

Eco-Village Prospects in Mizoram, India: A Pathway to Sustainable Rural Development

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Abstract

This review explores the potential of eco-villages in the Indian state of Mizoram, identifies current initiatives and proposes a roadmap for their successful implementation. Several initiatives in India demonstrate the principles of environmental welfare, organic farming, and renewable energy. These examples, along with government programs like the Model Eco Village Scheme of Himachal Pradesh and the National Rurban Mission, highlight a growing commitment to sustainable rural development.

Mizoram has a high literacy rate and strong community values that support environmental protection. While large-scale eco-village projects are nascent, initiatives like Reiek Village's eco-tourism, watershed development, and cleanliness competitions lay a foundation for future development. An integrated state policy, capacity building through churches, and community-led planning are recommended for successful implementation, despite challenges like funding and infrastructure constraints. Eco-villages align with Mizoram's cultural values and offer a path towards resilient, self-reliant, and sustainable rural communities.

Keywords: Eco-Tourism, Eco-village, Community-Led Initiatives, Mizoram, Rural Development, Sustainability

1. Introduction

India, with its vast rural landscape and growing ecological concerns, is uniquely positioned to benefit from the eco-village model - a community that is designed to be socially, economically, and ecologically sustainable. As traditional village life is under threat owing to urban migration, resource depletion, and climate vulnerability, eco-villages offer an alternative that blends traditional wisdom with modern sustainable practices.

Mizoram's rugged terrain, rich biodiversity, and predominantly agrarian society¹ make it a prime candidate for eco-village development. Traditional village systems in the state, including close-knit tribal communities and reliance on forest-based resources, are inherently compatible with the principles of sustainability.

However, challenges like jhum (shifting cultivation), soil erosion, and a fragile economy that is heavily dependent on agriculture and grants from the Central Government threaten both livelihoods and ecosystems. In this context, the eco-village model can serve as a holistic approach to balance development with ecological integrity.

2. Aim of the Paper

The main purpose of this article is to review the current status and future prospects of eco-villages in Mizoram, drawing insights from existing models, government schemes, and community-led initiatives.

¹<https://documents1.worldbank.org/curated/en/520031468259137265/pdf/E44390V10REV0E00Box382157B00PUBLIC0.pdf>

3. Understanding the Eco-Village Concept

Gilman and Gilman(1991) in their report, “Ecovillages and Sustainable Communities,” they came up with a definition of an ecovillage as, “a human scale, full-featured settlement, in which human activities are harmlessly integrated into the natural world, in a way that is supportive of healthy human development and can be successfully continued into the indefinite future.”

An eco-village is an intentional or traditional community that is purposefully established to restore natural environments and improve the welfare of people. It typically involves extensive use of renewable energy, organic farming, waste management and water conservation, green architecture and community-based economies. It is an innovative concept that is being continually developed.

Global Ecovillage Network (GEN) defines *ecovillage as an intentional, traditional or urban community that is consciously designed through locally owned, participatory processes in all four dimensions of sustainability (social, culture, ecology and economy) to regenerate their social and natural environment*².

3.1 Global Context

The eco-village concept has roots in sustainability movements from the 1970s and has been formalized by networks like the Global Ecovillage Network. There are over 1,100 ecovillages in rural, suburban, and urban settings around the world that are part of GEN which works as a hub to share and disseminate information to ecovillages around the globe.

GEN's definition of 'ecovillage' is general, permitting a broad range of communities and initiatives to be acknowledged. However, what distinguishes ecovillages from mainstream neighbourhoods, towns, and cities is that its members or residents intentionally become part of a community that has shared ideals and goals with emphasis on ecology (Van Schyndel Kasper, 2008). Each ecovillage is constructed by its inhabitants that reside there, according to their vision, context, culture, and interests.

Nevertheless, GEN categorized them into three general categories:

- i. **urban** – communities or eco-neighbourhoods with a common vision to reinvent life in the city to become more sustainable, collaborative and participatory. Los Angeles Eco Village (LAEV), established in 1993, is an urban eco village intended to demonstrate processes for lower environmental impact and higher quality of living patterns in an urban environment³.
- ii. **traditional** – existing rural villages and communities that decide to design their own pathway into the future, using participatory processes to combine life-sustaining traditional wisdom and positive new innovation. Hallingelille Ecovillage in Denmark, founded in 2004 in a rural setting, is an example of traditional ecovillage wherein communal living is being adopted by the communities in an aim to minimise their carbon footprint. ⁴
- iii. **intentional** – created by people who come together afresh with a shared purpose or vision. Findhorn Ecovillage⁵ in Scotland, established in 1985 is an example of intentional ecovillage wherein the communities are specifically designed in a manner that produces the lowest ecological footprints in the UK.

Barani et al. (2018) conducted a meta-analysis of the studies related to the world's ecovillages for achieving a framework that can provide a common mental model for developing available ecovillages and managing potential communities strategically to transform into ecovillage in its right direction. The study concluded that there is no ideal ecovillage because they are always under development and progress, and there is no end for the movement of sustainability.

² <https://ecovillage.org/about/about-gen/concepts/>

³ <https://laecovillage.org/home/about-2/>

⁴ <https://ecovillage.org/ecovillage/hallingelille-ecovillage/>

⁵ <https://www.ecovillagefindhorn.com/index.php/ecovillage-findhorn>

4. Eco-Village Initiatives in India

In India, the idea of eco village is adapted to suit rural development goals, local governance, and environmental challenges(Chaudhary, 2024).

India has numerous eco-villages dedicated to sustainable living and environmental protection. Examples include Auroville, Khonoma, Mawlynnong, and Piplantri. These villages prioritize environmental welfare, organic farming, and renewable energy; showcasing a commitment to cohabitation with nature. Eco Villages in India promote both environmental sustainability as well as self-sufficiency.

4.1 Government-Led Programs

a. Model Eco Village Scheme of Himachal Pradesh⁶

Through the Eco-Village Concept, Department of Environment, Science & Technology, Government of Himachal Pradesh intended to demonstrate a model of environmentally sustainable development in active collaboration with village residents that reflect their concern and respect for the environment. The scheme aims at reducing the “ecological footprint” by as much as 50% of the base assessment through their environmentally sustainable and ecologically oriented eco villages.

The Eco Village Scheme seeks to create a resilient village community by enhancing their skills and competences to deal with resource depletion, changing climate, and other issues related to the environment. As such, residents are made aware of the constraints on their scarce resources, the environmental consequences of their decisions, and alternatives for pursuing a sustainable development path.

The scheme is being implemented in 15 villages of the 11 districts of Himachal Pradesh.

b. National Rurban Mission (NRuM)⁷

The National Rurban Mission (NRuM) follows the vision of "Development of a cluster of villages that preserve and nurture the essence of rural community life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature”, thus creating a cluster of ‘Rurban Villages’.

NRuM aims to develop rural areas by provisioning of economic, social and physical infrastructure i.e. stimulating local economic development, enhancing basic services, and creating well planned ‘Rurban clusters’.⁸ This mission seeks to develop rural clusters with urban amenities while preserving village identity. While it may not explicitly be eco-villages, many NRuM projects adopt sustainability principles.

4.2 NGO and Community-Based Models

a. Auroville (Tamil Nadu)

One of India's earliest and most prominent intentional communities, Auroville practices sustainable architecture, afforestation, permaculture, and education(Banerji, 2022). Commonly known as ‘the spiritual village’ in Tamil Nadu promotes nonviolent actions, whether towards other humans, animals, or the environment. This eco-village both nourishes and benefits nature, giving back plenty and also serves as an ecological laboratory, offering seminars on environment-friendly construction principles.⁹

⁶ <https://dest.hp.gov.in/?q=model-eco-village-scheme>

⁷ <https://www.indiascienceandtechnology.gov.in/st-visions/national-mission/shyama-prasad-mukherji-rurban-mission>

⁸ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1603885>

⁹ <https://www.thedecorjournalindia.com/eco-villages-in-india-sustainable>

b. Govardhan Eco Village (Maharashtra)¹⁰

Located approximately 108 km north of Mumbai, Maharashtra, the Govardhan Eco Village project began in the early 2000s and has developed into a comprehensive model of sustainable, equitable, expansive and inclusive Earth-honouring village community life. Radhanath Swami, along with a team of fellow students and colleagues based in the Radha-Gopinath Temple community in Chowpatty, Mumbai, have spearheaded the conceptual and material development of the project over the last fifteen years based on traditional Vedic practices and ideals, carefully and mindfully responding to the reality of our changing planetary spaces.

The GEV is an anticipatory community “set up to highlight the importance of living a life in harmony with nature. Unlike the modern-day resource-to-trash systems, GEV was modelled to provide a nourishing quality of life by meeting the basic requirements for living like food, shelter, water, waste management etc, through integration of various symbiotically dependent systems. This spiritual-ecological initiative combines organic farming, cow protection, and green technologies. It serves as a model for spiritual ecology and sustainability education. (Fici, 2015)

c. Khonoma (Nagaland)

Recognized as "Asia's first Green Village", Khonoma village in Nagaland promotes organic farming, effective water management, and wildlife protection, providing a model for sustainable rural development. The Naga tribes, who have been well-known as the hunter tribes, led by members of the community successfully banned on hunting for wild animals so as to protect their wildlife. Banning of extensive logging, shifting to more sustainable cultivation methods, practising solid waste management systems, and adopting terrace farming as well as plantations in kitchen gardens by each household for food sustenance are some of the green initiatives adopted by the communities (Papu & Nathani, 2020) .

5. Relevance of Eco-Village in Mizoram

5.1 Geographic Profile

Mizoram, one of the Seven Sister States in North Eastern India, shares interstate borders with the states of Assam, Manipur, Tripura, and international borders with Bangladesh and Myanmar.

The state, which attained statehood on 20th February 1987, spans a geographical area of 21,081 km².

Mizoram, which translates to "land of the highlanders," possesses the most diverse hilly topography in eastern India¹¹. The hills are steep, with an average height of 1000 metres, and are split by rivers that flow to the north or south, forming deep valleys between the hill ranges. Mizoram's highest peak, Phawngpui (known as Blue Mountain), stands at 2210 metres. Its tropical location, paired with its high altitude ensures a pleasant climate all year.

The state is rich in flora and fauna, and many tropical trees and plants grow in the area. The temperature is moderate, with summers that are neither too hot nor too cold in winter. During the winter, the temperature ranges from 11°C to 21°C, while in the summer it ranges from 20°C to 29°C. The entire area is regularly subjected to rainy seasons. Between May and September, it rains heavily, with an annual average of 254 cm.

5.2 Sociodemographic Profile

Literacy: Mizoram has achieved a high literacy rate of 98.2%, making it the first state in India to attain full functional literacy, surpassing the 95% threshold set by the Ministry of Education as per the 2023–24 PLFS survey¹².

Religion: Christianity is the dominant religion, with 87.2% of the population following it. Buddhism, Hinduism, Islam, and other faiths are also present in the state.

¹⁰ <https://www.ecovillage.org.in/about-govardhan-ecovillage>

¹¹ <https://fatbirder.com/world-birding/asia/republic-of-india/mizoram/>

¹² <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2130080>

Age and Sex Ratio: As per the 2011 Census, a significant portion of the population (57.8%) is between 20 and 59 years of age, indicating a relatively young workforce. The state has a sex ratio of 976 females per 1000 males, which is higher than the national average of 940.

As per 2011 Census, Mizoram's population stands at 10,97,206 and largely composed of Scheduled Tribes, with 94.43% of the total population belonging to this category. Mizo is the principal and official language of the state.

In Mizoram, the role of the community is of pivotal importance in environmental protection as they are best suited to identify the areas where environmental protection and improvement is necessary (Renthlei, 2016). Traditional Mizo values emphasize community cooperation and living harmoniously with nature. This is reflected in their values, social structures, and agricultural practices¹³.

Mizo community values cooperation and collaboration for the greater benefit, as indicated by cooperative farming practices and social activities. The state's ecological vulnerability also necessitates climate-adaptive, low-impact development especially in rural areas.

Sati (2019) in his study examined the potential and forms of sustainable village tourism in Mizoram. The result of the case study showed that Mizoram has tremendous potential for sustainable/eco-tourism, owing to its numerous villages, feasible climate, spectacular landscape, wilderness and abundance of local food products and beverages.

The climatic conditions are ideal for sustainable tourism development, particularly nature and leisure tourism, eco-village tourism, and national park and wildlife tourism. Tapping these natural and cultural assets, alongside involving local communities would increase employment as well as revenue for rural residents.

6. Case Studies and Initiatives

While Mizoram does not yet have large-scale eco-village projects, several initiatives provide strong foundations:

6.1 Reiek Village (near Aizawl) has elements of eco-tourism, traditional architecture, and cultural preservation. (Deb & Rout, 2024) in their study attempted to assess the local community's willingness to participate in ecotourism development of Reiek. The findings revealed that the community's willingness to participate in ecotourism development was positive and supportive.

6.2 Watershed development has improved natural resource management in tribal communities. (Verma, 2024) discusses watershed management in the context of the state of Mizoram, its challenges, and potential benefits. It highlights the importance of water conservation, prevention of soil erosion, and improvement of water quality across the state. The document also mentions various initiatives and practices adopted by the local people and the government to promote sustainable watershed development, such as rainwater harvesting and agro-forestry.

Watershed management has significant future implications for the state, especially in rural areas where water supply is not abundantly available, notably in terms of encouraging sustainable development and improving the socioeconomic situations of its residents. As Mizoram encounters issues such as shifting cultivation, soil erosion, and deforestation, efficient watershed management measures are vital for maintaining ecological balance and increasing agricultural productivity.

6.3 Cleanliness Competition

The Mizoram Urban Development and Poverty Alleviation (UD&PA) Department, since 2017, under the Swachh Bharat Mission (Urban), has been organizing a 'Cleanliness Competition' across the State among district capitals and urban towns, gaining remarkable momentum.

The initiative focuses on sustainable cleanliness practices, waste management and segregation, and elimination of open defecation as well as community participation in beautification of public spaces, making Mizoram a shining

¹³ <https://mizoram.nic.in/about/people>

example of how collective effort can lead to transformative change¹⁴.

7. Future Prospects and Recommendations

7.1 Integrated State Policy for Eco-Villages

A dedicated **Eco-Village Development Policy** aligned with Mizoram's unique topography and community governance structures. This may be in line with the ongoing flagship programme of Mizoram Government's 'Bana Kaih (Handholding)' Scheme under which one of the aim and objective being 'Promoting Sustainable Development through Cluster Approach'¹⁵.

However, the policy should focus on ecological conservation, economic development through sustainable agriculture and tourism, and ensuring that local communities have a central role in shaping development strategies. Any Eco-tourism (or Eco-village) development needs to involve collaboration between stakeholder groups including local governments, private entrepreneurs, non-governmental organizations (NGOs), and local communities governed through joint management arrangements with democratic decision-making processes(Chale et al., 2025).

7.2 Capacity Building and Education by Churches

The review of eco-villages around the world has highlighted the importance of each resident's moral value towards sustainability and their willingness to participate in the processes. An ecovillage's commencement and effective continuation requires environmental knowledge as well as a commitment to change, which ultimately translates into actions.

Tang (2021) reviewed the Christian bible for messages of sustainability and how these messages could enhance education for sustainable development in themes and pedagogies. Patricia Mische also opines that there is a need for religion to interface with other disciplines working together to seek solution to the environmental challenges of the time¹⁶.

Christianity and Sustainability are intertwined through the concept of stewardship, where Christians are seen as responsible for caring for God's creation¹⁷, which includes the environment. (Alokwu, 2017) in his study 'Christianity and Sustainability' stated that the age long view of Christianity's anthropocentric stand which had been presenting the church as being uninterested in environmental matters is now replaced with environmental zealousness and pragmatic action. Mizoram, with its Christian majority and the churches playing a vital role in local administration and moral suasion, can integrate sustainability into local church-based education networks.

7.3 Community-Led Planning

A collaborative approach that empowers local residents to take ownership of their future, participating in shaping their respective ecovillage by identifying their specific needs, setting priorities, and developing plans to improve their community's well-being will ensure successful implementation of ecovillage projects. Ecovillages tend to rely on a community-based governance on an assumption that the local and regional communities respond more effectively to local environmental problems since these problems pertain to the local context and priorities(Van Bussel et al., 2020). Many problems presently witnessed in the world are not caused by the lack of technologies, but by people's lack of capacity to live and work together, to take on their share of responsibility, to collaborate, to share resources and to co-

¹⁴ <https://udpa.mizoram.gov.in/uploads/attachments/2022/07/df2c11dfa70506b1f697c1d3b64ef286/sbm-website.pdf>

¹⁵<https://planning.mizoram.gov.in/uploads/attachments/2025/03/552594ba7d05c4e881d830b8fe5522c9/economic-survey-2024-2025.pdf> (Page-24)

¹⁶ (*The Church and Climate Change – By Ernst Conradie - Clingerman - 2009 - Religious Studies Review - Wiley Online Library*, n.d.)

¹⁷ Genesis 1:28 NIV – "Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground."

create solutions with people from different cultural backgrounds (Schwab & Roysen, 2022). As (Leach et al., 2012) urgently calls for diverse, inclusive and collaborative action from the top-down as well as from the bottom-up towards concerted climate action, it is noteworthy that most of the eco-village initiatives in India have been led and sustained by the members of the respective communities.

8. Conclusion

Eco-villages hold significant promise in addressing the dual challenges of environmental degradation and rural underdevelopment in India. While still at a nascent stage, growing awareness, successful pilot projects, and supportive policies launched by the Central as well as State Governments indicate strong potential for scaling. With concerted effort across government, civil society, and communities, eco-villages could become vital nodes in India's journey toward sustainable and inclusive development.

According to (Schwab & Roysen, 2022), ecovillages and other forms of Community-Led Initiatives have faced many challenges such as funding, and lack of certain skills and appropriate sustainable technologies. In the context of Mizoram, economic and infrastructure constraints such as poor road connectivity, limited availability of skilled professionals in green technology, and gaps in awareness about sustainable alternatives are likely to be the challenges to ecovillage development.

Eco-villages have potential of offering a transformative opportunity for Mizoram to build resilient, self-reliant, and sustainable rural communities. Rooted in both ecological necessity and cultural values, the ecovillage model aligns with the Mizo code of ethics such as 'Tlawmngaihna', an untranslatable term meaning on the part of everyone to be hospitable, kind, unselfish and helpful to others¹⁸ and the state's vision for inclusive growth. With the right blend of policy support, grassroots engagement, and innovation, eco-villages could serve as the future of rural development in Mizoram

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