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Sustainable Development : Bridging the Economic and Environmental Sustainability in Hilly Regions



Chief Editor

Prof. Dr. Jyoti Khare

Dept. of Commerce

Govt. P. G. College, Maldevta (Raipur) Dehradun, Uttarakhand

Guest Editor

Prof. V. P. Agarwal

Principal

Chief Editor of Journal : Dr. Girish S. Koli



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Bridging the Economic and Environmental
Sustainability in Hilly Regions****Chief Editor****Prof. Dr. Jyoti Khare****Dept. of Commerce**

Govt. P. G. College, Maldevta (Raipur) Dehradun, Uttarakhand

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मंत्री

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सहकारिता, उच्च शिक्षा, संस्कृत
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संदेश

मुझे यह जानकर अत्यंत हर्ष हो रहा है कि राजकीय स्नातकोत्तर महाविद्यालय, मालदेवता (रायपुर), देहरादून दो दिवसीय राष्ट्रीय सम्मेलन "सस्टेनेबल डेवलपमेंट: ब्रिजिंग द इकोनामिक एंड एनवायरमेंटल सस्टेनेबिलिटी इन हिली रीजंस" का दिनांक 2 एवं 3 मई 2024 को आयोजन करने जा रहा है।

निश्चय ही इस राष्ट्रीय सम्मेलन के उप विषय द्वारा सामाजिक आर्थिक एवं पर्यावरणीय सतत विकास को बढ़ावा मिलेगा जो कि उत्तराखंड प्रदेश के विकास में सराहनीय है। इस तरह संगोष्ठी के आयोजन, जिसमें विद्वान मनीषियों, शोधार्थियों द्वारा विचारों का आदान प्रदान किया जाएगा। मुझे विश्वास है कि इस सम्मेलन के माध्यम से आगामी दो दिनों में सामाजिक आर्थिक एवं पर्यावरणीय विकास का जो आकलन करने हेतु विभिन्न महत्वपूर्ण बिंदुओं पर विचार किया जाएगा एवं उनसे निकले निष्कर्ष निश्चित तौर पर ही उत्तराखंड राज्य की सतत विकास की प्रक्रिया को आगे बढ़ाने में मील का पत्थर साबित होंगे।

मेरी ओर से इस राष्ट्रीय सम्मेलन की सफलता के लिए आयोजकों को एवं सहभागियों को हार्दिक बधाई एवं शुभकामनाएं।


(डॉ धन सिंह रावत)

Shailesh Bagauli, IAS
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Department of Higher Education
Govt. of Uttarakhand.



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Red. No. 890/PS/SECY/24
Dated: 24/04/2024



MESSAGE

It gives me great pleasure to extend my best wishes to all involved in the organization and participation of the upcoming two-day national seminar on **"Sustainable Development: Bridging the Economic and Environmental Sustainability in Hilly Regions,"** slated to take place on May 2nd and 3rd, 2024, at the Government Postgraduate College, Maldevta, (Raipur) Dehradun.

Sustainable development is a pressing issue that requires collaborative efforts from various sectors, and your initiative to convene this seminar is commendable. By bringing together scholars, experts, and stakeholders, you are creating a platform for fruitful discussions and the exchange of ideas that will undoubtedly contribute to the advancement of sustainable practices in hilly regions.

I encourage all participants to actively engage in the sessions, share their expertise, and explore innovative solutions to the challenges faced in achieving economic and environmental sustainability. Together, let us work towards fostering a future where development is balanced with environmental conservation and socio-economic equity.

I am confident that your seminar will be a resounding success, paving the way for impactful initiatives and collaborations in the field of sustainable development.

Wishing you all the best for a productive and enriching seminar.



(Shailesh Bagauli)
Secretary

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दिनांक : 18/04/2024



MESSAGE

I extend my heartfelt best wishes for the success of the upcoming two-days national seminar on **"Sustainable Development: Bridging the Economic and Environmental Sustainability in Hilly Regions,"** scheduled to be held on May 2nd and 3rd, 2024, at the Government Postgraduate College, Maldevta, (Raipur) Dehradun.

I commend your initiative in organizing this important seminar, which aims to address crucial issues surrounding sustainable development, particularly in hilly regions. It is heartening to see academia taking proactive steps towards finding solutions to environmental and economic challenges.

I am confident that this seminar will serve as a platform for meaningful discussions, knowledge sharing, and collaboration among scholars, experts, and policymakers. By bringing together diverse perspectives and expertise, I believe we can make significant strides towards fostering sustainable development practices in Uttarakhand and beyond.

I urge all participants to actively engage in the discussions and contribute their insights towards shaping a more sustainable future for our communities and environment.

Once again, I wish you all the very best for a successful and impactful seminar. May your efforts lead to tangible outcomes that benefit society and the environment.



Prof. N.-K. Joshi

प्रोफेसर ओम प्रकाश सिंह नेगी
कुलपति
Prof. Om Prakash Singh Negi
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UTTARAKHAND OPEN UNIVERSITY
उत्तराखण्ड मुक्त विश्वविद्यालय



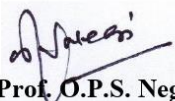
MESSAGE

I am thrilled to extend my heartfelt best wishes to each member of organising team for their unwavering commitment and remarkable efforts in organizing the National Seminar on "**Sustainable Development: Bridging the Economic and Environmental Sustainability in Hilly Regions.**"

In the face of complex environmental and economic challenges, your collaborative spirit and innovative ideas have illuminated paths towards a more sustainable future. Your tireless efforts in orchestrating this seminar have undoubtedly contributed to a deeper understanding of the intricacies involved in balancing economic growth with environmental preservation in hilly regions.

Your collective impact resonates not only brought this significant event to fruition but have also exemplified our university's commitment to fostering dialogue and action towards sustainable development in challenging terrains.

As celebrating the success of this seminar, let us remain steadfast in our commitment to sustainability and continue to forge ahead, leaving a lasting legacy of progress and prosperity for generations to come. Once again, wish you all the very best for your invaluable contributions and exemplary work for the society. May your endeavors continue to inspire and empower others towards a brighter, more sustainable future.


(Prof. O.P.S. Negi)

Haldwani
April 24, 2024



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अर्द्धशासकीय पत्रांक: 1011 / 2024-25
दिनांक: 04 जून, 2024

Message



I offer my heartfelt felicitations and best wishes for the triumphant execution of this nationwide seminar. The thought-provoking talks, lively debates, and creative ideas that result from this gathering will undoubtedly have a long-lasting effect on our academic community and beyond. I have no doubt that the knowledge acquired from this seminar will stimulate fresh lines of inquiry and greatly advance our field. May this event be both fruitful and motivational. **ALL THE BEST!!**



(डॉ० अन्जु अग्रवाल),
प्रभारी निदेशक
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उत्तराखण्ड



‘शुभकामना संदेश’

मुझे यह बताते हुए अत्यंत हर्ष हो रहा है कि महाविद्यालय में वाणिज्य विभाग की प्रोफेसर ज्योति खरे के नेतृत्व में ICSSR द्वारा प्रायोजित शीर्षक “Sustainable Development: Bridging the Economic and Environmental Sustainability in Hilly Regions” पर दिनांक 2 एवं 3 मई 2024 को राष्ट्रीय सेमीनार का आयोजन किया जा रहा है।

उत्तराखण्ड समृद्ध सांस्कृतिक विरासत का एक ऐसा खजाना है जो संरक्षण और संवर्धन की मांग सदैव करता है। प्रौद्योगिकी और शिक्षा की प्रगति उत्तराखण्ड के लिए भविष्य में उत्तरोत्तर विकास हेतु एक अभूतपूर्व अवसर प्रस्तुत करती है। निश्चय ही इस सेमीनार के माध्यम से डिजिटल बुनियादी ढांचे और शैक्षिक कार्यक्रमों में निवेश करने से उत्तराखण्ड में समावेशिता और नवाचार को बढ़ावा मिलेगा।

मुझे विश्वास है कि इस सेमीनार में विभिन्न प्रदेशों से आए हुए विद्वानजन एवं शोधार्थियों के विचारों के विनिमय एवं परिचर्चा से उत्तराखण्ड की सतत विकास में महत्वपूर्ण योगदान किया जा सकेगा।

सेमीनार की अपार सफलता के लिए आयोजक मण्डल को मेरी सतत शुभकामनाएं एवं इंडियन कौंसिल ऑफ सोशल साइंस रिसर्च (ICSSR), दिल्ली को आर्थिक सहयोग हेतु सहृदय धन्यवाद।



(प्रो० विनोद प्रकाश अग्रवाल)

प्राचार्य

राजकीय स्नातकोत्तर महाविद्यालय
मालदेवता, (रायपुर) देहरादून

EDITORIAL



In the realms of sustainable development, few challenges are as intricate and pressing as those encountered in hilly regions. The delicate balance between economic prosperity and environmental preservation in such terrains demands innovative solutions and concerted efforts. It is within this context that the compilation of abstracts in our Souvenir, *"Sustainable Development: Bridging the Economic and Environmental Sustainability in Hilly Regions,"* finds its significance.



In an era defined by environmental urgency and socio-economic complexity, the pursuit of sustainable development has emerged as an imperative for societies worldwide. Within this landscape, Seminar has four overarching themes as technical sessions—Sustainable Management and Green Marketing, Role of Governance and Regulatory Compliance in Sustainable Development, Sustainable Technologies and Renewable Energy, and Economic Diversification for Sustainable Growth—stand out as pivotal pillars shaping our collective journey towards a more equitable, resilient, and prosperous future.

In First session, Economic Diversification to Promote Long-Term Development will discuss that a key component of sustainable growth is economic diversification, especially in areas where resource dependence and environmental volatility are prevalent. Furthermore, while maintaining ecological integrity and cultural legacy, wise investments in education, skill development, and entrepreneurship enable people and communities to engage meaningfully in developing industries

In II technical session, discussion over Robust regulatory frameworks and effective governance will act as the cornerstones of sustainable development. Governance structures can serve as a catalyst for innovation, a means of promoting social inclusion, and a means of upholding the ideals of sustainability as pillars of both public and private decision and execution.

Third technical session on Renewable Energy and Sustainable Technologies shall focus on development of sustainable technology and renewable energy sources. Technological advancements are essential to severing the societies.

In Fourth technical session, we shall discuss the nexus of business and environmental care. Green marketing techniques and sustainable management practices are essential for promoting a positive interaction between business and the environment as we move toward a circular economy

Thinking about the complex interactions between these four concepts will make it clear that sustainability is a journey that needs to be embraced as a group rather than just something to be accomplished. We can create a future where wealth coexists with the environment and everyone benefits from sustainable development by working together, thinking creatively, and being steadfastly committed.

Prof. V. P. Agarwal

Prof. Jyoti Khare

Two Days National Seminar
on
**“Sustainable Development: Bridging Economic and
Environmental Sustainability in Hilly Region”**

Organised by
Department of Commerce
Govt. P. G. College, Maldevta, (Raipur) Dehradun, UTTARAKHAND

Director Conference
Prof. V.P. Agarwal
Principal, Govt. P. G. College, Maldevta, (Raipur) Dehradun, Uttarakhand
(Rajkiya Snatkottar Mahavidhyalaya, Maldevta (Raipur), Dehradun)

Keynote Speaker
Padamshri Dr. Kalyan Singh Rawat
Founder Secretary of MATI Organisation (Movement)

Convener & Organising Secretary
Prof. (Dr) Jyoti Khare
HOD, Commerce Department
Rajkiya Snatkottar Mahavidhyalaya, Maldevta (Raipur), Dehradun

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Indian Council of Social Science Research (ICSSR) was established in the year of 1969 by the Government of India to promote research in social sciences in the country. ICSSR provide grants for projects, fellowships, international collaboration, capacity building, survey, publications etc. to promote research in social sciences in India. Documentation center of ICSSR - National Social Science Documentation Centre (NASSDOC) - provides library and information support services to researchers in social sciences. ICSSR has developed ICSSR Data Service to serve as a national data service for promoting powerful research environment through sharing and reuse of data among social science community in India. The main objective of the ICSSR is to promote research activities.

About the College :

The college was established under the aegis of the Govt. of Uttarakhand at a serene and scenic site close to the confluence of Song and Bandal rivers in Maldevta (Raipur). Its functional journey started with undergraduate degree courses in arts and commerce faculty on March 5th 2014 in continuation of announcement of the then Chief Minister of Uttarakhand Government wide order No. 851/XXIV(7)/2014-15 (/kks)13 dated 26/11/2013. It is affiliated to Sri Dev Suman Uttarakhand University (State University). We have also introduced the faculty of science and postgraduate degree programs with the commitment to extend quality education to a more extensive section of society. Our core objective is to build an institute of higher learnings with a focus on skill development and capacity building, which aligns with the overarching interest of the nation. Here, our faculty, staff, associates, and students together construct a nurturing academic environment, enabling the aspiring seekers to expand their intellectual horizons.

Apart from disseminating subject matter knowledge, we also engage students in holistic personality development and career orientation programs. Our fraternity includes representation from a diverse range of economic, cultural, ethnic, and social backgrounds that adumbrates our spirit of inclusivity and pluralism. I take this opportunity to express my sincere gratitude to Govt. P. G. College, Maldevta (Raipur) family for making education accessible, further in the foothills of Garhwal region. Together, we shall keep thriving towards the pursuit of excellence in pedagogy and research and share our responsibility to shape 21st-century citizens of India.

Vision :

The vision of a commerce department is to create a nurturing and intellectually stimulating environment where students are empowered with both the theoretical knowledge and practical skills they need to excel in the world of commerce.

Mission :

- To provide a comprehensive education that merges academic excellence with practical skills.
- To strive to equip students with a strong foundation in commerce, ethical values, and global perspectives, fostering their development into responsible and adaptable professionals.
- To produce graduates who excel in business, contribute to society, and lead with integrity.
- To develop teaching and research programs that have relevance to society and employability

About the Conference

Uttarakhand, nestled in the lap of the Himalayas, is not only a picturesque state but also a region of immense ecological significance. In the face of global challenges such as climate change, resource depletion, and social inequality, the need to reconcile economic growth with environmental responsibility has become paramount. Different regions face unique challenges

and opportunities, and hilly areas often present distinct environmental and economic considerations. Hilly regions have delicate ecosystems that are more susceptible to environmental degradation. Discussing sustainability in this context may be crucial for preserving the region's ecological balance. Hilly regions may offer unique economic opportunities (e.g., tourism, agriculture) that need to be balanced with environmental conservation efforts. The delicate balance between economic growth and environmental sustainability is a pressing concern in the state, calling for thoughtful discussions and practical solutions. In light of this, **we propose organizing a seminar titled "Sustainable Development: Bridging Economic and Environmental Sustainability in Hilly Regions" in Dehradun, Uttarakhand.** The organizers may have chosen this focus to address the particular issues relevant to hilly terrain, such as soil erosion, biodiversity conservation, and the impact of development on fragile ecosystems. This seminar will delve into multidisciplinary perspectives, examining the synergies and tensions between economic and environmental sustainability. This seminar aims to bring together experts, policymakers, researchers, and stakeholders to deliberate on strategies that harmonize economic growth with environmental conservation.

The presentation would enable to commence with an overview of sustainable development principles, emphasizing the interconnectedness of economic, social, and environmental dimensions. Subsequently, the discussion would focus on innovative models and strategies that bridge the gap between economic growth and environmental stewardship. The concept of a circular economy, will be explored as a pivotal approach to achieving sustainability goals.

The seminar will also address the role of technology and innovation in fostering sustainable practices within industries. Insights into sustainable business models, responsible consumption, and corporate social responsibility will be presented to highlight the pivotal role of the private sector in sustainable development. By the conclusion of the seminar, participants will have gained a comprehensive understanding of the complexities surrounding the intersection of economic and environmental sustainability and resilient future.

The government must create a number of action plans in order to safeguard and advance the Himalayan states. Additionally, a lot of the time, the public will need to be kept safe by constantly taking advantage of human activity. It is imperative that the Himalayan states be taken into consideration in the national and international interest. Govt. P. G. College, Maldevta (Raipur) Dehradun is situated in a rural area. Workshops and seminars are primarily needed for the sustainable development economically and environmentally in the Indian Himalayan states, and this is what the suggested seminar will help with. One might develop a new framework for understanding the Himalayan economies and their management by examining a variety of research papers and the factual studies of distinguished researchers. Sustainable development will successfully advance local tourism, health, education, and sustainable forest product use. Additionally, a specific strategy will be developed for the organic, agricultural, and progressive development of the Hilly regions. This seminar has the potential to stimulate research efforts and contribute to the enhancement of the allure and accessibility of living in the Himalayan nations. Sustainable development is the need of hour. It will help in economic development as well as environment development of the hilly region.

Sub theme and Topics:

- Economic Diversification for Sustainable Growth
- Renewable Energy and Clean Technologies
- Biodiversity Conservation and Ecotourism
- Waste Management and Circular Economy
- Community-Led Initiatives and Indigenous Knowledge
- Digital Marketing for Sustainable Brands

- Green Marketing Strategies for Small and Medium Enterprises (SMEs)
- Circular Economy Implementation in Organizations
- Sustainable Supply Chain Governance
- Employee Engagement for Sustainable Practices
- Regulatory Compliance and Reporting
- Green Procurement Strategies and Policies
- Sustainable Goals for Sustainable Development

Theme of Technical Sessions:

Technical Session	Theme
I	Economic Diversification for Sustainable Growth
II	Role of Governance and Regulatory Compliance in Sustainable Development
III	Sustainable Technologies and Renewable Energy
IV	Sustainable Management and Green Marketing



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01**Digital Retail Channel Marketing for Developing Country in view of India****Dr. Swadesh Deepak**Assistant Professor,
Unity PG College, Lucknow**Prof. Jyoti Khare**Professor, Govt. P. G. College, Maldevta
(Raipur), Dehradun**Abstract**

The retail sector in India has undergone significant expansion, propelled by factors such as the nation's vast population and increasing economic prosperity. With a population exceeding 1.4 billion, India boasts a formidable consumer base, contributing to its status as one of the world's largest retail markets. Between 2019 and 2023, the Indian retail industry experienced a remarkable growth rate of 34%, reaching a valuation of US\$1.2 trillion in 2023, positioning India as the fifth-largest retail market globally. This surge has been fueled by various segments within the industry, with India's economic advancement serving as a primary catalyst. As incomes rise, individuals wield greater purchasing power, leading to heightened consumption across goods and services.

The rise of digital retail platforms has played a pivotal role in reshaping not only India's but also the global retail landscape. These digital avenues have automated numerous retail processes, benefiting both consumers and retailers. Consumers now enjoy the convenience of shopping at their leisure and from any location, with products delivered to their doorstep. This accessibility has enabled consumers to access products that might not be readily available locally. Furthermore, digital platforms have expanded the reach for retailers, facilitating connections with new suppliers and consumers across different regions. This broadening of scope has provided consumers with a wider array of products and suppliers to choose from, enriching their overall shopping experience.

Embedded interactive features within these digital platforms further enhance the consumer journey. Consumers can seamlessly navigate through the platform, explore various product categories, compare prices, and access detailed product specifications. Leveraging consumer data, these platforms offer personalized recommendations, aiding consumers in making informed purchasing decisions. Flexible payment options provided by digital channels further streamline consumer transactions, offering convenient and secure payment methods, including installment plans.

Keywords- consumer, purchase, retailer, suppliers

Introduction

Over the last three decades, India has spearheaded a population-scale digital revolution. Beginning in the mid-90s with the digitalization of its capital markets, India has now emerged as a global leader in constructing digital public infrastructure. This digital transformation marks a significant turning point in the nation's history, reshaping not only its economy but also the everyday lives and decisions of its citizens and businesses. What was once considered tech-savvy, such as sending emails or having a business website, is now commonplace. Looking ahead, India is poised to become home to the world's largest digital population. With initiatives like UPI and ONDC, the landscape of buying and selling goods and services in India will undergo a fundamental shift. Having a digital presence for businesses will soon be not just an option, but a necessity.

Digital interactions will become intertwined with daily business activities, from expressing preferences to making micro-decisions and fostering innovation. With the advent of open

networks in commerce, we stand at the cusp of innovative transformations in value chains and consumer engagement. Therefore, it is imperative for business leaders to deeply comprehend consumer preferences, behaviors, and patterns in this digital India. Moreover, considering India's immense diversity, it is essential to understand digital behaviors and journeys in the context of this diversity and its evolution.

The retail supply chain is undergoing a revolution fueled by rapid technological advancements, particularly Artificial Intelligence (AI). India is at the forefront of this transformation, embracing digital innovation and leveraging technology to redefine its retail landscape. In this dynamic scenario, I am delighted to introduce a comprehensive study on the evolving realm of digital retail channels and consumer behavior in the Indian context. The remarkable strides made in recent years towards the digital transformation of India's retail sector are evident. With a concerted focus on enhancing digital infrastructure, streamlining services, and promoting widespread adoption, the nation has witnessed a paradigm shift in business operations and consumer engagement with the e-market.

Objectives

1. To examine consumer behaviour while shopping online.
2. To discuss a few of the recent developments in the E-commerce sector.

Indian Retail and Recent Developments

India's population surpassing 1.4 billion establishes the nation as possessing a formidable consumer base, positioning it among the largest retail markets worldwide. As of 2020, the total sales in the Indian retail sector reached an estimated value ranging between USD 670-690 billion, with projections indicating a rise to approximately USD 1.32 trillion by 2032 (BCG & RAI, 2022). This expansion is primarily driven by India's economic advancement, resulting in heightened individual incomes and consequently, increased purchasing power. This trend is illustrated in the table below:

Table : India – Economic and Demographic Indicator

Economic Indicators	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Gross National Income (GNI) (₹ '000 crore) *	12,164	12,999	13,840	14,374	13,368	14,501
Annual Growth Rates GNI	8.3	6.9	6.5	3.9	-7.0	8.5
Per capita net national income (₹ crore) *	83,003	87,586	92,133	94,270	85,110	91,481
Annual growth rates per capita NI	6.9	5.5	5.2	2.3	-9.7	7.5
Gross Domestic Product (₹ '000 crore)	15,392	17,090	18,899	20,075	19,800	23,665
PFCE (₹ '000 crore)	9,127	10,036	11,205	12,237	12,032	14,095
Gross Domestic Savings – HH (₹ '000 crore)?	2,787	3,297	3,844	3,929	4,390	---
Gross Domestic Savings – % of GDP**	18.1	19.3	20.3	19.6	22.2	---
Population	1.34	1.35	1.37	1.38	1.40	1.41

Source: Ministry of Finance, Government of India, 2023

Alongside rising incomes, the proliferation of internet-based technologies and the expansion of digital retail channels' operations are pivotal contributors to the burgeoning retail sector. Through these avenues, both consumers and retailers are empowered to make informed purchasing decisions and manage supply chains more efficiently. Moreover, leveraging the internet and cutting-edge technologies allows firms to swiftly enhance existing products and develop new ones. This surge on the supply side has intensified competition among firms in the market, resulting in a plethora of products inundating the retail market and offering consumers a wider array of choices. Consequently, heightened competition has compelled firms to continually innovate their products and business strategies to maintain a competitive edge.

Despite notable advancements in the retail sector, organized retail in India remains in its nascent stage. As of 2019, it constituted only 6% of the retail sector, with e-commerce comprising a mere 3%, indicating significant potential for expansion. Penetrating smaller cities

and rural areas, efficient supply chain management, and providing affordable quality products are among the factors that could bolster e-commerce growth in the country.

Complexities in Retail and Recent Developments:

With an expanding consumer base, geographic expansion, and increased market competition, e-commerce firms are swiftly streamlining their operations to remain competitive. In doing so, firms are implementing measures that enhance operational efficiency and effectiveness, ultimately boosting revenue and consumer satisfaction. Here are a few operational challenges and measures undertaken by e-commerce firms:

- **Warehouse Management:** Traditionally, companies relied on large central warehouses for inventory storage, but these incurred significant investments and high shipping costs to remote areas. To address this, retail firms are adopting a hybrid model, combining centralized and distributed warehouses. Distributed warehouses are smaller, cater to local demand, and are easier to manage, reducing logistical costs and delivery times.
- **Automating Shipment Processes:** E-commerce firms handle thousands of products daily, making efficient shipment crucial. Automated processes, facilitated by integrated supply chain management, ensure accurate and swift product sorting, transportation, and packaging, resulting in minimal errors and time savings of 25 to 40%.
- **Product Returns:** Product returns pose a challenge for retailers, particularly in fashion and clothing, where issues related to quality, size, and fit are common. During festive seasons, return rates can reach 20 to 30%, adding to logistical complexities and costs.
- **Shrinking Margins:** Intense competition and overhead costs, including logistics, warehouses, returns, and advertising, have squeezed profit margins for e-commerce players. To address this, firms are devising new business strategies, such as promoting alternate payment methods to reduce reliance on cash on delivery (CoD).
- **Counterfeit Products:** The sale of counterfeit products remains a significant concern, particularly in categories like fragrances, electronics, and fashion. E-commerce firms are implementing measures to authenticate product quality and genuineness, including multiple checks and product badging, to mitigate this issue and ensure consumer trust and satisfaction.

Growth of the Indian Retail Sector and Changing Consumer Behaviour

The Indian retail sector makes up approximately 10% of the gross domestic product (GDP) and provides employment to nearly 35 million individuals. Like other economic sectors, the growth of retail was hindered by the pandemic, but it is now experiencing a gradual recovery, with steady growth at 8%. Factors such as the restoration of global supply chains, an uptick in consumer spending, and increased foreign investment in retail and technology enterprises have contributed to the sector's resurgence following the pandemic.

Table : Market Size and Growth Rate of the Retail Sector

Market size and growth in retail	2010	2019	2020	2021
Market size (US\$ in billion)	250	650-700	610-630	670-690
Growth Rate of Market Size (annual %)	---	+12%	-7%	+10%
Consumer spending (in US\$ trillion)	35-45	115-125	110-120	130-140
Growth Rate in Consumer Spending (annual %)	---	+10-12%	-(3 -5%)	+15-17%

Source: BCG & RAI, 2022

Overview of Shopping Behavior:

In their most recent online shopping transactions, approximately 65% of the surveyed consumers purchased products from only one product category, forming an exclusive category-based shopping basket, while around 35% of consumers bought products from different categories, constituting a mixed shopping basket. The primary product categories in which most

consumers made their purchases, either exclusively or alongside other categories, were fashion, clothing, and electronics. Specifically, about 52% of surveyed consumers reported purchasing fashion and clothing items, while 20% had bought electronic items. Additionally, owing to the convenience, time-saving benefits, and reduced physical effort, consumers frequently utilize payment apps and digital retail channels to settle utility bills such as electricity, water, and gas, as well as for mobile and broadband recharge services.

Figure: Overview of Consumer Spending

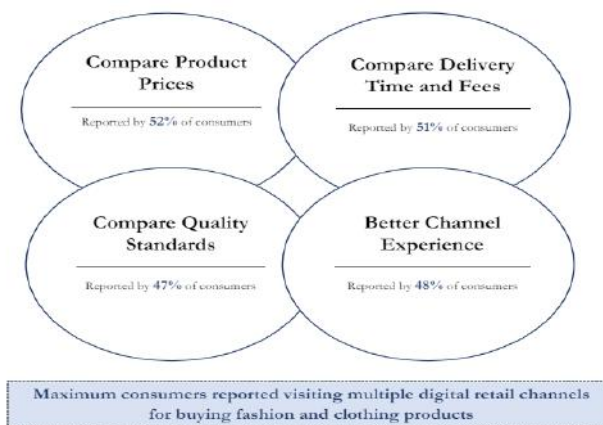


Source: IIMA Consumer Survey 2022

Searching and buying products on digital retail channels:

Prior to completing their final purchase on digital retail channels, consumers typically engage in several activities across multiple retail channels. Primarily, they visit various channels to compare product prices, assess delivery times, and evaluate delivery fees. Additionally, consumers seek a better overall experience on the retail channel's website, which may include factors such as user interface, navigation ease, and customer service quality.

Figure: Key Considerations for Consumers in Visiting Multiple Retail Channels



Source: IIMA Consumer Survey 2022

Key Insights on Consumer Behaviour by Age Groups

Consumers aged between 18-24 years:

- 1 21% of them feel influenced by online recommendations when making purchases on online retail channels.
- 2 68% visit multiple websites to purchase fashion and clothing products.
- 3 29% visit multiple websites for purchasing electronic products.
- 4 56% visit multiple websites to compare prices.
- 5 51% visit multiple websites to seek a better experience.
- 6 For 49.6% of consumers, coupons, deals, and cashback incentives trigger purchases from specific online retailers.

Consumers aged between 25-35 years:

- 1 Approximately 32% feel influenced by social media and television in making purchases.
- 2 About 54% visit multiple websites to compare product quality standards.
- 3 Around 37% compare EMI and payment options across multiple websites.
- 4 For 31% of consumers, product images and video quality influence purchases from online retailers.

Consumers aged between 36-45 years:

- 1 Approximately 20% follow suggestions and recommendations from family and friends.
- 2 34% visit multiple websites to compare return and refund policies.
- 3 Around 15% visit multiple websites to purchase home-related products.
- 4 51% visit multiple websites to compare delivery speed and fees.

Consumers aged 45+ years:

- 1 60% visited only one website for their last online shopping transaction.
- 2 Approximately 56% feel somewhat hesitant about using technology.

Perception of consumers towards online shopping

As the number of internet users in India continues to rise steadily, the future of online shopping in the country appears promising. Understanding the factors that influence consumer behavior and relationships can empower e-marketers to tailor their strategies effectively, thereby converting potential consumers into online shoppers. This study aims to identify the key factors that Indian consumers consider when shopping online.

Through this research, six components have been identified as significant influencers of consumer perceptions during online shopping: cognition, sensitivity, convenience of use, cost savings, enjoyment, and security. In the current era dominated by the Internet, profound changes have occurred in the way consumers procure goods and services. Many marketing companies have leveraged the Internet to reduce their marketing costs and maintain a competitive edge in today's highly competitive markets, leading to reduced prices for their products and services.

The Internet serves not only as a platform for online purchases but also as a tool for consumers to compare product prices, types, and features. Thus, it plays a pivotal role in shaping consumer purchasing decisions in today's digital age.

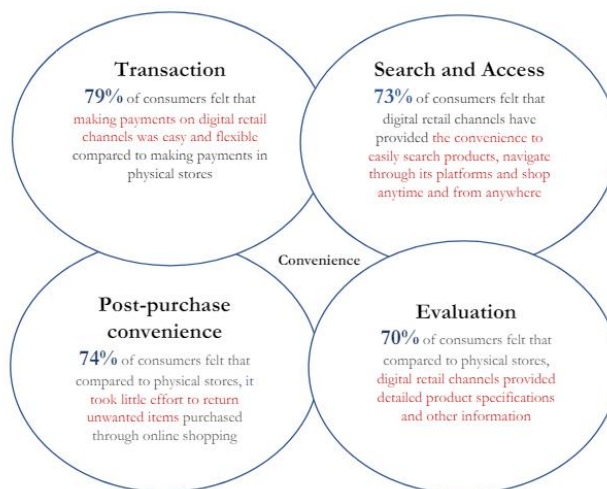
Figure : Description of Scales Used to Measure Consumer Emotions

1 Convenience scale: Prompts consumers to compare the convenience features of online shopping with their generic experience of in-store physical shopping Source of scale: Jiang et al. ,2013	2 Value scale: Records the extent of financial, quality, and emotional values that consumers felt they attained from their last online shopping transaction Source of scale: Sweeney & Soutar, 2001
3 Fulfilment of Cognitive and Physical Capabilities: Measures the extent to which digital retail channels have enabled consumers to shop while bridging their knowledge, information, financial, and geographical constraints Source of scale: Setia, 2019	4 Satisfaction: Measures the extent of consumers' overall satisfaction in their last online shopping transaction Source of scale: Seiders, et al., 2007

Source- www.google.com

Top reason of consumers on why they find online shopping convenient – transaction, search and access, easy return, and evaluation

Figure: Convenience Features of Online Shopping as Reported by Consumers



Source: IIMA Consumer Survey 2022

Views of Enterprise Representatives on Modes of Doing Business – Online/Offline-Online

- **Views of an entrepreneur on selling online only-** “I sell sarees and dress materials from my home. My business is not that large and at this point, I cannot afford to rent or buy a shop for my business. It’s more profitable to run like this. Buyers and I connect through phone, WhatsApp and social media. I have also registered myself on different websites. With these online apps, I am able to reach out to consumers beyond my city and State, and have healthy sales. But I also know many people who can afford shops and premises but they operate their businesses online only from their house or from small storage warehouse because of good prospects of online sales.”
- **Views of an entrepreneurs on selling both online and offline-** “Our firm is around 24 years old. Everyone in the market knows us. We make clothes, have stores and now to boost sales we now also sell online. We have registered on online retail platforms, have also made our own website, and sell to both consumers and businesses on orders”
- **Views of an entrepreneur on factors enabling online/offline sale-** “A person these days can sell products online or offline or a combination of both. The choice to follow depends on several factors, such as the product/service offered, scalability potential of the business, available location within city, working capital etc”

Key Findings

- 1 **Increasing Use of Digital Retail Channels:** Nearly 72% of consumers began shopping online within the last 1 to 3 years, indicating a significant rise in digital retail channel usage during the COVID-19 pandemic. This new consumer segment represents the majority across various cities, income brackets, and age groups. Hence, retaining and engaging these consumers is vital for the continued growth of e-commerce.
- 2 **Development of Cognitive and Physical Abilities:** Over 70% of surveyed consumers stated that using digital retail channels has enhanced their product-related knowledge and information, thereby improving their cognitive skills for shopping. These channels enable consumers to search for products more efficiently and gather comprehensive information through product images, specifications, videos, and reviews, aiding them in making informed purchase decisions.
- 3 **Browsing Online as a Pastime:** Approximately one-third of consumers reported visiting digital retail channels every 2 to 3 days, with frequent visits occurring at least once every 15 days. This indicates that browsing online has become a favored leisure activity among consumers.

- 4 Preference for Digital Retail Channels: More than 70% of consumers highlighted the convenience offered by digital retail channels in terms of access, transactions, post-purchase services, and value for money. These channels provide round-the-clock market access, facilitating orders from any location to the desired destination. Additionally, easy payment methods and hassle-free return/refund processes are cited as significant benefits by consumers, who also appreciate the value-for-money deals available online.
- 5 Popular Product Categories: Fashion, clothing, and electronics are the primary product categories consumers purchased in their most recent online shopping transactions, aligning with typical digital retail trends. During online shopping between May and September 2022, consumers spent an average of INR 1,587 on fashion and clothing items and INR 3,250 on electronic products. The majority of consumers spent less than INR 10,000, indicating a preference for moderately priced items.
- 6 Shopping Behavior: A majority of consumers (around 65%) exclusively shopped products from a single category in their last online transaction, while approximately 35% purchased items from multiple categories. Per capita spending on exclusive shopping was INR 965 for fashion and clothing products, INR 4,309 for electronic products, and INR 1,848 for utility payments.

Concluding Remarks

The retail sector in India is experiencing a profound transformation driven by factors such as the nation's vast population, economic growth, and the advent of digital technologies. With a population exceeding 1.4 billion, India possesses a formidable consumer base, positioning it among the largest retail markets globally. The retail industry has witnessed remarkable growth in recent years, fueled by rising incomes and increased consumer spending.

The emergence of digital retail channels has revolutionized the way consumers shop, offering convenience, choice, and personalized experiences. Consumers now have access to a wide array of products and suppliers, with the flexibility to shop from anywhere and at any time. The convenience of digital platforms, along with value-for-money deals, has led to a surge in online shopping activity.

Despite the rapid growth of digital retail, the sector is still in its nascent stage in India, presenting significant opportunities for expansion and innovation. Businesses must understand consumer preferences and behaviors in the digital age to stay competitive and capitalize on emerging trends. With the continued growth of India's digital population, the future of online shopping in the country looks promising, with ample opportunities for businesses to connect with their target consumers effectively.

Overall, the integration of digital technologies has reshaped India's retail landscape, offering consumers convenience, choice, and personalized experiences, while driving growth and efficiency for retailers. As the retail sector continues to evolve, businesses must adapt to changing consumer demands and leverage digital solutions to thrive in an increasingly competitive market.

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02**Employees Engagement for sustainability practices
in Higher Education Institutions situated in Central Gujarat****Mr. Jagdish Kumar Mishra**Faculty of Management, Economics and
Commerce ITM Vocational University,
Vadodara, Gujarat**Dr. Girish Kumar Painoli**Faculty of Management, Economics and
Commerce ITM Vocational University,
Vadodara, Gujarat**Abstract:**

Employee engagement is increasingly recognized as a critical factor in the successful implementation of sustainability practices in Higher Education Institutions (HEIs). This research paper aims to examine the relationship between employee engagement and sustainability practices in HEIs, focusing on the role of leadership, organizational culture, and communication. The study employs a quantitative approach, including surveys through questionnaire, to gather data from employees across various HEIs. The sample for this study consists of employees from various Higher Education Institutions (HEIs) across Central Gujarat area. A total of 300 employees were surveyed, representing a diverse range of roles within HEIs, including academic staff, administrative staff, and support staff. The sample was selected using a combination of convenience and purposive sampling techniques, ensuring representation from different departments and levels within the institutions. The findings suggest a positive correlation between employee engagement and the adoption and effectiveness of sustainability practices in HEIs. Specifically, the study identifies key factors that influence employee engagement, such as leadership support for sustainability initiatives, the alignment of organizational values with sustainability goals, and effective communication strategies. The implications of these findings for HEIs are discussed, highlighting the importance of fostering a culture of engagement and sustainability to achieve long-term success in implementing sustainability practices. The paper concludes with recommendations for HEIs to enhance employee engagement and drive sustainability initiatives forward.

Keywords: Employee engagement, sustainability practices, higher education institutions, leadership, organizational culture, communication

Introduction

Employee involvement is becoming more widely acknowledged as a vital element in the effective execution of sustainability strategies in Higher Education Institutions (HEIs). HEIs engage in sustainable practices that involve a diverse array of programmes focused on minimising environmental effect, fostering social responsibility, and maintaining economic viability. These approaches not only yield advantages for the institutions themselves but also make a positive contribution towards wider sustainability objectives and the overall welfare of society. The success of sustainability programmes in universities and colleges depends on employee engagement, which is defined as "the amount of emotional investment and commitment that employees have towards their work and organisation. Employees who are engaged are more inclined to actively engage in sustainability projects, generate novel ideas, and promote sustainable practices both within and externally to the organisation. Therefore, it is crucial for Higher Education Institutions (HEIs) to comprehend the elements that impact employee involvement in sustainability, as this knowledge is essential for improving their sustainability performance.

This study article seeks to analyse the correlation between employee engagement and sustainability practices in Higher Education Institutions (HEIs), specifically investigating the

influence of leadership, organisational culture, and communication. This study aims to provide useful insights into how Higher Education Institutions (HEIs) may promote a culture of participation and sustainability to advance their sustainability agenda. It will investigate critical elements that contribute to this goal. The study utilises a quantitative methodology, namely employing surveys in the form of questionnaires, to collect data from employees in different Higher Education Institutions (HEIs) in the Gujrat region. The sample comprises 300 personnel who encompass a wide array of roles within Higher Education Institutions (HEIs), such as academic staff, administrative staff, and support staff. The sample was chosen by employing a combination of convenience and purposeful sampling approaches in order to guarantee representation from all departments and levels within the institutions.

Review of Literature

Employee involvement plays a crucial role in promoting and maintaining sustainable practices in Higher Education Institutions (HEIs). This literature review analyses the effects of different factors on employee engagement, specifically in the setting of Higher Education Institutions (HEIs), and explores the consequences of engaged employees on the adoption of sustainable practices.

The organisational culture is crucial in influencing employee engagement. A brief description of culture provided by Schein (2010) is a group's learned underlying ideas about how to deal with both internal cohesiveness and external difficulties. These assumptions have been passed down from generation to generation because they have worked and are still working, and because they provide a good basis for how to see, think about, and feel about these problems. A positive organisational culture at Higher Education Institutions (HEIs) that is marked by transparency, collaboration, and a dedication to sustainability has the potential to increase employee engagement, as stated by Garrido-Moreno et al. (2017).

Leadership has a crucial role in promoting employee engagement (Bakker et al., 2015). Research has established a connection between transformational leadership and increased employee engagement (Bakker & Albrecht, 2018). HEI leaders that exhibit a resolute dedication to sustainability and involve employees in decision-making procedures are more inclined to establish a culture of engagement that fosters sustainable practices (Oreg & Berson, 2011).

Offering employees opportunities for training and development has the potential to enhance their levels of engagement (Kular et al., 2008). Inside the realm of sustainability, training programmes that provide education to employees on environmental challenges and sustainable practices have the potential to increase their involvement and dedication to sustainability initiatives inside Higher Education Institutions (HEIs) (Galuppo et al., 2019).

According to Kular et al. (2008), acknowledging and compensating employees for their efforts can have a substantial effect on their level of involvement. Implementing reward systems at higher education institutions (HEIs) that recognise employees' contributions to promoting sustainability might serve as a motivating factor for their active engagement in sustainable practices (Galuppo et al., 2019).

Effects on Sustainable Practices in Higher Education Institutions

Employees that are actively involved and committed are more inclined to endorse and actively engage in sustainable practices inside Higher Education Institutions (HEIs). According to Galuppo et al. (2019), individuals who are more devoted to the organization's goals and values, particularly in terms of sustainability, are more inclined to make additional efforts to support sustainable projects. Engaged professionals have the power to serve as ambassadors for sustainability, exerting influence on their colleagues and students to embrace sustainable practices (Garrido-Moreno et al., 2017).

Ultimately, employee engagement in Higher Education Institutions (HEIs) is impacted by factors such as organisational culture, support from leadership, opportunities for training and development, and the recognition of incentives. Committed personnel have a vital impact on promoting sustainable practices at higher education institutions (HEIs), thereby contributing to a sustainable future for both the institution and society.

Galuppo et al. (2019) conducted an extensive investigation into the influence of employee engagement on sustainable practices in Higher Education Institutions (HEIs). The study emphasised that employees who are engaged are more inclined to actively engage in sustainability activities inside higher education institutions (HEIs), resulting in the development of a more sustainable organisational culture. The study highlighted the need of offering staff training and development opportunities to increase their involvement and dedication to sustainability.

Garrido-Moreno et al. (2017) investigated the impact of employee involvement on the promotion of sustainable practices in Higher Education Institutions (HEIs). The study revealed that professionals who actively participate in sustainability projects are more inclined to promote sustainable behaviours, exerting influence on their colleagues and pupils. The study emphasised the need of cultivating a positive organisational culture and offering leadership assistance to improve employee engagement for long-term viability.

Oreg & Berson (2011) conducted a study that examined the correlation between leadership support and staff participation in sustainability within Higher Education Institutions (HEIs). The study demonstrated that transformational leadership, which is defined by a firm dedication to sustainability and active employee participation, has a considerable effect on employee engagement. The study proposed that leaders in Higher Education Institutions (HEIs) have a vital role in establishing a culture of active participation that promotes sustainable practices.

Bakker et al. (2015) investigated the impact of organisational culture on employee participation in sustainability in Higher Education Institutions (HEIs). The study highlighted the significance of a healthy organisational culture, characterised by traits such as openness and collaboration, in promoting employee engagement. The study emphasised the significance of harmonising organisational principles with sustainability objectives in order to bolster employee participation in sustainability efforts.

In 2008, Kular et al. did a meta-analysis examining the effects of rewards and recognition on employee engagement. The study revealed that employees who receive recognition and rewards for their contributions exhibit higher levels of engagement. Inside the framework of sustainability, the study proposed that the implementation of reward systems that recognise employees' endeavours to advance sustainability can increase their involvement in sustainable practices inside Higher Education Institutions (HEIs).

Objective

1. To identify determinants of employee engagements in HEI
2. To study the impact of employee engagement factors on sustainable practices in HEIs

Hypothesis

Null Hypothesis (H0):

1. There is no significant relationship between the independent variables (organization culture, leadership support, training development, rewards recognition) and employee engagement in Higher Education Institutions (HEIs).
2. There is no significant relationship between the independent variable (employee engagement) and sustainable practices in HEIs.

Research methodology

The research design adopts a quantitative approach, utilizing surveys through questionnaires to collect data from employees across various HEIs in the Gujrat area. The sample consists of 300

employees representing diverse roles within HEIs, including academic, administrative, and support staff. A combination of convenience and purposive sampling techniques was used to select the sample, ensuring representation from different departments and levels within the institutions.

Data Analysis and Results

Employee engagement factors determinants

Table: Correlation:

Correlations		Employee engagement	Organization culture	Leadership support	Training development	Rewards recognition
Employee engagement	Pearson Correlation	1	.755**	.766**	.710**	.575**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	300	300	300	300	300
Organization culture	Pearson Correlation	.755**	1	.729**	.704**	.534**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	300	300	300	300	300
Leadership support	Pearson Correlation	.766**	.729**	1	.708**	.442**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	300	300	300	300	300
Training development	Pearson Correlation	.710**	.704**	.708**	1	.493**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	300	300	300	300	300
Rewards recognition	Pearson Correlation	.575**	.534**	.442**	.493**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	300	300	300	300	300
**. Correlation is significant at the 0.01 level (2-tailed).						

The correlation analysis reveals significant relationships between employee engagement and its determinants, including organization culture, leadership support, training development, and rewards recognition. Strong positive correlations were found between employee engagement and each of these factors, indicating that as one factor increases, so does employee engagement. Specifically, organization culture showed a high correlation with employee engagement ($r = 0.755$), followed closely by leadership support ($r = 0.766$), training development ($r = 0.710$), and rewards recognition ($r = 0.575$). These findings suggest that a positive organization culture, supportive leadership, opportunities for training and development, and recognition for contributions are crucial in enhancing employee engagement within Higher Education Institutions (HEIs). The high significance levels ($p < 0.01$) further strengthen these relationships, indicating that these factors are important considerations for HEIs looking to improve employee engagement and, consequently, their sustainable practices.

Regression analysis: Table 2: ANOVA table

Model	Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.
Model 1	Employee engagement	215.074	4	53.769	182.055	.000
Model 2	Sustainable Practices	189.215	1	189.215	251.385	.000
Residual		311.427	593	.525		
Total		404.289	598			

The ANOVA table reveals that both Model 1 (Employee engagement) and Model 2 (Sustainable Practices) are statistically significant predictors of their respective dependent variables in the regression analysis.

The total of squares for Model 1 (Employee involvement) is 215.074, with 4 degrees of freedom, leading to a mean square of 53.769. The F-statistic is 182.055 with a p-value of .000, suggesting that the model is very significant in predicting employee engagement.

Similarly, in the case of Model 2 (Sustainable Practices), the total of squares is 189.215 with 1 degree of freedom, which leads to a mean square of 189.215. The F-statistic is 251.385 with a p-value of .000, suggesting that the model is very significant in predicting sustainable practices.

Table 3: Regression Coefficients

Model	Predictor Variable	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t	Sig.
1 Employee engagement	Organization culture	.304	.270	5.255	.000
	Leadership support	.336	.367	7.375	.000
	Training development	.182	.169	3.457	.001
	Rewards recognition	.239	.186	4.923	.000
2 Sustainable Practices	Employee engagement	.791	.676	15.855	.000

The regression coefficients table displays the correlation between the predictor variables (organisation culture, leadership support, training development, incentives recognition) and the dependent variables (employee engagement, sustainable practices).

The standardised coefficients (β) for Model 1 (Employee engagement) represent the relative significance of each predictor variable in forecasting employee engagement. The standardised coefficients for the predictors are as follows: leadership support ($\beta = 0.367$), organisation culture ($\beta = 0.270$), incentives recognition ($\beta = 0.186$), and training development ($\beta = 0.169$). The coefficients indicate that leadership support has the most significant influence on employee engagement, with organisation culture, incentives recognition, and training development following closely after.

In Model 2, the regression coefficient for Employee engagement is 0.791, demonstrating a robust and positive correlation between employee engagement and sustainable behaviours. The standardised coefficient ($\beta = 0.676$) indicates that there is a strong relationship between employee engagement and sustainable practices in HEIs. This finding emphasises the crucial role of engaged employees in promoting sustainability initiatives inside institutions.

All predictor factors had significant t-values ($p < 0.001$), suggesting that each variable has a distinct impact on the prediction of employee engagement and sustainable practices. The table of regression coefficients offers significant insights into the variables that affect employee engagement and their influence on sustainable practices in Higher Education Institutions.

Table 4: Model Summary

Model	Dependent Variable	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	Employee engagement	.844	.712	.708	.54345
2	Sustainable Practices	.676	.458	.456	.86758

The model summary table presents an outline of the goodness-of-fit statistics for the regression models that forecast employee engagement and sustainable behaviours. The R-squared value for Model 1 (Employee engagement) is 0.712, suggesting that around 71.2% of the variation in employee engagement can be accounted for by the predictor variables (organisation culture, leadership support, training development, rewards recognition). The R-squared result for Model 2 (Sustainable Practices) is 0.458, suggesting that around 45.8% of the variation in sustainable practices can be accounted for by employee involvement.

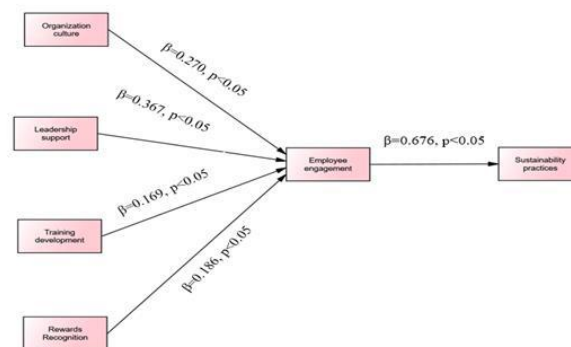


Figure 1. Employee engagement & sustainable practices

Discussion and Implication:

Findings from this study provide important context for understanding how HEI sustainability policies relate to employee engagement. According to the results, there is a robust and beneficial correlation between employee engagement and the success of sustainability initiatives in universities (HEIs). This implies that employees who are actively involved and committed are more inclined to endorse and engage in sustainable activities, hence fostering a more sustainable organisational culture. The report also identifies crucial aspects that impact employee engagement, such as leadership endorsement, organisational culture, training and development, and rewards and recognition. These qualities are essential in promoting a culture of active participation and long-term viability within higher education institutions (HEIs). Leaders in Higher Education Institutions (HEIs) can bolster employee engagement by showcasing a resolute dedication to sustainability, involving staff in decision-making procedures, and offering avenues for training and growth. Consequences The results of this study have many consequences for Higher Education Institutions (HEIs) who aim to improve their sustainability performance. Higher education institutions (HEIs) should give top priority to cultivating a favourable organisational culture that places a high emphasis on sustainability and actively encourages staff participation. This can be accomplished by obtaining support from executives, using effective communication techniques, and acknowledging staff' efforts to sustainability. Higher education institutions (HEIs) should allocate resources towards implementing training and development programmes that provide personnel with knowledge and understanding of environmental challenges and sustainable practices. These programmes can improve employees' comprehension of sustainability and bolster their dedication to sustainable projects. Higher

education institutions (HEIs) should establish reward systems that recognise and provide incentives for staff' endeavours to advance sustainability. Implementing a rewards system for

recognising employees' efforts can serve as a powerful incentive for them to actively engage in sustainable practices and contribute to fostering a more sustainable organisational culture. Employee engagement is essential for promoting sustainability practices in Higher Education Institutions (HEIs). By promoting a culture that encourages active participation and long-term viability, higher education institutions (HEIs) can improve their overall sustainability and make a positive impact on larger sustainability objectives.

Conclusion: - This study highlights the importance of employee engagement in driving sustainable practices within Higher Education Institutions (HEIs). The findings suggest that a positive organizational culture, strong leadership support, training and development opportunities, and rewards recognition are key factors that influence employee engagement and, subsequently, sustainable practices in HEIs. By focusing on these factors, HEIs can enhance employee engagement, improve their sustainability performance, and contribute to broader sustainability goals.

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03**A Study of the impact of Tourism Economy
in Sustainable development of Hilly Region in Uttarakhand****Dr. Shovhit Tripathi**

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Abstract

Tourism plays a major role in the world economy. It helps in the social, cultural, political and economic development of any country. Today all the countries are making efforts to strengthen their economy, as well as giving special importance to the tourism industry to promote tourism. Income from the tourism industry has contributed significantly to the economy of India. Not only economic but also cultural and geographical importance of tourism is noteworthy. Cultural relations have also expanded through tourism. Along with this, national unity has also increased and with the opportunities to understand each other at the global level, the narrow mindedness towards other countries and states has also changed.

The state of Uttarakhand, known as “Devbhoomi” among the Himalayan states of India, holds a special place due to its calm environment, captivating views and natural beauty. From the point of view of natural and religious tourist destinations, it has been able to create a unique identity for itself as a prosperous state. Mainly the mountainous region of the state attracts tourists from all over the world due to its natural scenery, glaciers, snow-covered peaks, the origin of Ganga-Yamuna Rivers, Kedarnath-Badrinath Dham with the beauty of innumerable religious places. Every year, tourists from India and abroad come to enjoy the state for fascinating natural beauty. The Government of India has made a successful effort to further ease the way for foreign tourists to come to India by providing the facility of electronic visa.

Tourism has developed as a major source of income and employment for the state government. Therefore, for the well-planned and rapid development of this sector, the state government is laying emphasis on making a multi-dimensional tourism policy and arranging a comprehensive action plan and institutional framework, so that the state becomes a leader in the field of tourism.

Keywords: Calm environment, Strengthen, Captivating views, Noteworthy, Geographical importance, Significantly, Emphasis, Multi-dimensional tourism, institutional framework

Introduction

The Himalayas have been attracting humans for centuries due to their vastness, diversity and uniqueness. No mountain group in the world is as rich in natural and cultural aspects as the Himalayas. It is not only an integral part of our historical and cultural heritage but is also a reality for the economic and sustainable development of the entire Himalayan region. This Himalayan region has an important contribution in influencing, determining and giving impetus to the meaning of our present life. Not only this, it has influenced our lives and myths in the past and this trend is going to continue in the future also.

The impact of globalization, today the inter-connectedness between different countries of the world is increasing. It is primarily the mutual exchange of economic, social, cultural, political, technological elements, which occurs between societies, nations and countries, the most important form of which is economic globalization which affects the economy, culture, social and political environment. We do this process also plays an important role in the sustainable growth of the tourism economy. Tourism and pilgrimage in Uttarakhand are a major source of income for the state as well as one of the most important components of the economy.

The state of Uttarakhand came into existence as the 27th state of the Indian Republic on 9th November 2000. Uttarakhand is nestled in the foothills of the Himalayas; and shares international borders with Nepal and China. Untouched nature in all its splendour - this is what Uttarakhand has to offer visitors. The state has been blessed with abundant natural beauty, across mountains and forests. The fact that almost half of its geographical area is covered by dense forest makes it even more remarkable. The state is sprawled across the mighty Himalayas, which house a cornucopia of unique flora and fauna, pleasant climate, and a peaceful and serene environment.

The Himalayan region of Uttarakhand has immense tourism potential. This state is filled with many fascinating, thrilling and adventurous tourist places spread in the far reaches of the Himalayas and many religious and holy places called Devasthali like Kedarnath, Badrinath, Gangotri, Yamunotri, Hemkund Sahib, Haridwar and Rishikesh etc. Tourist places like Cobbett National Park, Valley of Flowers, Auli, Nainital and Mansoori have immense potential to attract domestic and foreign tourists. Keeping all this in mind, the Uttarakhand state government has made many schemes and a new tourism policy to promote tourism in the state.

Review of Literature

Sangeeta Sundriyal (2018) Tourism in mountainous regions is a significant source of revenue generation. However, it has also been associated with many adverse environmental consequences. This study aims at assessing the negative impacts of the incessant upsurge in tourism development on the physical environment of Mussoorie, a well-known mountain tourist destination in India. The impact indicators for the region were identified and assessed by qualitative and quantitative analysis of field observations. The observations indicated the aggravation of traffic congestion, atmospheric pollution, undisposed solid waste, water scarcity and infrastructure unavailability as the prevalent issues, especially during the peak tourist months.

Rukhsana N. Badar (2020) Hill towns form a popular niche in tourism destinations. They are renowned for their natural beauty and distinctive cultural traditions. Unplanned development can lead to a loss in opportunity to access the potential of these resources or cause their damage. Development decisions need to adopt a sustainable approach that balances tourism growth with the preservation of the natural and cultural assets. The present research details a comprehensive assessment tool to study the sustainability of tourism in hill towns with a focus on Shimla, a popular hill destination in India.

Dhwani Gambhir (2021) A case for the North-Indian hilly states of Himachal Pradesh and Uttarakhand, popularly known as 'Dev Bhoomi'—Abode of the Gods, is presented. The states have a significant share of the religious and spiritual tourism in India. A qualitative and descriptive study using primary and secondary sources discusses the impact of this niche segment on the sustainability aspects in these states. In addition, suggestions to promote religious tourism while maintaining socio-economic and ecological balance in such difficult terrains are presented.

Akash Bhardwaj (2022) Hill towns are popular attraction for tourism destinations recent trends. These are famous for the natural environmental beauty and also for their distinctive cultural traditions. Current trends in tourism show they are focussed towards the increase in volume of tourists, thus bringing changes to mountain environment which are fragile and venerable to irreversible damaging effects. Shimla is a popular and one of the most attractive hill stations for tourists. But there are certain elements which are responsible for degradation of the beautiful place and effecting the environment of the city. Unplanned tourism development leads to overburden on available resources and deteriorating natural environment.

Research Methodology-This research paper revolves around the concept of Tourism Economy of Hilly Region in Uttarakhand and the sustainable development on it. The study is based on the

secondary data which has been collected through Government reports, books, websites, magazines, research papers etc.

Objectives

- ✓ To study the tourism economy of Uttarakhand.
- ✓ To study the role of tourism economy in sustainable development of Uttarakhand.
- ✓ To study the Employment Situation by tourism.
- ✓ To study Future tourism opportunities in Uttarakhand.

Tourism policy of Uttarakhand

Uttarakhand introduced its first tourism policy in 2001 with the objective of establishing world class infrastructure, attracting private sector for infrastructure development and identifying new tourism destinations. It is one of the fastest growing states in India; the state's GSDP increased at a compound annual growth rate (CAGR) of 6.5% between FY15 and FY21. To retain its growth and go further, it is imperative that Uttarakhand tourism must evolve, to adequately cater to the next generation of tourists. Tourism as a service sector is a key contributor to the growth story of Uttarakhand. The geographical, cultural, and environmental diversity of Uttarakhand has positioned it as one of the most visited states in North India. The number of tourists visiting Uttarakhand has consistently increased from ~22 million in 2014 to ~39 million in 2019 and registered a CAGR of 11.97%. A recent World Tourism & Travel Council (WTTC) report has pegged India as the 7th largest tourism economy globally in terms of absolute size, and further forecasts the sector to grow at 7% between 2017 and 2027. The state of Uttarakhand is expected to match this trend in terms of tourist arrivals.

Objectives of Tourism policy :-

The New Tourism Policy envisages chalking out a sustainable development strategy for tourism sector in the state. The role of the State Government and its Departments is envisaged to revolve around Policy, Regulation and Promotion of tourism; while provision of services like accommodation, tourist facilitation, transportation, organization of tours, activities, events, etc. will be the purview of the private sector, with State playing an enabling role.

- ✓ To facilitate private sector investment into hospitality and tourism projects in the state.
- ✓ To create and develop new tourism destinations and unique tourism products offering unmatched experience catering to various tourist segments.
- ✓ To ensure necessary basic amenities for all tourist destinations.
- ✓ To develop and improve connectivity infrastructure for key destinations with an aim to reduce travel time.
- ✓ To enable information dissemination to tourists visiting Uttarakhand (before, during and after visits) as well as to potential visitors.
- ✓ To enable accreditation of verified tourism service providers and industry players.
- ✓ To enhance revenue generation by enabling bookings through digital platforms.

Table No. 1

Share of Top 10 states/UTs of India in Number of Domestic/Foreign Tourist visits in 2022

S. No.	States/UTs	Domestic Tourist		Foreign Tourist	
		In Million	% Share	In Million	% Share
1	Uttar Pradesh	317.91	18.37	0.65	7.56
2	Tamil Nadu	218.58	12.63	0.41	4.74
3	Andhra Pradesh	192.72	11.13	0.35	4.02
4	Karnataka	182.41	10.54	0.33	3.84
5	Gujarat	135.81	7.85	1.78	20.70
6	Maharashtra	11.30	6.43	1.51	17.60
7	Rajasthan	108.33	6.26	0.40	4.62
8	West Bengal	84.54	4.88	1.04	12.08

9	Telangana	60.75	3.51	0.20	2.38
10	Uttarakhand	54.64	3.16	0.82	9.50
Total of top 10		1467.00	84.75	7.47	87.03
Others		264.01	15.25	1.11	12.97
Total		1731.01	100.00	8.59	100.00

Source: States/UTs Tourism Department, 2022.

Tourism also plays an important role in the process of globalization. Tourism in Uttarakhand is not only the main source of income in the state but also one of the major components of the economy here. A total of 1467 million tourists visited here in the year 2022, accounting for 3.16 percent of India's domestic tourists. According to which Uttarakhand stood at 10th position among all the states of India. Whereas, if we talk about foreign tourists, a total of 0.87 million tourists arrived here in the year 2022, which is 9.50 percent of the total incoming tourists of India. Because of Corona, it is comparatively less but still satisfactory.

Table No. 2

Tourist Statistics of Major Tourist Destinations

Sl. No	Tourist Destination	Year 2019			Year 2020			Year 2021		
		Indian '000	Foreigner '000	Total '000	Indian '000	Foreigner '000	Total '000	Indian '000	Foreigner '000	Total '000
1	Haridwar	21749.0	20.8	21769.8	4016.0	5.6	4021.6	12717.8	0.616	12718.42
2	Mussoorie	3023.0	1.1	3024.1	1016.0	0.2	1016.2	1229.5	0.280	1229.78
3	Dehradun	2875.0	29.8	2904.8	592.0	1.4	593.4	2866.1	1.675	2867.775
4	Tehri	2297.0	51.4	2348.4	226.0	16.4	242.4	490.5	2.300	492.8
5	Badrinath	1244.0	0.9	1244.9	155.0	0.0	155	199.4	0.003	199.403
6	Kedarnath	999.0	1.1	1000.1	135.0	0.1	135.1	243.0	0.027	243.027
7	Nainital	924.0	9.6	933.6	213.0	2.8	215.8	325.6	0.633	326.233
8	Rishikesh	856.0	8.1	864.1	171.0	1.1	172.1	291.2	1.576	292.776
9	Gangotri	530.0	0.5	530.5	24.0	0.0	24	33.8	0.000	33.8
10	Joshimath	489.0	0.9	489.9	194.0	0.1	194.1	167.4	0.012	167.412
11	Yamunotri	465.0	0.4	465.4	8.0	0.0	8	33.3	0.000	33.3
12	Kotdwar	441.0	11.3	452.3	175.0	6.2	181.2	108.4	0.638	109.038
13	Uttarakashi	380.0	1.7	381.7	64.0	0.2	64.2	80.6	0.140	80.74
14	Rudrapur	335.0	0.5	335.5	78.0	0.2	78.2	46.5	0.036	46.536
15	Auli	284.0	0.4	284.4	190.0	0.0	190	127.5	0.001	127.501
16	Corbett Park	276.0	7.8	283.8	165.0	2.6	167.6	287.3	6.813	294.113
17	Gopeshwar	255.0	0.0	255	19.0	0.2	19.2	10.2	0.053	10.253
18	Hemkund	240.0	0.2	240.2	8.0	0.0	8	19.9	0.000	19.9
19	Chamapawar	211.0	0.2	211.2	47.0	0.1	47.1	15.7	0.007	15.707
20	Pithoragarh	209.0	0.8	209.8	46.0	0.2	46.2	53.4	0.073	53.473
21	Srinagar	196.0	0.2	196.2	78.0	0.0	78	209.6	0.000	209.6
22	Rudrapur	161.0	2.0	163	99.0	0.4	99.4	182.3	0.156	182.456
23	Kathgodam	153.0	0.4	153.4	37.0	0.1	37.1	107.9	0.177	108.077
24	Ranikhet	151.0	1.9	152.9	20.0	0.1	20.1	45.3	0.000	45.3
25	Almora	123.0	5.3	128.3	18.0	0.7	18.7	38.0	0.171	38.171
26	Kausani	105.0	0.5	105.5	12.0	0.0	12	45.8	0.008	45.808
27	Pauri	79.0	0.9	79.9	27.0	0.1	27.1	7.4	0.000	7.4
28	Vally of Flower	17.0	0.5	17.5	1.0	0.0	1	10.4	0.015	10.415
Total		39067.0	159.0	39226	7836.0	38.8	7874.8	20002.7	15.41	20018.11

Source: States/UTs Tourism Department, 2022.

The number of tourists coming to Uttarakhand state is continuously increasing. It increased from 3,68,52,204 to 3,92,26,832 in the year 2019. Although in the year 2020, due to the terrible global epidemic **Corona**, this number decreased to 78,74,801, but once again it increased in the year 2022 and it was recorded as 2,00,18,110 total tourists. In this sequence, when we talk about foreign tourists, Uttarakhand has always been one of their favourite destinations. On one hand, in the year 2019, 1,59,204 tourists came here, while in the year 2020, it was 38,832 and in the year 2022, it was 15,410. Among these domestic and foreign tourists, most of the domestic tourists came to the religious city of Haridwar (58.00%),

Mussoorie (7.79%), Dehradun (6.67%), Tehri district (5.62%), Badrinath (2.84%), and Kedarnath (1.89%) and foreign tourists came to Maximum cases were reached in Tehri district (8.06%), Dehradun (8.01%), Haridwar (6.32%), Kotdwar (5.03%), Rishikesh (5.01%), and Nainital (4.92%).

The economic development of any region has always been based on the assessment of the industries being established there, the investments being received in these industries and the employment opportunities being provided to the people of that region.

Table No. 3
Industries Set-up with Investment and Employment in Uttarakhand

Districts of Uttarakhand	Financial year 2018-19					Financial year 2019-20					Financial year 2020-21				
	Cottage	Small	Medium	Investment (Lakhs)	Employment	Cottage	Small	Medium	Investment (Lakhs)	Employment	Cottage	Small	Medium	Investment (Lakhs)	Employment
Almora	66	11	2	205	209	55	0	0	2494	186	0	0	0	0	0
Bageshwar	142	0	0	10956	460	145	0	0	638	395	106	0	0	701	352
Chamoli	128	0	0	1325	508	0	0	0	0	0	0	0	0	0	0
Champawat	39	0	0	148	142	0	0	0	0	0	0	0	0	0	0
Dehradun	468	0	0	11225	3480	442	0	0	11759	3922	576	0	0	12558	10759
Haridwar	711	132	7	49250	7251	520	108	3	13963	2994	588	7	0	8058	4792
Nainital	1	0	0	15	5	0	0	0	0	0	0	0	0	0	0
Pauri Garhwal	56	1	3	1381	472	375	35	1	7157	1547	391	15	0	7550	1834
Pithoragarh	123	0	0	979	414	0	0	0	0	0	0	0	0	0	0
Rudrapur	138	2	0	1171	399	197	0	0	1575	633	238	0	0	1743	744
Tehri Garhwal	30	0	0	160	80	0	0	0	0	0	0	0	0	0	0
U S Nagar	454	72	3	13471	3128	488	58	0	10656	741	657	55	0	8003	4233
Uttarkashi	196	14	0	1387	635	198	21	0	2051	754	230	6	0	1871	673
Total	2552	232	15	91673	17183	2420	222	4	50293	11172	2786	83	0	40484	23387

Source: Industries Department of Uttarakhand, 2022.

Due to the adverse geographical conditions of the hilly region and lack of transportation facilities, the possibilities of setting up industries here are comparatively less, but despite all this, the number of cottage industries in the state is continuously increasing. On the one hand, the total number of newly established cottage industries increased from 2,552 in the year 2018-2019 to 2,786 in the year 2020-2021. On the other hand, the total amount of investment in the state in the year 2018-19 reduced from Rs. 91,673 lakhs to Rs. 40,484 lakhs in the year 2020-21, which will definitely be a matter of concern for the state government. But the decrease in it due to Corona disease was natural. Also, due to lack of employment in the state, the workforce who were working outside the state returned home due to which a total of 23,387 new employment opportunities could be created in the year 2020-21.

Developments and opportunities in the field of tourism

Uttarakhand envisions developing new tourism products which appeal to today's tourists. The storyline of Uttarakhand tourism, "**Simply Heaven**", can be fully leveraged by bringing together the diverse array of tourism offerings of the state. Uttarakhand has something to offer to every type of tourist, ranging from pilgrims to adventurers to leisure seekers.

Nature and Adventure Tourism: The Mountains of Uttarakhand with snow-capped peaks, perennial rivers, valleys and meadows hold great potential for nature and adventure tourism. The geographical landscape here can offer attractive opportunities for:

- ✓ Land and mountain-based adventure sports
- ✓ Water sports
- ✓ Aero sports

- ✓ Snow-based adventure sports
- ✓ Wildlife Tourism
- ✓ Nature and landscape
- ✓ Eco / Rural Tourism

The storyline of Uttarakhand tourism, “Simply Heaven”, can be fully leveraged by bringing together the diverse array of tourism offerings of the state. State’s forests. Wildlife tourism however has only been concentrated in limited areas of Jim Corbett and Rajaji national parks. Uttarakhand aspires to promote high-end high-value and low-volume tourism activities to showcase this rich natural heritage to the world without disturbing the ecological balance which exists.

Eco/Rural Tourism: The Ministry of Tourism, Government of India has published Draft National Strategy and Roadmap for Development of Rural Tourism in India as a part of *Aatmanirbhar Bharat* Initiative. It strives to promote Rural Tourism through a cluster approach, wherein groups of 5-7 villages with unique attributes will be identified and developed as a tourist destination. Few of the themes around which rural tourism can be developed are:

- ✓ Local crafts and cuisines
- ✓ Folk music, dance, puppet shows, theatre / street dramas.
- ✓ Agri-tourism, organic farming, farm stays, herbal products, tea estates
- ✓ Yoga and meditation centres
- ✓ Eco zones within or around the village
- ✓ Rural sports and cultural events
- ✓ Unique tribal culture
- ✓ Proximity to existing tourism circuits.

The state and district administrations shall play a key role, along with NGOs, Self Help Groups and local stakeholders, in capacity development of the villagers, developing multiple products and supply chains for F&B, rural handicrafts, etc.

Film Tourism: Uttarakhand has some of the best locations to shoot motion pictures in the mountains. A few of the locations have been used in past for shooting films. The state envisages to promote film tourism across all segments—cinema, documentaries, TV productions, foreign movies & shows and regional movies. A Film Tourism Scheme shall be separately launched by the Department outlining guidelines and incentives for film shooting in Uttarakhand. The state aspires to develop Film Cities at several locations and incentivize producers through subsidies and faster clearance mechanisms for filming in Uttarakhand and showcasing the state to the world.

MICE Tourism Meetings, Incentives, Convention & Exhibitions (MICE) is a niche segment which is also one of the fastest growing tourism segments in the world. As connectivity improves, the scenic locations of Uttarakhand will become accessible to corporates, academia and other MICE consumer segments in general. The cities of Dehradun, Nainital, Ranikhet, Pithoragarh, etc. are well placed to become MICE destinations for a larger catchment—both domestic (including Delhi NCR, Punjab, UP, etc.) as well as international. Hence, organized venues for conventions, exhibitions and meetings need to be developed. The state shall collaborate with international/national tour operators for promotion of MICE tourism in Uttarakhand. Local tours and travel agencies shall be encouraged to support hotels and MICE venues for facilitating easy transport facilities for outstation delegates. Further, Destination Weddings are emerging as a key sub -segment in this space.

With Uttarakhand’s large diaspora spread across the world and multitude of scenic settings for such weddings, the **Destination Weddings** segment is a high-potential opportunity. The state, in collaboration with private MICE venues, shall develop Destination Wedding Packages, which shall also be promoted on the tourism website.

Health and Wellness Tourism: Uttarakhand can be a complete spiritual wellness destination that revitalises the visitor's soul. Not just that, Uttarakhand is also home to multiple luxurious wellness centres that offer detoxifying and relaxing *Ayurvedic treatment* with therapeutic properties. Blessed with dense forests, rolling hills, lush meadows, snowy slopes and mighty mountain ranges, Uttarakhand offers visitors a respite from the fast-paced city life and a chance to soak in nature's peace and tranquillity. Leveraging its strong legacy in AYUSH, Yoga, Dhyaan, etc. the state shall develop this theme through the following steps:

- ✓ Accreditation and recognition to tourism enterprises working in wellness tourism promotion in the state, especially tours & travel agencies, online travel agencies (OTAs).
- ✓ Registration of wellness service providers and classification of these registered service providers to promote service quality.
- ✓ Marketing and promotion of attractive wellness tourism packages, in collaboration with registered service providers. Innovative packages will be tailored with industry partnerships, like cruise packages, yoga packages, wellness cuisine centric packages.
- ✓ Marketing and promotion of attractive wellness tourism packages, in collaboration with the private service providers.
- ✓ Training and skill development support to tourism enterprises in wellness tourism space, including language training, hospitality training etc.

Religious and Cultural Tourism: Religious Tourism Popularly known as '**Dev Bhoomi**' ("the 'land of Gods") Uttarakhand is the most coveted pilgrimage in all of India. Enshrined in religious mythology, legends and heritage, Uttarakhand is home to several revered temples, holy rivers and spiritual sites. Devotees flock here for pilgrimages to Char Dham (four religious centres namely Kedarnath, Badrinath, Yamunotri and Gangotri); to Panch Prayag, the confluence of rivers in five sites that ultimately form the River Ganga, one of India's most sacred rivers; and visits to several other destinations of religious importance (Bageshwar, Joshimath, Baijnath to name a few), it is only fitting that Uttarakhand is also referred to as the land of pilgrims. It also houses world's highest Gurudwara (the Hemkund Sahib) and Piran Kaliyar Sharif, a 'dargah / mausoleum and major Muslim attraction, which is reckoned to be the symbol of unity between religions. The policy intends to reinvent religious tourism by creating exciting packages for pilgrims, as well as for tourists who are interested in learning about religious mythology, architecture and cultural practices associated with places like these places of worship and spiritual significance. The Department shall formulate and popularize itineraries/trails which can be of tourist interest such as:

- ✓ Origins of the Ganges
- ✓ Mahabharata Trail
- ✓ Story of Shiva
- ✓ Buddhist Trail

A traditional home in Kumaun Cultural Tourism Conservation, regeneration and promotion of Uttarakhand, its history and traditions form an important part of its tourism development and have been recognized as essence of this policy and the state's tourism strategy. Pahari Culture is showcased in its cuisine, festivals, dance forms, music, clothing & attire, way of living, prayer forms, rural life, arts & crafts, and architecture. The Department shall endeavour to encourage tourism activities which promote this culture in various forms.

Arts & Crafts Tourism: The state shall identify and promote its indigenous arts and crafts through incentives and a Souvenir Policy. Recognition through tourism awards and accreditations shall be extended to artisans and workers employed in handicrafts industry. Marketing support shall also be extended to Handicraft products through certifications, in collaboration with Handlooms, Handicrafts, Textiles and Khadi Departments.

Heritage Tourism: Uttarakhand is home to many historic religious monuments. Moreover, it has also got a significant history as the site of former colonial settlements like Ranikhet, Nainital, etc. Many towns of the state are dotted with colonial buildings and relics like bungalows, museums, churches, and other government buildings. These historical monuments are currently maintained by various government agencies/departments, including State Archaeology, Archaeological Survey of India, etc. while some lie abandoned. The state shall prepare a list of sites which hold potential for tourism promotion.

Aside from this, the state aims to incentivise development of culturally influenced tourist products which would allow tourists to have an immersive experience of Uttarakhand's heritage: **Heritage Homes:** Owners of private heritage properties are encouraged to fit out the interiors and use the spaces as visitor accommodations. Such heritage homestays shall be incentivized as part of the Home Stay Scheme. Use of government-owned heritage properties for tourism–Unused/vacant/dilapidated historical buildings, at strategic locations, shall be taken up by the state for conservation, renovation and use for tourism purposes like heritage café, heritage hotels/guest house, etc. The state shall takeover such properties from relevant state department for this.

Targets for 2030 • Tourism to contribute USD 10 billion to Uttarakhand's economy annually and at least 15% of the state's GSDP • Uttarakhand to attract investment of INR 40,000 Crore in tourism, and take up minimum 100 PPP projects before 2030 (Investment of INR 30,000 Crore and minimum 70 PPP projects before 2027) • Tourism and its supporting industries to employ 20 lakh people in Uttarakhand, with women accounting for at least 30% of the workforce • To facilitate skill development of 10 lakh workers in tourism and its supporting industries • To increase average length of stay of tourists in Uttarakhand to 4-5 days • To increase foreign tourist visits as a proportion of total non-religious tourist visits in Uttarakhand to 5% • To reach 50 lakh followers on official social media handles of Uttarakhand Tourism Development Board • To ensure that new tourism projects coming up in the State adopt sustainable measures in development and operations.

Conclusion

Tourism is undoubtedly an important sector of the state's economy. Tourism not only contributes 50.00% to the total GDP of the state from 2012-13 to 2022-23, but the share of tourism in the state's GDP 2022-23 is about 10 billion US dollars, which is 15.00% of the state's GSDP. A recent World Tourism and Travel Council report ranked India as the 7th largest tourism economy globally and is estimated to grow by 7.00% between 2022 and 2027. It is expected that Uttarakhand will benefit from the increasing tourism trend in the country. At the same time, there are some challenges facing tourism in the state such as development, disaster prone areas which are full of high mountain risk, where unplanned development on the mountains, uncontrolled traffic system, excessive crowding and lack of solid waste system also hamper the pace of tourism in the state. Is working to weaken it. Due to inadequate rail routes, lack of air traffic and airport expansion, landslides etc., road closures are continuously increasing the problems of the state government.

The state government should make permanent efforts to improve the air transport network. Focus on expanding railway routes and running new trains so that the state can be directly connected to cities across the country. There are famous *Charodhams* located in the state which attract lakhs of devotees for pilgrimage every year, it is necessary to give adequate publicity to them. Adoption of all these above-mentioned measures will not only expand tourism in the state but will also increase the income of the residents of the state, which will strengthen the tourism economy, due to which Sustainable development of the Hilly Region of Uttarakhand will be possible.

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**The Study on Sustainable Development in Urban Kerala –
A Case Study of Ayyankali Urban Employment Scheme****Rincy Paul**Research Scholar, Postgraduate and Research Department of Economics,
Sree Sankara College Kalady, Ernakulam, Kerala**Abstract**

Kerala stands out for its implementation of various anti-poverty and employment generation programs, leading to remarkable achievements in social development. These programs have contributed to improved literacy, education, and employment opportunities, as well as a significant reduction in poverty levels. Recently, the Government of Kerala launched a new urban employment guarantee scheme called the Ayyankali Urban Employment Guarantee Scheme to provide employment to urban residents and further reduce poverty. The Ayyankali Urban Employment Guarantee Scheme (AUEGS) aims to provide a dependable source of employment for urban residents when other job opportunities are scarce or inadequate. This scheme aims to improve livelihood security in urban areas by offering at least 100 days of guaranteed wage employment within a fiscal year to any household whose adult member volunteers to do unskilled manual work. The AUEGS operates similarly to the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) model. The study utilized both primary and secondary data sources. For primary data, a structured questionnaire was implemented during a field study, and employment guarantee officers and municipal councilors were consulted through a group discussion. Secondary data were also gathered from various sources, such as journals and publications like economic reviews. The present study is an attempt to evaluate the effectiveness of AUEGS in reducing urban poverty and identify workers' attitudes toward the development of the particular program.

Keywords – Poverty, Unemployment, Ayyankali Urban Employment Guarantee Scheme.

Introduction

The self-employment and wage employment programs play crucial roles in eradicating poverty and unemployment in rural and urban areas of the country. Implementing urban self-employment programs in the Indian economy has a long history, but experience with urban wage employment is limited. The Nehru Rozgar Yojana, the first urban wage employment program, was launched during the seventh plan period. Its main objective was to employ unemployed and underemployed individuals in urban areas. The National Rural Employment Guarantee Act (NREGA) offers various employment schemes including financial assistance, urban wage employment, and housing and shelter upgradation programs. As part of the Eighth Five Year Plan (1992-1997), the government launched an Urban Basic Services for the Poor (UBSP) program to provide basic amenities to the urban poor. In 1995, the Prime Minister's Integrated Urban Poverty Eradication Programme (PM IUPEP) was launched to further aid in poverty reduction efforts. During the Ninth Five Year Plan Period (1997 – 2002), the Hashim Committee recommended the launch of a new program called Swarna Jayanti Shahari Rozgar Yojana (SJSRY) which replaced and phased out NRY, UBSP, and PMIUPEP.

In the present situation, rising unemployment and poverty have prompted policy experts and economists to reconsider the implementation of wage employment programs, particularly for the urban underprivileged. Urban wage employment is akin to the MGNREGA model prevalent in rural areas. Its objective is to enhance the livelihood security of the urban poor by offering them 100 days of wage employment. The Kerala government introduced an urban-

wage employment program called the Ayyankali Urban Employment Guarantee Scheme. The purpose of this study is to assess the effectiveness of the scheme in reducing the vulnerability of the urban population.

Statement Of The Problem

Our policymakers and experts have made several anti-poverty programs but still, most of the people who live in rural and urban areas have been suffering from acute poverty for centuries mainly because proper and special attention had not been given to rid them of poverty. While the government of Kerala is far better than other states of India in terms of average poverty estimates, there are still several pockets of deprivation in the state. Poverty in Kerala is concentrated in some social groups such as SC, ST, and women. The government of India and the state government have been implementing several programs for eradicating poverty empowering women and promoting gainful employment to vulnerable people. During the ninth plan, the government of India implemented an urban wage employment program for the urban poor, which aimed to eradicate urban poverty and unemployment. However, such programs have encouraged corruption, both at the political and administrative levels. And when such programs are withdrawn, the poor may again fall below the poverty line. Another problem is the non-participation of the part of people for whom the programs are meant. The present study researcher attempts to find out the impact of the Ayyankali Urban Employment Guarantee Scheme on poverty reduction and sustainable development in urban Kerala.

Scope Of The Study.

The study has been undertaken primarily to highlight the implementation effectiveness of the Ayyankali Urban Employment Guarantee Scheme in Kerala. The scope of the present study is limited to beneficiaries and officials Ayyankali Urban Employment Guarantee Scheme in Kerala. The study is focused on implementation effectiveness, benefits derived out of these programs to beneficiaries, satisfaction level of beneficiaries, problems in the implementation of the Ayyankali Urban Employment Guarantee scheme and the quality of work life of beneficiaries of this scheme.

Objectives Of The Study

- ❖ To understand the nature and functioning of the ayyankali urban employment guarantee scheme.
- ❖ To evaluate the impact of the scheme on creating sustainable development in urban kerala.

Methodology Of The Study

The study is based on both primary and secondary data. The primary data was collected from the field study using a structured questionnaire and a group discussion with employment guarantee officers and municipal councilors. The secondary data were collected from different sources like journals, publications like economic reviews, etc.

Review Of Literature

Subramanian Sahana (2023) explains the impact of the urban wage employment scheme on reducing urban poverty and unemployment. This study mainly focused on the Ayyankali Urban Employment Guarantee Scheme in Kerala. This study uses the capability approach to assess the impact of the Ayyankali urban employment guarantee scheme on urban commons and on beneficiaries' well-being understood as human freedoms. The results show that the Ayyankali Urban Employment Guarantee Scheme has improved the well-being and capability of the beneficiaries of the scheme.

G .D Niveditha (2022) The focus of this paper is to explore how urban employment guarantees can be used as a means to provide social security for the urban poor, particularly women and migrant workers. This study critically examines the functioning of AUEGS, its design, and implementation challenges based on workers' experiences, and interactions with municipal and

state-level actors and experts. It concludes by recommending the need for such a scheme at the national level to increase the scope of the State to strengthen social security for the urban poor.

Ayyankali Urban Employment Guarantee Scheme

During the ninth plan period, the government of Kerala was the first state in the country to introduce an urban wage employment program known as AYYANKALI URBAN EMPLOYMENT GUARANTEE SCHEME. It aims to eradicate urban poverty and unemployment by providing 100 days of wage employment to the urban poor. It is a strong, right-based, and gender-sensitive program, similar to the MGNREGA scheme. Every adult household member living in an urban area who is willing to perform physical labour without skill may register their name with the municipal corporation or municipality in their home jurisdiction. All workers who register under the scheme within 15 days of registration shall get job cards from the towns or corporations by the AUEGS protocol. The initiative allows adult members of registered households whose names are on the job card to apply for unskilled manual labour for as many days as they would like, up to a total of 100 days per home per year. Similar to the MGNREGS, the candidate will receive unskilled manual labor within 15 days of submitting.

The Ayyankali Urban Employment Guarantee Scheme provides equal wage rates for both men and women. Apart from the guaranteed stipulated wage rate, the scheme also provides several other rights for the workers, such as free medical treatment and wage compensation. As per the guidance of the AUEGS, provide some worksite facilities such as a resting shed, drinking and cleaning water, basic sanitation, a resting shed, a first aid kit, crèche facilities, etc. on the worksite. Public works aimed at natural resource management and preserving urban commons are given special attention in the AUEGS guidelines (Ayyankali Urban Employment Guarantee Scheme (AUEGS), n.d.). Drawing from the site visits and interviews, the public works project sought to enhance the current Four areas comprising the preservation of natural resources and the introduction of new ones: urban beautification, small-scale farming, plantation works, and water conservation. AUEGS has surfaced in Kerala as a viable remedy for the twofold dilemma in urban areas. AUEGS, which is modeled after MGNREGA, its prosperous counterpart in rural areas, is said to be well-conceived, rights-based, and targeted at enhancing both the standard of living for individuals and urban commons.

Impact Of The Scheme

Increase Employment Opportunity In Urban Poor

In the financial year 2022-23, the government of Kerala allotted 150 crores for AUEGS, using this fund the scheme created 41.11 laks personal days of employment. Currently, 2.76 families are registered under the scheme, out of which 96000 families regularly depend upon the scheme. AUEGS is specially focused on unskilled laborers without age limits. AUEGS provides b opportunities to unskilled persons. So AUEGS has created a great impact on the employment generation in the urban area.

Financial Inclusion

One of the most important objectives of AUEGS is a provide livelihood security to vulnerable sections of the people in urban areas. As per the guidelines of the AUEGS, 50% of the beneficiaries are women, SC and SC. The present study results explain that most of the beneficiaries are women, SC, and ST, it is analyzed that most AUEGS provide opportunities for financial stability and security for the urban poor.

Women empowerment

AUEGS scheme is a gender-sensitive program, this scheme gave more priority to creating employment for women. The field study result shows that more than 95% of the participants are females. AUEGS helps to increase the female labour force participation rate.

Conclusion

Urban women benefit greatly from the Urban Employment Guarantee Scheme. Due to the high cost of living in cities, the majority of participants are female, which promotes women's empowerment and raises the standard of living for urban residents. This programme offers pensions, insurance, scholarships, and unemployment benefits. This essay aims to comprehend the program's effects on lowering urban poverty. In summary, the Ayyankali urban employment program significantly lowers urban poverty and increases the number of job options available to low-skilled urban poor individuals. The innovative Ayyankali Urban Employment Guarantee Scheme seeks to safeguard disadvantaged groups in society and lessen urban poverty. One could claim that AUEGS is a substitution.

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05**Impact of Transactional Profile on Organisational Climate
A Comparative Study of Banks in Uttarakhand in
the perspective of sustainability****Pradeep Bhatt**Ph.D. Scholar,
Soban Singh Jeena University
Almora, Uttarakhand**Dr. Vandana Tiwari**Govt. Degree College Bhikiyasain, Soban Singh
Jeena University Almora, Uttarakhand**Abstract**

Employee opinions of government as well as private sector banks and their perceptions of it are both influenced by the organizational climate. The goal of the current study is to investigate the business environment in the banking industry in Uttarakhand by using the more prevalent organizational climate variables. Empirical research in different Indian firms has demonstrated the benefits of an environment that prioritizes employee success. The goal of the research was to determine how bank employees in the government or privatized sectors are compensated. The sample was made up of 100 workers, 50 of whom worked for in the government sector as well as 50 in the private sector. The study's findings showed that the organizational atmosphere differs greatly in public as well as private sector. According to the study's findings, the organizational culture in the government & privatized banking sectors differs dramatically which gives contribution in sustainability. Better environment lead to the better utilization of resources.

Keywords: Public banking sector, Private banking Sector, Organizational culture, Organizational Climate, sustainability

Introduction

An essential component of management and organization is the organizational atmosphere. The growing body of research in this area and the intense discussion of the topic helped to conceptualize and define it, which aided in the development of a broad understanding of organizational climate as a significant concept. The perception that all individuals that operate alongside and for the company share is known as the organizational climate. Shared values, viewpoints, and workplace cultures make up an organization's climate, which may have a big impact on how its people behave. It has been suggested that organizational climate may play a part in organizational learning since it may offer encouragements and supports for fostering interpersonal relationships and communication. Knowledge is too difficult to disseminate among members of an organization because of its stickiness. It is a set of quantitative working factors that workers experience immediately or unintentionally and that have an impact on their ability to work and level of satisfaction. It is the aggregate of all employees' impressions of organizational procedures, policies, and practices. Organizational climate refers to both complete measures and perceptions of the climate. Although the "Climate" can be evaluated in definite words & quantified by tools, each person's "feeling" of it varies. One person may thrive in the ideal climate while another may not. A cultural environment is essential to the eventual achievement of an organization's objectives. The performance of an individual or work unit is ultimately influenced by the standards, attitudes, beliefs, laws, as well as processes that are consistent with make up the organizational climate.

Today's interaction combines quick change with a dynamic setting. The information, abilities, and skills of the organization's employees are crucial to its performance and long-term viability. Only the most contented professionals who fully demonstrate their abilities to match the needs of the organization will be watched. For intents and goals of all organizations, considering the current environment of intense rivalry and general discontent, look for opportunities to expand

employee accountability and maintain them accountable for achieving the objectives. The chairman is ultimately bases hiring decisions on talent selection and registration in order for the organization to flourish by inspiring and gratifying its workforce, which results in high-quality programmes that foster engagement and raise its profile.

The numerous affirmations are open and written in copy form to demonstrate that the delegate's participation and the organization's status are inextricably linked. Numerous studies have demonstrated a relationship between corporate atmosphere and employee satisfaction, agent revenues, reduced creative expenses, and professional assassination. A person's performance is impacted by the workplace culture since it affects employee happiness and motivation. The weather accomplishes this by raising questions regarding the course of particular exercises. Employees want their view of a cooperative environment to have some bearing on their salary and level of satisfaction. The fulfillment of the needs of the people in this organization depends on their acceptance of whether or not the environment is appropriate for those demands.

Organisational Climate

Researchers are shifting their focus from a "tough" actuality to a "weak" imagine, the concept of organizational structure was developed. Kurt Lewin, was the first researcher to propose an organizational environment in his renowned study on "leadership style" adopting 3 separate management philosophies viz., Free enterprise, absolutism and multiple principle system way in 1939.

Overview Of Literature

Few literature related to the topic is presented

Pratap.et.al. demonstrated Government sector organizations in Uttar Pradesh were found to have a much less pleasant work environment than private sector enterprises. According to research, the organizational climate in the private textile sector was seen as authoritarian, while it was democratic in the public textile industry.

Dawson focused on the demographic factors that influence workers' job satisfaction, but other researchers link it to the nature of the work and the working environment. Similar to this, a fair advancement structure inside the company, job autonomy, leadership style, interpersonal relationships, and the job itself are all crucial elements of job satisfaction.

As per Park's research on the topic of "connection among work satisfaction and organizational environment; research of public sector: enterprise in Uttar Pradesh," there is a statistically significant correlation connecting the two variables. According to Purring, Worker impression of the HRD atmosphere in private or international businesses is substantially higher than in the government sector.

Butt conducted study on Organizational the Environment & Work Happiness in Government, Private, and International Bankers. It was concluded that foreign bank had the most favorable ultimately perceptions of organizational climate compared to nationalized public as well as private banks which have less pleasant work environments.

An investigation into employee perceptions of the workplace's within-group agreement was carried out by Klien K J. An organization's climate is made up of a set of traits that characterize it, set it apart from similar organizations, are largely stable over time, and affect how its members behave. The worker's impression of his working environment, as opposed to climate refers to a group of traits that characterize a company, set it apart from similar businesses, remain largely constant through time, and affect employee behaviours. Due to the fact that various individuals might have varied perceptions of a single employment, the viewpoint of the particular employee is considered instead of a typical perspective.

Need Of This Present Study

Banking plays a critical role in emerging nations. Numerous new private sector banks have recently entered the Indian economy. The rise of bank commercialization can be attributed to a

number of factors. Such banks cannot expand until they achieve some level of success, whether that success is measured by customer happiness, the financial worth of the banks, the efficiency of their administration, or the connections of every private or government bank.

Objectives

1. To look into how employees perceive their motivation in relation to the work environment in both government and private sector institutions.
2. For research how workers among the government or private banking sectors view their working environment in relation to organizational climate.
3. To examine how workers perceive their degree of training and development in relation to the workplace tradition among the government or private banking sectors.
4. To know the organizational climate in the perspective of sustainability.

Analytical Study

The descriptive survey research is thought to be appropriate for the current investigation. The descriptive research design was chosen since it aids in a more comprehensive sense than just the empirical study approach.

Journals, books, reports, records, PhD theses, and online sources are the primary sources for data collection carried out with the help of organized survey questions as well as information from other references.

Employees of banks in the public and private sectors participated in this survey. The sample was chosen entirely and impartially at random. The sample was made up of 100 employees are chosen at random, of which 50 from the private sector banks and 50 from public sector bank employees to complete the structured questionnaire. The public sector banks viz., SBI, OBC, PNB, Canara Bank and private sector banks such as AXIS, HDFC, ICICI & IndusInd in Uttarakhand are considered for the study

Employee perceptions of the corporate climate were gathered using a structured survey employing a 5-item measure extending between "Strongly disagree" to "Strongly agree" and a grading scale of 1 to 5.

The questionnaire is prepared by considering this hypothesis. Regarding the workplace, there are no discernible differences between bank employees in the public and private sectors. The working conditions for employees of banks in the public and private sectors differ significantly. There are no appreciable differences in motivation between bank employees in both the private & governmental sector. The motivation levels of bank personnel in the public and private sectors differ significantly. In terms of training and development, there are no appreciable differences between staff members of public and private sector banks. When it comes pertaining to education & growth, there are considerable differences between the staff members of there are both private as well as public banks.

Questionnaire

Sample questions: Kindly express your degree of familiarity with the preceding assertions by selecting the appropriate radio button choosing a rating score between 1 and 5 (5: Excellent, 4: Very Good, 3: Good, 2: Satisfactory, 1: Poor).

1. Employee cooperation from coworkers and encouragement from superiors affects how motivated they are.
2. Motivation is influenced by the organizations working conditions and working environment.
3. The nature of the job affects how motivated a person is
4. Employees feel confident in themselves at work.

5. Employee efficiency is motivated by the organization's central authority.

Research Findings

From the analysis, the following points were noted.

- Employee cooperation and support from superiors and co-workers have a greater impact on an employee's level of motivation when they work in the private sector.
- In private sector banks, the quality of the workplace and the working conditions has a greater impact on motivation and work which lead to the basic feature of sustainability.
- Private sector workers responded favorably to the nature of the job has an impact on how much a person is motivated.
- When it comes to obtaining greater responsibility in the private bank sector, employee's feelings of self-worth at work significantly differ from those in public bank sector.
- Centralized authority in the organization inspires and motivates employees, in the private bank sector more than public bank sector
- With regard to the public bank sector's organizational climate and public organizational sector, not much difference is noticed.
- Lighting setup is good in private sector bank.
- The amount of background noise in government-run financial institutions is much greater than in their private-sector counterparts.
- The public sector banks are far hotter than their private sector counterparts.
- The level of security in today's banks, either public or private, is unprecedented.
- Work concentration is more in private sector bank.
- More privacy and cabins will be needed to improve the bank organization climate/ culture.

Conclusion- The study is conducted in public sector banks viz., SBI, OBC, PNB, Canara Bank and private sector banks such as AXIS, HDFC, and ICICI& IndusInd in Uttarakhand. It was found that the organizational culture and organizational climate in private sector bank is better compared to public sector banks in Uttarakhand.

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06

Assessment of Public Awareness Regarding the Functionality of the Haritha Kerala Mission in Facilitating Sustainable Development through Waste Reduction and Environmental Conservation

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Abstract

Sustainable development stands as a fundamental responsibility of Governments worldwide, and the Government of Kerala has demonstrated commitment to this cause through various initiatives. Notably, the Haritha Kerala Mission emerges as a remarkable step towards sustainable development, with a primary focus on hygienic waste management, soil and water conservation, and the promotion of organic farming. Implemented in collaboration with self-governing bodies and voluntary organizations, the mission exemplifies a concerted effort towards achieving environmental sustainability. This study investigates into the factors influencing awareness of the functionality of the Haritha Kerala Mission in driving sustainable development through waste reduction and environmental conservation. Employing a descriptive and analytical research design, data were collected from 200 respondents in Kannur, Kerala. Through the utilization of one-sample t-tests and multiple regression techniques, the analysis scrutinized the impact of knowledge and attitude on the mission's functionality. The findings underscore the significant influence of both knowledge and attitude on awareness of the mission's functionality. Thus, enhancing knowledge and fostering positive attitudes can serve as essential role in promoting awareness and obtaining support for waste reduction and environmental conservation. This study offers critical insights for policymakers, practitioners, and stakeholders engaged in sustainable development initiatives.

Key Words -Sustainable development, Haritha Kerala Mission, Awareness

Introduction

Sustainable development stands as a dominant goal for governments worldwide, aiming to achieve socio-economic progress while preserving environmental integrity for future generations. In this context, governmental initiatives play a key role in driving sustainable development agendas, implementing strategies to mitigate environmental degradation and promote responsible resource management. The Haritha Kerala Mission stands as an important example of Kerala's commitment to environmental sustainability and socio-economic progress. Through its multifaceted initiatives, including waste reduction, environmental conservation efforts, and promotion of organic farming, the mission aims to foster sustainable development. However, understanding the efficiency of such initiatives necessitates a comprehensive analysis of factors influencing awareness, attitudes, and knowledge among stakeholders. This study aims to fill this gap by examining the determinants of awareness, attitudes, and knowledge regarding the functionality of the Haritha Kerala Mission in facilitating sustainable development through waste reduction and environmental conservation.

Literature Review

(Caroline C. Neriampampil, 2018) Studied on Kerala's waste management system, particularly its implementation of the three R principles: Reduce, Reuse, and Recycle. Through these principles, Kerala has developed innovative strategies to effectively manage waste and promote environmental sustainability.

(Kishore Kumar K, Harsha K.M, & Fathima Fidha T.K, 2023) The study focuses on eco-restoration areas in Kerala, aiming to contribute essential information to the Haritha Kerala Mission. By

exploring the biodiversity of these regions and addressing the lack of detailed flora data, the research emphasizes the significance of conservation efforts in preserving Kerala's natural ecosystems.

(Aswajith S I & S. Premalatha, 2022) The study examined the overview of biodiversity conservation efforts in Kerala over a decade (2005-2015), with a particular focus on ecological relevance and specific reference to biodiversity. It aligns with the goals set by the United Nations Environment Programme (UNEP). The study identified key challenges such as deforestation, inadequate emphasis on biodiversity in educational curricula, and lack of public awareness, and offers recommendations including reforestation, integration of biodiversity education into curricula, and awareness campaigns.

(A K Nirupama, 2024) the study examined how India is affected by climate change because of its different landscapes, many people, and reliance on farming. It says that local governments are important for making plans to deal with these problems, like fixing things, planning how to use land, and working with people in the area.

Objectives of study

1. To evaluate the factors influencing awareness Functionality of the Haritha Kerala Mission in Facilitating Sustainable Development through Waste Reduction and Environmental Conservation.
2. To examine the influence of knowledge and attitude on Functionality of the Haritha Kerala Mission in Facilitating Sustainable Development through Waste Reduction and Environmental Conservation.

Research Methodology

The research employs a descriptive and analytical research design to investigate the impact of knowledge and attitude on the functionality of the Haritha Kerala Mission in promoting sustainable development via waste reduction and environmental conservation. The study selects a sample of 200 respondents from Kannur, Kerala, utilizing a simple random sampling technique. Primary data is collected through a structured questionnaire. To analyse the data, the study employs both one-sample t-tests and multiple regression techniques. The one-sample t-test assesses whether the mean scores of knowledge and attitude variables significantly differ from a hypothesized population mean. Multiple regression analysis is used to explore the combined influence of knowledge and attitude on the functionality of the Haritha Kerala Mission in facilitating sustainable development. This approach allows for the examination of how variations in knowledge and attitude predict changes in awareness and support for waste reduction and environmental conservation initiatives.

Analysis and Findings

Table 1.Profile of the data

Variables		Frequency	Percent
Gender	Male	71	64.5
	Female	129	35.5
Age	Below 20	80	40
	20-30	23	11.5
	30-40	77	38.5
	Above 40	20	10
Occupation	Student	80	40
	Employed	110	55
	Unemployed	10	5

Source: Primary data

It could be seen from Table 1 an overview of the demographic profile of the respondents. Gender distribution shows a higher representation of females, constituting 64.5% of the sample, compared to males at 35.5%. Age-wise, the majority of respondents were below 20 years old (40%),

followed by those aged 30-40 years (38.5%), while smaller proportions were in the 20-30 age group (11.5%) and above 40 years old (10%). In terms of occupation, the sample predominantly comprised students (40%), with employed individuals forming the majority (55%), and a smaller proportion identified as unemployed (5%). This profile reveals composition of the sample, providing insights into potential demographic influences on the study variables.

Table 2. Level of awareness on functionality of Haritha Kerala Mission in facilitating sustainable development

Variables	Mean	S.D	t	Sig
To what extent are you aware of the specific initiatives and projects undertaken by the Haritha Kerala Mission	3.26	0.98	3.67	0.000
To what extent are you aware about the role of the Haritha Kerala Mission in waste reduction and environmental conservation efforts	3.61	0.96	8.95	0.000
How aware are you about the objectives and activities of the Haritha Kerala Mission	3.46	1.01	6.36	0.000

Source: Primary data

The one-sample t-test results assessing awareness related to the initiatives, role, and objectives of the Haritha Kerala Mission indicate significant findings. The mean scores represent the average level of awareness among respondents for each variable. The highest mean score was observed for awareness of the role of the Haritha Kerala Mission in waste reduction and environmental conservation efforts ($M=3.61$, $SD=0.96$, $t=8.95$, $P=0.000$). Similarly, the mean scores for awareness of initiatives ($M=3.26$) and objectives ($M=3.46$) of the Haritha Kerala Mission were also statistically significant. These results indicate that respondents exhibit a significantly high level of awareness across all three dimensions: specific initiatives and projects, the role in waste reduction and environmental conservation, and the objectives and activities of the Haritha Kerala Mission.

Table 3. Level of attitude on functionality of Haritha Kerala Mission in facilitating sustainable development

Variables	Mean	S.D	t	Sig
How positively do you perceive the efforts of the Haritha Kerala Mission in promoting sustainable development	3.88	0.77	16.08	0.000
To what extent do you believe that the Haritha Kerala Mission's initiatives contribute to environmental conservation and waste reduction	3.90	0.88	14.35	0.000
How do you support for the Haritha Kerala Mission's approach to achieving sustainable development.	3.93	1.01	13.02	0.000

Source: Primary data

The results of the one-sample t-test indicate the attitude of respondents towards the functionality of the Haritha Kerala Mission. The highest mean score was observed for support for the Haritha Kerala Mission's approach to achieving sustainable development. ($M=3.93$, $SD=1.01$, $t=13.02$, $P=0.000$). Similarly, the mean scores for belief in the Haritha Kerala Mission's initiatives contributing to environmental conservation and waste reduction ($M=3.90$) and perception of the efforts of the Haritha Kerala Mission in promoting sustainable development ($M=3.88$) were also statistically significant. These findings suggest that respondents hold significantly positive attitudes toward the efforts of the Haritha Kerala Mission in promoting sustainable development, as well as its initiatives' contributions to environmental conservation and waste reduction. Moreover,

respondents express strong support for the mission's approach to achieving sustainable development.

Table 4. Level of knowledge on functionality of Haritha Kerala Mission in facilitating sustainable development

Variables	Mean	S.D	t	Sig
How much do you know about Sustainable Development Goals (SDGs)	3.33	1.23	3.79	.000
How much do you know about the specific projects and activities undertaken by the Haritha Kerala Mission to promote sustainable development	3.07	1.15	0.86	.388
Rate your familiarity with the strategies and approaches adopted by the Haritha Kerala Mission to address environmental challenges and promote waste reduction.	3.02	1.05	0.27	.787

Source: Primary data

The results from Table 4 indicate the level of knowledge among respondents regarding sustainable development and the functionality of the Haritha Kerala Mission. The highest mean score was observed for information on sustainable development ($M=3.33$, $SD=1.23$), with a t-value of 3.79 and a p-value of 0.000, indicating statistical significance. However, the mean scores for knowledge about the specific projects and activities undertaken by the Haritha Kerala Mission to promote sustainable development ($M=3.07$) and familiarity with the strategies and approaches adopted by the mission to address environmental challenges and promote waste reduction ($M=3.02$) were not statistically significant. These results suggest that respondents may have a lower level of knowledge regarding the specific projects, activities, strategies, and approaches of the Haritha Kerala Mission related to environmental challenges and waste reduction.

Table 5: Influence of attitudes, knowledge, and practices on awareness of the functionality of the Haritha Kerala Mission in facilitating sustainable development

Hypotheses	Regression weights	B	t	P value	Results
H1	AT $\rightarrow$ AW	0.776	20.735	0.000	Supported
H2	KW $\rightarrow$ AW	0.318	11.108	0.000	Supported
VIF 1.004 1.004 R^2 0.728 $F(2,197)$ 263.821, $P=0.000$ Durbin Watson 1.573					

Source: Primary data

Note: $P < 0.05$, AW- Awareness on functionality of Haritha Kerala Mission, KW-Knowledge on functionality of Haritha Kerala Mission, AT-Attitude on the functionality of Haritha Kerala Mission.

Hypotheses:

H1: Attitude toward the functionality of the Haritha Kerala Mission (AT) positively influences awareness of its functionality in facilitating sustainable development (AW).

H2: Knowledge of the functionality of the Haritha Kerala Mission positively influences awareness of its functionality in facilitating sustainable development (AW).

The multiple regression analysis presented in Table 5 indicates significant findings concerning the impact of attitudes and knowledge on awareness of the functionality of the Haritha Kerala Mission in advancing sustainable development. Regression model satisfied the assumptions of normality of residuals and homoscedasticity. The Durbin-Watson statistic of 1.573 suggests no significant autocorrelation in the residuals, while the Variance Inflation Factor (VIF) values for each independent variable fall within acceptable limits, indicating the absence of multicollinearity.

Both attitude (AT) and knowledge (KW) exhibit substantial positive effects on awareness (AW), with regression weights of 0.776 and 0.318, respectively. These effects are supported by high t-values (20.735 and 11.108, respectively) and very low p-values (0.000), indicating strong statistical significance. The overall model demonstrates a significant proportion of variance in awareness ($R^2 = 0.728$) and a significant F-statistic of 263.821 ($p < 0.001$). These findings emphasize the crucial role of both attitudes and knowledge in shaping awareness of the Haritha Kerala Mission's functionality in promoting sustainable development. They underscore the necessity for targeted interventions aimed at enhancing these factors to effectively promote environmental conservation and waste reduction initiatives.

Suggestions and Recommendations

The respondents showed good understanding of sustainable development goals, but they lacked knowledge about the specific projects and strategies of the Haritha Kerala Mission for waste reduction and environmental conservation. To achieve sustainable development, it's crucial to raise awareness about the Haritha Kerala Mission's projects. We can do this by organizing awareness programs through Kudumbasree and Gramasabha, and distributing pamphlets with the help of local Panchayats and Municipalities. We should also utilize social media and digital platforms to spread awareness and encourage more people to participate in waste reduction and environmental conservation efforts.

Conclusion

The study investigated into the factors influencing awareness of the Haritha Kerala Mission's functionality in promoting sustainable development through waste reduction and environmental conservation. Respondents displayed significant awareness across various dimensions, particularly emphasizing the mission's role in waste reduction and environmental conservation. Additionally, they exhibited notably positive attitudes towards the mission's efforts, demonstrating strong support for its approach to sustainable development. However, while respondents showed good understanding of sustainable development goals, their knowledge regarding the specific projects and strategies of the Haritha Kerala Mission aimed at addressing environmental challenges and waste reduction was relatively lower. These findings emphasize the pivotal role of the Haritha Kerala Mission in advancing sustainability objectives and stress the need for targeted interventions to enhance awareness, attitudes, and knowledge for the effective implementation of waste reduction and environmental conservation initiatives.

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07

The Role of Gamification in Promoting Conservation Awareness and Action among Students

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Abstract

As we know the world is facing different environmental challenges and threats. The rising environmental issues calls for urgent requisite for its conservation, mitigation through innovation and awareness among citizens. The students today are the future of tomorrow hence its imperative for them to understand the importance of conservation of environment, natural resources and knowing about its importance. These issues can be addressed by different ways and means that can develop pro-environmental attitudes among students, so educating students regarding the environment matters for a number of reasons is crucial. Its primary benefit is that it fosters in pupils a sense of environmental responsibility. They gain knowledge of the significance of cutting back on waste, saving energy, and protecting the environment. Students today are acquainted to a world full of games that are highly engaging for them. This offers an additional opportunity to harness the potential of gamification in the field of environmental education and Conservation. This article investigates how gamification might encourage students to take an interest in and become activists for environmental causes. This paper aims to explore the role of gamification in affecting pro-environmental behavioural change and searching for best practices for educational purposes among students. The outcomes of this study can be used by educators to choose best practices and by gamification designers to better use game mechanics to encourage behaviour change. Game based learning can have positive outcomes amongst the students.

Keywords – Mitigation, imperative, gamification, harness. Acquainted, innovation

Introduction

India has an abundance of natural resources and a great biodiversity. India has a wide range of ecosystems, from the majestic Himalayas in the north to the tropical beaches in the south. It also has a great range of flora and fauna widespread all over the soils of India. However, pressures from construction and an expanding population present serious obstacles to this amazing ecosystem. Numerous human activities have contributed to this subtle but persistent devastation, which has serious implications for the future of our planet and all its inhabitants. To begin the process of healing, one must first comprehend the underlying reasons of this harm. The primary contributors are practices that are not sustainable. An alarming rate of deforestation has resulted from our insatiable demand for resources. Barren areas supplant lush, biodiverse rainforests, upsetting fragile ecosystems and driving out many species. In a similar vein, overfishing destroys marine life, endangering millions of people's livelihoods and the food chain. Even though intensive agriculture feeds a large population, it frequently uses a lot of pesticides, which contaminates the land and waterways. Instead of treating the Earth as a fragile equilibrium that needs to be maintained, these activities treat it as a finite storehouse to be plundered. Another black mark is added to our environmental record by pollution. Containing hazardous chemicals, industrial waste ends up in rivers and seas, contaminating the same water bodies that sustain human life. Pollutants from cars and factories fill the air with smog, which causes respiratory ailments and global warming. Even debris that appears innocuous, like plastic, takes years to

break down, filling up enormous landfills and suffocating marine life. Natural cycles are upset by this widespread pollution, endangering the wellbeing of all living things. Growth in the population also has an impact. The more people there are on the planet, the more resources we all need. An increase in agricultural output results from having more mouths to feed, further taxing the soil. Greater bodies mean greater energy needs, which increases the use of fossil fuels and, ultimately, pollution. There are a number of threats to the environment like:

1. Climate change -Perhaps the greatest environmental threat is climate change. Emissions of greenhouse gases are raising global temperatures, which causes an increase in extreme weather conditions, a rise in sea levels, and the melting of glaciers.

2. Pollution: Throughout the world, contamination of the air, water, and soil is a serious issue. This can damage ecosystems and result in respiratory issues and waterborne infections among humans and other living organisms.

3. Deforestation, desertification, and biodiversity loss all fall under the category of environmental degradation. In addition to destabilizing natural ecosystems, these processes can make it even harder for humans to access the clean, nourished, enriched food, water, and other resources they require.

4. Resource Depletion: The rate at which we are depleting resources such as freshwater, minerals, and fossil fuels is not sustainable. Future shortages may result from this.

Due to numerous factors involved in environmental damage, there is an urgent need for environmental conservation and awareness. Different ways and means are being used and applied to raise awareness among citizens and especially students who are the generation to whom resources have to be passed upon hence along with traditional measures of conservation and awareness generation there can be use of technology to attract, engage, and motivate our young generation students to look positively towards their environment and take an active part in its conservation for the ultimate goal of reaching sustainability.

Role of technology in Environmental conservation and awareness

As the conservation path requires methods that can locate species of plants and animals, technology is a tool of great potential, so with the advancement of technology it has become much more convenient to perform such conservative functions. Technology offers creative ways to prevent and even reverse environmental degradation, it is essential to environmental conservation efforts. It makes it possible to monitor and evaluate ecosystems, which facilitates data-driven decision-making and well-informed conservation approaches.

Environmental threats in Hilly regions of India: Though most of India's hill towns are densely populated with multi-story buildings and face issues like water scarcity, landslides, pollution of lakes and streams, destruction, and erosion and landslides are common on hilly terrain, hill regions are ecologically sensitive zones with lower carrying capacities. The process of building roads involves a great deal of rock cutting, which upsets the natural equilibrium and causes landslides, subsidence, and slippage. The air pollutants can cause a significant amount of pollution and can contaminate water bodies too.

Objectives

- * To identify major environmental issues in Indian context
- * To explore the potential of gamification as a tool for promoting conservation awareness and action among students.
- * To analyse the possible long-term advantages of gamified environmental education for students, including the development of environmental consciousness and the promotion of involvement in practical conservation efforts.

Method- Secondary sources of data collection were used to collect data for analysis and comprehension. Sources like textbooks, research articles, journals, research reviews, reports and policy documents, and academic papers were used.

Findings

Gamification

To address the threat posed by climate change, education is essential since it increases knowledge while also promoting behavioral and attitudinal changes that lead to the adoption of sustainable lifestyles. Education experts and practitioners need creative approaches to engaging youth—a factor contributing to the recent increase in interest in gamification. Gamification is a valuable methodological resource in primary education, particularly when combined with digital technology. It involves using game design elements in non-game contexts to engage students in the learning process. Gamification comprises three key elements: mechanics, dynamics, and components. Mechanics focus on the aspects that support the game, such as design, engine, and function. Dynamics involve elements that make the game interactive and dynamic, including producing emotions,

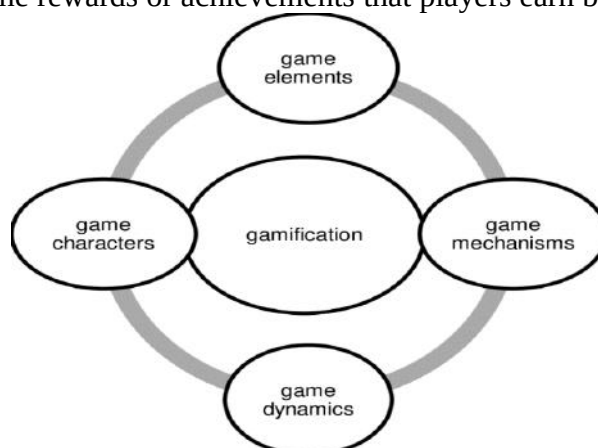
* **Feedback,**

* **cooperation,**

* **Challenges,**

* **Competition.**

Components refers to the rewards or achievements that players earn by participating in the game.



Source:https://www.researchgate.net/figure/The-components-of-the-gamification-method-Source-authors-development_fig1_362457793

Gamification in Education

The process of adding games or game-like rudiments to a commodity (similar to a task) so as to encourage participation(<https://www.merriam-webster.com/dictionary/gamification>, n.d.) The world is faced with numerous different environmental challenges. The way people bear has a significant impact on environmental benefactions and as similar impacting gets towards better environmental decisions timber is a commodity that should be addressed. Gamification is the preface of rudiments of play in situations that are typically not considered play. Gamification has been shown to change the way people interact with their surroundings. The environmental field is ripe for testing how gamification can be used to increase environmentally salutary geste (**van Drumpt, 2013**)

The case research have been carried out on the MIUN campus in Östersund. One study focused on creating a fun and interesting method to increase environmental learning. The learning study produced results that were slightly better for the gamified information in terms of knowledge acquisition compared to students who read a pamphlet (66% for the game and 56% for the pamphlet). More importantly, 98%students considered the game to be interesting and were more willing to participate in it. The recycling study showed that environmental behaviour could be

affected by a gamified environment. The take a look at week confirmed a 41% boom in recycling over the preceding 2 weeks. **(van Drumpt, 2013)**

Grossberg et.al. state that the points, badges, and leaderboards (PBL) system provides clear and immediate rewards to players and is a powerful motivator to change players' behaviours.

Tania Ouariachi et.al in their study (*, 2020) concluded that gamification approaches have the potential to educate and encourage pro-environmental behavioural change, especially when combining different motivational elements and game attributes. The findings suggest that a combination of positive and negative emotions, as well as extrinsic and intrinsic motivators, can effectively engage participants at cognitive, emotional, and behavioral levels.

An intervention study showed that the main contribution of gamification to children's learning was the increase in motivation, creativity, problem-solving skills, and cooperation. The use of game mechanisms, dynamics, and components stimulated the children to undertake actions and boosted their learning. Other studies have also shown that gamification in education incentivizes students to learn and increases their participation, interaction, and commitment. Gamification has huge potential for improving digital competence, as numerous high-impact studies have shown in recent years. supported by ICT resources, increases the positive impact of a range of everyday skills on the environment and the development of academic knowledge. In conclusion, it should be highlighted that the kids have learned new information about recycling and environmental conservation, which is one of the program's primary implementation accomplishments **(Ricoy, 2022)**

Another study focused on the use of gamification to improve environmental literacy among first-grade elementary students in Tehran. The results showed that gamification had a significant positive effect on promoting environmental literacy, specifically in water consumption management, electricity consumption management, gas consumption management, waste management, forest conservation, and animal protection. The study confirmed the effectiveness of gamification in enhancing students' understanding of environmental concepts. The findings suggest that gamification can be a valuable tool in transforming the education system and improving environmental literacy among students. **(Noorani, 2023)**

Cedric Kai Wei Tan et.al (2018) in their study discussed the effectiveness of different gaming approaches, specifically experiential gaming (EG), supplemental games (SG), and didactic instruction (DI), in teaching conservation topics to students. The study involved classroom-based games created for conservation courses, with data collected from 55 multinational students over two cycles. The findings revealed that EG was more beneficial than DI in terms of attention retention, engagement, and intrinsic motivation. SG was found to be intermediate between EG and DI in terms of benefits. The study also explored the effects of personality traits and learning styles on students' perceptions of the different gaming approaches. Overall, the results suggest that EG can be a valuable tool in conservation education, enhancing student engagement and motivation

Carolina Novo1 et.al (2024) in their study "The Use of Gamification and Web-Based Apps for Sustainability Education" discussed the role of gamified digital tools in promoting environmental self-awareness and action, focusing on the implementation of the GoBeEco project in Portugal. The project aimed to encourage users to adopt ecological and sustainability habits through a web application. The study involved more than two dozen participants in the validation of the application, which included three evaluation phases with questionnaires and a focus group. Results showed a positive impact on users, bridging the gap between sustainable awareness and action, with gamification playing a significant role. The paper highlights the potential of such applications in Portugal and suggests future paths for development based on user preferences. The study emphasizes the importance of digital tools and gamification in promoting sustainable behaviors and increasing environmental awareness.

Conclusion

Though the term "gamification" is a 21st-century addition to the English language, the core idea behind it is much older. The word refers to the incorporation of game elements, like point and reward systems, into tasks as incentives for students to participate. In simple terms, gamification refers to the process of transforming a potentially mundane task into a game. Because gamification appeals to people's innate drive for achievement and competition, educators, and others use gamification to increase participation. Tracking your progress is another crucial component of gamification, which is frequently seen in applications and websites that encourage users to take on personal tasks like learning a new language or losing weight is more fun if it feels like a game. (<https://www.merriam-webster.com/dictionary/gamification>, n.d.) Gamification can also :

Make things fun: Gamification turns boring tasks into interesting experiences by incorporating components like points, badges, leaderboards, and challenges.

Incentive and engagement: Gamification seeks to boost user engagement and incentives to accomplish objectives by introducing these game mechanics.

More widespread uses: Gamification has applications in business, marketing, healthcare, education, and other domains.

The findings also suggest that gamification techniques can promote and educate pro-environmental behavioral change, provided they incorporate both intrinsic and extrinsic motivational aspects, short- and long-term drivers, and game features that reward participation.

Highlighting the main advantages of gamification, such as its capacity to encourage "green" behavior, deliver complicated information through entertainment, reward users for their good deeds, raise engagement, and aid in preventing overtourism. There are significant obstacles to overcome at the same time, such as a lack of funding, aversion to new technologies, tourists' lack of environmental concern, and diversion from critical problems. The results of all the above studies clearly indicate the advantages of gamification, such as its capacity to encourage "green" behavior, deliver complicated information through entertainment, reward users for their good deeds, raise engagement, and aid in preventing overtourism. There are significant obstacles to overcome at the same time, such as a lack of funding, aversion to new technologies, tourists' lack of environmental concern, and diversion from critical problems.

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Ecotourism and its Advantages to the Local Businesses: A Study of Uttarakhand Region

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Abstract

The motivation behind this exploration is to research the idea of ecotourism and its positive impact on local businesses in the Uttarakhand area. Ecotourism, characterized as capable travel to regular districts that shield the climate and advance the prosperity of local communities, has ascended in prevalence as a feasible option in contrast to customary the travel industry. Uttarakhand's interesting biodiversity and pleasant scenes make it a reasonable area for ecotourism exercises. This study investigates the advantages that ecotourism provides for local organizations, like neighborliness, local specialties, and directed visits. The review expects to reveal insight into how ecotourism energizes local area improvement and natural insurance while setting out financial open doors for local business people by investigating the monetary, social, and ecological components. The examination work endeavors to decide the financial effect and resulting progress of local individuals through stream boating as a movement on the prestigious waterway, as well as the essential effect of the Kedar Valley streak flood misfortune on stream boating destinations. The review's discoveries feature the financial changes achieved by stream boating and distinguish the effect of these exercises while remembering past exploration, as well as the biological and natural effect, contribution of local individuals and different stakeholders, relocation influence, and customary degeneration.

Keywords: Ecotourism, Local Businesses, Uttarakhand, Local Communities, Stakeholders,

1. Introduction

Ecotourism has arisen as a compelling and sustainable tourism method, combining natural enjoyment, environmental conservation, and community development. The emphasis on responsible travel in ecotourism is consistent with the global trend towards sustainable practices, which aims to reduce the adverse effects of tourism on the environment and local communities. The Uttarakhand region, located amid India's Himalayan foothills, stands out as an ideal place for investigating the potential benefits of ecotourism to local companies. A snow-covered Himalaya, perennial lakes inside forest areas, rolling alpine meadows, exotic fauna, deep forests, and wetland habitats are some of the distinguishing physical features that can be found in the state of Uttarakhand, which is a portion of the Himalaya and a world-famous destination for ecotourism. Rich biodiversity in the form of NPs and WLSs, as well as a wide range of panoramic forest vistas, ranging from plains to Shivalik hills, middle Himalaya, and snow-capped Himalayan heights, are all supported by this region. The climate of the Uttarakhand Himalaya is diverse and varies along the altitudes; hence, the faunal, floral, and avifaunal resources in the region are also diverse. Uttarakhand's tourism industry is a significant contributor to the state's overall economy. There are many different types of tourism in the world, including ecotourism, nature tourism, adventure tourism, and pilgrimage tourism. On the other hand, the most common type of tourism is pilgrimage tourism, followed by natural tourism and adventurous tourism. Ecotourism is still an emerging concept and hasn't quite realised its full potential. Meanwhile, the Himalayan state of Uttarakhand's climate and forest terrain are favourable to the growth of ecotourism. The State Government of Uttarakhand took the initiative to encourage ecotourism in the state, keeping in mind the breathtaking forest landscape that the state possesses. As required by the Companies Act of 2013, it has established an Ecotourism Development Corporation, also known as an ETDC. With the availability of a vast amount of resources that are associated with the development of ecotourism, the primary purpose of

the establishment of ETDC was to promote ecotourism inside the state. An 'Eco-tourism Wing' was established by the State Forest Department (SFD) in order to encourage ecotourism in the National Parks, Wildlife and Conservation Areas, and Conservation Regions. In addition, the SFD is working to construct eco-parks for the purpose of supporting ecotourism. It is trailing behind in terms of development, despite the fact that the state has a tremendous amount of potential for ecotourism. The rural areas of Uttarakhand are home to around 70 percent of the state's total population. Their habitats are found in and surrounding forest areas, which are the primary source of income for the people, in addition to the traditional agricultural practices and livestock raising that they engage in. Because of this, the growth of ecotourism in rural areas will consequently improve the livelihoods of those living in rural areas. Numerous academics conducted research on a variety of topics pertaining to ecotourism in the Uttarakhand Himalaya. The concept of ecotourism, ecotourism and nature conservation ecotourism and environmental sustainability and the role of eco-lodges in integration and development were among the prominent themes that emerged from the research. provided an illustration of the practice of tourism in eco-tourism settings, provided a description of eco-tourism planning and management activities. Nevertheless, there was not a single scientific investigation carried out on the subject of ecotourism development (ETD) in the Uttarakhand Himalaya. This study intends to explore the potential and new advancements of ETD in the Uttarakhand Himalaya region in general, and in the chosen NPs and WLSs in particular. This paper explores the patterns of inflows of eco-tourists, both domestic and foreign, the revenue generated by eco-tourism, and the expansion of eco-tourism circles and eco-parks. Policy suggestions for ETD in the Uttarakhand Himalaya have been made in light of the study's findings. These laws will support economic growth while at the same time aiding in the preservation of ecological resources.

2. Review Of Litreature

The local individuals, who depended on tourism-related activities for their livelihood, suffered greatly from the socioeconomic effects of the ban on tourism in Nanda Devi Biosphere Reserve (Pangety 1987; Prasad 1989). According to Chandra Shekhar Silli (2003), the area suffered greatly as a result of the tourism restriction. The results of the research indicate that, although adventure tourism raised the density and quality of the forest cover, it also improved the status of wild animals in terms of the frequency of sightings and the amount of creatures, particularly rare and endangered species like blue sheep and Himalayan musk deer (Tak and Kumar 1983; Lamba 1987; Tak and Kumar 1987; Sathyakumar 1993; Shankaran 1993). This put the socioeconomic fabric of the region at risk. In the Uttarakhand Himalaya, Vishwambhar Prasad Sati (2013) investigated the tourist practices and analysed the region's potential for further development in the potential future. A number of tourist destinations in Uttarakhand were visited, and both primary and secondary sources were utilised to acquire the necessary information. The results of the research revealed that the region participates in a wide range of tourist activities, such as pilgrimage, adventure, natural, and wildlife tourism, as well as tourism related to culture and wildlife. The impact of tourism on the environment, culture, and economy was also examined in this study. The author found that there is a great deal of potential for the sustainable development of nature tourism in the Uttarakhand Himalaya; nevertheless, the main obstacles preventing the studied area from understanding its tourism potential were the high degree of environmental degradation and the cultural erosion of the Himalayas. The investigation of the conflicts resulting from ecotourism-related activities in the Gangotri region of the Garhwal Himalayas has been carried out by Chaturvedi, G. (2002). These tensions eventually occur between employment and the environment, culture and the environment, and tradition and modernity. The aim of this research was to examine the impact of tourism on customs and culture, as well as the changes caused by tourism. An investigation into the possibilities of ecotourism was carried out in the Gangotri region, which is more commonly known as a Hindu pilgrimage shrine. According to the findings of the study, the ecotourism industry in the area has the potential to achieve greater success with the assistance of local participation in the decision-making process. Up until this point, it has

been discovered that people are often excluded from the decision-making process or participated in the project of adopting ecotourism as junior partners and learners.

Due to the exponentially expensive costs associated with upholding standards and spreading knowledge of ecotourism, only the most wealthy segments of society were able to partake in this type of travel. Farooquee et al. (2008) conducted a review on the cultural and social consequences of adventure tourism in the Himalayan River Ganga area of India. This study aimed to assess the socio-cultural consequences of both riverside camping and the development of white-water rafting on the Ganga in Uttarakhand. The results of the study revealed that the growth of adventure tourism in the region has given the great majority of people who reside nearby and farther away to the study area new options for making a living and having fun. The younger generation announced that they would work in occupations connected to tourism and try to emulate the lives of well-off visitors, rejecting the conventional means of subsistence. Due to this, the traditional subsistence farming and animal husbandry in the area are the ones most negatively impacted by the growth of tourism.

3. Research Methodology

3.1 Survey Location and Rationale:

Selection of Rishikesh-Kaudiyala as the study area due to its significance as a river rafting zone within an ecotourism site. The choice is motivated by the need to understand the future possibilities and economic transitions at the local level within the context of tourism activity.

3.2 Interview Schedules:

Structured interviews conducted with rafting staff and multi-stakeholders involved in tourism activities to gather insights into their perspectives on future possibilities and economic transitions.

3.3 Group Discussions:

Facilitated group discussions among participants to encourage diverse viewpoints and in-depth exploration of socio-economic and cultural conditions.

3.4 Interaction with Local Residents:

Engaged in direct interaction with villagers residing in the vicinity of the study area to gather firsthand information on their socio-economic and cultural conditions.

Open-ended conversations aimed at understanding the local perspectives on tourism and its potential impact on the community.

3.5 Company and Location Data:

Compiled data on the number of rafting companies, location of rafts and camps within the study area.

3.6 Guideline/Policy Data:

Collected information on existing guidelines and policies governing tourism activities in the river rafting zone.

3.7 Tourist Inflow Data:

Gathered information on the number of tourists who are going river rafting from secondary sources, such as documents kept at the Division Office and Tourism Department.

3.8 Data Validation:

Ensured data accuracy and reliability through cross-verification and secondary sources.

Triangulation of information from various sources to enhance the robustness of the findings.

3.9 Data Analysis:

Utilized qualitative and quantitative data analysis methods to derive insights into future possibilities and the economic potential of tourism activity at the local level.

Thematic analysis applied to categorize and interpret qualitative data, while quantitative data subjected to statistical analysis for trends and patterns.

4. Data Analysis And Interpretations

The study's findings and the implications of the activity on the area and the surrounding area were as follows:

4.1 Socio-Economic Impact

The hallowed stream Ganges changes tone when presented to daylight, and the peculiarities draws huge gatherings of sightseers because of its beautiful excellence. Numerous novel birds and wild animals live nearby, including the panther, wild fox, dark monkey, drowsiness, tiger, and bear. Singtali and Shivpuri are the two biggest areas in the examination region, representing around 50-60% of boating and setting up camp exercises and giving 85-90 percent of local business. Nonetheless, various guests running to the area for stream boating exercises have caused ecological disturbances and hurt the local biodiversity throughout the long term. Expanded guest interest won't just lift waterway boating and setting up camp exercises, raising interest for extra camps and tents, yet it will likewise endanger the district's organic and environmental equilibrium, expanding anthropogenic tension from such exercises. Stream boating will likewise affect the watery territory of native verdure and natural life. As per locals, the presence of wild creatures like Panther (*Pantherapardus*), Sambar (*Cervus unicolor*), Yapping Deer (*Muntiacusmuntjak*), and others in the Gangatic Valley's encompassing woodlands is diminishing a large number of years because of the weighty vehicular commotion brought about by vehicles going on NH 58. Their typical living region has been impacted by human-caused stress from canal boating activities, and certain wild animal species are logically migrating to other locations, which is going to have an impact on the environment pyramid and the creature food chain in particular places. In addition, the population of Langur (*Presbytis entellus*) and Monkey (*Rhesus macaque*) has increased in the region around it, disturbing traditional development and resource agribusiness. This is one of the main reasons why people abandon this conventional example and engage in stream boating activities. According to Farooquee et al. (2008), the conventional trade of wheat for cows and the preservation of animal diversity has persisted extraordinarily. Then again, expanded the travel industry in waterway boating exercises has further developed work open doors, framework, monetary progress, and private ventures in specific regions, slowly working on the local individuals' way of life, business open doors, and financial status. Between the Kaudiyala-Tapovan Ecotourism Zone are around 15-20 communities, and the towns of Kaudiyala, Singtali, Atali, Byasi, and Gular are home to about 50–60% of people who actively or indirectly engage in and profit from camping and river boating.

Table 1: Villages and their Rafting Participation

Name of Village	Family Contribution in Boating and Camping(family)	Direct Rafting	Indirect Rafting	Local owner of (camping & Rafting)
Kaudiyala	30	15	12	04-05 Family
Singtali	60	30	16	06-09 Family
Atali (Byasi)	55	30	30	06-08 Family
Manjali	45	20	20	03-04 Family
Shivpuri	62	35	25	11-16 Family
Malakhunti	42	25	10	04-06 Family

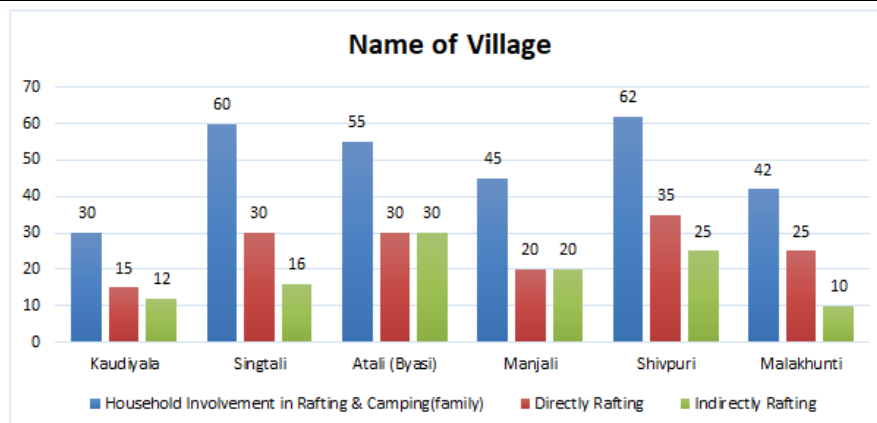


Figure 1: Villages and their Rafting Participation

The table depicts household participation in rafting and camping activities in many villages in the Rishikesh-Kaudiyala region. Each community varies in its level of involvement in the local tourism business, particularly in the rafting and camping sectors. The data is organised by village name, number of households involved in rafting and camping, direct and indirect rafting participation, and the presence of local owners within families. With 30 homes, Kaudiyala demonstrates a substantial level of interest in the rafting and camping industry. 15 of these households are directly involved in rafting operations, while the remaining 12 are indirectly involved. Notably, 4-5 families in Kaudiyala own local camping and rafting companies, emphasising the community's emphasis on local ownership. Rafting and camping are popular recreational activities in Singtali, a village of 60 homes. Thirty households participate directly in rafting, with an additional 16 participating indirectly. The presence of 6-9 families as local proprietors emphasises the enterprises' familial origin, demonstrating a close relationship between community people and the tourism industry.

Table 2: Economic gain from river rafting

Designation	Category	Salary (in %)		
		05k-08k	08k10k	10k-above
Raft Guide	Full salaried	30-40%	40-50	10-30
	Per Trip base	20-30	55-65	50-56
Camp Manager	Full salaried	40-50	20-30	23-33
	Per Trip base	55-65	10-28	40-62
Cook	Full salaried	65-75	33-69	58-69
	Per Trip base	10-20	42-55	20-30
Helper	Full salaried	20-33	30-35	10-20
	Per Trip base	35-55	20-18	33-48
Serviceman	Full salaried	20-30	36-42	62-72
	Per Trip base	40-52	50-22	69-71
Porter	Full salaried	55-65	30-22	20-30
	Per Trip base	62-79	10-20	30-40
Raft Guide Assistant	Full salaried	50-60	20-30	55-62
	Per Trip base	20-33	30-40	66-79

The chart summarizes the salary structures for various positions in the rafting and camping industry, distinguishing between full-time salaried employment and those paid on a per-trip basis. Raft Guide, Camp Manager, Cook, Helper, Serviceman, Porter, and Raft Guide Assistant are some of the job titles. Salary ranges are broken into three groups: 5k-8k, 8k-10k, and 10k+, with varied salary percentages within each range.

In the case of the Raft Guide role, those on a full-time basis earn 30-40% of their income in the 5k-8k level, 40-50% in the 8k-10k region, and 10-30% in the 10k-plus area. The percentages for Raft Guides working on a per-trip basis vary, with 20-30% in the 5k-8k range, 55-65% in the 8k-10k range, and 50-56% in the 10k-plus area. This distinction demonstrates the adaptability of pay schemes for various job arrangements. Similarly, the wage percentages for the Camp Manager role under a complete paid structure range from 40-50% in the 5k-8k range, 20-30% in the 8k-10k range, and 23-33% in the 10k-above level. Camp Managers who work on a per-trip basis earn 55-65% in the 5k-8k area, 10-28% in the 8k-10k range, and 40-62% in the 10k+ level. These variances show the industry's unique pay practices for various roles. Salaries for Cook, Helper, Serviceman, Porter, and Raft Guide Assistant roles vary depending on the payment structure and compensation category. The ranges represent the industry's recognition of the various responsibilities and skills that each classification entails.

4.2 Socio-Cultural Impact

Traveler exercises like as waterway boating and setting up camp on the Ganges have helped the socio-social impact at the local level. The district is going through assimilation as the local area

dynamically takes on the advanced culture of visiting travelers and seems, by all accounts, to be gotten between the two societies, specifically customary local culture and current culture. As to conversations held with individuals of the towns Badal and Shivpuri, it was fascinating to take note of that the local individuals answered that previously, individuals were generally participated in horticulture land rehearses, however as waterway boating and setting up camp exercises expanded in specific regions, individuals' advantage in this calling likewise expanded, and local individuals started to give a portion of their property to use in setting up camp exercises. Accordingly, rural land in the space was deserted, harming farming techniques. Despite the fact that locals' monetary standing has worked on because of their support in stream boating and setting up camp exercises, rural practices in the district have endured because of this word related advancement. Individuals likewise conceded that as farming practices declined, with just a little level of the populace took part in horticulture, wild animals (Monkey, wild Pig, Langoor, and so on) had no different wellsprings of food and were obliterating harvests, natural products, and vegetables developed on the excess land. During the slow time of year, most of qualified pontoon guides migrate or change to different areas (like Ladakh, Kashmir, Goa, and others) where they make money until the end of the year. Many additionally mentioned how connections had lately occurred in the district throughout the longer Spring to June months, with many people planning weddings and other reunions with relatives. However, because of their contribution to boating, camping, and earning a respectable amount of money during this time, people now avoid using this season for relationships and other family celebrations to the extent that they never even invite family members and guests into their homes during the peak season. Likewise, most locals, especially in Rishikesh and Dehradun, change to being doormen to get by while having the opportunity to enjoy with their families. Individuals additionally offered their viewpoints on the social impact of setting up camp exercises. Individuals come to the review region from different areas and have shifted ways of life, making it challenging for the locals to adapt to the meeting sightseers. As indicated by the inhabitants of Badal town, each of the proprietors have a music and sound framework, which they use as a feature of the vacationer exercises for the sightseers' unwinding and charm. Moreover, vacationers request that the volume of the sound frameworks be expanded, which influences the general climate and, accidentally, the creatures and local individuals that live in the district. Individuals come as sightseers from metropolitan focuses in mission of quietness, yet they break down the serene climate by taking part in undesired exercises, for example, drinking, misconduct with other vacationer gatherings, commotion contamination, etc.

Table 3: License & Permit for Camping and Rafting

Permit Issued (Year)	No. of Companies	No. of Rafts	Number of Camping Rafts (Both)
2018	29	20	12
2019	35	39	18
2020	45	48	20
2021	51	55	29
2022	59	36	35
2023	62	42	55

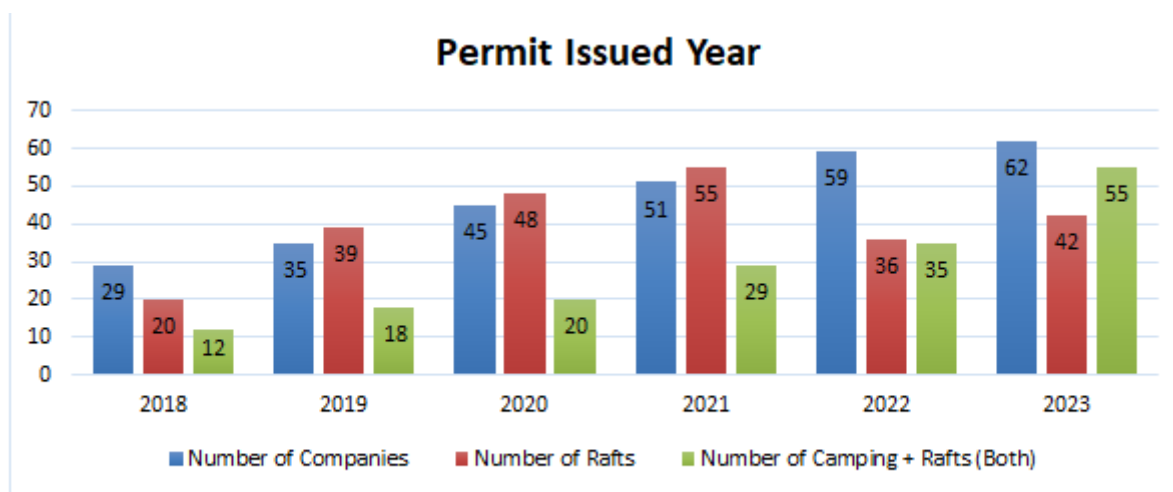


Figure 3: license & Permit for Rafting and Camping

The table below provides a chronological picture of the Rishikesh- Kaudiyala region's rafting and camping sector, focusing on the number of firms, rafts, and the total number of camping facilities and rafts. The data ranges from 2018 to 2023, providing insights into the industry's growth and changes during that time. In 2018, there were 29 firms operating in the region, with a total of 20 rafts and 12 camping facilities. This is a starting point for the industry, displaying the beginning magnitude of operations. In 2019, there was a significant increase in industry activity. The number of enterprises increased to 35, with a significant increase in both rafting and camping resources, including 39 rafts and 18 integrated camping and rafting facilities. This increase indicates a growing interest in adventure travel this year. The expansion trend continued into 2020, with the number of enterprises rising to 45. The sector boosted its rafting and camping options even more, reaching 48 rafts and 20 camping and rafting facilities. This constant expansion corresponds to an increase in demand for outdoor recreational activities. The industry's growth trajectory will be continued in 2021. The number of firms increased to 51, demonstrating continued interest in the region. With 55 rafts and 29 integrated camping and rafting facilities, the industry's durability and adaptation were also demonstrated. However, by 2022, the number of enterprises had decreased somewhat to 59. This decrease was mirrored by a decrease in the number of rafts to 36, despite an increase in the combined camping and rafting facilities to 35. This variation may be a result of industry-influencing variables such as economic conditions or external occurrences. According to the latest recent figures for 2023, the industry witnessed a resurgence. The number of enterprises has grown to 62, indicating increasing interest and participation. The number of rafts (42) and combined camping and rafting facilities (55) increased significantly, indicating a rebound in the industry's overall capability.

4.3 The Kedar Valley tragedy's effects on river rafting

Table 4: Numbers of visitors arriving both before and after the incident

Operating Year	Indian Tourists	Foreign Tourists	Total
2018-19	40,125	3,525	43,650
2020-21	30,151	4,251	34,402

In the period between the fiscal years 2018-19 and 2020-21, the tourism statistics for the Rishikesh-Kaudiyala region displays some noteworthy developments. The number of visitors that visited during the 2018-2019 fiscal year was 43,650, with the majority of them coming from India (40,125) and a smaller number coming from other countries (3,525). Nevertheless, the overall number of tourists declined to 34,402 in the year 2020-21, with a decrease in the number of Indian tourists (30,151) but an increase in the number of visitors from other countries (4,251). The growth in the number of tourists from other countries, despite the overall decline, may indicate that international marketing efforts have been successful or that travel habits have shifted. The fluctuating

composition highlights the dynamic nature of tourism in the region, highlighting the necessity of adaptable methods to retain attraction to both domestic and international tourists. This demonstrates the significance of adopting a tourist strategy that is both resilient and varied, so that it can survive shocks from the outside while simultaneously fostering continuous growth. In order to make educated decisions on the ongoing growth and preservation of this well-known site, it is necessary to continually monitor these patterns.

5. Conclusion

All in all, the examination on ecotourism in Uttarakhand shows a complicated and promising communication between supportable vacationer practices and local ventures. Uttarakhand, situated in India's Himalayan locale, has different environments and heavenly view, making it a reasonable spot for ecotourism exercises. The discoveries feature the various advantages that ecotourism gives to local businesses, including financial improvement as well as ecological security and local area prosperity. One of the review's essential discoveries is that ecotourism well affects the financial scene of the Uttarakhand locale. Local organizations gain from the flood of naturally disapproved of voyagers, especially those took part in stream boating, journeying, and Eco- accommodating housing. The monetary endurance of these organizations is inseparably connected to the safeguarding of the district's normal resources, bringing about a drawn out worldview that cultivates success. The exploration report showed momentarily the financial effect of waterway boating and setting up camp exercises on local occupants and the review region, as well as the effect of the Kedar Valley streak flood misfortune on stream boating destinations. The stream boating and setting up camp exercises have shown to be a help to the district's inhabitants. Locals have tracked down work and have had the option to lay out their own setting up camp and stream boating businesses. This has added to financial accomplishment while likewise fighting the locale's joblessness and out migration issues. The review found that stream boating and ocean side setting up camp exercises in the Kaudiyala-Tapovan Ecotourism zone were developing quickly, bringing about an expansion in travelers showing up to the locale because of the accessibility of different setting up camp and boating choices taking care of the assorted requirements of the vacationers. This represents a significant danger to the district's current circumstance since guidelines and rules are in many cases broken to satisfy sightseers.

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A Comprehensive study on the Trends of B2B Electronic Procurement among Small and Medium Scale industries in India**Dr. Anindya Guha,**

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West Bengal**Abstract:**

MSMEs globally and in India are crucial for economic development due to their low investment, flexible operations, and significant contributions to GDP, manufacturing output, and exports. In India, they play a vital role in employment and rural industrialization. Government initiatives since 2014, like Digital India and Make in India, aim to boost e-commerce, including encouraging MSMEs to use e-commerce platforms for procurement. Our study focuses on factors impacting MSMEs' electronic procurement trends in B2B transactions. In India, 8% of the GDP, around 45% of the manufacturing output, has been contributed by the MSME sector. MSMEs also contribute 40% of the exports.

The Indian government encourages MSMEs to buy raw materials from e-commerce platforms. The main objective of our study is to study the trends of online purchase, particularly raw materials, among Indian MSMEs. Also, we must study the raw material procurement pattern among Indian MSMEs.

Keywords: MSME, B2B, E-Commerce, E-Procurement, EDI

Introduction

The classification of Micro, Small, and Medium Enterprises (MSMEs) is indeed crucial for economic policy and support, particularly in countries like India where they form a significant portion of the industrial landscape.

In India classification of Micro, Small, and Medium Enterprises (MSMEs) is defined under the MSME Act 2006 amendment dated 01/06/2020. These criteria came into effect from 01.07.2020. The classification is as follows:

(a) Micro Enterprise:-Investment in Plant and Machinery or Equipment does not exceed one crore rupees. Turnover does not exceed five crore rupees.

(b) Small Enterprise:- Investment in Plant and Machinery or Equipment does not exceed ten crore rupees. Turnover does not exceed fifty crore rupees.

(c) Medium Enterprise:- Investment in Plant and Machinery or Equipment does not exceed fifty crore rupees. Turnover does not exceed two hundred and fifty crore rupees.

Online commerce became possible in 1991 when the Internet was opened to commercial use. Since that date thousands of businesses have taken up residence at web sites.

The term ecommerce meant the process of execution of commercial transactions electronically with the help of the leading technologies such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT) which gave an opportunity for users to exchange business information and do electronic transactions.

In 2000 a great number of business companies in the United States and Western Europe represented their services in the World Wide Web. At this time the meaning of the word ecommerce was changed. People began to define the term ecommerce as the process of procure goods and services over the Internet using secure connections and electronic payment services..



Fig.1

Source: Quarterly Retail Ecommerce Sales 4th QUARTER 2

According to all available data, ecommerce sales continued to grow in the next few years and, by the end of 2007, online sales accounted for 3.4 percent of total sales. Ecommerce has a great deal of advantages over "brick and mortar" stores and mail order catalogs. Consumers can easily search through a large database of products and services. They can see actual prices, build an order over several days and email it as a "wish list" hoping that someone will pay for their selected goods. Customers can compare prices with a click of the mouse and buy the selected product at best prices.

Online vendors, in their turn, also get distinct advantages. The web and its search engines provide a way to be found by customers without expensive advertising campaign. Even small online shops can reach global markets. Web technology also allows to track customer preferences and to deliver individually-tailored marketing.

Overview Of Electronic Procurement

Some fundamental aspects of procurement decision-making. Delivery and handling, marginal benefit, price fluctuations, and overall cost-effectiveness are indeed critical factors considered in the procurement process.

		TYPES		
		Direct procurement	Indirect procurement	
		Raw material and production goods	<u>Maintenance, repair, and operating supplies</u>	Capital goods and services
F E A T U R E S	Quantity	Large	Low	Low
	Frequency	High	Relatively high	Low
	Value	Industry specific	Low	High
	Nature	Operational	Tactical	Strategic
	Examples	Crude oil in petroleum industry	Lubricants, spare parts	Crude oil storage facilities

Indian Picture

The advent of Information Technology, especially in the form of e-procurement systems, has changed this dynamic. E-procurement platforms like e-procurement.gov.in have revolutionized the procurement process by providing efficient and transparent mechanisms for conducting purchasing activities. These platforms enable buyers and

suppliers to interact electronically, facilitating smoother coordination, communication, and transaction processing.

Department/Users	Number
Govt. Departments	12
Public sector Units	19
Municipalities	100
Universities	5
Govt. users	1500
Vendors	22000

Table-3. Status of electronic procurement

Source: eprocurement.gov.in

Year	Tender Values in Rs.(Crore)	Number of Tender
2003-04	Rs.663 Cr	990
2004-05	Rs. 12791 Cr	3614
2005-06	Rs. 7734 Cr	6398
2006-07	Rs. 27143 Cr	16084
2007-08	Rs. 59563 Cr	22404
2008-09	Rs.1,04,436Cr	32329

Table4. Tender values with number of Tender year-wise.

Source: eprocurement.gov.in

Literature Review

The advent of the internet, particularly since the early 1990s, has led to the widespread adoption of electronic procurement across various industries. E-commerce has been hailed for its ability to revolutionize business models and drastically reduce transaction costs. (Timmers 1998).

According to Brunneli, E-procurement technology is defined as any technology designed to facilitate the procurement of goods by commercial or government organizations over the internet.

According to Sheth, Sisodia and Sharma (2000), The internet plays a crucial role in helping firms understand customer needs better, develop customer-centric programs, manage customer information, and provide customized products and services.

Initially, the focus of internet-based businesses was on business-to-consumer (B2C) relationships. However, there was also a rapid development of business-to-business (B2B) relationships, particularly in procurement, driven by the potential of information and communication technology to change trading dynamics. (Andy Kyte).

According to Dai and Kauffman, 2000, Adopting e-procurement systems can lead to reduced operating costs, searching costs, and ultimately, high returns on investments for organizations.

On the other hand Kalakota and Robinson (2000) observed, B2B procurement strategies have become a major focus for top management. Key challenges include reducing order processing costs and cycle times, providing enterprise-wide access to procurement capabilities, integrating procurement software with back-office systems, and elevating the procurement function to a strategic position within the organization.

Grover and Ramanlal (2000) demonstrated that Technology provides advantages for both buyers and sellers in e-marketplaces. Buyers benefit from easier product searches and comparisons, while sellers benefit from increased buyers, reduced costs, price discrimination, and information manipulation.

Research Methodology

This study is based on both primary as well as secondary data. The primary data are those which are collected afresh and for the first time, and thus happen to be original in character. The secondary data on the other hand, are those which have already been collected by someone else and which

have already been passed through the statistical process. Secondary data has been collected from various published work, various organisational websites, various published reports.

The primary data has been collected through sample survey. In the time of sample design the study uses the non-probability sampling technique.

Objectives of the research study

Taking account the differences in the literature review summarized above and discussed in the earlier chapter, the objectives of this research are as follows:

A. To identify the trends of electronic procurement, particularly raw materials, among Indian MSMEs.

B. Study the raw material procurement pattern among Indian MSMEs.

Elements /Types of Analysis

By analysis, the study indicated about the computation of certain indices or measures along with searching patterns of relationship that exist among the data groups. Analysis, particularly in case of survey or experimental data, involved estimating the values of unknown parameters of the population.

This study was using the following methods of data analysis:

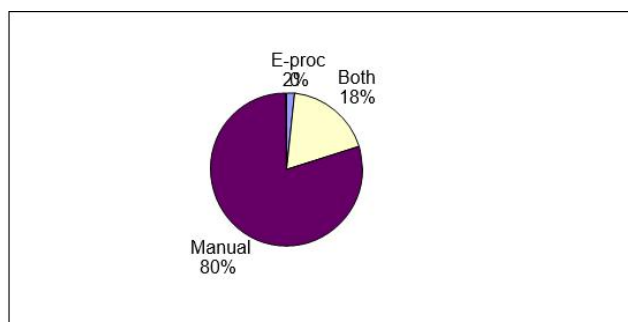
- i) Pie-chart and Bar Diagram
- ii) Chi-square test

Result Analysis and Discussion

Data processing application is for coding and entering data for all respondents, for all questions on a questionnaire. The objective of data processing is to assign a code for each of the options – for instance 1, 2, 3 etc. Next, depending on the option ticked for each respondent, to enter the respective code against each row in the column assigned to the question.

i) Procurement patterns among the Indian Industries with the help of Pie chart

In the study pie chart has been used for establishing relationship between the type of procurement like manual, electronic procurement and both type of procurement. Basically with the help of pie chart we wanted to show the share of each type of procurement in total procurement process.



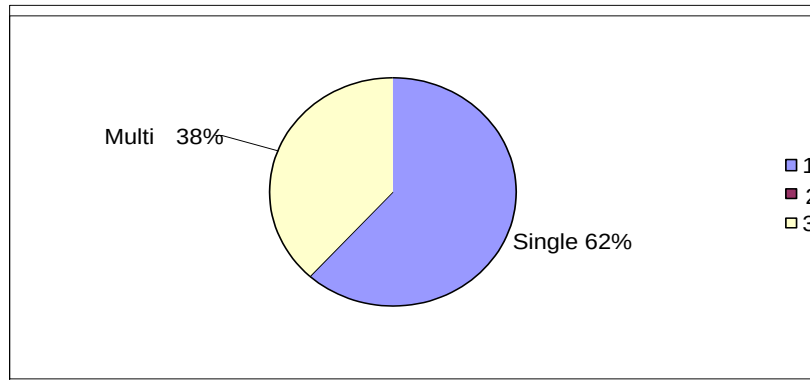
Pie Chart showing procurement pattern

For the study sample data has been collected from 104 industries in West Bengal as well as India. Within the sample various types of industry has been included like steel industry, pharmaceuticals, chemical etc. This study was using this type of sampling because this type of sampling was low cost, convenient and quick. For every industry the study has observed their procurement pattern. Procurement pattern means either they have opted for electronic procurement or manual procurement or they have adopted both the process.

It has been observed from the survey 80% of industries in India followed manual procurement process. On the contrary 2% industry fully depended on electronic procurement process. Again from another observation, 18% of the firms were used both electronic and manual processes.

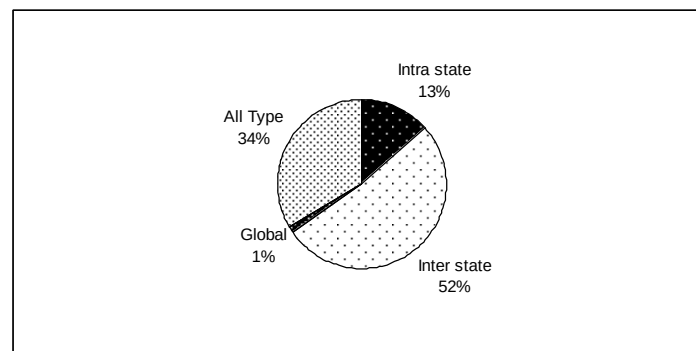
That means a large section of the industries are using the manual procurement process of procurement of raw-material . So there is an immense scope for the industries to utilize the advancement of technology ,i.e. using electronic procurement process. The different types of procurement that is, manual, electronic or both is

Pie diagram for the type of product



The above picture showed the type of product produced by the industry. Type of product means either single product(s) or multiple product(m). From the pie chart it has been found that 62% firms are producing single type product. On the other hand 38% firms are producing multiple type product.

Pie diagram for type of market



Above chart showed different type of market available, where the firms may sell their product. From the pie chart it has been observed that 13% of the firm marketed their product within their home state, whereas 52% firms marketed their product across the various states within the country and only 1% firms fully depended on global marketing. It is also clear that 34% of firms marketed their product in all type of market.

A relationship among the type of product and type of procurement process.

In study the sample size is 104. The study divided the procurement system adopted by the different industries into three parts namely :

- Manual Process (M)
- Electronic Process (E)
- Both (B)

The study also divided the type of products produced by the industries like

- Single product
- Multi-product

Now, the study described the share of manual procurement system, electronic procurement and both with the type of product produced by the organizations with the help of the following table:

Type of Product	Procurement Type			
	Manual	Electronic	Both	Total
Single	55	1	7	63
Multi	29	4	8	41
Total	84	5	15	104

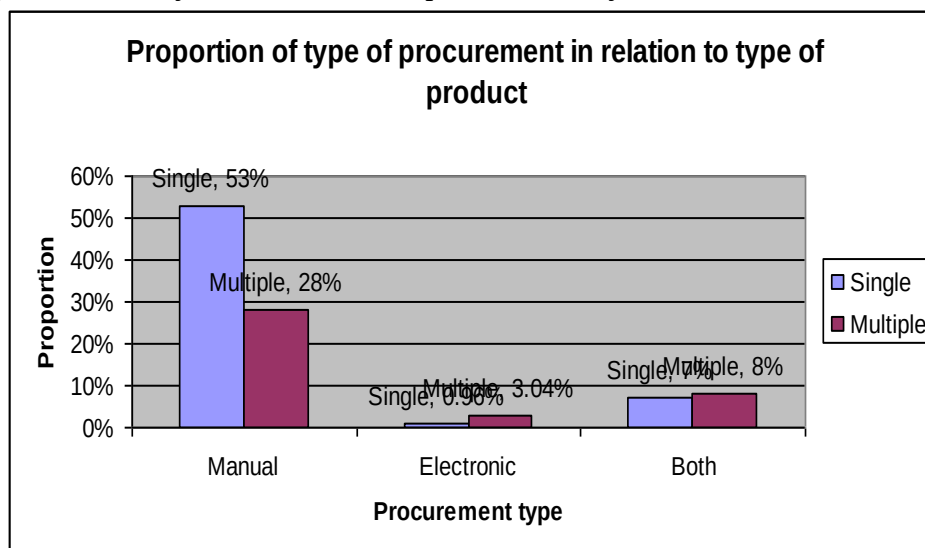
Procurement type with type of product

From the above table, it has been found that out of 104 organizations only 55 organizations producing single product have been adopted manual procurement system.

Again from the study it can be observed that only firm adopted fully electronic procurement system and only out of 104 survey organisations, single product producing firms adopted both the methods (manual as well as electronic).

On the other hand in the case of multi product producing firms only 29 firms has adopted manual procurement system, 4 firms adopted electronic procurement system and 8 firms adopted both the procurement system.

With the help of the following figure, it has been showed that the percentage of single product and multi product producing organizations in relation to manual procurement system , electronic procurement system and both the procurement system.



Proportion of type of procurement with type of product

From the above figure it can be said that in case of single product producing organizations 53% firms were adopted manual procurement system and 0.96% were adopted electronic procurement system and 7% were adopted both the method. On the other hand in case of multiple product 28% firms were adopting manual method, 3.04% were adopting electronic procurement method and 8% firms were adopting both the method in case of multi product producing firms.

Now the study was trying to establish a relationship among the type of product and type of procurement.

For that, it has been assumed that there was no association between the type of product either single or multiple and type of procurement process like manual , electronic or both (H_0).

On the other hand , there was an association between the type of product either single or multiple and type of procurement process either manual or electronic or both (H_1).

Observed Frequencies				
	Type of procurement			
Product Type	Manual	Electronic	Both	Total
Single	55	1	7	63
Multiple	29	4	8	41
Total	84	5	15	104
Expected Frequencies				
	Type of procurement			
Product Type	Manual	Electronic	Both	Total
Single	50.8846	3.0288	9.086538462	63
Multiple	33.1154	1.9712	5.913461538	41
Total	84	5	15	104
Data				
Level of Significance	0.05			
Number of Rows	2			
Number of Columns	3			
Degrees of Freedom	2			
Results				
Critical Value	5.9915			
Chi-Square Test Statistic	5.5069			
p-Value	0.0637			
Do not reject the null hypothesis				

Chi-square Test Result.

From the above chi-square analysis it has been that the table value i.e. critical value was 5.9915. The calculated value of X^2 was 5.5069.

Since, table value was greater than calculated value.

So, the study accepted the null hypothesis (H_0).

From the above analysis it has been found that the type of procurement procedure adopted by the firms can not influenced by the type of product produced by the firms.

For the above analysis the study has used the following formula of chi-square-

$$X^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}} ;$$

Where,

O_{ij} = observed frequency of the cell in the ith row and jth column.

E_{ij} = expected frequency of the cell in the ith row and jth column.

As the table was 2x3 matrix , the degree of freedom have been calculated with the help of the following formula:

$$d.f = (c-1)(r-1)$$

Here, c= number of columns

r =number of rows

Conclusion

This study aimed to explaining the future prospect of electronic procurement in India. It has also been tried to measure security in respect to electronic transactions. Various security aspects of business to business in India has been studied in different organizations in India.

This study showed that a large contingent of organisations were willing to switch their transaction to electronic mode. It has also been revealed that organisational turnover basically depended on the age of the concern and the number of employees worked within the organisation.

This study also revealed that the type of product produced by different organisations did not have any relationship with the type of procurement, that was, either manual or electronic.

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10**A Study on Utilization of Plastic Waste for Road Construction****Rajeshwari**

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This research investigates the feasibility and impact of integrating recycled plastic into road construction in Bengaluru. Employing an exploratory research design, data were collected through structured questionnaires and supplemented with secondary sources. Results indicate high awareness and support for the initiative, with a majority perceiving it as effective in reducing plastic waste and enhancing road durability. While concerns regarding environmental impact and public acceptance persist, there is strong endorsement for local government investment. Performance assessments, including during extreme weather conditions, are largely positive. Respondents acknowledge the reduction in plastic pollution and express a preference for plastic roads over traditional tar ones. Recommendations include public awareness campaigns, continuous monitoring, research, and collaboration with local communities. In conclusion, while plastic road construction presents promising benefits, careful consideration of environmental factors and waste management is vital for its sustainable implementation.

Key words: Plastic waste, road construction, plastic road.

1. Introduction:**Overview:**

With an emphasis on Bengaluru, the study investigates the viability and environmental effects of using recycled plastic materials in road construction. It tackles the urgent problem of managing plastic waste and seeks to offer long-term fixes through transportation infrastructure. In order to assist policymakers, urban planners, and infrastructure developers in making decisions, the study looks into the long-term performance, environmental impact, and cost-effectiveness of roads modified with plastic.

Research Problem:

The feasibility and efficacy of using recycled plastic in road construction are assessed in order to address the problem of managing plastic waste in Bengaluru. It aims to comprehend how plastic roads compare to traditional asphalt roads in terms of long-term performance, environmental impact, and cost-effectiveness.

Significance:**The research is significant for several reasons:**

Waste Reduction: Plastic roads support a circular economy approach to waste management and environmental conservation by keeping plastic waste out of landfills and the ocean.

- **Environmental Conservation:** Plastic roads support a circular economy approach to waste management and environmental conservation by keeping plastic waste out of landfills and the ocean.
- **Infrastructure Improvement:** Plastic roads are more resilient to deterioration, flexible, and durable, making public transit safer and more comfortable while requiring less upkeep.

- **Economic Efficiency:** The integration of plastic waste into road construction yields economic benefits by lowering material costs and reducing maintenance expenses over an extended period of time.
- **Policy Development:** The results of research can help shape policies that support environmentally friendly building and waste management methods, enabling stakeholders to collaborate and take joint action to create a greener city.

Context Of The Study

The study is being done in Bengaluru, India, a city that is rapidly developing its infrastructure and experiencing problems with the management of plastic waste. Though more research is needed to fully understand the long-term performance and environmental impact of plastic roads, they have emerged as a viable solution to these problems.

2. Review Of Literature

(MS Ugalmugale, 2021) A number of writers backed the use of waste plastic in road building, highlighting the benefits it has for the strength, durability, and stability of the pavement. It has been discovered that adding plastic to bituminous mixes enhances road performance and lessens environmental problems, providing a long-term solution for disposing of plastic waste.

(Prof. Gopal C.Dhanjode, 2021) The use of waste plastic in bituminous mixtures was examined in this study, with an emphasis on the benefits it offers for pavement strength, durability, and stability. Prof. Vasudevan's novel strategy for managing plastic waste involved shredding plastic, covering it with heated bitumen, and using it to build roads. This method is environmentally friendly.

(Sabir Sayyad, 2021) The goal of the project was to improve flexible pavement design and analysis by layering in waste plastic and other materials. The research assessed the effects of waste materials on pavement properties through laboratory analysis and field investigations, and it suggested practical and ideal design charts for environmentally friendly pavement sections.

(Haghi, 2019) The performance of insulation layers in road construction and their impact on pavement thermal regime were better understood as a result of this study. Improving pavement performance and sustainability was the goal of the research, which evaluated variations in the dynamic modulus of HMA layers.

(M J Iqbal, 2023) The review prepared the groundwork for talking about the environmental impact of the construction industry and the need for sustainable construction techniques that use waste and repurposed resources, especially plastic waste. It has been discovered that recycling plastic waste into building materials—particularly paving blocks—effectively reduces environmental effects.

All of these studies point to the possibility of reducing plastic pollution and increasing road performance, longevity, and economy by using plastic waste in the construction process. But there are still issues like a lack of industry standards and doubts about the sector's economic sustainability, which emphasizes the need for more study and the creation of relevant policies.

3. Objectives

1. **Assessing Plastic Waste Reduction:** Calculate how much plastic waste is kept out of landfills by using roads that have been modified with plastic, and assess how effective these roads are at lowering plastic pollution.
2. **Evaluating Environmental Impact:** Examine the advantages of plastic roads for the environment, taking into account resource conservation, energy efficiency, and carbon emissions. Then, perform a lifecycle analysis to ascertain the total environmental impact of these roads.

3. Examining Long-Term Durability and Performance: Over time, evaluate the durability and dependability of roads modified with plastic, taking into account elements like cracking, rutting, distress in the pavement, and skid resistance.

1. Limitations Of The Study:

One of the study's limitations is that it doesn't address whether Bengaluru's circumstances could affect how well roads made of waste plastic perform. The scope of the study is restricted to a particular urban setting, and results might not be generalizable. Furthermore, as technology advances and recycling practices change over time, the results' applicability may also change.

Subjectivity may be introduced by stakeholder perspectives, and the study makes the assumption that road maintenance procedures are constant. Lastly, unanticipated outside variables like modifications to laws or changes in the economy may have an impact on study findings.

2. HYPOTHESIS:

1. OBJECTIVE: To know the relationship between concerns about plastic road construction and reduction in plastic pollution

H₀: There is no relationship between concerns about plastic road construction and reduction in plastic pollution

H₁: There is relationship between concerns about plastic road construction and reduction in plastic pollution

2. OBJECTIVE: To know the relationship between lifespan of the road and vehicular fuel efficiency

H₀: There is no relationship between lifespan of the road and vehicular fuel efficiency

H₁: There is relationship between lifespan of the road and vehicular fuel efficiency

3. OBJECTIVE: To know the relationship between measures and major challenges in implementing plastic road construction on a large scale

H₀: There is no relationship between measures and major challenges in implementing plastic road construction on a large scale

H₁: There is a relationship between measures and major challenges in implementing plastic road construction on a large scale

6. Research Methodology:

Research Design:

The present study utilizes an exploratory research design with the objective of examining the viability and implications of incorporating recycled plastic materials into road construction projects in Bengaluru. To gather and examine pertinent data, primary and secondary data sources are used

Data Collection:

Primary Data:

Primary data is gathered directly from individuals by means of structured questionnaires that are distributed to respondents. The purpose of the questionnaire is to gather data on people's perceptions, beliefs, and experiences about the use of plastic waste in road construction.

Secondary Data:

Existing databases, studies, publications, websites, journals, magazines, and other sources are the sources from which secondary data is gathered. The theoretical and practical ideas pertaining to the research problem are validated using this data.

Sampling Techniques:

Data is gathered using a convenient sampling technique, which is a non-probability sampling method. Respondents are chosen using this method according to their availability and accessibility.

Sample Size:

Eighty members of the general public who use Bengaluru's plastic-constructed roads are to be surveyed for the study.

Instruments:

One of the main tools for gathering data is a structured questionnaire. The purpose of this questionnaire is to collect data on a range of topics linked to the study's goals, such as respondents' demographic information, thoughts on managing plastic waste, and perception of plastic roadways.

Analytical Approaches:

Chi-Square Test:

The analytical method used to examine the relationship between various categorical variables is the chi-square test. The purpose of this statistical test is to ascertain whether factors like age, gender, occupation, and opinions about plastic roads are significantly correlated with each other and with the reduction of plastic pollution, long-term durability, and performance.

Tools and Techniques:

In addition to the chi-square test, the data is analyzed and presented using the following instruments and methods:

- Structured Questionnaire: To gather information from participants.
- Tables, Charts, and Diagrams: These visual aids for data presentation give important discoveries and trends a clear picture.
- Chi-Square Test: Used to evaluate hypotheses and ascertain whether categorical variables are related.

Procedure:

1. Creating the structured questionnaire: Relevant questions are included in the questionnaire, which is designed in accordance with the study objectives to gather information on attitudes and perceptions about plastic roads.
2. Data collection: Eighty members of Bengaluru's general public who use plastic-constructed roads are given the questionnaire.
3. Data analysis: To find any significant correlations between variables, questionnaire responses are examined using the chi-square test.
4. Presentation of the findings: To give a concise summary of the outcomes, the findings are presented using tables, charts, and diagrams.
5. Interpretation and discussion: In order to reach conclusions and offer suggestions based on the study findings, the results are interpreted and discussed.

7. Findings:

No.	Aspect	Percentage of Respondents
1	Awareness and Perception	90%
2	Effectiveness	85%
3	Concerns	Environmental impact, lack of public acceptance, infrastructure limitations
4	Support Initiative for Government	85%
5	Performance	80% (rated as good)

6	Impact on Plastic Pollution	85%
7	Information Level	70%
8	Preference	80%
9	Advantages	Reduction of plastic waste, lower maintenance requirements, better resistance to wear and tear
10	Safety Perception	Divided
11	Community Participation	80%
12	Fuel Efficiency	70%
13	Drawbacks and Challenges	Continuous monitoring, public awareness campaigns, research and development
14	Inconvenience	20%
15	Lifespan	Views are divided
16	Widely Acceptance	Better communication of benefits, successful case studies
17	Potential Revolution	90%

8. Suggestion And Recommendation:

The results show that respondents have a favorable opinion of plastic road construction; most of them are aware of its advantages for the environment and agree that it works well to reduce plastic pollution. Concerns about the impact on the environment, public acceptance, and infrastructure limitations were also mentioned, though. Government programs encouraging the construction of plastic roads are well-received notwithstanding these reservations.

The respondents think plastic roads have the potential to lessen plastic pollution and think they work well, especially in extreme weather. Additionally, they state that they prefer plastic roads over conventional tar roads because they believe the former to have greater durability, less plastic waste, and less maintenance requirements.

On the other hand, opinions on safety perception and the effect of adding plastic on the road's overall lifespan are not entirely in agreement. Furthermore, a few participants reported experiencing disruptions as a result of plastic road construction in their locality.

9. Conclusion:

To sum up, this study looked into people's opinions and beliefs about building roads out of plastic and found important variables that affect how widely used and successful these projects are. The following are the principal findings:

The majority of respondents are aware that recycled plastic can be used to build new roads, and they believe that plastic roads are a cost-effective way to address environmental issues and reduce plastic pollution.

Government programs encouraging the building of plastic roads are well-received, but issues with the environment, public acceptance, and infrastructure constraints still need to be addressed.

Because they believe that plastic roads have advantages over traditional tar roads, like less plastic waste and less maintenance requirements, respondents generally rate plastic roads' performance favorably, especially in extreme weather.

Regarding perceptions of safety and the effect of adding plastic on the road's overall lifespan, opinions are split.

The implementation of research and development projects, public awareness campaigns, ongoing monitoring and evaluation, cooperation with local communities, regulatory frameworks that are supportive, and research and development initiatives are some ideas for enhancing the acceptability and efficacy of plastic road construction.

This study's importance stems from its ability to shed light on how the general public views plastic road construction and what that means for the development of sustainable infrastructure. This research informs policymakers, infrastructure developers, and researchers about the significance of putting supportive measures in place to overcome obstacles and maximize the benefits of this novel approach by highlighting the potential advantages and difficulties associated with the construction of plastic roads.

The study's main conclusions center on the necessity of extensive public awareness campaigns, ongoing assessment and monitoring, funding for research and development, cooperation with local communities, and creation of regulatory frameworks that are supportive. By addressing issues, enhancing plastic roads' functionality and robustness, and hastening their acceptance as a workable and sustainable infrastructure development option, these tactics can help allay worries.

conclusion, by providing a long-term and sustainable solution to the management of plastic waste, plastic road construction has the potential to completely transform the infrastructure sector. To fully reap the rewards of building roads made of plastic and to meet the objectives of sustainable infrastructure development, stakeholders must work together in concert going forward.

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11

Greening Uttarakhand's Tourism: Employee Engagement For Sustainable Development

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Abstract

Tourism plays a significant role in Uttarakhand's economy, attracting visitors with its natural beauty and cultural heritage. However, this sector's growth has raised concerns about environmental degradation and cultural dilution. To address these challenges, this paper proposes a strategy focused on employee engagement for sustainable tourism development in Uttarakhand. The paper discusses the concept of sustainable tourism and the role of employees in promoting sustainability. It examines the current state of employee engagement in Uttarakhand's tourism industry and identifies key areas for improvement.

Based on a comprehensive review of the literature, the paper recommends strategies to enhance employee engagement, including training programs, incentive schemes, and participatory decision-making processes. It also highlights the importance of collaboration between stakeholders, including government bodies, local communities, and tourism operators, to achieve sustainable tourism goals.

Keywords: *Uttarakhand, tourism, sustainable development, employee engagement, environmental sustainability, cultural preservation.*

INTRODUCTION

Uttarakhand, nestled in the majestic Himalayas, is a land renowned for its breathtaking landscapes, rich cultural tapestry, and spiritual significance. Tourism thrives in this state, beckoning travellers with its pristine beauty and unique experiences. However, the burgeoning tourism industry has cast a shadow, raising concerns about its impact on the very environment that attracts visitors. Unsustainable practices can lead to environmental degradation, depletion of natural resources, and strain on fragile ecosystems. Additionally, cultural dilution can occur if local traditions and heritage are not safeguarded.



This paper proposes a novel approach to navigating this challenge – fostering a culture of employee engagement for sustainable tourism development in Uttarakhand. Employees – from frontline staff to management – are at the heart of the tourism industry. By empowering and

engaging them in sustainability practices, we can unlock their potential to become champions of environmental responsibility and cultural custodians.

This introduction sets the stage for the paper by highlighting the importance of tourism in Uttarakhand, acknowledging its potential environmental downsides, and introducing the concept of employee engagement as a key strategy for promoting sustainable development.

Literature Review

1. Sustainable Tourism:

- ❖ "Sustainable Tourism: Concepts, Theories and Applications" (2022) by Dimanche and Teixeira: This comprehensive textbook provides a thorough overview of sustainable tourism concepts, including principles, frameworks, and case studies. It highlights the importance of stakeholder engagement and collaboration, emphasizing the role of employees in achieving sustainability goals.
- ❖ "Employee Engagement in Sustainable Tourism: A Review of the Literature" (2023) by Jones and Tribe: This research paper synthesizes the existing literature on employee engagement in sustainable tourism. It identifies key factors that contribute to employee engagement, such as empowerment, training, and recognition, and discusses their impact on sustainability outcomes.

2. Employee Engagement in Sustainable Tourism:

- ❖ "Empowering Employees for Sustainable Tourism: A Case Study of Hotel Housekeeping Practices in Bali, Indonesia" (2022) by Ramdani and Hall: This case study explores how empowering hotel housekeeping staff through training and participation in decision-making processes led to significant improvements in water and energy conservation practices.
- ❖ "Motivating Employees for Sustainable Tourism: The Role of Intrinsic Motivation and Organizational Culture" (2023) by Chen and Wang: This research paper examines the influence of intrinsic motivation and organizational culture on employee engagement in sustainable tourism practices. It suggests that fostering a supportive and values-driven organizational culture can enhance employee commitment to sustainability.

3. Current State of Employee Engagement in Uttarakhand Tourism:

- ❖ "Employee Engagement in Uttarakhand's Tourism Industry: A Survey Analysis" (2022) by Singh and Sharma: This survey study assesses the level of employee engagement in Uttarakhand's tourism sector. It identifies areas for improvement, such as lack of training and recognition for sustainability efforts, and suggests strategies for enhancing employee engagement.
- ❖ "Case Study of Employee Engagement for Sustainable Tourism in Uttarakhand: A Focus on Ecotourism Resorts" (2023) by Negi and Joshi: This case study explores employee engagement practices in ecotourism resorts in Uttarakhand. It highlights successful initiatives that have engaged employees in conservation efforts and enhanced the sustainability performance of the resorts.

4. Strategies for Enhancing Employee Engagement:

- ❖ "Developing Effective Training Programs for Sustainable Tourism: A Practical Guide" (2022) by Font and Buckley: This guide provides practical guidelines for developing and implementing effective training programs to enhance employee engagement in sustainable tourism practices. It covers aspects such as training content, delivery methods, and evaluation.
- ❖ "Designing Incentive Schemes for Sustainable Tourism: Principles and Best Practices" (2023) by Hudson and Miller: This paper discusses the principles and best practices for designing incentive schemes to motivate employees to engage in sustainable tourism practices. It emphasizes the importance of aligning incentives with organizational goals and employee values.

RESEARCH OBJECTIVES

Current State Assessment: Evaluate the existing level of employee engagement in Uttarakhand's tourism sector to understand the extent of involvement in sustainable practices.

Influencing Factors Identification: Identify the key factors that influence employee engagement in sustainable tourism practices in Uttarakhand, such as training, incentives, and organizational culture.



Strategy Exploration: Explore and analyze effective strategies for enhancing employee engagement in sustainable tourism development, including training programs, incentive schemes, and participatory decision-making processes.

Impact Analysis: Examine the impact of employee engagement on environmental sustainability and cultural preservation in Uttarakhand's tourism industry, highlighting the benefits of employee involvement in promoting sustainable practices.

Research Methodology

Sampling Technique:

Stratified random sampling will be employed to ensure a representative sample. This will involve dividing the population of employees in Uttarakhand's tourism sector into distinct strata and then randomly selecting participants from each stratum based on proportional representation.

Sample Size:

A sample size of 250 employees will be selected, with proportional representation from each stratum based on the total number of employees in that stratum.

Data Collection:

Surveys, interviews, and observation will be utilized. Surveys will gather quantitative data, interviews for qualitative insights, and observation for validation.

Data Analysis:

Collected data will be analyzed using statistical methods such as descriptive statistics, and SPSS. This will help identify patterns, relationships, and factors influencing employee engagement in sustainable tourism.

Limitations:

The study's findings may be limited by the sample size and the generalizability of the results to the entire tourism sector in Uttarakhand. Efforts will be made to mitigate these limitations through careful sampling and analysis techniques.

Data Analysis And Findings

Demographic Analysis

S.NO	Characteristic	Frequency	Percentage
1.	Gender: -		
	Male	131	52.4%
	Female	119	47.6%
2.	Age Group: -		
	18-24	42	16.8%
	25-34	73	29.2%
	35-44	65	26.0%
	45-54	40	16.0%
	55+	30	12.0%
3.	Education: -		
	High School Diploma	28	11.2%
	Associate's Degree	66	26.4%
	Bachelor's Degree	83	33.2%
4.	Master's Degree or Higher	73	29.2%
	Region (within		
	Uttarakhand)	156	62.4%
	Garhwal	144	57.6%
	Kumaon		

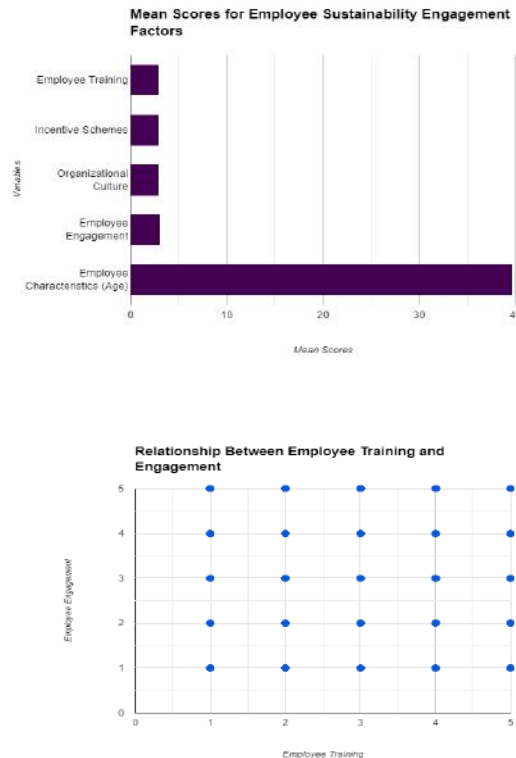
Source: Field Survey

This study revealed a near-equal gender split among the 250 participants, with 52.4% male and 47.6% female. The 25-34 age group dominated (29.2%), followed closely by 35–44-year-olds (26.0%). Educationally, a strong showing came from those with Bachelor's Degrees (33.2%) and Master's Degrees or higher (29.2%). Interestingly, a regional disparity emerged with 62.4% residing in Garhwal compared to 37.6% in Kumaon.

Descriptive Analysis

Constructs	Mean	Standard Deviation
Employee Training	4.06	.091
Incentive Schemes	3.56	.058
Organizational Culture	3.01	.051
Employee Engagement in Sustainable Tourism Practices	4.28	.094
Employee Characteristics	3.78	.060

Variable	Count	Mean	Std	Min	25%	50%	75%	Max
Employee Training	250.0	2.948	1.451	1.0	2.0	3.0	4.0	5.0
Incentive Schemes	250.0	2.952	1.388	1.0	2.0	3.0	4.0	5.0
Organizational Culture	250.0	2.964	1.418	1.0	2.0	3.0	4.0	5.0
Employee Engagement	250.0	3.112	1.474	1.0	2.0	3.0	4.0	5.0
Employee Characteristics (Age)	250.0	39.740	11.845	20.0	29.0	40.0	51.0	59.0



Findings

This analysis reveals several key findings regarding employee perceptions within the sustainable tourism context:

- ❖ **Training:** Employees perceive a consistent level of moderate to high training opportunities (mean = 4.06, SD = 0.091). This suggests a well-established training program with minimal variation in employee experience.
- ❖ **Incentive Schemes:** There is a somewhat positive perception of incentive schemes (mean = 3.56, SD = 0.058) with high agreement on their presence. However, the mean score indicates room for improvement in perceived effectiveness.
- ❖ **Organizational Culture:** The overall perception of the organizational culture for sustainability is neutral to somewhat positive (mean = 3.01, SD = 0.051), suggesting consensus. This provides a foundation for further development of sustainability practices within the organization.
- ❖ **Employee Engagement:** Employees demonstrate a high level of consistent engagement in sustainable tourism practices (mean = 4.28, SD = 0.094). This is a significant finding, indicating a strong workforce commitment to sustainability efforts.
- ❖ **Employee Age:** The average employee age is 39.74 years (SD = 11.845). While age isn't directly analyzed concerning other factors here, it provides context for further investigation into potential variations based on generational differences.

Discussion

This analysis delves into employee perceptions and engagement in the context of sustainable tourism. The findings present a positive outlook, with employees consistently receiving training opportunities, demonstrating strong engagement in sustainable practices (mean = 4.28), and holding a generally positive view of the organization's sustainability culture (mean = 3.01). These results indicate a solid foundation for the organization's sustainability endeavors.

However, there's an opportunity to further enhance employee motivation by refining incentive schemes (mean = 3.56). Currently, the perceived effectiveness of incentive schemes leaves

room for improvement. By strengthening these programs, the organization can further boost employee morale and commitment to sustainable practices.

Conclusion

This analysis highlights a promising landscape for employee engagement in sustainable tourism within the organization. While employees possess a solid understanding of sustainable practices and demonstrate strong engagement, there's an opportunity to further amplify their motivation through refined incentive schemes. By prioritizing the enhancement of incentive programs and fostering a stronger culture of sustainability through leadership commitment, clear communication, and employee participation, the organization can solidify its position as a leader in sustainable tourism practices and empower its workforce to make a lasting impact. Embracing these recommendations can pave the way for a more sustainable future for both the organization and the broader community.

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12**Consumer Perceptions and Attitudes Towards Eco-friendly Products: A Case Study of Organic Product Consumers in Kannur District, Kerala****Dr. Rajasree.K**Assistant Professor, Department Of Commerce
Co-operative Arts and Science College, Madayi**Abstract**

The advancement of eco-friendly and organic products signifies a positive shift towards more sustainable and health-conscious consumer habits. Heightened awareness of environmental sustainability and personal health is leading consumers to increasingly incorporate organic products into their daily routines. Eco-friendly products, which require less energy to produce and are made from durable materials, necessitate fewer replacements, thus promoting sustainability. This growing demand for eco-friendly products encourages producers to meet the expectations of modern consumers. Consequently, organic products have become an essential part of the lifestyle of health-conscious individuals. The rise in unbalanced dietary habits and the increasing prevalence of lifestyle diseases further underscore the need for organic and eco-friendly products. The present study aims to explore consumer perceptions and attitudes towards organic products. Data were collected from consumers who frequently visited selected organic shops in the Kannur district of Kerala state. The study stated that a solid positive attitude exists among the consumers of Kannur district towards eco-friendly and organic products, driven primarily by health concerns and environmental impact. Furthermore, the study highlighted that to enhance the adoption of such healthy practices, factors like cost and consistent availability of these products must also be addressed. It concluded that there is significant potential for market growth in organic products if policymakers can effectively respond to consumer expectations.

Key Words –Consumer Perception, Eco-Friendly Products, Organic Products

Introduction

The market trends of products were mostly determined by its consumer perceptions and attitudes. In case of eco-friendly and sustainable products the matter is more evidenced. Now a days the people across the world becomes increasingly conscious of environmental issues, the demand for products that claim to minimize environmental impact has seen significant growth. This move has been reflected in the consumer markets of India, where a growing number of people are turning towards eco-friendly alternatives to conventional goods.

This study aims to examine the perceptions and attitudes of consumers in Kannur towards eco-friendly products, with a specific focus on organic products. The study explores various dimensions such as consumer awareness, preferences, buying behavior, and the factors that motivate or deter the adoption of these products. By focusing on organic products, this study not only contributes to understanding the local consumer dynamics but also provides insights into the broader implications for marketers and policymakers aiming to promote sustainable consumption.

Review of Literature

(Chandrashekar, 2014). conducted a study to examine the attitude towards organic products among the consumers of Mysore city. The findings indicated that awareness and knowledge of organic products significantly influence consumer attitudes and perceptions. This, in turn, affects their purchasing decisions.

(Cachero-Martínez, 2020) examined the Consumer Behaviour towards organic products in view of the environmental concern. It is found that consumers with high environmental concern demonstrate a stronger correlation between their attitudes and their behavioural intentions. This suggests that a

positive attitude towards organic products, coupled with a significant concern for environmental sustainability, leads to consumers making more substantial efforts to minimize environmental impact. The researcher noted that such consumers are more inclined to purchase and recommend organic products.

(Monu Bhardwaj, Mr. Abhishek Mishra, Kevin M. Rivera, & Julyanthry, 2023) conducted a quantitative study on the consumer Perception towards eco-friendly Products and the study revealed that eco-friendly consumption behaviours are increasingly significant as both individuals and organizations strive to minimize their environmental impact.

Objectives of the study

1. To identify the major factors influencing the adoption of organic products.
2. To examine the Perception and attitude of consumer towards organic products.
3. To study the impact of Consumer perception on consumers buying behaviour towards organic products.

Hypothesis

- Ho: There is no significant difference in the opinion of consumers of organic products about its influencing factors.
- H0: There is significant impact on Consumer Perception towards Consumer buying habit.

Research Methodology

A comprehensive methodology that includes both quantitative and qualitative approaches has been adopted for the study which provide a robust framework to understand the underlying consumer attitude and behaviour effectively.

□ Research Design

A descriptive research design comprising of mixed-methods approach is adopted to capture a broad spectrum of data regarding consumer perceptions and behaviours towards organic products.

□ Population

Population for the study consists of consumers residing in Kannur District who purchase and consume organic products.

- Sampling Technique: The sample consumers were selected from the list collected from the selected retail organic shops of Kannur district.
- Sample Size: From the list a sample size of 150 consumers were selected to collect the data about their perception and purchase behaviour towards sustainable organic products.
- Data Collection Methods

A structured questionnaire was developed and supplied among the selected consumers through online mode using google form. In addition, selected organic retail shop keepers were interviewed to understand more details regarding the purchase behaviour of consumers.

□ Analysis of data

Analysis of the data were done using the tools like mean and standard deviation. In addition, statistical tool like One sample t-test and ANOVA were also used.

Result and Discussion

Respondents Demographic Profile

Table 1.1 Demographic Profile of the Respondents

Variable		Frequency	Percentage
Gender	Male	100	66.7
	Female	50	33.3
Age	Less than 20	2	1.33
	20 to 40	38	25.33
	40 to 60	75	50

	Above 60	35	23.33
Education	High School	24	16
	Graduate	74	49.33
	Post Graduate	50	33.33
	Other	2	1.33
Monthly Income	Less than 20000	3	2.0
	20,000 to 40000	22	14.67
	40000 to 60000	76	50.67
	Above 60000	49	32.67
Frequency of Buying	Weekly	31	20.67
	Monthly	71	47.33
	Occasionally	48	32

Source: Primary data

The respondents demographic profile shows a higher percentage of males (66.67%) in comparison with females (33.33%). The age distribution indicates that nearly half (49.7%) of the respondents are between 40 and 60 years, with smaller groups of respondents aged 20 to 40 years (25.3%), above 60 years (23.3%), and fewer under 20 years (1.3%).

Regarding education, nearly half (49.3%) are graduates, with 33.3% being postgraduates and 16% having a high school education. The monthly income distribution shows that most respondents (50.67%) earn between 40,000 and 60,000, with 32.67% earning above 60,000, and fewer earning less than 40,000.

In terms of buying frequency, most respondents make monthly purchases (47.33%), followed by occasional buyers (32%), and weekly buyers (20.67%).

Analysis of the influencing factors leading to the adoption of organic products.

Table 1.2 Influencing factors to the adoption of Organic Products

Factors	Mean	Std. Deviation	Sig
Health Consciousness	4.1200	.76	.000
Price Advantage	2.7667	.88	.001
Environmental Impact	4.0733	.73	.000
Taste	3.8400	1.15	.000
Brand	2.8067	.81	.004
Convenience and Availability	3.8600	.82	.000
Social Responsibility and Ethical Considerations	3.9200	.82	.000
Certification Label	3.59333	.89	.000

Source: Primary data

A one-sample t-test is conducted to examine the influence of towards adoption of organic products. The result of the analysis shows that the significance (Sig) values of all the factors were less than 0.05($P < 0.05$)

All factors, including Health Consciousness ($M = 4.12$, $SD = 0.76$, $Sig = .000$), Price Advantage ($M = 2.77$, $SD = 0.88$, $Sig = .001$), Environmental Impact ($M = 4.07$, $SD = 0.73$, $Sig = .000$), and Taste ($M = 3.84$, $SD = 1.15$, $Sig = .000$), showed significant deviation from the expected mean. The factors Brand ($M = 2.81$, $SD = 0.81$, $Sig = .004$), Convenience and Availability ($M = 3.86$, $SD = 0.82$, $Sig = .000$), Social Responsibility and Ethical Considerations ($M = 3.92$, $SD = 0.82$, $Sig = .000$), and Certification Label ($M = 3.59$, $SD = 0.89$, $Sig = .000$) also had significant results, indicating that these factors were statistically different from the hypothesized population mean.

Analysis of Consumer Perception towards organic products

Table 1.3 Consumer perception on Organic products

	Mean	Std. Deviation	t	Sig
Ethical Considerations	3.75	0.80	11.49	0.00
Health and Safety	3.47	1.08	5.27	0.00
Environment protection	3.83	0.93	10.98	0.00
Reduced Use of Pesticides	3.57	1.15	6.11	0.00
Importance of Biodiversity	3.25	1.02	3.05	0.00
Protection of Soil Health	3.41	0.88	5.73	0.00
Reduction of Carbon Footprint	3.61	1.02	7.31	0.00

Source: Primary data

A one-sample t-test is conducted in order to test the perception of consumers in purchasing organic products. The results indicate that all factors have statistically significant t-values and for all the factors the significance value is less than 0.05 ($p < 0.05$), suggesting that the observed means are different from the expected population mean.

The highest mean value is noticed for Environmental Protection ($M = 3.83$, $SD = 0.93$), with a t-value of 10.98. Followed by it the factor of ethical considerations ($M = 3.75$, $SD = 0.80$) shows a t-value of 11.49 with a significance level of 0.00. Similarly, for Health and Safety ($M = 3.47$, $SD = 1.08$, resulting in a t-value of 5.27) and a significance level 0.00. The factor of Reduced use of Pesticides ($M = 3.57$, $SD = 1.15$) with a t-value of 6.11 and a significance level of 0.00. The Importance of Biodiversity ($M = 3.25$, $SD = 1.02$), shows a t-value of 3.05. For Protection of Soil Health, the mean was 3.41 with a standard deviation of 0.88, with a t-value of 5.73. Lastly, the mean for Reduction of Carbon Footprint is 3.61 having a standard deviation of 1.02, with a t-value of 7.31

These results of the analysis indicates that there no significant difference among the consumers with regard to their perception on purchase of organic products.

Analysis of the impact of Consumer perception on consumers buying behaviour towards organic products

Table 1.4 Impact of Consumer Perception on Consumer Buying behaviour

Variable	Mean			SD			F	Sig
	Weekly	Monthly	Occasionally	Weekly	Monthly	Occasionally		
Ethical Consideration	3.35	3.65	3.85	.84	.88	.90	3.05	0.050
Health and Safety	3.39	3.73	3.88	.80	.88	.87	3.10	0.048
Environment Protection	3.35	3.70	3.88	.84	.90	.87	3.34	0.038
Reduced use of Pesticides	3.35	3.73	3.85	0.84	0.91	0.87	3.13	0.047
Importance of Biodiversity	3.29	3.70	3.83	0.78	0.90	0.86	3.89	0.023
Protection of Soil health	3.35	3.69	3.88	0.84	0.87	0.87	3.43	0.035
Reduction of Carbon footprint	3.26	3.66	3.88	0.82	0.92	0.87	4.60	0.012

Source: Primary data

A test of Analysis of variance (ANOVA) was used to compare the means of three groups—Weekly, Monthly, and Occasionally—in terms of various factors. The results indicate significant differences among the groups across multiple factors.

For Ethical Consideration, the F-value is 3.05 having a significance level of 0.050, showing a significant variation among the groups. Similarly, Health and Safety has an F-value of 3.10 having a significance level of 0.048, showing a statistically significant difference.

For Environment Protection, the F-value is 3.34, with a significance level of 0.038, suggesting significant differences among the groups. The Reduced Use of Pesticides yielded an F-value of 3.13 with a significance level of 0.047, indicating statistical significance.

Regarding the Importance of Biodiversity, the F-value is 3.89 with a significance level of 0.023, showing a significant difference. Protection of Soil Health has an F-value of 3.43 and a significance level of 0.035, pointing to significant variation among the groups.

Lastly, for the Reduction of Carbon Footprint, the F-value is showing as 4.60 with a significance level of 0.012, indicating a substantial difference among the Weekly, Monthly, and Occasionally groups.

Overall, these results suggest that the factors analyzed show statistically significant differences among the groups, reflecting varying impacts of these factors on the given categories. There for accept the null hypothesis.

Major Findings of the Study

- It is found that health Consciousness is a strong factor influencing the adoption of organic products as it has the highest mean value (M=4.12)
- Price Advantage (M=2.7667) is suggesting a lower influence compared to other factors.
- Environmental impact (M=4.0733), has a strong influence on organic production adoption.
- Convenience and Availability (M=3.8600) has a moderate influence among the consumers with regard to purchase decision of organic products.
- There is significant difference existing among the perception of consumers with regard to purchase of organic products.
- Health and safety (M=3.39) is the highest factor expected by the consumers while taking the purchase decisions
- Consumer Perception has a considerable influence in determining the buying pattern of organic products

- Health factor, environment and ethical considerations are the major drivers which determines the buying behaviour of organic product consumers.

Suggestions and Recommendations

- Promote sustainable consumption by directing the activities towards enhancing attitudes towards eco-friendly products.
- Open more organic outlets for marketing the products by the Govt agencies.
- Formulate more favourable policy documents towards popularising eco-friendly and Organic products.

Conclusion

The study on consumer perception of organic products reveals an increasing preference for eco-friendly and organic options, driven by a combination of health, safety, and environmental benefits. The findings suggest that consumers in Kannur District are becoming more conscious of these benefits, which significantly impacts their purchasing decisions and buying patterns. This trend reflects a growing demand for healthier, safer, and more environmentally sustainable lifestyles, with consumers placing greater emphasis on ethical practices and demonstrating a heightened sense of social responsibility.

To conclude, this study offers valuable insights into consumer perceptions and attitudes in Kannur District, which can guide businesses, marketers, and policymakers in promoting eco-friendly and sustainable practices in the organic product market.

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Role of Women in Sustainable Development of Uttarakhand Economy

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Abstract

Sustainable development is broadly defined as development which meets the needs of the present without compromising the ability of future generations to meet their own needs. The position of women and their status in any society is an index of its civilization. Women are to be considered as equal partners in the process of development. Women have been an active contributor to the development of a nation or a state. Uttarakhand women have been the backbone of the state's economy. Life in the hilly areas of Uttarakhand is very difficult. They live in close harmony with nature and environment and help to maintain the traditions of Uttarakhand agriculture and quality of life. In agriculture and the animal case women contribute about 90 % of the total work. Presently female employment in the total employment of Uttarakhand is nearly 8.28%. Role of women in the Uttarakhand economy is very high and very important. Hence, this study is an attempt to analyse the role of women in sustainable development of Uttarakhand economy.

Keyword- Women, Sustainable, Development, Uttarakhand, Economy

Introduction

The position of women and their status in any society is an index of its civilization. Women are to be considered as equal partners in the process of development. But women have been always exploited by men and treated as slaves kept under their control. Indian women have remained at the receiving end. Women in India have been the neglected lot. Women have been an active contributor to the development of a nation or a state. But their contribution is generally unrecognized and undervalued and shown backstage. They have not been actively involved in the mainstream of development even though they represent an equal proportion of the population and labour force. According to Kofi Annan "When women thrive, all of society benefits and succeeding generations are given a better start in life."

Women as an independent target group, account for 586.46 million and represent 48.46 percent of the country's population, as per the 2011 census. Even after five and half decades of planned development, Indian women have not achieved expected success in the mainstream of life. Countries will be unable to have a competitive edge over others until and unless the status and role of women is improved.

Women have to play multiple roles, that of a wife, mother, sister, daughter. Similarly, she has to play different roles in the community. Playing these roles, a woman sometimes submerges herself- role and her own real identity. Another positive she has been playing for quite some time now is of being an earning member of the family. Doing a job or having a career is not something new for the Indian woman also. But the instances of Indian women starting a business of continuing one are not too many.

For women there are several handicaps to enter into and manage business ownership due to the deeply embedded traditional mindset and stringent values of Indian society.

Objective of the study

The broad objective of the study was to examine the role of women in sustainable development with special reference to Uttarakhand. The specific objectives of the study are as follows-

- To analyse the women's role in Uttarakhand Economy.
- To portray a profile of role of women in sustainable development in Uttarakhand.
- To identify problems associated with women in Uttarakhand.

Research Methodology

The research is descriptive in nature and it is based on secondary data. Journals, Newspapers, Government websites and reports have been used to elicit the relevant data.

Role of Women in Uttarakhand Economy

Uttarakhand women have been the backbone of the State's economy. They have always stood in the forefront during the struggle of State formation. Women are the mainstay of the culture and traditions of the hills. Repeatedly hill women have shown remarkable courage and participation in development programs. They were more aggressive than their male partners for the CHIPKO movement: a movement that is considered at par with Gandhi's Satyagraha. Hill women have always been the conquerors, be it the Uttarakhand movement or Sharab bandi movement (movement against liquors).

Life in the hilly areas of Uttarakhand is very difficult. Despite the adverse conditions, the rural women of the area portrayed immense potential and prominence in the society. Almost all the women in the society are employed in one way or other. In some cases, their status was better off than any woman living in a hi- tech city or metro like Delhi. A woman in Uttarakhand is earning Rs. 18.13 per day. This is more than the per capita income of India.

But the potential of Uttarakhand women is not being utilized fully. There is a need to raise the status and standard of women in Uttarakhand. This can be done by promoting and encouraging women entrepreneurship that will give them social and economic freedom.

Uttarakhand women have always emerged as a stand-by of the rural economy due to their total involvement with agriculture, forest protection, cattle care and dairying. The male members of the family usually migrate to towns to earn a living. Thus, women in villages become the heads of the family. Even where the men continue to reside in the villages, it is the women and girls who look after the agriculture and cattle.

They live in close harmony with nature and environment and help to maintain the traditions of Uttarakhand agriculture and quality of life. In agriculture and animal care, women contribute about 90 percent of the total work. The men come in only to plough the land. Women take decisions regarding the agricultural operations. In the decision-making process a woman's role is 51 percent. She has a 49.5 percent share in adoption of Family Planning Methods. In her child's marriage her share is 44 percent whereas for the child's education and career she devotes only 11 percent. When it comes to social functions her share is 22.6 percent and she also contributes 9 percent in political events of her village and area.

Uttarakhand woman is a fusion of leadership, managerial skills, initiative and prudence. She reinforces the spirit of life in the hills. She stands true to the saying the hand that rocks the cradle is the Hand that rules the world. Thus, the Uttarakhand woman is better off because of her economic independence.

However, women in Uttarakhand do not own the land on which they are working. Nor does this give them the power to make decisions in major economic matters concerning property, sale and investment. Nor does the land yield so much production or income that it gives women the much-needed cash and decision-making power to look after her needs and those of the children. Despite being the heads of these households, women still cannot overcome the patriarchal divide. This lack of cash income and the gap between work and economic gain hence needs to be bridged by entrepreneurship among women.

The most appreciable example of women entrepreneurs in Uttarakhand is "The women weavers of the Kumaon regions in Uttarakhand". Women from over 32 villages in the hilly

region of Almora are involved in the processing of raw materials and production of woven and knitted products. The women weavers are earning their own income and have improved their standard of living. They can afford to educate their children and, in many cases, are the sole breadwinners in the family.

Measures taken by Government presented through tables

Table 1: Trends in Female Labour Force Participation Rate (%) in Uttarakhand vis-à-vis HP & India

Area	State	2004-05	2011-12	2019-20
Urban	Uttarakhand	19.8	15	17.5
	HP	36	30.1	40.6
	India	24.4	20.5	23.2
Rural	Uttarakhand	65.7	43.8	37.3
	HP	71.3	67.2	68.2
	India	49.4	35.8	33

Source: PLFS 2019-20

Table 2: Percentage distribution of Female Workers in Uttarakhand by Sectors

Sector	Urban			Rural		
	2004-05	2011-12	2019-20	2004-05	2011-12	2019-20
Agriculture, etc.	33.4	8.32	0.26	96	90.25	84
Manufacturing	9.7	24.44	14	1.3	4.77	4
Construction	3.6	0.5	2.8	0.5	1.03	1.8
Services	67.1	65.32	81	2.1	4.47	9.9

Source: National Sample Survey Reports various rounds (EUS & PLFS)

Table 3: Distribution of Female Workers in Uttarakhand by type of employment

Status		2011-12		2019-20	
		Rural	Urban	Rural	Urban
Self-Employed	own account worker, employer	NA	NA	43.3	24.3
	helper in household enterprises	NA	NA	42.9	7.1
	all self-employed	92.5	53.5	86.2	31.4
Regular wage/salary		0.32	43	10.4	64.7
Casual labour		0.45	0.47	3.4	3.9

Source: EUS 2011-12 and PLFS 2019-20

Table 1, 2 and 3 present Female participation in Labour, participation in different sectors and distribution by type of employment respectively. The status of women entrepreneurs cannot be improved without the active interference of the government. Presently, female employment in the total employment of Uttarakhand is merely 8.28 percent. Now the transitional phase has set in and the government has initiated many remedial measures to pull out women from the darkness of ignorance. Government and non- government bodies have paid increasing attention to women's economic independence through self-employment. The government programme for women development began as early as 1954 in India but the

actual participation began only in 1974. Specific schemes and policies were formulated by the government to promote women entrepreneurship. The all-round development of women has been one of the focal points of the planning process in India. A number of welfare measures for women have been undertaken in the Five-Year Plan. During the third and fourth plan, the focus was on supporting female education. Similarly, other focus areas were providing training, women empowerment programmes and schemes, access to resources and awareness with regards to finance and information. A special chapter in the Seventh Plan has covered the integration of women to economic activities. The new Industrial Policy of the Government has stressed the need for conducting special entrepreneurship programmes for women with a view to develop women entrepreneurship.

Small Industries Development Organization (SIDO) conducts various programmes such as entrepreneurship development programmes exclusively for women. A special prize to outstanding woman entrepreneur of the year is also given to recognize achievements made by women entrepreneurs. The office of DC (SSI) has also opened a women's cell to provide coordination and assistance to women entrepreneurs facing specific problems. Small Industries Development Bank of India (SIDBI) operates two special schemes for women namely Mahila Udyam Nidhi (MUN) which is an exclusive scheme for providing equity to women entrepreneur's activities to women. SIDBI provides training for credit utilization as also credit delivery skills for the executives of voluntary organizations working for women. In order to meet the specific needs of women and to enhance the contribution of women towards technology capability building the "Technology Development and Utilization Programme for Women (TDUPW)" has been formulated by the Department of Specific and Industrial Research (DSIR).

Problem faced by women in Uttarakhand

Women work in Uttarakhand is a challenging task. There are many hurdles and problems that are faced by women. They face the following problems:

- 1- Like in India, women in Uttarakhand suffer from inadequate financial resources and working capital, they lack access to external funds due to their inability to provide tangible security. Very few women have property in their names. Male members, on whose name family properties exist; think it a big risk financing the ventures run by women. Banks have also tokened a negative attitude while providing finance for women entrepreneurs. The result is women entrepreneurs are forced to rely on their own savings and loans from family friends. The quantum of such funds is often negligible leading to failure of enterprises.
- 2- Women entrepreneurs face stiff competition for their products from organized industries and male entrepreneurs. Moreover, they do not have the organization setup to pump in a lot of money for advertisement. They also have the mortification of being questioned about the quality of their product since women have produced it. This is despite the fact that women entrepreneurs are more sincere in maintaining the quality and time schedule.
- 3- Like most productive enterprises, the high cost of production has restricted the development of women enterprises. The typical geographical structure of Uttarakhand is the major constraint. Hilly regions due to which the transportation cost is very high cover 92.57 percent of the total area of Uttarakhand. It is difficult for the women entrepreneurs to find the location for their enterprise.
- 4- Women are greatly handicapped by their inability to travel from one place to another for business reasons. At the governmental level, the licensing authorities, labor officers, and sales tax officials make life miserable for women by often asking all sorts of humiliating questions. Most of the cases where women have dropped out of business were due to the difficulties caused to them by the officialdom, forcing them to run from pillar to post.

- 5- In Uttarakhand family ties are very strong. Here looking after the children and other members of the family are looked upon as the duty of a woman. Married women entrepreneurs have to make a fine balance between business and home, which is not an easy task.
- 6- Literacy among women is very low in Uttarakhand. Due to the lack of education, many women are unaware of the latest technological developments and market trends. This creates further problems in the setting up and running of business enterprises.

Suggestions to encourage Women in Uttarakhand

1. Financial aspect: Special schemes should be implemented whereby women can get bank loans at decent conditions. A guarantee mechanism should be foreseen in these schemes whereby extended credit terms are offered in case the business takes longer than foreseen to take off or unforeseen events lead to financial pressure.
2. Childcare: More childcare facilities should be provided to fit women entrepreneurs' needs. This would entail extended opening hours or flexible opening hours according to the woman entrepreneur's needs. Alternatively, measures should be taken for fathers to be in the position to take parental leave, and men should be encouraged to take the leave.
3. Household: It should be made easier for women entrepreneurs to get help for their households, and initiatives like the "cheque services" implemented by the Belgian government should be copied. This system would alleviate the workload of the female entrepreneurs and at the same time decrease the number of unemployed persons.

The most important prerequisites for success in entrepreneurship are needed for achievement, independence and autonomy. But in Uttarakhand the common woman is happy to bask in the glory of her parents, husband, children, etc. The contribution of women in work is considered invisible and unpaid. It is often assumed that women are free and always available for other work, and that they are non- contributing members of the family. This perception needs to be changed. There is a need to liberalize the society in general and men in particular for letting women step out of their cocoons of 'happy housewives' and to become economically independent entrepreneurs. Of course, the thinking of women needs to be changed too. All the government schemes and NGO support is useless until and unless we do this.

The study showed that the motivational level of women entrepreneurs is very low. Many women entered the field of entrepreneurship to avail economic competence and independence, but most of them are observed to be not succeeding as well as they had planned. The main reasons being lack of enabling and sustaining facilities of the entrepreneurial environment; lack of competence and urge to maximize profit. In the absence of the required urge to achieve, very few women succeed as entrepreneurs. There is a need to motivate women entrepreneurs in rural as well as urban areas. This can be done through the workshops and training programmes. It was further observed that women entrepreneurs in urban areas are more motivated than women entrepreneurs in rural areas, the reason being obviously their education and family environment.

Through the study conducted, it is evident that not many women entrepreneurs' resorts to government or non- government assistance. Women are mostly unaware of the government schemes and assistance. Even when they are aware of the programmes, they don't have ready access to these. Those women entrepreneurs who have been using government assistance also haven't gained much from it in terms of profitability. In general, the assistance was too late or too little to be profitable.

Bank seems reluctant to give financial support to the aspiring women entrepreneurs. Government makes schemes and banks launch loaning programmes to help women entrepreneurs but these efforts do not reach the deserving people properly.

Much needs to be done towards the enforcement of women entrepreneurs. Women awareness, education, training, government assistance, liberal attitude of banks are only some of the factors that need to be worked upon. This is an important requirement for the economic development of the nation and needs to be given its due importance.

Conclusion

Interestingly, the data collected from the survey indicates that on average women in Uttarakhand are lagging far behind their actual potential. If we want to do sustainable development in Uttarakhand it is essential to develop women in Uttarakhand.

Through a field survey it was observed that there is significant gender bias in the availability of male and female workers in the study area. Highly significant difference was found in the number of female workers available in the study area was much more than the male workers. Moreover, the ratio of women entrepreneurs in urban areas was much higher than in rural areas. Role of Women is very important for the sustainable development in Uttarakhand.

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14**Sustainable Economic Growth and Women's Empowerment:
The Long-Term Impact of Kudumbashree on
Women's Economic and Social Well-Being****Dr. Sajeesh T J**Assistant Professor, Dept of Commerce
S.E.S College, Sreekandapuram, Kannur, Kerala**Abstract:**

This research delves into the economic diversification pathways for sustainable growth, focusing specifically on women's participation in the Kudumbashree program in Kerala, India. Economic diversification is pivotal for sustainable development, especially in uplifting marginalized communities. Through an examination of women engaged in Kudumbashree, this study assesses how their participation in various economic endeavors within the program fosters sustainable growth. Data analysis encompasses the evaluation of income source diversity, entrepreneurial endeavors, and community development initiatives undertaken by Kudumbashree members. The research adopts a descriptive approach, gathering both primary and secondary data. The primary data, obtained from 150 randomly selected respondents across Kannur district, forms the basis for analysis. Statistical methods such as percentage calculation, mean determination, t-tests, and regression analysis will be employed to assess the empowerment levels of women participating in Kudumbashree. The findings underscore the breadth of income-generating activities within Kudumbashree units, ranging from agriculture to hospitality and self-employment ventures. It emphasizes the necessity of on-going support and training programs to nurture entrepreneurship and bolster economic resilience. By empowering women to partake in varied economic activities, Kudumbashree emerges as a beacon for sustainable economic diversification and inclusive growth.

Keywords: Economic diversification, Sustainable growth, Women empowerment , entrepreneurship, community development

Introduction

Kudumbashree, Kerala's Poverty Eradication Mission launched in 1998, focuses on empowering women and alleviating poverty through sustainable livelihood opportunities. The pursuit of sustainable economic growth and women's empowerment has become increasingly prominent. The Kudumbashree program in Kerala exemplifies this, aiming to empower women through financial assistance, training, and support for entrepreneurial activities. Economic diversification is crucial for sustainable growth, enabling communities to build resilience. Through Kudumbashree, women engage in diverse economic ventures like agriculture and self-employment, enhancing their economic status and social well-being. This research explores Kudumbashree's long-term impact on women's economic and social well-being, focusing on sustainable growth and economic diversification.

Literature Review

The studies on women's empowerment in Kerala, particularly through initiatives like Kudumbashree, provide valuable insights into various aspects of empowerment and its impact on rural communities. Kudumbashree, plays a pivotal role in the empowerment of rural women (Venugopalan, 2014), especially self-help groups (SHGs) and microcredit programs indeed hold immense potential in empowering women. But it's crucial to underscore the unique challenges faced by women in poverty, particularly the pervasive gender discrimination in

resource distribution (Anand, 2002) especially combating various social evils, particularly those that disproportionately affect women and children (M C & K G, 2012). Kudumbashree's impact on the human development index (HDI) is indeed significant, reflecting its profound influence on grassroots development (Singh & Panackal, 2016) especially on specific geographical areas, highlighting its positive effects on socio-economic development (Jose, 2015) and economic empowerment of women (K S & Selvi C, 2016) and poverty eradication (Panackal, Singh, & Hamsa, 2017) through microfinance in poverty alleviation through Kudumbashree (OOMMEN, 2008). The behavioural competency of women (V P, 2015), showcasing their self-reliance and problem-solving skills (Salim, 2015). Collectively, these studies underscore the multifaceted nature of women's empowerment and the pivotal role of initiatives like Kudumbashree in promoting socio-economic development and poverty eradication in Kerala.

Objectives

1. To assess the perception of women regarding the empowerment facilitated by their participation in Kudumbashree.
2. To evaluate the effectiveness of Kudumbashree in addressing the multidimensional aspects of women's empowerment.
3. To analyse the economic, personal and social empowerment of women through Kudumbashree across varying age group.

Research Methodology

The research adopts a descriptive approach, gathering both primary and secondary data. The primary data, obtained from 150 randomly selected respondents across Kannur district, forms the basis for analysis. Statistical methods such as percentage calculation, mean determination, t-tests, and ANOVA will be employed to assess the empowerment levels of women participating in Kudumbashree.

Analysis and Findings

Table 1: Profile of the data

Variables		Frequency	Percentage
Age	Below 25	6	4.0
	26-35	5	3.3
	36-45	72	48.0
	Above 45	67	44.7
Education	Below Primary	6	4.0
	Primary	56	37.3
	Secondary	50	33.3
	Diploma	21	14.0
	Graduation	17	11.3
Occupation	Self – Employed	52	34.7
	Employed	45	30.0
	Unemployed	53	35.3
Number of Family Members	Below 4 members	25	16.7
	4 members	59	39.3
	5 members	45	30.0
	Above 5 members	21	14.0
Number of earning	Below 2 Members	53	35.3

members in family	2 Members	69	46.0
	3 Members	17	11.3
	Above 3 Members	11	7.3
	Below 1 Lakh	119	79.3
Annual income	Above 1 Lakh	31	20.7
	Total	150	100.0

Source: Primary Data

The demographic analysis reveals key insights into the characteristics of the study population. Firstly, the majority of respondents fall within the age range of 36-45 years (48.0%), indicating a middle-aged demographic. Education-wise, a significant portion has completed primary education (37.3%), followed closely by secondary education (33.3%). In terms of occupation, there is a relatively balanced distribution between self-employed individuals (34.7%) and those who are employed (30.0%), with the remaining being unemployed (35.3%). Family size varies, with 39.3% having four members, while 46.0% have two earning members within the family. Notably, a substantial proportion of respondents (79.3%) report an annual income below 1 Lakh, indicating a predominantly low-income group within the study population.

Table 2: Perception of women to join in Kudumbashree

Variables	Mean	S.D	t	Sig.
It provides women with access to financial resources	3.75	.906	10.09	.000
It offers skill development and training programs	4.17	.847	16.87	.000
It enhances their collective bargaining power,	4.07	.946	13.81	.000
It improves the confidence and sense of empowerment	3.83	.986	10.35	.000
It encourages women to become entrepreneurs	4.09	.851	15.64	.000
It contributes to poverty alleviation efforts	3.96	.989	11.89	.000
It promotes financial inclusion	4.50	.833	22.04	.000
It promotes gender equality and challenges gender roles	4.07	.820	16.03	.000
It facilitates access to markets, networking and collaboration	3.95	1.125	10.38	.000
It helps to access various government schemes and programs	3.16	1.237	1.58	.000

Source: Primary Data

From the above table highest mean value was obtained for promoting financial inclusion of women to participate in formal banking systems (Mean = 4.50, SD = 0.833) $t = 22.04$, $P = 0.000$), where the strongest reason for joining in Kudumbashree. They believe that Kudumbashree plays a crucial role in providing access to financial resources (Mean = 3.75, SD = 0.906), offering tailored skill development and training programs (Mean = 4.17, SD = 0.847), and enhancing collective bargaining power (Mean = 4.07, SD = 0.946). Additionally, respondents feel that involvement in Kudumbashree improves confidence and empowerment (Mean = 3.83, SD = 0.986) and encourages entrepreneurship (Mean = 4.09, SD = 0.851). Furthermore, Kudumbashree is perceived as contributing significantly to poverty alleviation efforts (Mean = 3.96, SD = 0.989), and advocating for gender equality and challenging traditional gender roles (Mean = 4.07, SD = 0.820). However, respondents perceive relatively lower effectiveness in Kudumbashree acting as a conduit for accessing government schemes and programs (Mean = 3.16, SD = 1.237). These findings underscore the multifaceted benefits of Kudumbashree in empowering women economically, socially, and politically, highlighting its role in skill development, financial inclusion, poverty alleviation, and gender equality.

Table 3: Economic Empowerment through Kudumbashree

Variables	Mean	S.D	t	Sig.
I have developed a savings habit and started making small deposits	4.04	.962	13.25	.000
Started or expanded any entrepreneurial ventures	3.79	.943	10.30	.000
The financial services of Kudumbashree impacted my ability to invest in income-generating activities	3.91	1.019	10.90	.000
Kudumbashree improved my household's economic stability and standard of living	3.81	.979	10.18	.000

Source: Primary Data

From the above table, the high mean score for saving habits and small deposits ($M = 4.040$, $SD = .962$, $t = 13.25$, $p = 0.000$) suggests a strong inclination towards saving habits within the community. Similarly, they expressed substantial engagement in entrepreneurial ventures with Kudumbashree support ($M = 3.793$, $SD = .943$), highlighting the organization's role in fostering entrepreneurship. Furthermore, the impact of Kudumbashree's financial services on members' ability to invest in income-generating activities was positively perceived ($M = 3.907$, $SD = 1.019$), indicating the effectiveness of financial support mechanisms. Additionally, participants reported improved household economic stability and standard of living due to Kudumbashree participation ($M = 3.813$, $SD = .979$), underscoring the program's positive influence on overall economic well-being. The findings indicate robust statistical significance, supporting the observed trends in economic empowerment among Kudumbashree members.

Table 4: Personal and Social Empowerment through Kudumbashree

Variables	Mean	S.D	t	Sig.
It influenced my self-confidence and self-esteem	4.33	.808	20.20	.000
Improved my decision-making and leadership skill	4.26	.839	18.40	.000
Access resources and social status	3.69	1.029	8.25	.000
Influenced my social network and relationships	4.17	.781	18.30	.000
It improvements in community engagement	4.23	.796	18.89	.000

Source: Primary Data

The personal and social empowerment experienced by respondents through their involvement in Kudumbashree, reported significant improvements in self-confidence and self-esteem (Mean = 4.33, $SD = 0.808$) $t = 20.20$, $P=0.000$) with the highest value. The improvement in decision-making and leadership skills within Kudumbashree (Mean = 4.26, $SD = 0.839$). This finding spreads light to the improvement in personal traits women after joining in Kudumbashree. Moreover, respondents indicated that Kudumbashree supported them in accessing resources and social status (Mean = 3.69, $SD = 1.029$) and influenced their social networks and relationships within the community (Mean = 4.17, $SD = 0.781$). Additionally, they agreed improvements in community engagement and social development initiatives through their association with Kudumbashree (Mean = 4.23, $SD = 0.796$). These findings underscore the significant role of Kudumbashree in enhancing both personal and social aspects of empowerment among its members, including self-confidence, leadership skills, social networks, and community engagement.

Table 5: The economic, personal and social empowerment of women through Kudumbashree across varying age group

Variables	Mean & SD	Age Categories				F	Sig.
		Below 25	26-35	36-45	Above 45		
I have started new income-generating activities since its member	Mean	4	3.8	3.81	4.31	3.509	0.017
	S.D	1.55	0.84	1.02	0.78		
Started or expanded entrepreneurial ventures with support from Kudumbashree	Mean	4	3	3.6	4.04	4.416	0.007
	S.D	1.1	1	1	0.79		
Its financial services impacted my ability to invest in income-generating activities	Mean	3.5	3.6	3.76	4.12	1.951	0.124
	S.D	1.64	1.14	1	0.95		
It improved my household's economic stability	Mean	3.67	4	3.68	3.96	1.017	0.387
	S.D	1.21	0.71	0.95	1.01		
Influenced my self-confidence and self-esteem	Mean	4.5	3.8	4.29	4.4	1.041	0.376
	S.D	0.55	1.1	0.81	0.8		
IT improved my decision-making and leadership skill	Mean	4.33	3.8	4.35	4.19	0.912	0.437
	S.D	0.82	1.1	0.82	0.84		
It support me to access resources and social status	Mean	4	3.2	3.54	3.87	1.732	0.163
	S.D	0.89	1.1	1.06	0.98		
Influenced my social network and relationships	Mean	3.33	4.4	4.13	4.27	2.992	0.033
	S.D	1.03	0.55	0.85	0.64		
It improvements in community engagement	Mean	4.5	4.2	4.26	4.16	0.423	0.737
	S.D	0.55	0.45	0.84	0.79		

Source: Primary Data

The ANOVA results indicate that there are significant differences in the mean scores of various empowerment indicators across different age groups among Kudumbashree members. Specifically, for indicators related to starting new income-generating activities (Mean= 4.31) and expanding entrepreneurial ventures with support from Kudumbashree (Mean = 4.04), the highest mean scores were observed among members above the age of 45, suggesting that older members are more likely to engage in such economic activities with the support of Kudumbashree. Additionally participation in Kudumbashree significantly enhances social network and community relationships, particularly among members aged 26-30. However, no significant age-related differences were found regarding the perception of financial empowerment and economic stability, indicating a consistent perception of Kudumbashree's financial services across age groups. Similarly, measures related to self-confidence, decision-making, social support, and community engagement did not show significant variations based on age.

These findings underscore the effectiveness of Kudumbashree in fostering economic opportunities for older members and enhancing social connections for younger members. Moreover, the consistent perception of financial empowerment and personal development across age groups highlights the inclusive nature of Kudumbashree's programs.

Findings

The findings of the study indicate a strong positive perception of personal and social empowerment among women involved in Kudumbashree. The respondents reported significant improvements in self-confidence, self-esteem, decision-making skills, leadership abilities, access to resources and social status, as well as enhanced social networks and community engagement. These findings underscore the effectiveness of Kudumbashree in promoting holistic empowerment among its members, addressing not only economic but also personal and social dimensions of empowerment. Moreover, the analysis revealed that empowerment outcomes varied across age groups. Older members, particularly those above the age of 45, demonstrated heightened engagement in economic activities such as starting new income-generating ventures. Conversely, younger members, particularly those aged 26-30, showcased stronger social connections and community engagement.

Suggestions and Recommendation

The findings emphasize the importance of continued support for programs like Kudumbashree, which foster the empowerment of women and contribute to sustainable development at the grassroots level, while also enhancing its effectiveness in promoting holistic empowerment among its members across various age groups. Further research can focus on comparing the sustainable practices of Kudumbashree with other empowerment initiatives.

Conclusion

Kudumbashree plays a pivotal role in empowering women by providing them with opportunities for skill development, leadership roles, and access to resources. By enhancing women's confidence, decision-making abilities, and social networks, Kudumbashree contributes to their overall well-being and strengthens their participation in community development initiatives.

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11. Sustainable Libraries: Achieving a Sustainable

15**Future through Concept and Initiatives****Mamta Chauhan**Assistant Librarian Department of Library
Govt. PG College Maldevta Raipur Dehradun, Uttarakhand**Abstract**

Libraries offer more succinct information on the meaning, flourish, related core concepts, aspects, and affinity among the aspects, as well as the principles and their inference for global, national, and discrete actions in the pursuit of Sustainable Development (SD). The current study intends to improve the comprehensibility and volubility of the conversation on SD of libraries. This is significant because it will provide scholars, policymakers, development practitioners, and students additional knowledge on the paradigm for decision-making, policy-making, and future study. To investigate whether the terms "information", "resources", "cultural heritage", "online platform", and "lifelong learning" should be included as they relate to information services, taking into account all 17 SDGs and 169 goals; to determine the factors influencing the this case, we are overlooking a crucial point that needs to be understood before discussing sustainable development in a world that is changing more quickly. It is nothing more than the term "green", which is quite important to a healthy existence. The goal is to provide a summary of global library activities pertaining to sustainable development and identify obstacles impeding the advancement of sustainable development. This essay seeks to start a discussion on the crucial topic of SD and academic libraries' involvement in it.

Key Words: Concept, Development, Initiatives, Libraries, Sustainability

Introduction

As stated by IFLA, —a green and sustainable library is a library that takes into account environmental, economic, and social sustainability.

A library is the primary fundamental authority for processing, gathering, transmitting, developing, and serving information resources. It is also the public body responsible for conducting research on information resources, services, and national development. A library has a rich cultural history and a solid foundation, in addition to ever-growing electrical data. People's needs for information vary in today's information-rich culture. The library should actively organize online information resources to satisfy these criteria. We've noticed that interest in the green revolution has grown over the past few years in practically every industry, including libraries. One of the most significant organizations pursuing sustainable development through the sustentions of natural resources or renewable resources and the degradation of harmful substances is the educational sector. As a result, libraries are educational institutions that have a noticeable social influence. They work to support sustainable development by offering eco- friendly services, cutting back on time- and resource-wasting activities, and producing more trash and harmful emissions. It is critical for accomplishing the goals of sustainable development.

The Concept of Sustainability

While the phrases "sustainable" or "sustainability" date back to the 20th century, the corresponding ideas have been there for far longer. The term "sustainability" was initially stated in Carlowitz's 1713 monograph *A Forest and Economy*, which methodically examined the topic of sustainable forestry. The definition of "sustainability" in the 1809 German Dictionary was defined as something that people can still rely on when everything else is no longer sustainable. It is evident that the sustainable use of renewable resources is where the early ideas of SD are

primarily represented. The idea or concept of sustainability, on the other hand, sees it as a dynamic equilibrium in which the population expands to its full potential while avoiding irreversible negative impacts on the environment's carrying capacity, which is crucial to its existence. As a result, this raises concerns about how individuals should live their social and economic lives while maximizing the ecological resources available for human advancement.

Initial Development

The United Nations convenes a global conference after realizing that developmental strategies that prioritize economic expansion have a tendency to enhance the occurrence of severe environmental issues. The first human environment conference heralded the origin of the SD notion. The idea of sustainable development (SD) was first methodically stated in a report on human development (HD) called "Our Common Future," which was written by the World Commission on Environment and Development (WCED) in 1987. SD is explained as "development that meets present needs without compromising the ability of future generations to meet their own needs." The study's key topics included population, food, species and genetic resources, energy, industry, human habitat, and other worldwide challenges.

The UN organized a conference on environment and development in Rio de Janeiro, Brazil, in 1992, which marked the beginning of SD's global expansion. The "Rio Declaration on Environment and Development" and "Agenda 21" were approved and signed by the conference. This was the first time in human history that a plan for sustainable development was translated from a concept to a worldwide action, underlining the importance of SD in international politics. "Our Common Journey: A Transition toward Sustainability" is the title of a 1999 report released by the National Research Council (NRC). "Sustainability science" was introduced in the report and defined as "the science of sustainable development." One could consider the 2001 essay "Sustainability Science" to be a turning point in the field's development.

The SD Summit was held in September 2015 at the United Nations headquarters in New York, with roughly 150 leaders of state and government attending. "Transforming Our World: The 2030 Agenda for SD" was endorsed at the summit after an evaluation of the MDGs' implementation was conducted. The agenda outlined the 17 focal areas and 169 specific targets that make up the Sustainable Development Goals (SDGs). The ability to maintain a specific entity, result, or process over time is the exact definition of sustainability.

The Idea of Development

The word "development" has been related to a lot of different definitions, interpretations, and theories or ideas by different academics. The term "evolutionary process" characterizes development as "an increase in human capacity to initiate new structures, solve problems, adapt to ongoing change, and strive purposefully and creatively to attain new goals." These include theories about internationalization, reliance, modernity, and world systems. The Modernization Theory of Development distinguishes between two basic social groups in the world: traditional and modern societies. Consequently, in order for traditional civilizations to advance, they must adopt the modern culture, which is defined by industrialization and the accumulation of capital in ways that are consistent with growth.

Sustainable Development

The International Union for the Conservation of Nature and Natural Resources (IUCN) introduced the World Conservation Strategy (WCS) in 1980 with "the overall aim of achieving sustainable development through the conservation of living resources" and is credited with popularizing the phrase "sustainable development." The phrase "sustainable development" has obtained universality in the development discussion in spite of having a lot of definitions, interpretations, and meanings. From a structural standpoint, the concept can be stated as a phrase composed of the words "development" and "sustainable." While numerous definitions exist for SD, the Brundtland Commission Report's definition is the most commonly used (S).

The report defines sustainable development as development that meets current demands without harming future generations' ability to meet their own. It is thus both a development paradigm and an idea that advocates raising living standards without jeopardizing the planet's ecosystems or causing environmental problems such as deforestation and air and water pollution, which can lead to climate change and species extinctions.

The Foundations of Sustainable Development

SD is a forward-thinking development model that emphasizes a path of positive transformation centered on social, economic, and environmental challenges. Taylor (2016) defines social equality, environmental protection, and economic growth as the three main pillars of sustainable development. This implies that the three conceptual pillars on which the concept of SD is built form its fundamental foundation. These three pillars are "environmental sustainability," "social sustainability," and "economic sustainability".

Economic Sustainability

The manufacturing system that meets current consumption levels while taking into account future needs. Economists who believe there is a limitless supply of natural resources have placed an undue burden on the market's ability to disperse resources efficiently. They also believed that as technology evolved; natural resources depleted in manufacturing would be replaced, resulting in economic prosperity. Meanwhile, it has been understood that natural resources are finite and not all of them are renewable or replenishable. The three fundamental activities of an economy are production, distribution, and consumption. However, the accounting system employed to direct and evaluate these activities considerably distorts values, which is bad news for society and the environment. Furthermore, economic expansion appears to be the primary objective, with crucial cost components such as the impact of depletion and pollution being disregarded, while rising demand for goods and services drives markets and has negative environmental repercussions (UNSD, 2018c).

Social Sustainability

Social sustainability includes equity, empowerment, accessibility, participation, cultural identity, and institutions. In a broader sense, "social sustainability" refers to the relationship between socioeconomic situations such as poverty and environmental degradation. In this regard, the philosophy of social sustainability believes that reducing poverty should not lead to unwarranted environmental deterioration or economic instability. Social sustainability does not imply that all needs are met. Rather, it tries to create conditions in which everyone can meet their own wants if they so desire. Understanding the nature of social dynamics and how these structures evolve from a systemic perspective is essential for social sustainability. Above all, social sustainability entails a wide variety of concerns, including human rights, gender equity and equality, public involvement, and the rule of law, all of which support peace and social stability to achieve sustainable development.

Environmental sustainability

Environmental sustainability is concerned with the natural environment and its ability to sustain human life. It is worried about ecosystem integrity and the natural environment's carrying capacity. The implication is that natural resources should not be depleted faster than they can be regenerated, and trash should not be discharged faster than it can be digested by the environment. This is because the earth's systems have limits or boundaries that maintain equilibrium. However, the quest for unfettered growth is putting further strain on the planet's resources, as technological advancement may fail to sustain exponential growth. Climate change refers to large-scale, long-term changes in the climate system caused by either natural climatic variability or human action. All of these are major problems for environmental sustainability because, as previously said, they affect how the natural environment remains productively stable and resilient enough to support human life and expansion.

Goals of Sustainable Development (SD)

The Millennium Development Goals (MDGs) were international development goals set by the United Nations Summit in 2000. They included eradicating extreme poverty and hunger, ensuring universal primary education, promoting gender equality, and empowering women. The SDGs consist of six components: dignity, human beings, the environment, prosperity, justice, and partnership. The SDGs are a set of 17 goals and 169 sub-goals that will govern sustainable development in all regions, including developed and developing countries, during the next 15 years. This statement, based on the five keywords, indicates to what extent libraries of the UN (2015)⁸ can contribute to the much-needed SDGs by including the terms "information resources" and "cultural heritage." Academic libraries can contribute to this goal by collaborating with other institutions, including national and public libraries, professional groups, civic societies, and commercial partnerships that promote social cohesion. Libraries improve 'access to information' by providing the necessary resources and services.

Sustainable Development Parameters for Library

The International Federation of Library Associations (IFLA) defines a green and sustainable library as one that stresses economic, social, and environmental sustainability. The idea behind a green library is to use resources in a sustainable way while introducing as few harmful items as possible into nature in order to actively participate in the environmental life cycle. While emphasizing the fundamental characteristics of a green or sustainable library, IFLA developed a set of criteria. Going deep into the major features of a sustainable library as provided by IFLA, it was discovered that the following parameters are of prime importance:

Carbon footprint: Libraries play an important role in decreasing carbon footprints and raising user awareness about how to decrease carbon footprints and limit greenhouse gas emissions. Electronic information resources and furniture constructed from ecofriendly materials can significantly lower the carbon footprint of library collections and services.

Site Location: The library is the heart of any college, university, or department. It should be put in an appropriate spot so that the user can focus on their reading or studying. Accessibility, or accessibility via public transit networks, is an important factor to consider when searching for a destination. Several agencies and organizations, such as LEED, USGBC, and the Indian Green Building Council (IGBS), have established guidelines for creating green libraries that must be followed.

Energy Conservation: However, energy consumption is unavoidable. Its consumption needs to be reduced. A library can save money in a variety of ways, including by installing enough windows, utilizing natural light, employing energy-efficient bulbs and lights, and so on. Even critical electricity can be generated using direct sunlight by placing a solar system on the library's roof. Sustainable energy utilization is essential for a library to go green.

Water Conservation: Water conservation is one of the most important resources for both homes and offices. It is scarred and valuable; therefore, it should be treated with care. A library should use proper water management to keep it clean, sanitary, and ecologically friendly. Use low-flow faucets and water-free urinals. Furthermore, the library may reuse wastewater and rainwater for plantations, gardening, and flushing restrooms.

Sustainable Development (SD) Policies for Libraries

Policies that encourage sustainable development Many libraries have sound SD policies in place, such as guidelines for using electronic resources, guidelines for using food and drinks, the ability to handle pets in the library, photographic rooms, provisions for using green library study rooms, eligibility to use lockers and assigned study spaces, and so on.

Indoor air quality: This research aims to improve the intelligibility and articulation of the discourse on sustainable development (SD) within libraries. This is significant because it will

provide scholars, policymakers, development practitioners, and students with new information about the paradigm for decision-making, policy-making, and future research.

Temperature Control system: To keep books in good condition, a proper temperature control system in a library is needed.

Nature of furniture: To ensure a long-term sustainable response, library furniture and fittings must be built from recyclable materials. To effectively accommodate library materials, furniture must be beautiful, strong, and comfortable, as well as versatile, workable, and sustainable.

Acoustic Management: Because noise disrupts the library environment, suitable precautions must be taken to limit the noise level in the library. Nowadays, many libraries use acoustic management to do this. Acoustic management allows you to establish an acoustically effective library environment, limit user distraction, and eliminate unwanted echoes by using low-frequency sound.

Library Service Optimization: Technological innovation enables value-added library services to be used to their full potential. The library can make the collection easily discoverable and usable in novel ways by emphasizing digitization and digital preservation of documents and resources. The library can provide researchers with faster access to materials through flawless correspondence with only one login step while studying on the internet, thereby achieved to the goal of most favorable resource use.

Problems with Libraries' Execution as an Educational Tool for Sustainable Development: The function of libraries in information transmission has evolved as a result of information overload, its availability in various formats, and the rapidly changing technological environment. The information profession faces new challenges as a result of the unprecedented expansion of information in many kinds and formats, as well as the use of information communication and mobile technologies to generate, disseminate, and access information. These issues are especially important in the rapidly changing field of information and communications technologies (ICTs).

Inadequate Infrastructure: According to the observation, one of the primary challenges that libraries in mountainous areas will face as they enter the twenty-first century is a lack of ICT facilities. ICT infrastructure development and inadequate money have been identified as concerns, followed by a lack of ICT skills among workers. The primary barriers to efficient information services in rural areas are inadequate communication infrastructure and a scattered rural population. To thrive in impoverished nations, education must be built on another crucial pillar: the presence of infrastructure and some sort of connectedness.

Insufficient Human Resources: Libraries are a part of changing information economy. Change focuses on innovation, technology, user experience, resource management, and service delivery. The lack of properly trained staff at libraries is clear. Many libraries currently have insufficient staffing levels, and many others have severely undereducated employees. If libraries in mountainous locations are to serve as educational institutions for long-term growth, they must invest in their staff's knowledge assets or capital.

Insufficient funds: A library may have the desire to provide good services, but a lack of funds or money will imperil this goal. Many libraries, especially those in remote areas, cannot manage to procure exorbitant equipment, build electronic resources, or establish Internet connections. Inadequate funding endangers libraries' ability to serve as a vehicle for sustainable development.

General Low opinion of the library: In hilly areas, it is typical for organizations, government ministries, and Para-public to gather in a space designated as a hall, crammed with some rickety old tables, chairs, and cupboards, and assemble a bizarre collection of books and magazines with a library written on the door post. However, this does not match the requirements of consumers in such institutions. Libraries in hilly areas receive limited support because they are

considered less important. Although many higher education institutions have reasonable frameworks and library furniture, they lack books and periodicals, which are the building blocks of library information.

Management Issues: In hilly areas, it is typical for organizations, government ministries to gather in a space designated as a hall, crammed with some rickety old tables, chairs, and cupboards, and assemble a bizarre collection of books and magazines with a library written on the door post. However, this does not match the requirements of consumers in such institutions. Libraries in hilly areas receive limited support because they are considered less important. Although many higher education institutions have reasonable frameworks and library furniture, they lack books and periodicals, which are the building blocks of library information.

Conclusion

To ensure long-term growth in hilly areas, locals must be kept up to date on what is going on around them. Libraries serve an important role in educating a country's citizens. If hilly communities prioritize education and libraries, they will be able to overcome some of their challenges in the future. Climate change and other challenges, such as social disparities, imperil today's environments.

Recommendation

This article proposes that residents, particularly in distant places, have unfettered access to compulsory universal basic education (formal or informal), which will give them the information they need for sustainable development. The government should evaluate and maintain high- quality, standard libraries of all types.

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Green Training, Employee Ecological behavior and Organizational Sustainable Performance: Moderating Role of Employee Engagement

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Abstract

In the current scenario, we all are facing the catastrophic consequences of the environmental degradation due to unchecked proliferation of industrial activities impacting the environment in an adverse manner. The severity of the resulting carbon footprint of these activities has compelled the researchers to prioritize the study on sustainability. The researchers as well as the policymakers found it crucial for the protection of the environment. As the importance of sustainable practices and environmental awareness continues to grow, the concept of Green Training (GT) has emerged as a vital component in various industries. Moreover, the studies on Employee Ecological Behaviour (EEB) have contested upon its significance on Organizational Sustainable Performance (OSP). Based on the A-M-O theory, Resource-based view theory, & Social exchange theory, this study attempts to establish the relationship between Green Training and Organizational Sustainable Performance (OSP), with the mediating effect of Employee Ecological Behaviour (ECB). Also, we examine the moderating effect of Employee Engagement (EE) on enhancing the ECB through GT. We developed and proposed a theoretical framework based on the previous literature subject to further empirical analysis. The findings of the study reveal that Green Training inculcates Employee Ecological Behaviour which in turn enhances Organizational Sustainable Performance, given the Employee Engagement is high. This study will motivate practitioners to implement this model to alleviate the environmental issues. Further research can utilize the theoretical insights for developing novel and empirical studies to explore the extent of interrelations among these constructs.

Keywords: Green training, Employee engagement, Employee ecological behaviour, Organizational Sustainable practices

Introduction

As a result of the unrestrained growth of industrial activities that negatively damage the environment, we are all currently experiencing the disastrous effects of environmental degradation. The severity of the carbon imprint these activities leave behind has forced the researchers to give the sustainability study top priority (Faisal, 2023). Businesses must adapt to an ecological workplace that is changing quickly in order to take into consideration the current economic climate. However, because of the complexity and difficulties of their tasks, employees find it difficult to interact with and manage their bosses. A reduced income, fewer benefits, or a lack of professional development could have a negative influence on employee behavior. Therefore, in order to ensure that engaged employees meet organizational goals, there needs to be a high level of alignment between HR practices and business operations (Usman et al., 2023). This alignment includes hiring, selection, training, development programs, compensation, and performance appraisal. Additionally, corporations must have a sense of duty toward both their financial objectives and the environment. Because of its emphasis on the environment, the company has adopted green policies and produced environmentally friendly goods.

Previous studies (Veerasamy et al., 2023) revealed that a number of organizational components rely on the development of critical job skills for employee retention. Also, Previous studies have concurrently shown a number of mediating elements between HRM practices and organizational performance (Gull & Idrees, 2022). In order to help with the development of successful HR initiatives, the mechanisms impacting strategic HRM were also examined from a variety of theoretical angles and financial advantage over competitors. The goal of the current study was to find out how employee engagement affected the way that HRM practices and organizational performance related to Environmental sustainability. A brief examination of the GHRM literature reveals that conceptualizations lack academic theory or are too limited (Asrunputri & Anggiani, 2024). Different GHRM practices have been identified in theoretical works, with little to no convergence. On the other hand, a number of theoretical studies have found additional HRM practices that could help carry out environmental activities.

literature Review

This study will make use of the Ability Motivation Opportunity (AMO) (Yadav & Mathew, 2023) and Resource-Based View (RBV) (Gull & Idrees, 2022) theories. According to this study, the main asset for gaining a competitive edge through environmental performance is green training. The current study aims to address two major research concerns and explore the effects of green training on organizational sustainable performance. First, does receiving green training enhance organizational sustainable performance execution? Second, as indicated by ecological behavior toward the environment, is the impact increased when an employee develops positive behaviors?

Green Training (GT)

There is an interaction of techniques to enhance employee capacity and create employee opportunities based on the AMO framework. This means enhancing advantages through staff capability (training, for example) (Nguyen et al., 2023). This study examines how green training (GT), and interact using the AMO theory. The definition and scope of ecological behaviour & green training have been the primary subjects of the literature organizational sustainable performance prospective uses (Pham, Vo-Thanh, et al., 2020).

Studies have indicated that green training and other green HR practices have a substantial and potentially contributing role in ecological behaviour and employee engagement (Memon et al., 2022). A growing trend in HRM practices is green training((Joshi & Dhar, 2020). In this regard, the main objective of the current study is to examine how green training affect OSP and how EB influences OSP in order to produce insights that will aid in closing this gap.

Employee Ecological Behavior (EEB)

Even if the majority of organizations have adopted those environmental management techniques, environmental consciousness is thought to be the answer to many problems, including marginalization, climate change, and environmental degradation (Xie & Zhu, 2020). Consequently, the organizations have put in place a variety of eco-initiatives that allow for the measurement and improvement of environmental performance in the areas of pollution, recycling, and environmental discharge mitigation and the handling of trash.

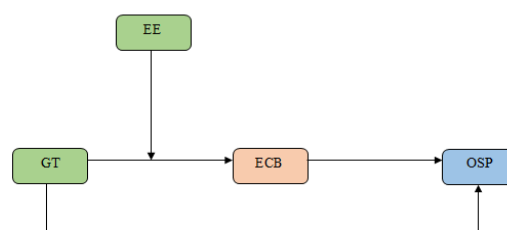


Figure 1: Conceptual Framework

Using SET, (Pinzone et al., 2019) proposed that high-performance organizational practices, such as comprehensive training, serve as examples of employee behavior and improve the bonds between employees and employers. Furthermore, according to the Ability Motivation Opportunity (AMO) theory (Atik et al., 2023), GT exhibits ecological behavior as one of the main green outcomes.

Furthermore, we suggest that in exchange for green ability, incentive, and opportunity, satisfied green employees likely to reciprocate green behavior at their workplace utilizing SET. Employee ecological behavior (EGB) is significantly predicted by AMO, per SET (Paillé & Boiral, 2013). Scalable in-role and extra-role workplace activities that are critical to environmental sustainability are referred to as EB. According to (Norton et al., 2017), mandatory behavior (Required EGB) advances core business objectives, but ecological behavior (EB) transcends corporate policies and advances organizational sustainability.

Organizational Sustainable Performance (OSP)

As a result, the literature has examined a number of antecedents that encourage including sustainable performance. The triple bottom technique is one example (which seeks to achieve in practice a balance between the social, economic, and environmental components of sustainable development), one of the knowledge management process's, sustainable leadership's, green human resource managements, and OSP's ancestors. Accordingly, the researcher hypothesizes that there is a positive correlation between organizational sustainable performance and green training. Since the mid-1990s, research has been done on the importance of human resource practices in enhancing environmental performance (Clair et al., 1996).

Investigations have been conducted into its intended effects on environmental performance (Jabbour & Santos, 2008). Researchers in this study look into the function of one such practice, i.e. green training and its effects on performance within organizations by promoting ecological conscious behavior. According to Edward (2005), there are four things that companies need to think about. First and foremost, since it is our duty to protect the environment, plans must be moral. Second, while attempting to preserve resources, the techniques need to be financially sound.

In order to avoid regulatory issues, thirdly, legal considerations must be made. The ability-motivation-opportunity (AMO) theory is the foundation of the current investigation. Employers that prioritize OSP typically give their staff members opportunities. It improves the organizational atmosphere. Previous studies have demonstrated a (Deshpande & Srivastava, 2023) positive association between GT and environmental performance.

Employee Engagement (EE)

The success of an organization depends critically on employee engagement (Bhuvanaiah & Raya, 2021). In addition to customer experiences, staff retention rates, employee advocacy, and business culture, employee engagement has a substantial impact on organizational results and effectiveness. Effective HRM practices have been found in recent studies to positively correlate with employee engagement (Abdullahi et al., 2021). According to Babbaneh (2021), integrated HRM practices and policies—such as performance management, compensation management, and a stringent hiring and selection procedure—have a major impact on high levels of worker engagement as well. Effective hiring and selection practices, performance evaluations, training, development, and pay plans would all greatly boost employee engagement. The connection between HRM procedures and employee engagement has been the subject of numerous studies (Xuemin et al., 2024) which came to the conclusion that in order to improve employee involvement.

Due to the psychological benefits that come with receiving the effective training programs, a number of studies have shown that employees are more engaged at work (Ababneh,

2021). Engaging employees in environmentally friendly activities is a useful strategy for attaining environmental responsibility.

Objectives

1. To investigate the relationship between employee ecological behavior and green training programs.
2. to investigate how employee ecological behavior affects the long-term viability of the organization.
3. To investigate how employee engagement affects the efficacy of green training programs as a moderating factor.
4. To understand the implication of green training on organizational sustainability and ecological behavior practices.

Methodology

The current study is exploratory in nature that aims to delve deep into the antecedents of Organizational Sustainable Performance through green training in organizations. Past literatures on green training, employee ecological behavior, and organizational sustainable performance are examined to understand the interconnections among these variables. To identify and procure studies on these variables multiple databases (Scopus, Web of Science, Google Scholar) were accessed with keywords in various combinations. A list of papers was obtained from the filtered data base, and a CSV file was prepared. Based on rating, keywords, subject area, years, abstract, and source title, the papers from the CSV file were chosen. Papers from 1990 were chosen in order to obtain the backing of pertinent theories, and in order to determine how those theories related to the current state of the domain.

Implication Of the Study

The study on green training and organizational sustainable performance with the mediating effect of employee ecological behavior has important implications for various stakeholders. For organizations, the findings of this study can highlight the importance of implementing green training programs for employees. This can lead to reduced environmental impact and improved sustainability performance for the organization. For employees, the study emphasizes the role of green training with mediating the relationship between ecological behavior and organizational sustainable performance. By enhancing their organizational performance through green training, employees can develop a deeper understanding of the importance of ecological behavior and its impact on the environment. This can motivate them to actively engage in waste management practices and contribute to a greener and more sustainable workplace.

Suggestion And Recommendation

The study on Green Training, Employee Ecological Behavior, and Organizational Sustainable Performance offers the following suggestions and recommendations. Organizations should prioritize the implementation of Green Training programs to enhance Organizational Sustainable Performance and promote ecological behaviour & employee engagement among employees. Strategies for promoting employee green behavior through knowledge management and organizational support should be developed to enhance sustainability efforts. Employee engagement should be considered as a moderating factor in the relationship between Green Training and Organizational Sustainable Performance to ensure effective implementation and outcomes. These suggestions and recommendations aim to guide organizations in leveraging Green Training to drive ecological behavior, and overall organizational sustainable performance effectively.

Conclusion

The study on Green Training, Employee Ecological Behavior, and Organizational Sustainable Performance concludes that Green Training has a significant positive effect on promoting ecological behavior and enhancing waste management practices among employees. Ecological

behavior plays a crucial role in mediating the relationship between Green Training and organizational sustainable performance, indicating that Green Training not only directly improves organizational sustainable performance but also indirectly influences them through ecological behavior. Organizations that prioritize Green Training programs for their employees demonstrate better that enhance ecological behavior of employee compared to those that do not performing the ecological behavior. The study highlights the importance of continuous evaluation and improvement of Green Training programs to ensure their effectiveness in promoting organizational sustainable performance and ecological behavior with employee engagement among employees.

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17**Green Minds, Sustainable Brands: Psychological Insights for SMEs' Marketing Strategies****Ms. Priyanka**

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In today's era where businesses are increasingly embracing sustainable practices, understanding consumer behavior and decision-making processes is paramount for Small and Medium Enterprises (SMEs) aiming to carve a niche in the eco-conscious market landscape. This study meticulously examines various psychological factors influencing consumer behavior, including cognitive biases, emotional triggers, and social influences. By analyzing these factors, SMEs can gain profound insights into crafting persuasive messages and impactful campaigns that not only capture attention but also drive action towards sustainable choices. Furthermore, it provides practical recommendations on how SMEs can leverage these psychological insights to tailor their green marketing efforts effectively. Moreover, in addition to dissecting consumer psychology, this study emphasizes the pivotal role of trust-building, fostering a genuine sense of environmental responsibility, and forging meaningful connections with consumers. This strategic integration of psychological understanding with environmental messaging enables SMEs to cultivate strong brand loyalty, foster long-term consumer relationships, and contribute positively to both the preservation of the planet and the enhancement of their bottom line.

Keywords: green marketing, psychological insights, SMEs, sustainability, consumer engagement, brand loyalty

Introduction

In the realm of green marketing, incorporating psychological insights has become increasingly vital for small and medium-sized enterprises (SMEs) aiming to build resilient and environmentally conscious brands. Research by Kahneman and Tversky (1979) sheds light on cognitive biases, influencing decision-making processes and guiding SMEs in crafting persuasive messages resonating with eco-conscious consumers. Thøgersen (2004) emphasizes the impact of social influences on sustainable consumption patterns, offering SMEs valuable insights into leveraging social norms in marketing strategies. Stern (2000) underscores framing environmental initiatives in alignment with individuals' values, aiding SMEs in effectively communicating their green initiatives. Griskevicius et al. (2010) highlight the role of emotional triggers like empathy in decision-making, assisting SMEs in fostering consumer engagement with sustainability efforts. Trust-building and brand authenticity are crucial aspects explored in research by Mohr et al. (2001), stressing the importance of trust in driving consumer loyalty towards sustainable brands. By synthesizing insights from these diverse research streams, SMEs can effectively integrate psychological principles into their green marketing strategies, positioning themselves as authentic champions of sustainability. Additionally, recent research by Milfont and Schultz (2016) delves into the influence of cultural values on attitudes towards environmental conservation, emphasizing the need for culturally sensitive approaches in green marketing strategies. Incorporating principles from behavioral economics, as explored by Thaler and Sunstein (2008), enables SMEs to design interventions guiding consumers towards eco- friendly choices subtly. Furthermore, organizational psychology insights, such as those

from Afsar et al. (2018), emphasize the role of leadership in fostering a culture of sustainability within SMEs. Emerging trends like blockchain technology, as elucidated by Atkinson et al. (2021), offer SMEs opportunities to enhance transparency and accountability within supply chains. By integrating psychological insights into their strategies, SMEs can navigate the complexities of green marketing effectively, driving positive environmental impact while fostering consumer trust and loyalty.

Review Of Literature

Recent research in green marketing and consumer behavior highlights several key insights. Ottman (2011) stresses the significance of aligning green messaging with consumers' values to enhance engagement with sustainability initiatives. Vermeir and Verbeke (2006) underscore the pivotal role of consumer trust in driving purchasing decisions, advocating for transparent communication and ethical practices by SMEs. Van den Bergh and Van Vugt (2011) explore the impact of framing environmental initiatives in terms of social norms, showing how messages emphasizing sustainable behaviors among peers can promote pro-environmental actions. Afsar et al. (2018) highlight the importance of transformational leadership in fostering a culture of sustainability within SMEs. Sarkis et al. (2019) examine the potential of blockchain technology in enhancing traceability and sustainability performance across supply chains. Pickett-Baker and Ozaki (2008) emphasize leveraging emotions like empathy and hope to motivate pro-environmental actions. Hekkert et al. (2018) explore how design aesthetics influence consumer perceptions of green products. Kang and Hustvedt (2020) investigate the intersection of environmental consciousness and consumer identity. Wang et al. (2019) explore the use of virtual reality (VR) technology in sustainability marketing. Geissdoerfer et al. (2017) delve into the psychological factors influencing consumer acceptance of circular economy initiatives. Venkatraman et al. (2015) employ neuroimaging techniques to study consumers' neural responses to sustainability messaging. Sunstein and Reisch (2019) explore nudging techniques in promoting sustainable consumption behaviors. Huotari and Hamari (2017) investigate the use of gamified elements in promoting sustainable behaviors. Kumar and Shah (2019) explore personalized messaging in promoting sustainable behaviors. Danner et al. (2020) use neuroimaging techniques to investigate sustainable brand perception. Jung et al. (2018) explore the use of AR applications in visualizing the environmental impact of products. Tapscott and Tapscott (2017) examine the potential of blockchain in creating transparent supply chains for sustainable products. Bødker et al. (2021) investigate social media advocacy in mobilizing support for sustainability initiatives. Schultz and Kaiser (2019) explore the relationship between environmental identity and brand attachment. Peck and Shu (2018) examine psychological ownership of sustainable products. van der Werff and Steg (2021) explore temporal framing in sustainable decision-making. Graca et al. (2020) investigate eco-labeling and consumer trust.

D'Souza et al. (2018) study consumer preferences for eco-friendly packaging options. These studies provide valuable insights for SMEs aiming to develop effective green marketing strategies and engage environmentally conscious consumers.

Objectives Of The Research

1. **Evaluate Effectiveness:** Assess Ottman (2011) and Smith and Brown (2023) to gauge how psychological principles aid SMEs in green marketing. Determine how aligning messaging with values and using tech impacts sustainability promotion.
2. **Identify Key Drivers:** Refer to Van den Bergh and Van Vugt (2011), Wang and Liu (2023), and Lee and Park (2024) to uncover psychological factors driving consumer behavior towards sustainable products. Explore influences like social norms, brand authenticity, and regulations.

3. Explore Scope and Limitations: Use insights from Garcia et al. (2024) and Banerjee et al. (2019) to understand the reach and constraints of psychological strategies in SME marketing. Investigate challenges like cultural sensitivity and regulatory compliance.
4. Provide Practical Recommendations: Incorporate findings from Ottman (2011), Sarkis et al. (2019), and Afsar et al. (2018) to offer actionable advice to SMEs. Recommend strategies for messaging customization, technology utilization, cultural adaptation, and fostering sustainability culture.

Scope And Limitations

Recent research conducted by Chen and Wang (2023) explores the scope and limitations of psychological insights for SMEs' marketing strategies in the context of sustainability. The study investigates the extent to which psychological principles can be effectively applied to green marketing initiatives and identifies potential challenges and constraints faced by SMEs in leveraging these insights. A study by Kim et al. (2024) examines the scope and limitations of utilizing psychological insights in shaping consumer perceptions of green brands among different demographic segments. Research by Liu and Zhang (2023) investigates SMEs' marketing strategies through digital platforms and social media channels. By exploring the effectiveness of different psychological tactics, such as social proof and scarcity, in driving consumer engagement and fostering brand loyalty, the study sheds light on the opportunities and challenges inherent in leveraging digital marketing tools for sustainable branding. By addressing key challenges and identifying areas for optimization, businesses can enhance their effectiveness in communicating environmental values and driving positive behavioral change among consumers.

Methodology

Our comprehensive review, "Green Minds, Sustainable Brands: Psychological Insights for SMEs' Marketing Strategies," adopts a meticulous methodology to explore innovative pathways for promoting sustainability in small and medium-sized enterprises (SMEs). We begin by clearly defining our scope at the intersection of psychology and sustainable branding, laying the groundwork for our investigation. We conduct an exhaustive exploration of relevant literature using diverse databases and targeted keywords to ensure a thorough review of existing research in this emerging field. To maintain rigor and relevance, we establish stringent inclusion and exclusion criteria, focusing on peer-reviewed articles published within the last five years and written in English. Once identified, we meticulously extract pivotal insights, methodological approaches, and theoretical underpinnings from each selected study. These elements serve as the foundation for our analysis, enabling us to discern prevalent themes, emerging patterns, and potential gaps within the literature. Employing critical analysis, we scrutinize the strengths and limitations of individual studies, while integrating pertinent psychological theories and frameworks to provide a robust theoretical scaffold for promoting sustainable branding strategies in SMEs. Our review extends beyond theoretical exploration to contemplate practical implications across diverse domains. We elucidate actionable insights gleaned from the literature, offering strategic guidance for SMEs in optimizing their marketing strategies to align with sustainability goals. In our concluding remarks, we encapsulate the salient findings unearthed through our comprehensive review, highlighting avenues for further inquiry and potential research directions. By synthesizing diverse perspectives and integrating multifaceted insights, this review endeavors to enrich our understanding of the intricate interplay between psychology and sustainable branding in the context of SMEs.

Significance Of Discovering New Ideas And Opportunities:

Recent research by Johnson et al. (2024) has explored emerging consumer trends in green purchasing behavior, revealing shifting preferences towards eco-friendly products. This underscores the importance for SMEs to stay abreast of evolving consumer demands to identify

new opportunities for sustainable branding and product development. Additionally, investigations by Smith and Brown (2023) into the impact of technological advancements, such as AI-driven personalization and augmented reality, on green marketing effectiveness highlight the potential of innovative technologies to enhance SMEs' marketing strategies. Understanding cultural values and norms in shaping sustainable consumption behaviors across different demographic segments is crucial, as emphasized in research by Garcia et al. (2024). This underscores the significance of cultural sensitivity in SMEs' green marketing strategies. Furthermore, Wang and Liu (2023) provide insights into the psychological drivers of green brand loyalty among environmentally conscious consumers, identifying factors such as perceived brand authenticity, emotional connection with sustainability initiatives, and social identity alignment as key determinants of consumer loyalty towards sustainable brands. Lee and Park (2024) analyze the impact of evolving regulatory frameworks, including carbon pricing policies and extended producer responsibility regulations, on SMEs' green marketing practices. Their findings highlight the importance of regulatory compliance and proactive adaptation to policy changes in maintaining competitiveness and sustainability in the green marketplace.

Case Studies And Success Stories

These case studies illustrate how companies like Nike, Patagonia, Tesla, IKEA, Unilever, Apple, Starbucks, and Google integrate psychological insights into their marketing strategies for sustainability. Nike emphasizes positive framing with "Move to Zero," while Patagonia fosters loyalty through social identity theory with Worn Wear. Tesla focuses on innovation and environmental responsibility, IKEA uses behavioral economics for furniture recycling, and Unilever engages consumers with Dove Real Beauty. Apple resonates emotionally with environmental commitment, Starbucks appeals to empathy, and Google promotes intrinsic motivation for renewable energy.

Future Directions For Research

Recent research highlights innovative strategies for SMEs in green marketing: Personalization influences purchasing towards sustainability, Behavioral Economics interventions promote eco-friendly choices, and immersive experiences enhance consumer engagement. Additionally, storytelling builds emotional connections, partnerships amplify sustainability efforts, and continuous evaluation ensures ongoing improvement in sustainability initiatives.

Conclusion

In conclusion, incorporating psychological insights into green marketing is essential for SMEs aiming to build sustainable brands. By leveraging cognitive biases, social influences, emotional triggers, and trust-building strategies, SMEs can effectively communicate their environmental initiatives and foster consumer engagement. Understanding the scope, limitations, and future directions of psychological strategies is crucial for optimizing green marketing efforts. Through rigorous evaluation and adaptation to emerging trends, SMEs can drive positive environmental impact while enhancing brand loyalty and competitiveness in the marketplace.

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18

Electronic Waste Management and Circular Economy

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Abstract

The proliferation of electronic and electrical gadgets over the past two decades has indeed led to a significant increase in the generation of waste electrical and electronic equipment (WEEE). Electronic industry is considered as the world's biggest and fastest developing manufacturing industry. The Electronic gadgets reach toward the finish of their helpful life: they become a waste (e-misuse) of waste. Expanded utilization of electrical and electronic equipment in everyday life has indirectly defined the generation of e-waste. E-waste is highly complex to handle due to its composition, as it made up of multiple components some of which contain toxic substances that have an adverse impact on human health and environment. This underlines the need for appropriate technology for handling and disposal of these chemicals. India is dealing with the issue of e-waste management because of lack of awareness among individuals about hazardous impact of e-waste on environment and human being. This article revolves around the ongoing status of e-waste related issue in India and the guidelines and practices for dealing with e-waste.



**E-Waste
Management**

Introduction

E-waste is a collective name for discarded electronics devices that enter the waste stream from various sources. WEEE or 'e-waste' is a term used to "any appliance using an electric power supply that has reached its end-of-life, like, TV's, radios, fridges, mobile phones and so on, which have been disposed of by users. The list of waste is broad and can be further widened if we include other electronic waste emanating from electrical appliances driven primarily by faster technological innovation. Electronic waste is growing exponentially in volume because of increasing demand of information technology and its application in the national growth process. The major sources and categories of e-waste are (a) *individual household*, consumer equipment and small business (mobile, refrigerator, washing machine, cooking appliances, grinder, iron, vacuum cleaners etc.); (b) *large business, institutions, Government houses and foreign embassies* (PCs, printers, telephones, motor, drills, saws, sewing machine); (c) *Medical equipment* (X-ray, radio therapy equipment, cardiology, dialysis, nuclear medicine etc.). Composition of e-waste is exceptionally assorted and contains significant quantities of toxic metals and chemicals. It contains various elements, which fall under "hazardous" and "non-hazardous" classes (Table 1). These chemicals are persistent and can accumulate in living organisms and in the environment leading to potential health hazards to humans and adverse effect on environment (Table 2).



Global Scenario of e-Waste: In 2021, 57.4 Mt (Million Metric Tonnes) of e-waste was generated. There is over 347 Mt of unrecycled e-waste on earth in 2024. Only 17.4% of e-waste is known to be collected and properly recycled. Estonia, Norway, and Iceland have the highest e-waste recycling rates. The e-waste recycling market was valued at \$49,880 million in 2020. Only 78 countries have any form of legislation for dealing with e-waste. China, the US, and India produce the most e-waste. Globally, India currently ranks third among the largest generators of e- waste after only china and US. The volume of e-waste in India has witnessed a significant surge of 1.6 million ton in 2021-22.

Table 1. "Hazardous" and "Non-hazardous" elements.

Hazardous	Non-Hazardous
Americium: Smoke alarms Mercury: Fluorescent tubes, tilt switches (doorbells, thermostats). Sulfur: Lead-acid batteries PBBs, PCBs: capacitors, transformers, paints, inks etc. (Banned from 1980s) Cadmium: Light-sensitive resistors, corrosion-resistant alloys for marine and aviation environments, Ni-Cd batteries. Lead: As a solder, lead-acid batteries Beryllium oxide: Heat sink for CPUs and power transistors, magnetrons, X-ray-transparent ceramic windows	Tin: solder, coatings on component leads. Copper: copper wire, printed circuit board tracks, component leads. Aluminum: nearly all electronic goods (heat sinks), electrolytic capacitors. Iron: steel chassis, cases, and fixings. Gold: connector plating, primarily in computer equipment Silicon: glass, transistors, ICs, printed circuit boards Nickel: nickel-cadmium batteries Lithium: lithium-ion batteries Zinc: plating for steel parts.

Table 2. Environment and Health Hazardous of E-Waste

Chemical	Health effects (HE)/ Environmental effects (EE)
Mercury	HE: Highly toxic: sensory impairment, dermatitis memory loss, muscle weakness damage to central nervous system and kidneys EE: Reduced fertility, slower growth/development in plants and animals.
Lead	HE: Damage to nervous system, kidneys, blood systems, reductive organs EE: Highly toxic similar effects for animals and aquatic life
Cadmium	HE: Severe lung damage; kidney damage; bone toxicity EE: Harmful to microorganisms and to ecosystems
Polyvinyl chloride (PVC)	HE: Respirator problems/ lung damage; poisonous when burnt
Beryllium	HE: Carcinogenic; lung damage, chronic Beryllium disease, Beryllium related allergies and sensitivity

E-Waste Management- Reduce, Reuse, Recycling and Recovery

The R's of electronic waste management are *Reduce, Reuse, Recycling and Recovery*. Currently the treatment and disposal techniques used based on the composition are:

(i) **Land filling technique** where channels are made on the level surfaces by eliminating soil from the channels and waste material is covered in it, which is covered by a thick layer of soil. Secure landfill is made utilizing present day strategy;

(ii) **Cremation** involve controlled and complete ignition process; the waste material is scorched in uniquely planned incinerators at high temperature (900-1000BC) and the energy content of burnable materials used. In this strategy a few naturally unsafe natural substances are changed over into less risky mixtures;

(iii) **Reusing of e-waste** involves direct recycled use or use after slight changes to the first working gear. The worth of reusing electronic component could impressively decrease the volume of e-waste.



In India e-waste existing management practices includes reuse and recycle. These recycling are formal and non-formal. The processes in formal sector are mainly limited to the segregation, dismantling of e-waste till the size reduction. The recycling/recovery of valuable substances by units in formal sector are carried out in special reserve environment and with care to minimize damage to the environment or society. Recovery technology in formal sectors have high efficiency and metals at the trace level can also be recovered. Also economically viable as the high cost of capital equipment and required techniques could be shared by the volume of products. Non-formal units generally follow the steps such as collection of the e-waste from rag pickers, disassembly of the products for their useable parts, components which are having re-sell value. The recovery is carried out only for valuable metals like gold, silver, aluminium, etc. while other materials such as cadmium, zinc, palladium etc. could not be recovered and mixed with municipal solid waste. This recycling method has low efficiency and due to inadequate means, it may cause leaching of hazardous substances to the air, soil, and water which may cause adverse effect to environment and human health.

Non-formal clusters of e-waste recyclers are distributed all over India. 95% percentage of the e-Waste in India is being recycled in non-formal sector and 5% of the e-waste volume is handled in formal unit. There are more than 3000 units engaged in non-formal sector for e-waste recycling, large cluster of industries are in Delhi, U.P., Karnataka, Maharashtra, Gujarat, Kerala, Andhra Pradesh, Rajasthan, etc. Most of the e-waste in India is channelized to non-formal sector whereas, the formal sector is facing problem of not having safe e-waste management system. In order to address this issue, MoE had introduced adequate clauses in the Hazardous Wastes (Management, Handling Trans boundary) Rules, 2008. The MoEF given advised to all the Government departments that e-waste generated in various offices is necessarily to be dispose of in an eco-friendly manner in accordance with these rules. The department head are responsible for safe and environment sound handling of such waste and the units handling, engaged in activity like collection, segregation, dismantling and recycling of e-wastes are required to register with Central Pollution Control Board (CPCB).

Challenges and Opportunities

The electronic waste happens to be an exponentially growing waste stream. Rapid developments in various fields simultaneously increasing waste stream right away. Under the scenario, the e-waste management strategy for India has the following challenges, which must be addressed and studied in detail.

Scientific challenges

- Eco-friendly recovery solutions (i) Precious metals; (ii) Base metals
- Value addition to recyclable for reuse (i) Plastics; (ii) Glass and other recyclables
- Disposal of process waste and residues (i) Size reduction; (ii) Toxic reduction

Engineering challenges

- Collection, transport, handling, segregation and disposal of E-waste
- Integrated/distributed processing facilities (i) Unorganized to organized; (ii) involvement of SMEs and NGOs
- Feasible techno- economical solutions (i) Processing; (ii) Recycling; (iii) Recovery

Organizational challenges

- Appropriate definition for E-waste in Indian context, e-waste generation, import, and its characterization
- Organization and structuring E-waste management system
- Training and awareness on safety, health, and environment

Some of the predominant challenges for E-Waste in India are enlightened here.

1. *Poor infrastructure to recycle e-waste-* India has very few recognised and government-approved recycling centres to dismantle and repurpose electronic waste.
2. *A serious lack of awareness-* Most consumers have little knowledge of the consequences of reckless e-waste disposal. Very few cities have dedicated collection points where consumers can drop off their so-called electronic scraps voluntarily.
3. *Unsustainable and ecologically degrading practices-* Despite the urgency of formal and responsible dismantling of electronic waste, mass continues to dispose of electronic waste in the most unfavourable manner.

Waste Management Agencies

The best-known nations for the E-waste management are Netherland and Switzerland. Some Indian enforcement agencies are associated with E-waste management system are:-

- Ministry of Environment and Forests (MOEF): This organization is liable for distinguishing of hazardous wastes and provides permits to importers and exporters.
- Central Pollution Control Board (CPCB): It works with the State Pollution Control Board, carries out the rule of imports and monitors the procedures, state of approval, imports and products the executives and dangerous waste.
- State Pollution Control Board (SPCB): It comprised under the water (Prevention and control Pollution) to allow and update approval.
- Port and customs authorities: Authorities check the documents and inform the ministry of environment and forests of any illegal traffic and waste from imports and exports.

In India, the management of e-waste was detailed within the framework of the Environment and Forests Hazardous Wastes (Management & Handling) Regulations of 2008.

- In 2011, a significant noticed pertaining to the E-waste (Management & Handling) Regulations of 2010, governed by Environment (Protection) Act of 1986, issue and extended producer's responsibility (EPR) was its feature.
- E-waste Management rules, 2016 was enacted in 2017, with over 21 products included under preview of rule. It describes about Fluorescent lamp and other mercury containing lamps, as well as other equipment.
- In 2018, the 2016 rules underwent an amendment that broadened their scope to emphasize the promotion of authorization and product stewardship. Product stewardship is concept that emphasizes the responsibility of producers, manufacturers, and other stakeholders for entire life cycle of product, from its creation to its disposal or recycling.

- Government of India notified E- waste (Management) Rules, 2022 with a major aim to digitized the e-waste management process and enhance visibility. It also restricts the use of hazardous substances (such as lead, mercury, and cadmium) in manufacturing electrical and electronic equipment.

E-Waste management versus circular economy

E-waste management and the circular economy are closely intertwined concepts with significant implications for sustainability and resource efficiency. By integrating e-waste management into the broader framework of the circular economy, society can move towards a more sustainable and resource-efficient approach to electronic consumption and disposal. This not only addresses the environmental challenges associated with e-waste but also creates economic opportunities and promotes innovation in recycling and resource recovery technologies.

“Circular Economy” Model Changing E-Waste Management



E-waste as resource: In the context of the circular economy, e-waste is viewed as a valuable resource rather than a disposable item. Electronics contain a variety of materials, including metals, plastics, and rare earth elements, which can be recovered, reused, and recycled.

Extended product lifespan: Adopting principles of the circular economy encourages the design of electronic products with longevity and durability in mind. This involves designing products that are easier to repair, upgrade, and disassemble, thereby extending their lifespan and reducing the generation of e-waste.

Remanufacturing and refurbishing: Instead of discarding obsolete or malfunctioning devices, they can be repaired, upgraded, and resold, thereby prolonging their useful life and maximizing resource utilization.

Policy and regulations: Policy frameworks play a crucial role in promoting the principles of the circular economy in the e-waste sector. Governments can implement regulations that incentivize eco-design, promote extended producer responsibility, and establish targets for e-waste recycling and recovery.

Conclusion

India's e-waste situation is a complicated issue that needs to be addressed right away and requires cooperation from all parties involved. India's population growth and rapid technology improvement have made it one of the world's top producers of electronic garbage. The nation generated an astounding 3.2 million metric tonnes of e-waste in 2020 alone, highlighting the need for efficient treatment techniques. Campaigns for public awareness and education will be essential in influencing consumer behavior to adopt responsible disposal methods.

In conclusion, a thorough and cooperative effort is required for efficient e-waste management in India. Regulation and policy enforcement play a significant role in ensuring safe handling practices and reducing the adverse effects of on health and environment. It demands strict adherence to the law, technological advancement, and a change in society's mindset toward responsible consumption and disposal. India can lead the way toward a cleaner, more sustainable future where responsible waste management techniques coexist with technological growth by adopting these suggestions and seizing the opportunities presented by the future. It is a group effort that calls for the support of communities, businesses, governments, and individual citizens equally.

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