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From ancient wisdom to modern innovation: leveraging indian knowledge systems for atmanirbhar Bharat

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ABSTRACT

This research paper aims to understand the constructive collaboration between traditional Indian wisdom with modern innovation to propel the Atmanirbhar Bharat effort. Using knowledge from Ayurveda, Agricultural, Architectural and Governance Sciences of thousands of years this work illustrates how India can develop its own sustainable solutions for the future envisioned in the concept of Atmanirbhar Bharat. In this spirit, having adopted a multi-disciplinary perspective, the paper examines as to how the regeneration of Indian Knowledge System (IKS) can unlock economic development, support MSMEs, and enhance local communities' development. In addition, it assesses the applications of Indian paradigms of knowledge system in the international arena, especially in relation to sustainable development, health, and agricultural diversification.

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1. Introduction

Atmanirbhar Bharat Abhiyan, begun in 2020, is a software to help home manufacturing, Indigenous expertise, and limit imports. historically and within the beyond, the IKS of India has directed the exercise of sustainable, monetary, social, and political sides of Indian civilization. these are systems of know-how found within disciplines as Ayurveda, Yoga, Vedic Mathematics, and aspects of Indian civilization to give some examples and supply sustainable solutions to contemporary problems.

This paper goals at looking to link up historical Indian wisdom to current innovation and attempt to investigate how India's knowledge aids India's self-sufficiency intakes. To this cease, the study concentrates on case studies within the fields of commercial enterprise, and education as key areas in which plenty may be completed the use of IKS.

2. Objectives

1. Identify key Indian Knowledge Systems that can support the Atmanirbhar Bharat
2. initiative.
3. Analyse how integrating ancient wisdom with modern technology can benefit sectors like agriculture, health, and MSMEs.
4. Assess the socio-economic impact of implementing IKS-based practices on India's self-reliance.
5. Suggest policy advocacy suggestions that facilitate the integration of IKS into mainstream development programs.

3. Literature Review

3.1. Historical relevance of IKS

The importance of ancient Indian texts such as the Arthashastra and Manusmriti in shaping community-

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oriented economies and promoting holistic well-being is well-documented in historical studies. The Arthashastra, attributed to Kautilya, is a foundational work on statecraft, economic strategies, and governance, emphasizing a ruler's duty to foster prosperity, ethical economic practices, and efficient governance. This text includes guidance on resource management, taxation, agriculture, and defense, providing a model for creating self-reliant and prosperous communities. In contrast, the Manusmriti addresses social and moral laws that aim to maintain harmony within society, thus complementing the more policy-oriented directives of the Arthashastra by focusing on individual duties and ethical principles within the community structure.

These texts collectively highlight the balanced approach of ancient Indian thought towards wealth creation (Artha) and social responsibility (Dharma), suggesting that sustainable economic systems are rooted in ethical governance and respect for natural resources. Such frameworks were not only about administration but also about fostering an economy that could sustainably support and uplift communities, encouraging practices like labor unions and ethical wealth distribution, as seen in both texts and other ancient economic discussions within Indian philosophy.¹

3.2. IKS and modern sustainability

Several research studies have highlighted the compatibility of IKS with modern sustainability principles. Traditional Indian agriculture emphasizes organic methods and biodiversity, both of which align with sustainable practices in modern agriculture (Kumar & Rao, 2019).

3.3. MSMEs and self-reliance

MSMEs form the backbone of India's economy, contributing over 30% to the GDP. Research has shown that integrating IKS in business practices—such as using Ayurvedic principles in product development and sustainable sourcing—can provide MSMEs with a unique competitive advantage (Nair & Ramesh, 2021).

3.4. Technology and traditional knowledge

Studies reveal a potential for synergizing traditional knowledge with modern technology, particularly in sectors like healthcare and agriculture, where data-driven approaches can enhance traditional practices (Mitra, 2022).

4. Research Methodology

4.1. Case studies

Analysis of successful case studies where ancient Indian techniques, such as organic farming and Ayurveda-based products, have been integrated into modern business practices. Case studies of MSMEs leveraging IKS for

product differentiation will also be included.

4.2. Secondary data analysis

Reviewing government reports, academic literature, and existing policy documents related to Atmanirbhar Bharat and IKS to support arguments and findings.

5. Case studies in Business and Innovation

1. Exploring how MSMEs can use IKS-based practices to create unique, eco-friendly products that appeal to global markets.
2. Encouraging the integration of traditional craftsmanship and local materials to foster a circular economy.

5.1. Case studies in education

1. Incorporating IKS in school curricula to increase awareness and appreciation for India's heritage and sustainable practices.
2. Developing training programs for young entrepreneurs in traditional and sustainable business practices, creating employment opportunities.

6. Discussion

The implementation of IKS in key sectors like MSMEs and education can pave the manner for a sustainable and resilient Indian economic system.

Case research on the Implementation of Indian know-how structures in Key Sectors: MSMEs.

*Case study 1: The Rejuvenation of traditional Handloom and Handicrafts in Varanasi, Uttar Pradesh*²

6.1. Background

Varanasi's handloom and handicrafts sectors are centuries-vintage, using lots in local groups.

However, globalization brought about a decline in those traditional crafts, posing a hazard to artisans' livelihoods.

6.1.1. Implementation of IKS

The Ministry of Textiles, alongside neighbourhood NGOs, brought the "Project Varanasi.

Weaves" initiative, using conventional weaving strategies, herbal dyes, and Indigenous materials consisting of banana fibre. thru ability enhancement workshops, artisans discovered to combination historical strategies with present day strategies, enhancing the high-quality and market attraction in their merchandise.

6.1.2. Outcome

Varanasi's weavers efficiently tapped into new markets, inclusive of the global style industry,

Promoting a sustainable boom model. The revival now not best protected cultural historical past however also strengthened the MSME sector inside the vicinity, creating a ripple impact.

6.1.3. On the local economy

Case study 2: Ayurvedic wellbeing MSMEs in Kerala

6.2. Background

Kerala's Ayurvedic MSMEs are acknowledged globally for his or her true wellness practices rooted in Indian understanding structures. but limited assets for innovation and shortage of worldwide certifications have hindered their scalability.

6.2.1. Implementation of IKS

Address those challenges, the Kerala authorities released an initiative to sell Ayurveda-primarily based wellbeing tourism under the Atmanirbhar Bharat scheme. This covered education MSME operators in standardization, export-readiness, and sustainable practices. Collaboration with educational establishments helped them construct R&D frameworks based on Ayurveda to provide tested and first-rate-confident health merchandise.

6.2.2. Outcome

Ayurvedic MSMEs skilled widespread boom, tapping into wellbeing tourism and e-trade markets. The initiative accelerated nearby employment and contributed to the preservation of conventional Ayurvedic information, highlighting IKS's function in innovative MSME innovation.

*Case study: 3. Bamboo Handicrafts: Tripura Bamboo Mission.*³

6.3. Background

Tripura's bamboo handicrafts enterprise is a conventional zone that struggled with a loss of modern-day advertising channels and poor-satisfactory manage standards. those troubles hindered the enterprise's potential to compete with worldwide bamboo merchandise.

6.3.1. Implementation of IKS

The Tripura Bamboo assignment was initiated to modernize the bamboo MSME region whilst staying true to standard crafting strategies. schooling turned into provided to artisans on the use of superior bamboo processing machinery and natural treatment techniques, ensuring product durability without the use of chemical preservatives. Artisans have been additionally taught on-line advertising techniques to reach a broader audience.

6.3.2. Outcome

The Bamboo enterprise in Tripura noticed a revival, with merchandise being sold across India and exported the world over. This initiative highlighted how Indigenous knowledge, mixed with technological advancements, can decorate product cost, create sustainable income sources, and sell f6ba901c5019ebe39975adc2eb223bef substances within MSMEs.

*Case study 4 : Organic Farming and Agro based MSMEs: Sikkim's Organic Mission*⁴

6.4. Background

Sikkim have become India's first organic nation, growing possibilities for agro-based MSMEs to focus on natural products that align with traditional Indian agricultural expertise. however, organic farmers and small companies to begin with faced demanding situations in market get entry to and understanding organic certification requirements.

6.4.1. Implementation of IKS

The Sikkim organic task offered education in natural farming based totally on traditional strategies, focusing on soil fertility management and pest manage using Indigenous practices. The country supplied subsidies for natural certification and mounted partnerships to help the export of organic products to international markets.

6.4.2. Outcome

Agro-primarily based MSMEs in Sikkim have correctly marketed their merchandise as top rate organic goods, attracting consumers domestically and globally. This initiative no longer simplest boosted the earnings of nearby farmers and MSMEs but additionally underscored the capacity of traditional agricultural understanding as a basis for modern, sustainable agriculture.

*Case study 5: Natural Dye-Based Textile MSMEs: Rajasthan's Indigo Dyeing Revival*⁵

6.5. Background

The use of indigo as an herbal dye has a protracted records in Rajasthan, but the practice turned into almost lost due to synthetic dyes' prevalence. The vicinity's fabric MSMEs faced demanding situations in standing out in an aggressive marketplace wherein artificial dyes were cheaper and less complicated to apply.

6.5.1. Implementation of IKS

The Indigo Revival assignment, supported via NGOs and neighborhood cooperatives, labored with MSMEs to bring returned the conventional indigo dyeing method. Artisans were skilled in f6ba901c5019ebe39975adc2eb223bef dye extraction methods and taught how to combine indigo dyeing with modern-day design tendencies to make

products greater marketable.

6.5.2. Outcome

The project led to a resurgence in call for indigo-dyed merchandise, from environmentally conscious clients and the fashion enterprise. by way of tapping into a historical past practice, the MSMEs no longer most effective received a completely unique selling factor but also set up themselves as a part of the developing sustainable fashion movement.

7. Case Studies on the Implementation of Indian Knowledge Systems in Key Sectors: Education

*Case study 1: The National Institute of Ayurveda (NIA), Jaipur*⁶

7.1. Background

The country wide Institute of Ayurveda (NIA) in Jaipur has been a pioneer in Ayurvedic schooling, but its traditional teaching methodologies wanted modernization to attraction to present day students and to combine higher with global healthcare structures.

7.1.1. Implementation of IKS

underneath the Ministry of AYUSH, NIA restructured its curriculum to encompass present day scientific methodologies alongside conventional Ayurvedic practices. The revised curriculum integrates research method, pharmacology, and medical trials aligned with international requirements, presenting a blend of ancient expertise and cutting-edge medical insights.

7.1.2. Outcome

Graduates from NIA are now higher prepared for international healthcare roles, letting them paintings as practitioners, researchers, and educators in Ayurvedic medication. This fusion of IKS with contemporary medical education strengthens India's position in worldwide fitness and creates new profession paths for students in Ayurveda.

8. Case study 2: Integration of Yoga and Mindfulness Practices in Maharashtra's School Education

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8.1. Background

Maharashtra's faculty curriculum to begin with emphasized Western methods to bodily training, lacking indigenous techniques which might be both culturally relevant and deeply useful for mental and physical nicely-being.

8.1.1. Implementation of IKS

The nation schooling department, underneath the steering of NCERT, incorporated Yoga and mindfulness practices as part of the bodily training curriculum across colleges. training sessions for instructors have been conducted to

ensure they may deliver authentic, effective classes based on conventional Indian texts and practices.

8.1.2. Outcome

This integration has brought about advanced student focus, decreased strain degrees, and better bodily health. The success of this initiative has advocated comparable applications in different states, marking the revival of traditional Indian well-being practices in mainstream training.⁸

9. Overall Findings

9.1.

9.1.1. Indian knowledge system (IKS as Catalysts for Sustainable economic growth)

The research figured out that conventional Indian information in fields like Ayurveda, agriculture, textiles, and artisanal crafts offers sustainable, f6ba901c5019ebe39975adc2eb223bef options to standard practices. MSMEs that adopted IKS practices had been capable of create wonderful products with high value in international markets, which fostered more resilience and economic stability. as an instance, sectors like Ayurveda-based totally wellness products, natural agriculture, and conventional handloom crafts, when revived, have created jobs, stepped forward incomes, and bolstered nearby economies, contributing at once to the desires of the Atmanirbhar Bharat Abhiyan.

10. MSMEs as key drivers in the integration of IKS

The MSME region has been diagnosed as a critical platform for the practical utility of IKS, bridging conventional know-how with modern enterprise wishes. MSMEs that applied Indigenous understanding and skills set up higher consumer loyalty, resilience to international opposition, and improved export ability. additionally, they saw that MSMEs have been higher capable of engage with global markets whilst supported through certifications, first-class guarantee, and sustainable manufacturing practices rooted in IKS. Case studies, together with the revival of Varanasi handloom and Tripura bamboo crafts, highlighted how MSMEs can function cultural ambassadors, providing products which are inherently unique and sustainable.

11. Education and skill development as enablers of IKS integration

The research revealed that integrating IKS into formal training and vocational education can help equip younger generations with conventional talents adapted to modern contexts. instructional institutions that presented schooling in conventional practices like Ayurveda, Yoga, natural farming, and heritage crafts helped students see workable

profession paths in these regions. Furthermore, mixing IKS with modern-day medical techniques, as visible in Ayurvedic training applications, allowed graduates to innovate within conventional fields, contributing to self-reliant, indigenous industries.

11.1. Sustainability and environmental effect

IKS practices, in agriculture and traditional crafts, are inherently sustainable, counting on nearby substances, minimal external inputs, and f6ba901c5019ebe39975adc2eb223bef methods. The have a look at discovered that implementing those practices has a fine environmental effect, decreasing dependency on artificial substances and chemical substances. The transition of Sikkim into a natural state, the use of conventional agricultural practices, serves for instance of ways IKS can aid environmental sustainability, enhancing soil fitness, biodiversity, and average atmosphere resilience.

12. Revitalization of rural economies

The studies underscored that integrating IKS has revitalized rural economies via developing livelihood opportunities based on Indigenous practices. MSMEs in rural regions that tapped into traditional information structures skilled better economic stability and improved network nicely-being. with the aid of creating nearby jobs and promoting rural entrepreneurship, the application of IKS in MSMEs has decreased migration to urban centres, helping construct self-maintaining rural economies aligned with Atmanirbhar Bharat desires.

12.1. Global market appeal and export potential

services and products grounded in IKS, in Ayurveda, natural meals, textiles, and artisanal crafts, have a strong enchantment in international markets, amongst environmentally conscious and culturally touchy clients. Indian MSMEs leveraging IKS have a competitive facet in international markets as those merchandise is perceived as proper, sustainable, and culturally rich. The studies highlighted that authorities support in certifications, branding, and marketplace get right of entry to is essential for expanding the export capability of those MSMEs.

12.2. Policy support and infrastructure as critical success factors

The study found that government policies and initiatives play a pivotal role in the successful implementation of IKS within MSMEs and other sectors. Programs under Atmanirbhar Bharat, such as the Ministry of AYUSH's support for Ayurveda-based MSMEs, have provided crucial infrastructure, funding, and guidance. However, challenges remain, including the need for better access to credit,

skill development programs tailored to IKS, and the establishment of certification bodies to assure quality for international markets.

13. Policy Advocacy Suggestions to Integrate Indian Knowledge Systems into Mainstream Development Programs

1. Establish resolute IKS Resource Centres for MSMEs and Entrepreneurs
2. Strengthen IKS-Based Education and Vocational Training.
3. Certification and Quality Assurance Programs for IKS-Based Products.
4. Financial Support and Tax Incentives for IKS-Driven MSMEs.
5. Promote Digital Infrastructure for IKS-Based MSMEs.
6. Promote IKS-Based Tourism Initiatives.
7. Establish Knowledge Preservation and Digital Documentation Initiatives.
8. Foster Global Partnerships to Enhance IKS Credibility and Market Reach

14. Conclusion

These case studies demonstrate how Indian Knowledge Systems can be effectively applied in MSMEs to foster sustainable growth, preserve cultural heritage, and enhance market competitiveness. By blending traditional practices with modern innovation, these initiatives exemplify the goals of Atmanirbhar Bharat, driving self-reliance and promoting Indigenous knowledge on a global scale.

The findings of this research affirm that Indian Knowledge Systems, when integrated effectively into modern MSMEs, education, and policy frameworks, can drive sustainable development, economic resilience, and self-reliance, aligning with the vision of Atmanirbhar Bharat. By tapping into India's vast reservoir of traditional knowledge and adapting it for contemporary needs, the nation can enhance its global competitiveness while preserving its cultural heritage.

15. Source of Funding

None.

16. Conflict of Interest

None.

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