

From Environmental Awareness to Participatory Governance: Nature's Beckon's Ecological Education Model in Assam

Shrutilekha Barman¹

Abstract

Environmental education is increasingly recognized as a critical strategy for promoting sustainable development; however, its contribution to participatory environmental governance through grassroots initiatives remains underexplored, particularly in the biodiversity-rich landscapes of Northeast India. This paper examines how Nature's Beckon, a pioneering environmental non-governmental organization in Assam, employs ecological education to foster environmental awareness, ethical responsibility, and community participation in conservation. Adopting a mixed-methods approach, the study draws on structured surveys, semi-structured interviews, field observations, and documentary sources to examine the organization's educational initiatives and their governance implications. The findings reveal that Nature's Beckon's programmes extend beyond conventional awareness campaigns by integrating experiential learning, ecological ethics, and youth engagement, thereby cultivating ecological consciousness, encouraging community stewardship, and strengthening participatory approaches to environmental governance. Initiatives such as school outreach programmes, nature camps, and community engagement demonstrate how ecological education can facilitate behavioural change and foster collective responsibility for biodiversity conservation. The study further identifies challenges, including limited institutional integration, dependence on voluntary participation and sustaining long-term behavioural change. It argues that NGO-led ecological education should be understood not merely as a means of disseminating environmental knowledge but as an informal governance mechanism that complements state-led conservation efforts. By linking environmental education with participatory governance, the paper contributes to contemporary debates on environmental governance and highlights the significance of grassroots educational initiatives in advancing sustainable conservation in Northeast India.

Received: 07 June 2026

Accepted: 26 June 2026

Published: 30 June 2026

Keywords: Environmental Awareness, Ecological Education, Participatory Governance, NGOs, Nature's Beckon, Assam.

1. Introduction

Contemporary environmental challenges-including biodiversity loss, climate change, habitat fragmentation, and ecosystem degradation-have exposed the limitations of governance models that rely predominantly on state regulation and technological interventions. Increasingly, scholars argue that sustainable environmental governance depends not only on institutional and policy reforms but also on an environmentally informed communities capable of participating in conservation and resource management (Meadowcroft, 2007; Ostrom,1990). Consequently, environmental education has assumed renewed significance as a process that cultivates ecological knowledge, ethical responsibility, and civic engagement, thereby strengthening the social foundations of environmental governance.

The understanding of environmental education has undergone a significant transformation over the past few decades. Earlier approaches primarily emphasized nature conservation and the dissemination

¹ Ph.D Research Scholar , NEHU, Shillong Assistant Professor, Dhakuakhana College (Autonomous), Department of Political Science

of scientific knowledge, whereas contemporary perspectives increasingly conceptualize ecological education as a transformative and participatory process that encourages critical thinking, experiential learning, and responsible environmental action (Orr, 1992; Sterling, 2001). Similarly, education for sustainable development has shifted attention from awareness generation alone to fostering the knowledge, values, and competencies necessary for addressing complex environmental challenges through collaborative decision-making (UNESCO, 2020). This shift reflects the growing recognition that lasting environmental change depends not merely on informed individuals but on communities capable of collectively shaping sustainable environmental practices.

Parallel to these developments, environmental governance has evolved from hierarchical, state-centred regulation to more collaborative and participatory approaches involving civil society organizations, local communities, educational institutions, and other non-state actors. The governance literature increasingly emphasizes that environmental problems cannot be effectively addressed through governmental intervention alone but require partnerships that integrate scientific knowledge with local participation and community stewardship (Lemos and Agrawal, 2006; Ostrom, 1990). Within this framework, non-governmental organizations (NGOs) play a critical role by facilitating environmental awareness, strengthening local capacities, and creating spaces for public participation in conservation initiatives.

In India, particularly in the ecologically fragile and culturally diverse landscapes of Northeast India, the contribution of NGOs to environmental governance assumes special significance. The region is recognized as part of the Indo-Burma Biodiversity Hotspot and is characterized by exceptional biological diversity alongside increasing ecological pressures arising from deforestation, habitat loss, infrastructure expansion, and climate-related vulnerabilities (Myers et al., 2000; Gadgil and Guha, 1995). While government agencies continue to play a central role in conservation, grassroots organizations have emerged as important partners in mobilizing communities, promoting environmental education, and fostering locally rooted conservation practices. Despite these developments, the existing literature has largely focused on biodiversity conservation, protected-area management, and environmental policy, with comparatively limited attention devoted to understanding how NGO-led ecological education contributes to participatory environmental governance, particularly within the socio-ecological context of Northeast India.

Within this context, Nature's Beckon, an environmental organization based in Assam, provides an important case for examining NGO-led educational initiatives. This paper aims to analyse how environmental awareness and ecological education contribute to participatory environmental governance, with particular reference to the initiatives of Nature's Beckon.

2. Review of Literature

Environmental education has evolved from a conservation-oriented approach centred on the dissemination of ecological knowledge to a transformative process that seeks to cultivate environmental responsibility, critical reflection, and active citizenship. Earlier studies emphasized the importance of ecological literacy in developing an informed society capable of responding to environmental degradation (Orr, 1992). Subsequently, environmental education has increasingly been understood as a lifelong and participatory learning process that enables individuals to question prevailing patterns of production and consumption while fostering values and competencies necessary for sustainable development (Sterling, 2001). Rather than viewing education merely as a means of transmitting scientific information, contemporary scholars argue that it should empower individuals and communities to participate in addressing complex environmental challenges through informed action (Scott & Gough, 2003; UNESCO, 2020).

Recent studies further demonstrate that experiential and place-based learning plays a decisive role in strengthening ecological consciousness. Chawla and Cushing (2007) argue that meaningful

engagement with natural environments encourages long-term pro-environmental behaviour by connecting ecological knowledge with lived experience and emotional attachment to place. Similarly, Wals and Jickling (2002) contend that environmental education should encourage critical thinking and democratic participation rather than prescribing predetermined models of sustainability. This shift reflects a broader understanding of education as a process through which individuals develop ecological values, ethical responsibility, and the capacity to participate in collective environmental decision-making.

Parallel to developments in environmental education, environmental governance has undergone a significant conceptual transformation. Earlier governance models relied primarily on centralized state regulation and command-and-control mechanisms to address environmental problems. However, increasing ecological complexity and the limitations of state-centred approaches have encouraged scholars to advocate more collaborative forms of governance involving governments, civil society organizations, local communities, and the private sector (Lemos & Agrawal, 2006; Meadowcroft, 2007). Contemporary environmental governance is therefore understood as a process of negotiation, shared responsibility, and institutional collaboration rather than merely the implementation of environmental regulations.

Within this evolving governance paradigm, the work of Ostrom (1990) fundamentally reshaped debates on natural resource management by demonstrating that local communities possess the capacity to develop effective institutional arrangements for governing common-pool resources. Challenging the assumption that environmental conservation depends exclusively upon either market mechanisms or centralized government intervention, Ostrom argued that collective action, locally developed rules, and community participation frequently produce more sustainable conservation outcomes. Her work has significantly influenced subsequent scholarship on participatory governance, decentralization, and community-based conservation, particularly in developing countries where local livelihoods remain closely connected with natural resources.

Building upon these theoretical developments, scholars increasingly recognize non-governmental organizations (NGOs) as important actors within environmental governance. NGOs perform multiple functions, including environmental awareness generation, capacity building, advocacy, policy mediation, and community mobilization (Simmons, 1998). They frequently operate at the interface between state institutions and local communities, facilitating the exchange of knowledge while encouraging public participation in conservation initiatives. Their contribution is particularly significant in regions where governmental institutions face administrative limitations or where effective conservation depends upon sustained community engagement. Consequently, NGOs have become important intermediaries linking environmental education with participatory governance.

The relationship between environmental education and environmental governance has consequently attracted increasing scholarly attention. Recent studies suggest that educational interventions can influence governance not only by increasing environmental awareness but also by strengthening ecological citizenship, social capital, and collective responsibility for environmental stewardship (Filho et al., 2018). Environmental education therefore extends beyond behavioural change at the individual level to influence broader processes of democratic participation and institutional accountability. Such perspectives emphasize that sustainable governance depends as much upon informed and engaged citizens as upon effective environmental policies.

Within the Indian context, environmental governance is shaped by complex interactions between ecological diversity, socio-economic inequalities, customary resource-use practices, and institutional pluralism. Gadgil and Guha (1995) argue that successful conservation requires recognition of local ecological knowledge and meaningful participation of communities whose livelihoods remain closely connected to natural resources. This perspective has informed community-based approaches to biodiversity conservation, forest governance, and sustainable development across India. In Northeast

India, where exceptional biological diversity coexists with increasing developmental pressures, grassroots organizations have emerged as significant contributors to environmental awareness, biodiversity conservation, and community participation. Nevertheless, scholarly research has concentrated predominantly on protected-area management, biodiversity conservation, and environmental policy, while comparatively limited attention has been devoted to examining how NGO-led ecological education contributes to participatory environmental governance.

This limitation in the existing literature is particularly evident in studies concerning Assam. Although organizations such as Nature's Beckon have played an important role in promoting environmental awareness, biodiversity conservation, and community engagement for several decades, their educational initiatives have rarely been examined as mechanisms through which ecological knowledge is translated into participatory governance. Existing studies generally document conservation activities or environmental campaigns without sufficiently analysing how educational interventions foster ecological citizenship, ethical responsibility, and community participation in environmental decision-making.

Addressing this issue, the present study conceptualizes ecological education as an integral component of participatory environmental governance rather than as an independent awareness programme. Drawing upon theories of transformative environmental education, participatory governance, and community-based conservation, it argues that Nature's Beckon's educational initiatives demonstrate how grassroots organizations can cultivate ecological citizenship by integrating experiential learning, ethical values, and community participation. The study therefore contributes to the growing literature on environmental governance by illustrating that NGO-led ecological education can function as an informal governance mechanism capable of complementing formal environmental institutions while strengthening long-term conservation outcomes.

3. Methodology

This study adopts a mixed-methods approach, integrating both primary and secondary data to examine the relationship between environmental awareness, ecological education, and participatory governance in Assam. The empirical component of the study was conducted in the districts of Dhemaji and Tinsukia in Assam, selected for their ecological significance, vulnerability to environmental change and the presence of community-based environmental initiatives.

Primary data were collected through a structured survey administered to 100 respondents selected using purposive random sampling, comprising 50 respondents each from Tinsukia and Dhemaji district. The respondents included youth and students who had participated in environmental awareness programmes, along with members of marginalized and forest-fringe communities whose livelihoods are closely linked to local ecosystems. This sampling strategy enabled the study to capture both the perspectives of participants directly exposed to Nature's Beckon's educational initiatives and the experiential knowledge of communities that interact closely with the natural environment. In addition, in-depth interviews were conducted with environmental activists, representatives of Nature's Beckon, and officials from forest and environment departments to gain insights into institutional processes and governance challenges. These interviews provided qualitative insights into the organization's educational philosophy, institutional practices, community engagement strategies, and the challenges associated with participatory environmental governance. Field observations of awareness campaigns, educational programmes, and community interactions further enriched the empirical analysis by enabling direct observation of the organization's educational practices.

Secondary data were collected from books, journals, government reports, policy documents, Nature's Beckon's publications, and reports of national and international organizations concerned with environmental education and governance. These sources provided the theoretical and policy context within which the empirical findings were interpreted.

4. Nature's Beckon: Institutional Background

Nature's Beckon is one of Assam's pioneering environmental non-governmental organizations dedicated to biodiversity conservation, ecological education, and community engagement. Established in 1982, the organization has consistently worked to promote environmental awareness through research, conservation advocacy, educational outreach, and public participation. Unlike organizations that primarily focus on species conservation or habitat restoration, Nature's Beckon integrates ecological education with conservation practice, emphasizing the development of environmental ethics, ecological responsibility, and civic participation among diverse sections of society, particularly students and young people.

Over the past four decades, the organization has implemented a wide range of educational initiatives, including nature camps, biodiversity awareness programmes, school outreach activities, environmental workshops, bird conservation training, nature-based experiential learning, essay competitions, and the dissemination of educational materials in local languages. These initiatives seek to bridge the gap between scientific knowledge and everyday environmental practices by encouraging participants to develop a deeper understanding of biodiversity conservation through direct engagement with natural ecosystems. The organization's educational philosophy is grounded in the belief that sustainable conservation requires not only scientific knowledge but also ethical commitment and active public participation.

Another distinctive dimension of Nature's Beckon's educational outreach is its sustained contribution to nature literature (Prakriti Sahitya). For more than three decades, the organization has promoted environmental awareness through the publication of books and educational materials on Assam's forests, wildlife, biodiversity, and conservation challenges. Under the leadership of Soumyadeep Datta, Nature's Beckon has emerged as an important contributor to Assamese environmental literature, facilitating the publication of more than 50 works on biodiversity, wildlife, and conservation. In a context where accessible literature on Assam's ecological heritage has historically been limited, these publications have helped disseminate conservation knowledge beyond formal educational settings and scientific circles. More recently, Nature's Beckon has expanded its outreach through The Seed, an online environmental blog that seeks to engage wider audiences in discussions on biodiversity conservation and environmental stewardship. These initiatives demonstrate that the organization's educational model extends beyond field-based learning and awareness campaigns to include the production and circulation of environmental knowledge, thereby broadening public engagement with conservation issues.

A major milestone in Nature's Beckon's educational journey was the launch of the Ahum Basudhame Krite Mangaljanak ("I am beneficial for the Earth") movement on 4th June 2022, commemorating the organization's 40th anniversary. Conceived as a statewide ecological education campaign, the initiative marked a significant shift from conventional awareness programmes towards a value-based model of environmental learning. Rather than limiting environmental education to the dissemination of information, the programme encourages students to cultivate ecological responsibility through self-reflection, ethical commitment, and collective action. During its first phase, more than one hundred schools across Assam participated in the campaign, engaging thousands of students through a public environmental pledge centred on biodiversity conservation, environmental stewardship, personal discipline, social responsibility, and respect for teachers and educational institutions.

The movement is structured around five guiding commitments that encourage participants to protect forests and wildlife, contribute to national and environmental well-being, pursue personal integrity, conserve biodiversity in their immediate surroundings, and demonstrate respect for educational and social institutions. These commitments extend ecological education beyond environmental knowledge by linking conservation with moral responsibility, civic ethics, and individual character formation. In doing so, Nature's Beckon adopts a holistic understanding of ecological education in which environmental stewardship is viewed as inseparable from responsible citizenship and social well-being.

Another distinctive feature of the programme is its integration of environmental education with experiential and place-based learning. Students participating in the campaign are encouraged to engage in forest visits, summer nature camps, biodiversity conservation training, workshops, discussions and community awareness programmes. These activities provide opportunities for participants to interact directly with natural ecosystems while developing practical conservation skills and a deeper appreciation of ecological interdependence. Such an approach reflects contemporary perspectives in environmental education, which emphasize experiential learning as an effective means of translating environmental awareness into sustained pro-environmental behaviour (Orr, 1992; Sterling, 2001; Chawla & Cushing, 2007).

The second phase of the initiative, launched in 2024 under the title Bharatar Amritkal: Joibo Boichitra Sanrakshan Chetana aru Vidyarthi Jagaran Yatra, expanded the programme to colleges and universities across Assam. Through lectures, educational campaigns, and the publication of an Assamese booklet, the initiative sought to deepen students' understanding of biodiversity conservation while encouraging youth participation in environmental leadership. Nature's Beckon also collaborated with educational institutions to facilitate the participation of students from remote areas, thereby extending the programme's geographical and social reach.

The movement has subsequently expanded beyond Assam. In June 2025, Nature's Beckon collaborated with the Eastern Dooars Tourism Development Association to introduce the campaign among school students in Alipurduar district of West Bengal under the Bengali title Ami Prithivir Janye Mangaljanak. This expansion reflects the organization's aspiration to develop a broader regional platform for ecological education and youth engagement across eastern India.

From the perspective of environmental governance, Nature's Beckon's institutional significance lies not merely in conducting awareness campaigns but in developing an educational model that seeks to transform environmental awareness into ecological citizenship. By combining experiential learning, ethical values, community participation, and environmental stewardship, the organization demonstrates how grassroots educational initiatives can contribute to participatory environmental governance. Consequently, Nature's Beckon provides an important empirical case for understanding the role of civil society organizations in strengthening environmental governance through education rather than regulation alone.

5. Findings And Discussion

The findings indicate that Nature's Beckon's educational interventions have contributed significantly to enhancing environmental awareness among respondents in Dhemaji and Tinsukia districts. Most participants, particularly students and young people who had engaged in the organization's awareness campaigns, nature camps, and educational programmes, demonstrated a sound understanding of contemporary environmental issues, including biodiversity loss, deforestation, and climate change. However, the findings also suggest that environmental awareness alone does not necessarily result in sustained pro-environmental behaviour. Several respondents acknowledged that although they were aware of environmental problems, regular participation in conservation activities remained constrained by socio-economic realities, institutional limitations, and the absence of sustained

community support. This finding reinforces the argument in environmental education literature that knowledge acquisition, by itself, is insufficient to promote long-term behavioural change (Chawla & Cushing, 2007; Scott & Gough, 2003).

A more significant outcome of the study is the transformative role of ecological education. Respondents who had participated in field-based learning activities, biodiversity awareness programmes, nature camps, and community outreach initiatives consistently described these experiences as more influential than classroom-based environmental instruction. Direct interaction with natural ecosystems enabled participants to develop emotional attachment, ethical responsibility, and a deeper appreciation of ecological interdependence. These findings support the view that experiential learning strengthens ecological literacy by integrating scientific knowledge with lived experience and environmental ethics (Orr, 1992; Sterling, 2001). Rather than functioning solely as awareness programmes, Nature's Beckon's educational initiatives facilitate the internalization of ecological values, thereby encouraging environmentally responsible behaviour.

The findings also reveal important differences in the sources of environmental knowledge among respondent groups. While students primarily acquired ecological knowledge through organized educational programmes, respondents from marginalized and forest-fringe communities drew their environmental understanding from everyday interactions with forests, wetlands, and other natural resources. Participants from these communities expressed growing concern over declining forest resources, changing climatic conditions, and increasing livelihood insecurity. Despite possessing valuable ecological knowledge, many respondents reported limited opportunities to participate in formal environmental decision-making processes. This disconnect illustrates that effective environmental governance requires not only local ecological knowledge but also institutional mechanisms capable of incorporating community perspectives into conservation planning.

Youth participation emerged as another significant finding. Students associated with Nature's Beckon's programmes frequently reported involvement in awareness campaigns, plantation drives, biodiversity conservation activities, and community outreach initiatives. Such participation extends beyond environmental learning by cultivating leadership, civic responsibility, and collaborative action. Although these activities largely occur outside formal governance institutions, they contribute to the development of ecological citizenship by encouraging young people to view environmental protection as a shared social responsibility rather than an exclusively governmental function. The significance of youth-oriented ecological education was also emphasized by government stakeholders. During an interview, Vinay Gupta, Principal Chief Conservator of Forests (Wildlife), Assam, acknowledged the important contribution of non-governmental organizations in promoting environmental awareness and conservation across the state. At the same time, he emphasized that civil society organizations need to play a more proactive role in educating younger generations and fostering environmental responsibility among youth. His observation highlights a growing recognition within conservation governance that long-term environmental protection cannot depend solely upon regulatory interventions and protected-area management. In this regard, Nature's Beckon's emphasis on school outreach programmes, nature camps, experiential learning, and youth mobilization assumes particular significance as an investment in the social foundations of environmental governance. This finding is consistent with the views of the scholars emphasizing the role of environmental education in fostering democratic participation and community stewardship (Wals & Jickling, 2002).

The study further demonstrates that Nature's Beckon functions as an intermediary institution connecting communities with broader environmental governance processes. Through awareness programmes, experiential learning, value-based education, and community engagement, the organization creates opportunities for public participation in conservation while strengthening relationships between local communities and environmental institutions. Nevertheless, interview responses indicate that the organization's influence on formal environmental policymaking remains

limited. Respondents from both governmental and civil society institutions emphasized the need for stronger collaboration between NGOs and state agencies to ensure that grassroots educational initiatives contribute more directly to environmental planning and decision-making.

One of the most distinctive findings concerns the organization's emphasis on value-based ecological education. Programmes such as Ahum Basudhame Krite Mangaljanak illustrate that Nature's Beckon seeks not merely to disseminate environmental information but to cultivate ethical responsibility, compassion toward all living beings, and a sense of ecological interconnectedness. Participants viewed these initiatives as encouraging personal reflection and voluntary environmental stewardship rather than externally imposed compliance. Consequently, the transition observed among respondents is not simply from environmental ignorance to awareness but from awareness to internalized ecological values and, ultimately, to participatory environmental action.

Overall, the findings demonstrate that Nature's Beckon's ecological education model extends beyond conventional awareness generation by creating conditions for participatory environmental governance. The relationship between education, ethical values, community participation, and ecological stewardship suggests that NGO-led educational initiatives can function as informal governance mechanisms that complement formal conservation institutions. While challenges relating to institutional integration and the long-term sustainability of behavioural change remain, the study demonstrates that ecological education can play a crucial role in transforming environmental awareness into participatory governance within the socio-ecological context of Assam.

6. Challenges And Limitations

Despite the significant contribution of Nature's Beckon to ecological education and participatory environmental governance in Assam, the study identifies several institutional and operational challenges that influence the long-term effectiveness and sustainability of its initiatives.

A major challenge is the limited institutional integration between civil society organizations and government agencies. Although Nature's Beckon has collaborated with educational institutions and government departments on various environmental programmes, these partnerships remain limited rather than being embedded within long-term environmental planning and governance frameworks. Stronger institutional coordination could facilitate the wider adoption of community-based ecological education as an integral component of environmental governance.

Resource constraints constitute another important limitation. Like many grassroots environmental organizations, Nature's Beckon depends primarily on voluntary participation, and limited human resources to implement its educational and conservation programmes. Such dependence affects the continuity, geographical expansion, and long-term sustainability of educational initiatives, particularly in remote and ecologically sensitive areas where regular community engagement is essential.

The study further indicates that translating environmental awareness into sustained behavioural change remains a complex and gradual process. Although respondents acknowledged that the organization's educational programmes enhanced their ecological awareness and strengthened their appreciation of biodiversity conservation, sustained participation in conservation activities was often influenced by socio-economic conditions, livelihood priorities, and the availability of institutional support. This finding suggests that ecological education, while essential, should be complemented by supportive policy interventions, community institutions, and livelihood-sensitive conservation strategies.

Another challenge concerns the limited participation of local communities in formal environmental decision-making. While Nature's Beckon successfully encourages public engagement through awareness campaigns, nature camps, and community outreach programmes, opportunities for communities to influence environmental planning and policy remain comparatively limited. Strengthening participatory governance therefore requires institutional mechanisms that enable local

knowledge and community perspectives to be incorporated into environmental decision-making processes.

The organization also faces the challenge of evaluating the long-term impact of its educational interventions. Environmental awareness and ecological values often develop gradually and are difficult to measure using conventional indicators. Consequently, systematic monitoring and longitudinal assessment of behavioural change would strengthen the evidence base for evaluating the effectiveness of ecological education programmes and informing future conservation strategies.

The present study is subject to certain methodological limitations. The empirical investigation was confined to two districts of Assam-Dhemaji and Tinsukia-and involved a relatively small sample of 100 respondents. While the mixed-methods approach provided valuable insights into participants' experiences and perceptions, the findings cannot be generalized to the entire state or to all environmental organizations. Future research may undertake comparative studies across different regions of Northeast India, employ larger and more diverse samples, and examine the role of ecological education in relation to climate governance, disaster resilience, indigenous ecological knowledge, and digital environmental learning.

Despite these limitations, the study demonstrates that Nature's Beckon's educational initiatives provide an important example of how grassroots organizations can strengthen environmental awareness, cultivate ecological citizenship, and contribute to participatory environmental governance. Addressing the identified challenges through stronger institutional collaboration, sustained financial support, and broader community participation would further enhance the effectiveness of NGO-led ecological education in promoting sustainable environmental governance.

7. Conclusion

This study examined the role of Nature's Beckon in advancing environmental awareness and participatory environmental governance through ecological education in Assam. Moving beyond conventional interpretations of environmental education as a tool for awareness generation, the study demonstrates that Nature's Beckon's educational initiatives function as an important mechanism for cultivating ecological responsibility, community participation, and environmental stewardship. Through nature camps, school outreach programmes, experiential learning, and the Ahum Basudhame Krite Mangaljanak movement, the organization has created opportunities for young people and local communities to engage actively with biodiversity conservation while developing a stronger sense of ecological citizenship.

The findings indicate that ecological education is most effective when it integrates scientific knowledge with experiential learning, ethical values, and community engagement. Nature's Beckon's educational model illustrates that meaningful environmental learning extends beyond classroom instruction by encouraging participants to translate ecological awareness into responsible environmental action. In this respect, the organization contributes not only to environmental education but also to participatory environmental governance by strengthening relationships between communities, educational institutions, civil society organizations, and government agencies. As environmental challenges become increasingly complex, the integration of ecological education with participatory governance offers a promising pathway towards more inclusive, resilient, and sustainable conservation strategies.

Reference

- Chawla, L., & Cushing, D. F. (2007). Education for Strategic Environmental Behavior. *Environmental Education Research*, 13(4), 437–452. <https://doi.org/10.1080/13504620701581539>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and Conducting Mixed Methods Research* (3rd ed.). SAGE Publications.

- Filho, W. L., et al. (2018). The Role of Environmental Education in Promoting Sustainable Development. *Journal of Cleaner Production*, 199, 881-890.
- Gadgil, M., & Guha, R. (1995). *Ecology and Equity: The Use and Abuse of Nature in Contemporary India*. Routledge.
- Lemos, M. C., & Agrawal, A. (2006). Environmental Governance. *Annual Review of Environment and Resources*, 31, 297-325. <https://doi.org/10.1146/annurev.energy.31.042605.135621>
- Meadowcroft, J. (2007). Who is in Charge here? Governance for Sustainable Development in a Complex World. *Journal of Environmental Policy & Planning*, 9(3-4), 299-314. <https://doi.org/10.1080/15239080701631544>
- Myers, N., Mittermeier, R. A., Mittermeier, C. G., da Fonseca, G. A. B., & Kent, J. (2000). Biodiversity Hotspots for Conservation Priorities. *Nature*, 403(6772), 853-858. <https://doi.org/10.1038/35002501>
- Orr, D. W. (1992). *Ecological literacy: Education and the Transition to a Postmodern World*. State University of New York Press.
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press.
- Scott, W., & Gough, S. (2003). *Sustainable Development and Learning: Framing the Issues*. RoutledgeFalmer.
- Simmons, P. J. (1998). Learning to Live with NGOs. *Foreign Policy*, 112, 82-96.
- Sterling, S. (2001). *Sustainable Education: Re-visioning Learning and Change*. Green Books.
- United Nations Educational, Scientific and Cultural Organization. (2020). *Education for Sustainable Development: A roadmap UNESCO*. <https://unesdoc.unesco.org/ark:/48223/pf0000374802>
- Wals, A. E. J., & Jickling, B. (2002). Sustainability in higher education: from doublethink and newspeak to critical thinking and meaningful learning. *Higher Education Policy*, 15(2), 121-131.