

SUSTAINABLE WASTE MANAGEMENT THROUGH GREEN ENTREPRENEURSHIP INSIGHTS FROM ARUNACHAL PRADESH'S YOUTH MISSION FOR CLEAN RIVER

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ABSTRACT

The emergence of a new wave of green entrepreneurship signifies a paradigm shift in the traditional perception of entrepreneurs. This paper explores the concept of green entrepreneurship and its potential to address pressing environmental issues while fostering economic growth. Green entrepreneurship, characterized by innovative, socially and environmentally responsible business practices, has gained prominence over the last decade. In the context of Arunachal Pradesh, this study delves into the challenges faced by the Youth Mission for Clean River (YMCR) in recycling waste from their river clean-up initiatives and the role of government and corporate support in addressing these challenges. The research underscores the importance of green entrepreneurship in transforming environmental efforts into sustainable business ventures and highlights the significance of collaborative efforts between environmental organizations, government agencies, and private enterprises in promoting eco-friendly practices.

Keywords: Green entrepreneurship, Sustainable development, Waste management, Recycling, India, Arunachal Pradesh

INTRODUCTION

The term "entrepreneur" often evokes the mental image of a passionate and hardworking individual, one ready to confront challenging obstacles and pioneer innovative solutions that may seem formidable to the majority. Alongside these mental associations, there are also connotations of industries with high environmental impact and an unwavering focus on profit. However, recent developments in academic research and social advocacy suggest that these latter associations may not hold true in all cases. A novel generation of entrepreneurs is ascending the corporate ladder, seamlessly merging environmental consciousness with the entrepreneurial spirit. This movement holds the potential to propel us towards a more ecologically sustainable society, an idea initially proposed by Michael Bell in his 2004 citation (Bell, 2004). The emergence of a new wave of environmental entrepreneurs is both timely and crucial (Hardin, 1968). As the argument for environmental sustainability continues to gain momentum with each passing year, societies recognize the pressing need for individuals deeply committed to

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environmental concerns. Volery, (2002) aptly points out that the conventional model of profit-driven businesses with high pollution levels is no longer sufficient. This insufficiency becomes increasingly evident as the global population surges, finite resources dwindle, environmental degradation accelerates, and biodiversity declines. A growing segment of society now acknowledges the imperative for a distinct business model—one that places sustainability at the forefront and incorporates environmental considerations into its bottom line. In this setting, the concept of green entrepreneurship and eco-friendly processes arises as a fresh approach to address both economic and environmental transformations.

Green entrepreneurship has become a global phenomenon, embracing a fresh array of knowledge and strategies. Its purpose extends beyond addressing the pressing concerns of environmental issues, such as global warming and resource scarcity. It also sets higher standards for developing skills and improving capabilities. This movement not only sparks innovation and encourages the adoption of green technologies but also contributes to job creation. Simultaneously, it tackles the unemployment challenges faced by numerous developing nations and addresses local and community-level problems. Today, India boasts the world's largest youth population. It is crucial for both the nation and its youth to recognize the potential of a green economy. To achieve this, there must be a concerted effort to prioritize and promote green entrepreneurship within the economy, encouraging more individuals to join this global movement. Embracing eco-friendly business practices can unlock a multitude of opportunities for these eco-entrepreneurs. However, to bring this vision to life, it is imperative to implement policies and measures aimed at reducing carbon emissions across various sectors and discouraging traditional, energy-intensive methods that contribute to high pollution levels. Achieving inclusive growth that benefits all levels of society, supported by a robust network of manufacturers, dealers, and marketers, can shift green entrepreneurship from being an elite concept to an everyday practice for enterprises that cater to the broader population.

In the context of natural resource management, an expanded exploration of green entrepreneurship has the potential to shed light on the prospects for natural resource-dependent communities. These communities consistently grapple with enduring poverty, as previously underscored in research conducted by Humphrey, (1993). This study seeks to uncover the strategies that local entrepreneurs can employ to harness their creativity and resources in order to establish sustainable and profitable enterprises. Similar research, such as "Entrepreneurship and Poverty Alleviation: A Case of Micro Entrepreneurship in Rural India" by Rao, (2018) and in Northeast India, exemplified by "Sustainable Entrepreneurship in the Northeast: A Case Study from Assam, India" by Goswami, (2020) has highlighted the relevance of this inquiry in diverse contexts.

By stimulating a vibrant local economy, as highlighted by Goswami, (2020) these ventures have the potential to accomplish more than merely increasing awareness of natural resource consumption. Studies like "Promoting Sustainable Entrepreneurship: A Key to Economic Growth" by Sharma, (2017). and for instance, "Sustainable Entrepreneurship for Forest-based Livelihoods in Northeast India" by Barua, (2019) have emphasized the

significance of this economic growth in these regions. Furthermore, the embrace of initiatives such as open space policies, as outlined by Kline, (2006) may encounter a more receptive audience in communities where tangible examples of environmentally-conscious practices have been introduced by green entrepreneurs. Currently, the primary objective revolves around enriching the existing corpus of literature by immersing in the complexities and nuances of small-scale green entrepreneurs, with a specific focus on the context of Arunachal Pradesh. This knowledge acquisition will, in due course, equip us to approach the multifaceted issues associated with poverty and dependence on natural resources in a more comprehensive and enlightened manner. Hence, this paper is an attempt to explore the motivating factors that drive Non-Governmental Organization (NGO) such as Youth Mission for Clean River in Arunachal Pradesh to engage in green entrepreneurship. It also delves into the obstacles they encounter during their endeavors and examines the underlying processes involved.

LITERATURE REVIEW

Throughout the years many research-workers elaborate on the meaning of “entrepreneurship” Over the years, numerous researchers have delved into the concept of "entrepreneurship" and the associated issues. Most economic theories portray an entrepreneur as an individual who is innovative, willing to take risks, and possesses the necessary business capital for management. However, the economic discipline has yet to establish an all-encompassing "official" definition that fully captures the essence of entrepreneurship. The idea that entrepreneurship serves as the primary driving force behind the economy emerged nearly two centuries ago and remains highly relevant today. Similarly, "green entrepreneurship," recognized as a forward-thinking branch of entrepreneurship, lacks a concrete and well-defined description. Unlike other economic domains, there is a shortage of scientific research aimed at delineating its parameters.

Researches on the “green entrepreneurship” have started around the last decade of the past century. Commonly referred to as “green”, it is also called “eco-entrepreneurship”, “ecological entrepreneurship”, and “sustainopreneurship”. The growing number of literary resources on the matter, however, does not focus on the “green” idea itself, but on creating a wide-accepted definition of it and thus diluting its main purpose-preserving the environment (Berle, 1991).

Isaak, (2002) defines the “green entrepreneurship” as a system which transforms the socially- and environmentally-engaged business by means of significant innovations. Dean and McMullen, (2005) on the other hand, describe it as a process of defining and discovering economic possibilities in order the failures in ecological aspect to be fixed.

Shaltegger, (2002) thinks of the “green entrepreneurship” (he talks about “ecoentrepreneurship”) as creating a value throughout “ecological innovations and products”. In addition, according to his opinion, the aforementioned need to be market-orientated and to express the entrepreneur’s motivation to stay “eco”.

The Australian scientist Michael Schaper, (2005) known for his deep researches in the sphere of ecological business, summarizes a wide range of aspects to form a whole concept for the “green entrepreneurship”. According to his point of view, there are certain similarities between the “green” and the traditional entrepreneurship such as risk, innovation and profit. Yet, there exist considerable differences. For example, a “green” entrepreneur should aim at adequate and achievable goals, as well as at carefully deliberated business plans. Schaper equalizes the importance of both positive effect on the environment and the profit from business activity. As a whole, the lack of a firmly established term for being a “green” businessman is perhaps due to the little empirical experience in that branch of economy.

METHODOLOGY

The researcher primarily utilized a case study methodology to investigate the green entrepreneurship initiatives of the Youth Mission for Clean River (YMCR) in Arunachal Pradesh. This approach allowed for an in-depth exploration of the organization's endeavors, challenges, and potential opportunities in recycling waste from their river clean-up campaigns. Interviews, on-site observations, and document analysis formed the core of data collection. Secondary data was also extensively analyzed through academic publications, research papers, and reports to establish a foundational understanding of green entrepreneurship and environmental sustainability. This information provided crucial context and theoretical frameworks for defining key concepts and contextual factors related to YMCR's green entrepreneurship initiatives in Arunachal Pradesh.

OBJECTIVE

To examine the challenges faced by Youth Mission for Clean River (YMCR) in implementing green entrepreneurship initiatives in Arunachal Pradesh, particularly in the context of recycling waste generated from river clean-up campaigns.

NATURE AND CHARACTERISTICS OF GREEN ENTREPRENEURSHIP

A recent report from the World Bank has brought to light the escalating rates of environmental degradation worldwide. This degradation encompasses issues such as air and water pollution, deforestation, and the increasing frequency of natural disasters, all of which contribute to global climate change. Climate change has become an unavoidable challenge that the entire world must confront in the 21st century. This responsibility falls not only on developed nations but also on developing economies, as both must work together to find sustainable solutions to this crisis. The Intergovernmental Panel on Climate Change (IPCC) defines climate change as a "shift in the climate's state, identifiable through statistical tests, involving changes in its average characteristics and variability, persisting for decades or longer. This term encompasses any alterations in climate, whether arising from natural variations or human activities." This differs from the definition within the United Nations Framework Convention on Climate Change (UNFCCC), which considers climate change as a "modification of climate directly or indirectly attributed to human actions that affect the composition of the global

atmosphere, distinct from natural climate fluctuations over comparable time spans."

A primary contributor to this rapid climate change can be linked to factors such as global warming, the depletion of natural resources, excessive use of fossil fuels, and the increased generation of waste. These factors have not only failed to preserve the environment but have also degraded the quality of air, water, land, and harmed the fertility of soil and oceans on a global scale. The consequences of failing to address these issues have rippled through various sectors, including agriculture, energy, and tourism. While it's true that developed economies have historically shouldered much of the blame for these environmental issues, they have also exacerbated the problem by adopting manufacturing and production processes that do not prioritize resource conservation. It is within this context that the concepts of green entrepreneurship and sustainable practices emerge as a novel approach to address the social, economic, and ecological transformations needed in our world.

The concept of "green entrepreneurship" is rooted in the fusion of key entrepreneurial traits: innovation, risk-taking, novel business ideas, and the environmental and social commitment of business operators. In literature, being "green" is often equated with being "social," as ecological concerns are inherently intertwined with social issues. Some scholars argue that "green entrepreneurship" is, in fact, synonymous with sustainable entrepreneurship. Essentially, it represents one of the three crucial components of sustainable development, bridging the realms of traditional, social, and sustainable entrepreneurship.

To sum it up, "green" entrepreneurship encompasses economic activities whose products, services, production methods, or organizational practices have a positive impact on the environment. This positive impact can be achieved through various means, including:

- Offering products or services that prompt changes in consumer behavior, reducing adverse environmental effects.
- Aligning the environmental and economic objectives of a business.
- Implementing innovative ecological solutions to address production and consumption-related challenges.
- Developing business models that promote sustainable economic growth.
- Identifying new market opportunities aligned with societal demands and evolving lifestyles.

Entrepreneurship is widely regarded as the driving force of the economy, fostering economic growth, technological advancements, organizational innovations, and job creation. Consequently, training individuals to engage in "eco-entrepreneurship" and identifying environmentally conscious individuals with viable environmental solutions are crucial strategies for the success of the "green" concept. The diversity of eco-friendly businesses can impact people's lives in various ways, encouraging them to adopt a "green" mindset.

FINDINGS

The analysis of both interviews and on-site visits regarding the functioning of the select NGO is outlined in two distinct ways. Firstly, a descriptive approach is taken, delineating the NGO's portrayal and the perceptions of its members regarding their connections with the community and the rivers. This portrayal intertwines with discussions on green entrepreneurship, their environmental influence, as well as their underlying values and motivations. The second part focuses on the challenges encountered by YMCR in their recycling endeavors and the crucial role of government agencies and private corporations in overcoming these hurdles.

YMCR'S GREEN ENTREPRENEURSHIP JOURNEY

In Arunachal Pradesh, there are approximately 150 registered NGOs, as per the NGO Darpan website. Out of these, 71 are primarily dedicated to 'environment and forests,' alongside their involvement in various other causes. Interestingly, only one NGO, the 'Youth Mission for Clean River,' exclusively focuses on the preservation of rivers. Regarding the formation of this group, it has been apparent that the majority of NGOs engage in diverse activities, with environmental concerns being one of several priorities.

In accordance with the saying that "A single seed can grow into a thriving forest," the inception of a mission aimed at fostering a more sustainable world finds its humble beginnings. Conceived by a law graduate and joined by a group of students and research scholars from Rajiv Gandhi University, the "Youth Mission for Clean River" (YMCR) came into being on November 5, 2016. With a team that combines permanent and temporary members, totaling 20 dedicated individuals, YMCR set forth on its journey. Originally established as a grassroots endeavor with self-funding, YMCR achieved official registration in 2020. The core ethos of the organization, as articulated in its Bylaw, revolves around "A movement to protect our precious waterways."

Expanding its initial focus beyond the preservation of Arunachal's rivers and water bodies, YMCR progressively broadened its goals to encompass a more comprehensive environmental conservation perspective. Nestled in Itanagar, the state capital of Arunachal, the organization operates diligently, engaging in a range of activities. These activities include organizing river clean-up campaigns, implementing informative door-to-door Information and Education Communication (IEC) campaigns on waste management, conducting workshops, and coordinating inter-school competitions involving painting, essay writing, quizzes, and poetry centered on environmental themes. These valuable initiatives occur on a monthly basis, with YMCR collaborating with like-minded NGOs and governmental bodies to orchestrate these impactful endeavors. Moreover, YMCR extends its outreach beyond Itanagar by collaborating with district-based organizations to conduct river clean-ups in various regions of the state. The organization's dedication to environmental betterment also materializes through tree planting initiatives and a diverse array of activities. From awareness campaigns advocating for river conservation to championing environmental protection, YMCR employs a multifaceted approach, bringing youth-focused initiatives to life and establishing connections with other allied organizations.

As of the time of my fieldwork, YMCR has successfully organized more than 86 river clean-up initiatives across various regions of the state. Additionally, they have conducted 27 Information, Education, and Communication (IEC) campaigns, 12 essay competitions, 6 painting competitions, 4 quiz competitions, 2 poetry competitions, and 16 tree plantation drives. These collective efforts have led to the planting of over 3000 trees in and around crucial areas such as the Women Police Station-Itanagar, I.G Park, Gira Happa village, Old Arunachal Press Club, GSS-Chimpu, RGU, NERIST, Underpass area-Itanagar, ITBP Camp-Senki Park, Midhpu check gate, Venkateshwara Open University-Lekhi, BK Mission School, and others.

Since its establishment, YMCR has successfully rallied individuals and various organizations to join forces in safeguarding the rivers and environment of Arunachal. Throughout its journey, the organization has received financial support from just two entities: the Brahmaputra River Board and Itanagar Smart City Development Corporation Limited. With the objective of raising awareness and rallying young people and students from different educational institutions in the capital complex, YMCR has established two eco-clubs: the Yagamso River Rejuvenation Project (YRRP) Eco-club and YRRP-Youth Tribe.

These eco-clubs play a significant role in observing events such as World Environment Day, Earth Day, Biodiversity Day, River Day, Forest Day, Water Day, Wetland Day, and Wildlife Week. However, they also proactively address a wide spectrum of environmental concerns as they arise. This includes speaking out against environmentally detrimental activities carried out by both government and private entities, participating in eco-development initiatives, documenting environmental issues, and providing recommendations to the government for the implementation of eco-friendly policies. In addition to these efforts, YMCR strives to make its river clean-up initiatives zero waste by composting wet waste and sending recyclables to local scrap dealers. Although a minimal amount is generated through recyclables due to the small amount of non-recyclable waste found during clean-ups, legacy waste is disposed of in the Hollongi dumping ground, as there are no specific vendors or cement factories equipped to handle it. Other wastes remain untreatable due to the lack of infrastructure and financial support.

If provided with adequate financial support, the NGO could potentially address the legacy waste issue by procuring specialized machinery. This equipment would aid in drying and filtering the waste from mud and sand, enabling the organization to process a portion of the legacy waste. The processed waste would then be stored in a designated area and subsequently transported to the nearest recycling facilities, located in Guwahati, at least biannually. This proactive step not only facilitates the management of legacy waste but also contributes to the larger vision of responsible waste handling and recycling.

TRANSFORMING RIVER CLEAN-UP WASTE INTO SUSTAINABLE BUSINESS

The YMCR, or "Youth Mission for Clean River," has been instrumental in spearheading sustainable environmental initiatives within Arunachal, focusing primarily on river clean-up campaigns and comprehensive

awareness programs. However, as the organization delves into recycling waste generated from these endeavors, several challenges and potential avenues for support have been identified.

This section of the study delves into the challenges faced by YMCR in recycling waste from their river clean-up initiatives and explores the potential for green entrepreneurship in managing and repurposing this waste. Additionally, the study examines the support received from government agencies and private companies through Corporate Social Responsibility (CSR) initiatives, which plays a crucial role in addressing these challenges.

PART I CHALLENGES FACED BY YMCR

Limited Recycling Infrastructure

One of the primary challenges identified is the limited recycling infrastructure in Arunachal. This limitation hinders the efficient processing and recycling of the waste collected during river clean-up campaigns. As a result, waste management and recycling pose significant challenges for YMCR's green entrepreneurship initiatives. To overcome this obstacle, investments in recycling infrastructure are required to support the organization's waste management efforts.

Financial Constraints

YMCR's recycling endeavors are constrained by financial limitations. The organization lacks the necessary resources to invest in specialized machinery required for efficient waste processing. These financial constraints hinder their ability to establish a robust recycling operation. In order to address this challenge, YMCR needs access to funding or grants to acquire the equipment needed for effective waste management and recycling.

Transportation Logistics

The transportation of legacy and processed waste to the nearest recycling facilities in neighboring state Guwahati, which is around 334 kilometres from Itanagar, presents logistical challenges. Ensuring that waste is safely and efficiently transported to recycling centers requires careful planning and coordination, which can be demanding for a grassroots organization such as YMCR. Improved transportation logistics are essential to ensure the sustainability of YMCR's green entrepreneurship initiatives.

Market for Recyclables

Finding a consistent market for recyclable materials can be a challenge for green entrepreneurs. YMCR needs to establish relationships with recycling companies and buyers to guarantee that the materials they collect can be effectively recycled and repurposed. Expanding their network of recycling partners is crucial to sustaining their recycling efforts.

Environmental Regulations

Compliance with environmental regulations and permits for waste management and recycling can be complex and time-consuming. This challenge necessitates YMCR's navigation of regulatory requirements to operate its recycling initiatives smoothly. Adhering to environmental

regulations is critical to ensure the legitimacy and sustainability of their recycling activities.

PART II GOVERNMENT AND CSR SUPPORT

Government agencies and private companies through CSR initiatives play a pivotal role in addressing the challenges faced by YMCR in its green entrepreneurship journey. By engaging with these stakeholders, YMCR can secure essential support in terms of funding, resources, and expertise. The following support mechanisms have been identified:

Financial Support

Government agencies and private companies often provide financial assistance to environmental organizations like YMCR. This financial support can be directed toward procuring specialized machinery, transportation logistics, and infrastructure development for recycling. Government grants and CSR funds can help alleviate YMCR's financial constraints.

Technical Expertise

Government agencies and private companies may offer technical expertise in waste management and recycling processes. This knowledge transfer can help YMCR enhance the efficiency and effectiveness of their recycling operations.

Infrastructure Development

Government support can be instrumental in developing recycling infrastructure in the region. This assistance may include establishing recycling centers, waste processing facilities, and transportation networks, all of which are crucial for YMCR's green entrepreneurship initiatives.

Market Access

Private companies often have established networks for the sale of recyclable materials. Collaborating with these entities can provide YMCR with a more reliable market for their collected recyclables, ensuring sustainable recycling practices.

Regulatory Guidance

Government agencies can provide guidance on navigating environmental regulations and permit requirements, reducing the regulatory burden on YMCR. This support can help the organization comply with the necessary legal and environmental standards.

CONCLUSION

The findings of this research highlight the challenges faced by YMCR in recycling waste from their river clean-up initiatives and the critical role of government and CSR support in addressing these challenges. Green entrepreneurship in waste management and recycling presents a promising avenue for YMCR to transform its environmental efforts into a sustainable and socially responsible business venture. By collaborating with government agencies and private companies, YMCR can overcome the challenges and contribute to a eco-friendlier future for Arunachal and beyond. The findings underscore the importance of synergistic partnerships between environmental

organizations, government, and private enterprises in fostering sustainable environmental practices. To summarize, "green entrepreneurship" embodies a novel form of business that prioritizes both profitability and environmental impact, potentially offering solutions to ecological issues through its commercial operations.

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