

“Community -Based Intervention for Sustainable Environment”- A Thematic Analysis

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Abstract

Sustainable Environment aims at preserving and flourishing natural resources and balancing the ecosystem for healthy and wealthy living for all organisms. Integrated community-based interventions are actions by the different actors of the community to mitigate the severity of potential negative impacts on the environment created by human actions. The study delved into the potential of innovations, research, integrated community-based interventions, and strategies to enhance community participation, particularly in addressing environmental issues. Through a review of articles from 2000 to 2024 on Sustainable Environment, community participation, behavioural change theories, environmental projects, NGOs, CBOs, and CSR initiatives, the researchers analysed the case studies and derived the findings. The researcher found that integrated community-based interventions are inclusive, foster social capital, and amplify the voices of vulnerable and poor communities. It emphasises the importance of awareness building, attitudinal change, eco-friendly modes, and knowledge sharing.

Keywords: *Sustainable Environment; Integrated Community-based Intervention; Citizen engagement; Pro-Environmental behaviours; Nudging.*

Introduction

“What we hold for the future is equally important as what we enjoy in the present”
The world is in the wake of tackling climate change. Climate change has devastating social, political, economic, and environmental impacts, underscoring the urgent need to promote sustainable practices to combat it(United Nations, n.d.). Addressing these challenges is a global

concern; the UN has developed a global agenda of 17 Sustainable Development Goals (SDGs), particularly SDG 13, which focuses on Climate Action.

The Sustainable Environment is the integrated interaction between nature and humans to maintain resilient and sustainable practices that meet the needs of the present generation. It also focuses on conserving the ecosystem for future generations without affecting the sources that provide them. The rise in population and their needs and desires had expanded the economy massively, leading to excess production, consumption, and waste generation (Torrente-Velásquez et al., 2020), and thereby exploiting finite environmental resources. In response, global institutions have introduced policies and guidelines to safeguard the planet.

Community participation has emerged as a crucial element in addressing environmental concerns. Local communities, with indigenous knowledge, implement sustainable practices in fostering environmental stewardship (Cains & Henshel, 2019). Sustainable practice includes community collaboration with the government and NGO's in protecting and enriching the environment.

India's economy is experiencing rapid growth, but this ascent comes with a concomitant concern for environmental preservation. As industrial expansion accelerates, agricultural land dwindles, and forest cover diminishes. The environment is exploited, degraded and pushed to inefficiency to fulfil the growing demand of an expanding economy (Gracia et al., 2021). India, amidst rapid economic development, faces environmental challenges such as air, water, and soil pollution, climate change, waste mismanagement, and resource depletion. It generated 62 million tonnes of trash per year in 2015, is expected to reach 71.15 million tonnes in 2021, and 160.96 million tonnes in 2041 (Khan et al., 2022). In response to these challenges, the government has taken proactive measures, instituting a gamut of laws and regulations. These measures encompass penalties for overutilization alongside incentives and subsidies to encourage adherence to environmental norms (Pachiyappan et al., 2022). Although several initiatives have been introduced, their effectiveness often depends on the level of community participation. Hamdi Nabeel clarifies that the first impetus for community engagement came from the public's demand for "environmental justice". Community participation is a principal element in promoting a sustainable environment. Involving the communities as partners gives them ownership and fuller efforts in the attainment of their goals (Isidiho and Sabran, 2015). Decentralised governance structures and local participation mechanisms have therefore gained significance in promoting sustainable environmental practices. It intensifies the urgency to safeguard our natural resources. To address this, environmental education for the masses on responsible handling of natural resources and waste needs to be effectively promoted through

awareness generation. Irrespective of the significance of community participation and awareness generation, there exists minimal understanding of the factors that influence community engagement in environmental initiatives(Baidya & Saha, 2024) and the different actors involved in.

Exploring these factors can provide deeper insights into how community-based interventions function and how different actors contribute in addressing environmental challenges through sustainable practices. The study aims to examine the dynamics of Community-based interventions in promoting environmental sustainability and the factors influencing community participation in environmental engagement.

Using Braun and Clarke Thematic Analysis, the study identifies key themes and patterns that explain how community participation contributes to a sustainable environment. Identifying the indigenous knowledge and collective action of the community in environmental protection will support policymakers, governments, and non-governmental organisations in designing effective community-based environmental programs.

Literature Review

The citizen's role is crucial for a transparent and accountable public institution, enhancing its effectiveness. Meaningful citizen engagement is possible with supportive conditions from the government, and innovative ideas from other stakeholders ultimately contribute to greater development effectiveness and well-being.(World Bank, n.d.)

Government collaboration with neighbourhood/ citizens associations in waste management initiatives reflects citizen participation at the empowerment level of the partnership ladder, indicating a shift towards shared decision-making and increased citizen participation. (Villalba Ferreira et al., 2022). Citizen engagement and behavioural change are essential for effectively implementing climate adaptation strategies. Education and training, community engagement, youth empowerment, and online/ digital media initiatives are the most effective and widely adopted forms of capacity building to bring about behavioural change addressing climate change.(Baldelli et al., 2025). The combination of behavioural intervention and economic incentives have positive impact on influencing green consumption (Wang & Li, 2022).

Theoretical Framework

Rothman's Locality Development Model: According to Rothman, the primary goal of this model is to build the capacity of the people for self-help. This model emphasises awareness generation, forming neighbourhood councils, and applying indigenous knowledge to resolve

problems. It involves a wide range of significant stakeholders in identifying needs, setting goals, civic engagement, promoting social integration, and working together on social issues, creating an identity of their own (Rothman, 1996).

Social Exchange Theory: Social Exchange theory that states people weigh the potential benefits and risks, it's the natural tendency to contribute when the benefits outweigh the risk/cost. Most relationships are made up of a certain amount of give-and-take, but it is not always equal. It also determines whether or not we choose to continue a social association and contribute to the social cause (Jonason & Middleton 2015).

Nudge Theory: Richard Thaler and Cass Sunstein (2008) state that altering the environment influences the choice of people to choose one over the other is the essence of Nudge theory. It allows the freedom of choice to people and at the same time influences their behavior to choose the better option which accounts for a common goal. In the pursuit of a sustainable environment, it's imperative to reshape our surroundings to incentivise sustainable behaviors. This includes strategically situating visible dustbins and implementing a color-coded system for waste segregation, ingraining these distinctions in the public consciousness through widespread electronic displays and advertisement boards. Furthermore, fostering open dialogue spaces for discussing sustainable waste disposal methods and environmental protection measures can significantly contribute to the promotion of a sustainable environment.

Methods and Materials

The study was conducted by reviewing articles published between 2000 and 2025 in databases such as Scopus and ResearchGate, as well as relevant reports from the websites of national and international organisations. The collected literature and case studies were analysed using thematic analysis following the six-phase framework proposed by Virginia Braun and Victoria Clarke (2006). Reading the selected articles and case study documents, followed by systematic coding of recurring ideas related to community engagement and environmental sustainability. Initial codes such as community ownership, environmental governance, citizen collectives, behavioural change strategies, institutional collaboration, CSR initiatives, economic empowerment, economic incentives and environmental benefits were identified. These codes were then grouped into broader themes by refining the patterns emerging from the data. The themes, such as community participation, stakeholder collaboration, behavioural change, and economic incentive, were identified, which were organised and interpreted to understand the dynamics of community-based interventions in sustainable environmental practices.

Results

Theme 1: Community Participation and Empowerment

Community participation is the prime factor for a sustainable environment. Community based organisations, Self-help Groups, and neighbourhood councils are empowered to take up ownership and responsibility in mending the environment.

In Kerala, Harithakarmasena, a unit of Kudumbashree(SHG) for waste management, has trained 22,592 women to combat plastic pollution through recycling programs and paper bag production. It prioritises eco-friendly practices in trade fairs, utilising sustainable materials for decoration and serving. They collect plastic waste, segregate it, and hand it over to recyclers. (“Striving to Be Green: Adoption of Quality Environmental Activities by Kudumbashree | Local Self Government Department,” n.d.). Similarly, in 2016, India's Water Body Rejuvenation project led to a significant increase in citizen advocacy for water body restoration. Bangalore's Puttenahalli Lake, once a dumping ground for construction waste and residential wastewater, was transformed into a thriving ecosystem by the Puttenahalli Lake Improvement Trust (PLIT) formed by the residents nearby Puttenahalli lake. This success serves as a blueprint for similar efforts across the nation, inspiring communities to take ownership of their local water bodies and foster a culture of environmental stewardship (Waterbody Rejuvenation - a Compendium of Case Studies,” 2019).

Theme 2: Institutional and Stakeholder Collaboration

Environmental sustainability requires coordination among stakeholders such as governments, NGOs, corporates, researchers, and communities.

The initial attempt to rejuvenate Jakkur Lake in Bengaluru, Karnataka, fell short in achieving its goal. However, a transformative shift occurred with the intervention of the Satya Foundation (CSR) and Jal Poshan Trust, a citizen collective that took over the project. They revolutionised the approach by prioritising community involvement in all decision-making processes concerning the lake. This inclusive strategy empowered residents and catalysed maximum participation from the community. Self-Help Groups (SHGs) were engaged in the maintenance of the lake and became collaborative partners, providing employment opportunities for economically disadvantaged individuals. Moreover, the initiative fostered innovative practices such as vegetable cultivation and gardening, instilling a sense of stewardship among the community and mobilising more hands in the conservation of nature.

Theme 3: Behavioural Change Approaches

Richard Thaler and Cass Sunstein, in their theory (2008), state that altering the environment influences people's choice to choose one over the other. It allows the freedom of choice to people while influencing their behaviour to choose the better option which accounts for a common goal. A study in Argentina proved that a behavioural communication intervention (an information letter containing prosocial appeals and a magnetic calendar) has significantly improved recycling behaviour. Within two weeks, the likelihood of households putting out mixed waste instead of recyclables was reduced by about half, and these positive effects lasted even after six months. This intervention was cost-effective, impactful, and scalable (Pegels et al., 2022).

Theme 4: Economic Incentives

People weigh the potential benefits and risks, it's the natural tendency to contribute when the benefits outweigh the risk/ cost. Most relationships are made up of a certain amount of give-and-take, but it is not always equal. It also determines whether or not we choose to continue a social association and contribute to the social cause (Jonason & Middleton 2015).

Mifhathul Jannah Solid Waste Bank was launched by TPN an association in Indonesia in 2013 to bring economic and social upliftment and in the process achieve environmental sustainability. They initiated solid waste bank, and all the households in the village are the customers of the bank. The members deposit the segregated waste every week and keep an account of it. At the end of the year, the customers (community people) receive the money earned for their deposits. This has improved the environment's cleanliness, created jobs, and provided additional income to the people in the community (Indrianti, 2016).

Discussion

The Puttenahalli Lake restoration project serves as a prime example in application of Rothman's model. Here, the community discussed with its residents the condition of the lake and the significance of protecting it from being ruined. The residents proactively organised and registered themselves into a trust, and sought support from the government to stop the breachers. It forged partnerships with various stakeholders, culminating in the sustainable restoration of the water body and its ecosystem. This collaborative effort not only revitalised the lake but also underscored the power of collective action in achieving environmental sustainability (*WBR-Compendium-by-CDD.Pdf*, n.d.). Similarly, in the case of the waste bank model of Indonesia, women were organised, involved in discussions about the problem of solid waste that deteriorates not just the environment, but the mixed waste entering the landfill

emitting GHG. Awareness was created for women in managing waste, and women registered themselves as members of the waste bank. The women involved in waste segregation at source in their households and deposit it in the bank. They monetised the waste, which acted as an economic incentive to make people participate in mitigating climate change. In both cases, the community was organised, educated about the problem situation, involved in finding a solution, and involve in collaboration with the government in 1st case and recyclers in the 2nd case. But in the case of Joint forest management, which was conceptualised to decentralise forest governance and to empower communities that depend on the forest for their survival, this system faced drawbacks such as a lack of transparency in benefit Sharing, excessive control by the forest department, and low community participation(Bhattacharya et al., 2010). The Joint Forest Management was an exemplary idea, but failed to consider the factors promoting community participation exclusively in decision-making, resulting in failure.

Jakkur Lake restoration was a decade-long process with continuous efforts of multiple stakeholders. The residents initiated and organised themselves and registered as Jal Poshan trust, collaborated with Sathya Foundation, and multiple government bodies, applying scientific intervention(Kanagy, 2024). It rejuvenated the water body, and the work continues through voluntary citizen participation and active stakeholders' involvement. It implies that environmental sustainability is a continuous process that requires continuous care. It attracts volunteers and researchers to work for its sustainability. Education and training are the most effective community-based strategies for behavioural change. They play a key role in shaping climate awareness and influencing actions(Baldelli et al., 2025). Once a neglected lake is now the centre of attraction, not just a place of recreation, but a place of knowledge sharing, and place to connect with nature.

From the analysis, the researcher found that Community-based interventions are inclusive, create positive social capital, and offer a voice to the vulnerable and poor. It is found that a sustainable environment must be understood from the community perspective. Community-based intervention pools the resources, skills, and strategies from within the community to create a sense of pride and ownership to sustain the initiatives. Community is a principal element to usher reformatory actions through planning, implementing, monitoring, and evaluation with the support of governmental and Non-Governmental organizations. The nudging technique, to a great extent, helps to bring larger communities into the pro-environmental behaviour. Community Based Organisation, such as Self Help Group's

potential, have been harnessed more effectively to mitigate environmental issues through government initiatives. Awareness building, attitudinal change, access to eco-friendly modes, sharing of knowledge, promoting pro-environment behaviour, and nudging are best practices applied in promoting a sustainable environment by placing the community and environment on a common platform.

Conclusion

To conclude, the community-based approach underscores that effective environmental management necessitates a comprehensive array of strategies, which are identified and evaluated by local communities themselves. It is imperative for every community to actively engage in actions that guarantee clean air, responsible disposal of waste, the protection of water bodies and the creation of green jobs to foster a sustainable environment. Emphasising community involvement in environmental management, an integrated community-based approach should bring together people, government, corporates, social innovators, social entrepreneurs, researchers, and the voluntary sector to foster a sustainable environment. Encouraging Public-Private-People collaboration to engage citizens for a sustainable environment. Identifying the most effective community-based interventions and adapting them to local contexts is paramount. Strengthening support systems and building networks with governmental bodies, non-governmental organisations, manufacturers, and media outlets is indispensable for the triumph of integrated community-based interventions geared towards a sustainable environment.

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