insights. Furthermore, many elements of IKS have been validated through empirical research and scientific inquiry. For example, Ayurveda, the ancient Indian system of medicine, has been subject to numerous scientific studies. Ayurveda offers holistic approaches to healthcare that emphasize preventive care, lifestyle modifications, and personalized treatment strategies.

The utility of yoga has been supported by a growing body of evidence-based research, highlighting its multifaceted advantages for physical health, mental wellbeing and quality of life.

Evidence-based research has confirmed that traditional Indian agricultural practices are sustainable and offer valuable lessons for addressing contemporary challenges such as climate change, soil degradation, and food insecurity. For example, conventional Indian agricultural techniques, such as mixed cropping, crop rotation, rain water harvesting and organic farming, align closely with modern sustainable agriculture practices to preserve soil health, enhance biodiversity, and mitigate climate change impacts. By integrating IKS with modern scientific knowledge, the potential to develop innovative and holistic approaches to agriculture that promote environmental sustainability, food security, and rural prosperity is immense.

Several aspects of Indian astronomy, including mathematical calculations, astronomical observations, and predictive models, have stood the test of time and have been validated through empirical evidence and modern scientific methods. There are many more such examples.

Therefore, rather than viewing IKS as incompatible with modern scientific methodologies, we should study its potential to contribute to a more inclusive, diverse, and dynamic scientific landscape.

The National Education Policy 2020 emphasized integrating IKS in school and higher education in different disciplines. Education infused with the perspective of IKS can offer students a holistic worldview that encompasses various facets of life. One such example is the emphasis on sustainable living practices, which is deeply ingrained within IKS. These practices focus on environmental protection and emphasize societal resilience and harmonious co-existence with the natural world.

Incorporating the principles of IKS into education enables students to grasp the interconnectedness between human actions and their impact on the environment and society. By delving into the wisdom of IKS and contextualizing it within modern realities, students gain insights into the importance of adopting sustainable lifestyles.

Furthermore, the teachings of IKS encourage students to seek solutions to contemporary challenges faced by human societies. Whether it's addressing climate change, resource depletion, or social

inequality, the holistic perspective of IKS equips students with a deeper understanding of these complex issues. It inspires them to take proactive measures for positive change.

Through a comprehensive exploration of IKS, students can emerge as informed and empowered individuals ready to tackle the challenges of the twenty-first century with resilience and creativity.

Indian higher education institutes (HEIs) are working on incorporating IKS into higher education, an ongoing endeavour. It necessitates meticulous planning, comprehensive teacher training programmes, and the procurement of credible study materials available in various Indian languages. The initiative to introduce IKS courses has gained traction, with more than 50 universities and 500 colleges across India already offering such programmes.

For instance, IIT Kanpur has taken a proactive approach by establishing the Study Centre for Indian Knowledge System for Holistic Advancement. This initiative aims to delve into and seamlessly integrate IKS into academic curricula and interdisciplinary research endeavours. Similarly, the Centre for Indian Knowledge Systems at IIT Madras is a dynamic hub for multifaceted research exploring India's rich scientific, technological, and cultural heritage.

These examples underscore the concerted efforts of higher education institutions in India to embrace and promote IKS. Through collaborative initiatives, innovative research, and curriculum development, these institutions play a pivotal role in advancing the integration of IKS into higher education, enriching academic discourse and fostering a deeper appreciation for India's intellectual legacy.

The capacity-building of teachers through training in imparting IKS in various disciplines is essential to prevent the dissemination of inaccurate information to students, which could undermine the integrity of IKS education.

Recognizing the need to strengthen faculty expertise in this area, the University Grants Commission (UGC), in collaboration with the IKS division of the Ministry of Education, has undertaken initiatives to enhance faculty training. One thousand faculty members and 250 Master trainers have been equipped with the necessary knowledge and skills. Looking ahead, plans are underway to train an additional 10,000 faculty members in the coming year.

These trained educators will receive comprehensive support, including access to reliable resource materials and well-structured course curriculums. The aim is to enhance student learning and empower faculty members across HEIs with the requisite expertise in IKS.

IKS is vast and diverse, spanning various Indian languages and dialects. A considerable portion of IKS knowledge resides within oral traditions accessible in all Indian languages. Therefore, faculty members are encouraged to incorporate relevant knowledge from their respective regions and languages into their teaching practices, enriching students' learning experiences. It is essential to recognize that integrating IKS into education can be approached in a manner that promotes inclusivity, diversity, and cultural appreciation.

For example, the Kerala School of Mathematics texts are written in Malayalam, showcasing the diversity of linguistic traditions within IKS. Similarly, a comprehensive text on Bamboo construction from Manipur is recorded in the Meitei language, demonstrating the multifaceted nature of Indian knowledge transmission.

Moreover, the diversity of languages represented in IKS is further exemplified by notable works such as "Nuska-dar-Fanni-falahat," a Farsi text on Agriculture compiled by Dara Shikoh, and the comprehensive text of Vriskhayurveda in Odia.

These examples underscore the inclusive nature of IKS, encompassing knowledge from many linguistic and cultural backgrounds.

By empowering educators with the necessary resources and knowledge, colleges can effectively deliver IKS education that is comprehensive, accurate, and culturally inclusive.

It's essential to recognize that integrating IKS into education, we can ensure that the richness and diversity of India's knowledge traditions are preserved and appreciated for generations to come.

Paradigm of IKS:

This section calls out the paradigm of IKS and some of its foundational elements in a short summary. This clarity and understanding is necessary for us to build a sustainable future for IKS. A full-pledged paper is necessary for us to understand challenges posed as a consequence of the paradigm itself.

The term "Indian Knowledge Systems," or IKS, is relatively new, but its roots trace back to ancient times. Essentially, IKS embodies Bharateeya Janna Parampara or Bharateeya Jnana Vahini. It encompasses a wealth of knowledge that originated in Bharat and has influenced every aspect of its existence over thousands of years. At its core, IKS provides individuals with a *purpose of life* grounded in timeless truths. Moreover, it organises intellectual, material and civilisational pursuits that align with this purpose of life.

This organisation led to the development of numerous disciplines, each known as a Shaastra. What distinguished these disciplines was their harmonious integration of Vedic, classical, and folk knowledge, addressing various human concerns while prioritising the advancement of knowledge. Moreover, the civilization's distinctive approach to nurturing each discipline through commentaries, annotations, and discussions ensured a thorough understanding deeply rooted in its culture and traditions. Consequently, disciplines like Tarka Shaastra and Nyaaya Shaastra emerged as vast realms encompassing multiple texts across different dimensions. Despite this vast diversity within IKS, certain commonalities were evident across these Shaastras.

- All knowledge within IKS was aimed at achieving a singular 'purpose of life,' known as 'Purushartha.'
- IKS Shaastras developed specific methods of knowledge representation aligned with the essence of life's fundamental truths and the pursuit of Purushartha. The use of 'Sutra' as a paradigm for knowledge representation was one such common method.
- IKS knowledge flourished in three dimensions: Textual, Performative, and Embodiment. Notably, the Textual dimension expanded through practice, performance, and embodiment. Therefore, the knowledge generated by IKS inherently leaned towards performance and embodiment. In many ways, our entire culture can be seen as a compilation of performative traditions collectively striving towards Purushartha.
- The transmission and preservation of IKS knowledge occurred through an active Guru Parampara, which bore the responsibility of safeguarding, preserving, and promoting our Jnana Parampara. It's hard to overstate the significance of this Parampara, as it remained the central feature of our civilization for millennia.

To sum up, IKS Shaastras flourished in both the material and spiritual domains while remaining true to the foundational purpose of life and primordial truth. In the subsequent sections, the article calls out specific challenges with respect to each of these elements. However, contemporary IKS will have to encompass additional dimensions due to two significant developments of the last 300 years.

- The significant knowledge advancements made by the West following the Enlightenment and Industrial Revolution, along with the widespread influence of Colonialism, have had a profound impact on the world. We can refer to this paradigm as Contemporary Knowledge Systems (CKS) that dominates all spheres of life.
- Simultaneously, there has been an ideological assault on IKS, spearheaded by Liberal Atheism. This worldview, which shaped Modernity and the Industrial Revolution, actively seeks to undermine and marginalise IKS. Through various manifestations, Liberal Atheism aims to discredit and even eradicate IKS. Over the decades, it has succeeded in establishing an elite in Bharat and elsewhere that disregards IKS entirely, relegating it to the sidelines.

The future of IKS depends on what it has within which has the ability to deal with the dominance of CKS and assault of Liberal Atheism.

Characterising the decline of IKS

As we seek to build a future for IKS, it is necessary to understand the nature of its decline over the years and the resulting challenges.

A lineage that had evolved over centuries faced its first disruption after the 1200s due to the Turkish invasions in the North. This invasion was primarily military and political, posing no direct challenge to the cultural or intellectual aspects of IKS. However, the practice and propagation of IKS slowed down. Its evolution completely halted in certain domains and regions.

Subsequently, British colonialism, starting in the 1800s, further marginalised IKS – a deliberate, active and calculated pursuit. In many regions and domains, IKS was altogether uprooted. Gradually, our traditional education system, which was highly decentralised and community-managed, was dismantled and replaced with a system aimed at producing individuals with a British mindset. At the same time, during this period, the West was rapidly advancing its Knowledge Systems based on entirely different foundational principles. In particular, it assumed enormous power through the progress in physical sciences.

This multidimensional development caused the following

- loss of native knowledge material, practitioners and their embodiment
- loss of communities that once practised and contributed to material IKS knowledge
- loss of the opportunity to evolve while incorporating valuable knowledge from the West
- destruction of a unique ecosystem – built by IKS for IKS
- weakening and marginalisation of the Guru-Parampara, which played a crucial role in shaping generations and transmitting knowledge.
- departure from the holistic approach to knowledge cherished in Bharateeya Parampara
- weakening of the very perspective of life – the Purushartha perspective
- Moksha – the pursuit and the sacred practices, was reduced to mere idea and unreal
- Dharma was erroneously equated with Religion, and confined to the private spheres of our homes.

As a result, our society started aligning itself with the knowledge system and life goals of another civilization. Liberal Atheism began to fill the void left by Purushartha in both societal/civilizational and individual realms. CKS became the default paradigm in all aspects of life. Our nation lost its self-assurance, and individuals lost their vitality.

It is essential to keep the above factors in mind for an IKS renaissance.

Characterising the reappearance of IKS

A societal unease was in the making, nevertheless. Despite the strong influence of Contemporary Knowledge Systems (CKS), an entire civilization cannot be completely swept away – however strong the wave is. The segment of society still rooted in Purushartha and hence Indian Knowledge Systems (IKS) has increasingly demanded a shift in the knowledge and education landscape. Additionally, a portion of the Indian educated elite, previously focused solely on CKS, began to recognize the validity of our civilizational experiences and wisdom. Thus, began the reappearance of IKS – to reintroduce IKS into the national discourse and shape a future on our own terms.

This reappearance of IKS, of course, is just a small step of a very long journey. IKS is not mainstream yet. It has merely earned a seat to be heard. It still has a long way to go. Given the enormous progress Contemporary Knowledge Systems (CKS) has made, it will take a few years for IKS to reshape itself, present adequately and demonstrate utility. If it does not deliver, the negative history will repeat. But that seems unlikely. This time we have a huge number of champions in the country with absolute clarity on what sustainable value IKS brings to the table even in the formidable presence of CKS. Further, our champions understand CKS i.e., western knowledge systems, modern

institutions, their paradigm and their pitfalls. They also understand the Liberal Atheist i.e., Left Liberal Secular ecosystem, their antagonism and instrumenting abilities – we are better geared up to protect what we propose.

In this midst, it's crucial to assess and recognize the progress made in mainstreaming Indian Knowledge Systems (IKS). Despite the journey ahead, significant milestones have been achieved.

- Firstly, IKS is now an officially recognized term, formalized by the Government of India in various policy documents, including the National Education Framework and National Education Policy. This formal recognition lends it credibility and influence, particularly in governmental and educational institutions.
- Moreover, dedicated IKS Departments/Divisions/CoEs/Programs are gaining traction in prestigious institutions like IITs and several other universities and colleges. This inclusion signifies a growing acceptance and prioritisation of IKS within academia.
- Additionally, IKS is increasingly integrated into governmental and institutional initiatives, shaping policy-making, programs, workshops, and various educational endeavours. The outcomes of these engagements reflect the rising importance of IKS among decision-makers and educators.
- Furthermore, non-governmental organisations are playing a crucial role in raising awareness about IKS through conferences, symposiums, publications, courses, and discussions. Institutions like INDICA are leading the charge in this regard, often outpacing government action. Their efforts, documented and available in consumable forms online, contribute significantly to increasing awareness and appreciation of IKS in society.
- Finally, a considerable number of scholars, intellectuals, and cultural figures are actively championing the cause of IKS, bringing visibility and credibility to the movement. New generations of IKS scholars, well-versed in both IKS and Contemporary Knowledge Systems (CKS), are emerging, offering fresh perspectives and narratives accessible to contemporary audiences. This ground-level innovation is driving effective progress in mainstreaming IKS.

However, it's important to recognize that the mainstreaming of IKS is only partial. The destination remains unclear, and the journey ahead requires greater clarity. It's akin to embarking on a journey where roads need to be built, trees need to be planted, and people need to be guided through unfamiliar terrain. There are numerous challenges, both in terms of understanding and resolution, across various dimensions such as ontology, epistemology, intellect, and institutions, which remain insufficiently addressed.

- IKS is yet to fully integrate into mainstream education. While it's now being considered, it's still on the periphery, available as elective or curiosity subjects. It's more about exploration than transformation, application, or evolution.
- In modern education and institutions, IKS isn't yet shaping or producing significant outcomes. It hasn't become the foundational knowledge system in any institution, operating more as isolated entities, visible but not fully integrated.
- One big challenge is how IKS aligns with Contemporary Knowledge Systems (CKS), which currently dominate. This is a complex issue, crucial for IKS's success. While CKS excels in the material realm and will remain mainstream in the foreseeable future, IKS's synthesis with it remains unclear.
- Furthermore, IKS lacks a unified narrative by its proponents. It means different things to different people and lacks a consistent, universally accepted articulation. Its contemporary expression is still evolving, with work in progress to define its relevance for human beings and civilizations today.

- Ironically, despite an intuitive sense of its importance, IKS has yet to capture the imagination of society at large. This underscores the challenges ahead despite its evident need perceived by the very same society in unstated ways.

  Contemporary Knowledge Systems continue to shape material life and civilization design. In addition, CKS continues to be a roadblock for the core pursuit of IKS – Chaturvidha Purushartha. It continues to restrict spiritual life – the transcendence and the pursuit of Moksha. It continues to problematise Dharma and make it inaccessible intellectually and emotionally. IKS has merely got an opportunity to come out of the woods and wave its hands in front of speeding cars on a road paved by the western civilization over the ruins of Indian Knowledge Systems.

  The saving grace is there is a substantial movement in favour of IKS. We are making steady progress on all these fronts. We should see light at the end of the tunnel sooner than later. This note is a part of that movement.

Establishing the relevance of IKS

As we continue to progress, it's important to address some basic questions. These questions can help create a clear and understandable narrative for the broader society, which will further propel the IKS movement forward.

1. Why should we study IKS? Why should we bring it back to the civilizational mainstream?
2. Given our civilization's historical setbacks, is reviving IKS necessary, considering that many deem it to have lost relevance? Our 'comprehensive civilizational, material, political defeat' post 18th century, as many call it, transpired while being anchored on IKS. Does that not mean IKS has a comprehensive defeat of IKS into irrelevance?
3. Is anything in IKS still relevant in the 21st Century when we have moved away from it in the last 300 years towards CKS? Has not CKS delivered material value way ahead of anything that IKS ever has?
4. How can a Knowledge System that evolved in the pre-industrial era be relevant in the post Industrial era? How can a knowledge system from the past remain useful in our modern era?
5. Leaving all that aside – What are the life goals according to IKS, and how do they relate to universal truths? What is the Ultimate Truth in IKS from which its goals are derived? Does that carry any relevance in the 21st century?
6. If these goals are still relevant, what obstacles stand in our way, and how can we overcome them?

Regarding these questions, there is a degree of shared understanding among IKS Scholars, although it may not have been presented in modern terms for wider understanding. Various spiritual and knowledge traditions in India have extensively addressed these questions. Initially, these responses may seem disparate, lacking common foundational principles. However, there is an underlying unity in terms of ontology and epistemology. When these perspectives are integrated, they converge on common foundational principles. This convergence is gradually being expressed in modern language and will likely become more evident in the future.

Questions 1 and 5 are pivotal and require immediate attention. A simplified summary response to these questions is as follows:

(A) We must study IKS because it provides a well-established wisdom and framework for the well-being of all beings through Purushartha (Dharma, Artha, Kama, Moksha). Here's why:

(a) It provides the best framework for individuals to pursue their goals in harmony with others.

(b) It offers effective civilization design frameworks for individuals to pursue happiness, health, and for humanity to achieve harmony.

(c) It lays down philosophical foundations for valued civilizational features such as diversity, sustainability, and autonomy, without conflicting with unity.

(d) It ensures sustainable human liberty and individual freedom without encroaching upon the rights of others.

(e) It offers the best aesthetics philosophy and the most diverse human experience framework.

(f) It prevents any crisis of meaning or existential crisis.

(B) In IKS, Parabrahman stands as the ultimate Truth. It forms the foundation of Purushartha pursuit, which serves as the individual's connection to Parabrahman. Pursuing Moksha leads to the merging of the Self with Parabrahman.

This ultimate Truth holds significance for both individuals and civilizations. The pursuit of Moksha guides individuals towards a sustainable, joyful, and naturally limited pursuit of Artha and Kama. It establishes the concept of Dharma, enabling individuals to realise a balanced Artha-Kama pursuit. Moreover, it provides a framework for society to organise life and build a civilization that fosters the pursuit of Purushartha to the fullest extent.

While CKS excels in material productivity, it lacks built-in restraints. CKS inherently fosters conflicts, a dimension not thoroughly understood but experienced regularly. Effectively characterising and explaining this aspect requires the lens of Indian Knowledge Systems (IKS).

With this understanding, answering questions 2, 3, and 4 becomes simpler. Our setback wasn't a loss of our knowledge system itself. Its core principles remain valid and significant. It was primarily a contextual defeat in military and political terms. While this defeat brings certain challenges, it doesn't mean we should discard our entire knowledge system. Instead, we should strive to create a harmonious coexistence of both Indian Knowledge Systems (IKS) and Contemporary Knowledge Systems (CKS), on our terms, as we rebuild our civilization.

IKS in the world of CKS

We have three choices to imagine the co-existence of IKS and CKS. None of this is easy. They are hard choices and making course corrections later is not easy either. The approach we take must not only be thought through, it requires reimagination of the very scale of crafting a new knowledge system.

1. **Integrate IKS into CKS**: Embrace CKS as the primary civilizational framework and incorporate IKS into it. This approach charts a new course for CKS, enriched by Bharateeya values.
2. **Integrate CKS into IKS**: Alternatively, prioritise IKS as the primary civilizational framework and integrate CKS into it. This aligns with the natural course of Bharatiya Civilization, bolstered materially by CKS. IKS serves as the guiding framework, regulating the utilisation of Modern Science and Technology.
3. **Keep IKS and CKS as mutually engaging parallel streams**: Maintain both IKS and CKS as separate but equally vibrant streams. Foster engagement between them and adjust the course of action based on ongoing deliberations and insights.

Option A is both impractical and incompatible. CKS, rooted in Liberal Atheism, inherently conflicts with IKS and holds a predatory stance toward it. While it may seem like we're leaning towards Option C, our ultimate aim should be Option B. Traditional IKS should serve as the primary knowledge framework, supplemented by two additional dimensions.

- Integrating CKS into IKS seamlessly to create a unified body of knowledge.
- Managing the predatory nature of CKS while incorporating it within the framework of IKS.

The fact that the Industrial Revolution took place in Europe, not in India, has significantly burdened the mindset of modern Indians. However, this sense of inferiority is unnecessary. It seems to have deepened in us as a consequence of post-independence education. It is remarkable how Bharata Ratna CV Raman and Sir JC Bose did not succumb to this feeling of inferiority in the pre-independence era. They embraced Modern Science while staying rooted in their Indian Knowledge Systems (IKS), finding no conflict between the two. Therefore, we should move forward confidently, drawing inspiration from the numerous possibilities available to us. Apart from the ones already presented, here are some more possibilities

- IKS provides a superior framework for humanities to tackle the pressing issues of Diversity, Sustainability, and Harmony, which have only become more pronounced in our modern Industrial era. In contrast, CKS has failed to effectively address these challenges despite promising otherwise for decades.
- Key disciplines of IKS, such as Nyaya, Yoga, Sankhya, and Vedanta, remain relevant not only for today but for all times.
- There is potential for subjects such as Vaisheshika to once again influence modern material ideologies.
- The Ashtadhyayi continues to captivate the modern fields of computation and linguistics, showcasing the enduring relevance of ancient Indian knowledge.
- Furthermore, there may be countless other ideas within IKS that could revolutionise various fields within CKS, much like how the organisation of the Sanskrit alphabet influenced Mendeleev in creating the Periodic Table.
- Agni Purana offers a totally different Taxonomic perspective which may enhance modern classifications in several disciplines. It may offer us a *Dictionary of IKS Concepts* that builds an engagement with corresponding CKS disciplines for IKS.

Many prominent figures in the field of IKS are already addressing these challenges and exploring other such possibilities.

Understanding Challenges to IKS

While we've begun our journey into IKS, we're still far from achieving significant outcomes. The article has already briefly mentioned some of the challenges we face. Here is a re-iteration and elaboration of some of these challenges that are specific to IKS. It is crucial to overcome for the renaissance we aspire to achieve.

- **The collapse of Guru Parampara and Communities**, a distinctive way of life that facilitated the pursuit and embodiment of Purushartha, has been a significant loss. Colonialism disrupted our functional communities, leading to a disintegration of both our material and spiritual aspects of life. In simpler terms, the structured way of life that was crucial for creating, practising, and preserving IKS through real-life embodiment has vanished. How do we recreate that ecosystem that fosters IKS? Should creating that ecosystem itself be one of the objectives of IKS?
- **Modernity, which is a tangible expression of Liberal Atheism**, continues to hold significant influence in various institutions, pulling younger generations away from their cultural heritage. It has complicated many aspects of our past and present, leaving us feeling inferior and emotionally paralyzed. As a result, we struggle to tap into our ancient wisdom. This has been achieved through the establishment of an intellectual and cultural framework rooted in Liberal Atheism, which creates narratives that distance us from our own culture and knowledge. This framework, often seen in Modern Humanities, dominates many institutions today. Overcoming this cultural divide created by

Liberal Atheism, Modernity and Modern Humanities remains a challenge for IKS, as our efforts largely operate outside this influential framework.

- **The influence of the Modern Industrial Dynamic**, shaped by Modern Science and Technology, is profound. Stemming from the Industrial Revolution and Enlightenment, it primarily focuses on material pursuits, neglecting considerations of Dharma and Moksha. This dominance of materialism has made it increasingly challenging to prioritise the pursuit of Purushartha. How can we elevate a knowledge system to prominence when the cornerstone of modern society, the Industry, operates within a cultural framework that conflicts with it?
- As mentioned earlier, Modernity has made **Moksha a suspect and Dharma distorted** into religion. With Artha-Kama being the only pursuit, it has reduced the society to being a collection of lonely individuals, hindering the development of Shraddhaa in the pursuit of Purushartha. Instead, it compels us to focus solely on material and pleasure-driven pursuits. The Modern Industrial Dynamic creates instruments for Modernity to perpetuate these pursuits, creating a self-reinforcing loop between Modernity and the Industrial system. How do we reconfigure this universe to access knowledge that operates in the paradigm of Dharma and pursues Moksha?
- At its core, understanding Parabrahman necessitates **access to our ancient texts**, which modern education has hindered both physically and psychologically. Furthermore, it entails a cultural environment that fosters practices and performances cultivating a sense of Shraddhaa towards Parabrahman, Moksha, and Dharma—concepts that modern education vehemently opposes.
- Knowledge in IKS was spread across the **text, practise/experience and embodiment**. It was not necessary for all knowledge to be textualized. The text knew to honour the other two dimensions and vice-versa. How does such a paradigm sit alongside another where the text is supreme? How can a knowledge paradigm that is anchored on 'Sutra' engage with one that primed 'model making'?
- Given these challenges, we currently lack the ability to **construct a material civilization** that simultaneously promotes the pursuit of Moksha guided by Dharma without causing cultural conflict. At the same time, we are also unable to engage with and reshape Contemporary Knowledge Systems through our philosophical frameworks.

  Hence, the challenge facing our knowledge system lies in the practical realities where an opposing and predatory knowledge system is flourishing both in abstract and real terms. Our lives are still not fully our own yet. Moreover, expansionist and exclusivist ideologies or religions exploit the space created by this dynamic. Therefore, any vision for Indian Knowledge Systems (IKS) must take into account these factors and actively work to address them.

Indian Knowledge Systems – a Vision and a Charter

In light of these challenges, here is one formulation of an Indian Knowledge Systems (IKS) Vision and Charter. This needs a reflection at two levels: a conceptual and epistemological level that is universal, and in practical terms within every context and domain of all Indian communities, which have been rooted in IKS for millennia.

The mainstream of IKS must:

- **Root** itself in the Chaturvidha Purushartha and empower individuals to pursue these goals within their own context.
- **Reestablish and facilitate** access to the knowledge of Parabrahman for all sections of society.
- Actively **Construct** an **Explanatory Plane** grounded in Purushartha, which:
- Authentically explains our civilization to ourselves.
- Cultivates a deeper understanding of other civilizations from our perspective.

- Undertake the **Restoration and Reconstruction** of our State and Society in a paradigm that enables individuals to pursue Purushartha. IKS must front-end the identifying, conceptualising, and striving for this reconstruction and revitalization.
- **Harmonize** Contemporary Knowledge Systems (CKS), including Science and Technology, through the lens of Purushartha towards Parabrahman. This entails integrating CKS with IKS by employing distinct viewpoints, tools, and instruments, with the ultimate aim being the broader umbrella of IKS, where CKS finds its appropriate place.
- **Reimagine** Guru-Parampara and the Embodiment of Knowledge within this harmonised universe of CKS/IKS. This involves creating, preserving, and transmitting knowledge on our terms, anchored in a knowledge paradigm essential for IKS.

Each of these must serve specific functions.

- The Explanatory Plane must contribute to **preserving** and **protecting** ourselves by actively countering worldviews shaped by Liberal Atheism. Essentially, it should reconstruct Social Sciences and Humanities from our perspective. This includes delving into:
- The metaphysics, design, and operational mechanics of Indian communities.
- Critiquing Liberalism from the Bharateeya worldview, contrasting the bharateeya value of *universal exclusivity* with liberalism's *university equality*
- The Explanatory Plane should also facilitate our meaningful **promotion** without resorting to proselytising or propaganda. Essentially, it should cultivate a 'Bharateeya Lens' through which we can explain the rest of the world and other civilizations effectively, both for ourselves and for others.
- Frameworks such as Purushartha, Srishti-Sthiti-Laya, Panchakosha, Ashtanga Yoga, Rta, Rna, etc., can serve as effective explanatory tools for understanding civilizations on our own terms, in addition to benefiting individuals on their life journeys.
- The **harmonisation** between IKS and CKS should facilitate the **reconstruction** of what is broken and the **creation** of a new future (**NAVA – SRISHTI**).
- **Reimagining communities**: Dharma necessitates the organisation of life within communities. Given our advanced individuality and industrial dynamics, we must envision a different future for our communities through the harmonisation of IKS and CKS and initiate this reconstruction.
- **Reimagining the State:** The State, with its policy frameworks and engine, will remain the primary driving force in the CKS paradigm. IKS must begin to integrate itself into this realm to align these frameworks with pursuits of Purushartha.
- **Technology with Dharma:** Disciplines like IKS Maths and other sciences, which were halted centuries ago, should now engage with their CKS counterparts to chart a new path for modern science, engineering, and technology. IKS must strive to reconfigure modern technology whose production, object experience and outcomes are **intrinsically Dharmic**.
- **Harmonious Experiences:** Experience design disciplines within CKS should draw influence from IKS subjects like Natyashastra to offer more harmonious material experiences.
- The harmonisation of IKS and CKS must help us **reconfigure** the current world to create a more harmonious, healthy, and happy universe where diversity, liberty, and autonomy are achieved within the limits of eternal sustainability. This necessitates three crucial reconfigurations at minimum:
- Developing an industrial culture and human resources development program that aligns with IKS principles.
- Designing institutions based on the IKS worldview.
- Establishing a governance framework and state structure that are compliant with IKS principles.

The success of IKS depends on its ability to steer humanity toward a different path in both the material and spiritual realms. Therefore, **reconstruction** and **reconfiguration**, or **NAVA SRISHTI**, are crucial. However, achieving this in isolation is not feasible. We must not

only **preserve** and **protect** IKS but also **promote** it globally, making Dharma promotion crucial. Thus, we have a new framework: **Preserve, Protect, Promote, Reconstruct, and Reconfigure**. This outlines the opportunity space for Indian Knowledge Systems (IKS).

We have a significant opportunity to develop frameworks and building blocks derived from IKS that form a knowledge framework that is on par with CKS. CKS may be materially ahead. But IKS does have the potential to be a superior knowledge framework enveloping CKS and guiding it in new directions. It's essential that we seize this opportunity sooner rather than later. Our current situation presents both challenges and opportunities, marking it as a pivotal moment for us. In essence, we are experiencing the worst of times alongside the best of times.

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