



(RESEARCH ARTICLE)



## Enhancing public participation in environmental decision-making through environmental education: A Sri Lankan Perspective

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### Abstract

The Sustainable Development Goals (SDGs) recognize the interdependence between development and the environment. Therefore, environmental education (EE), which changes people's behavior toward the environment, is crucial to achieving the Sustainable Development Goals. Environmental education (EE) aims to improve people's knowledge and comprehension of the environment through a thorough learning process. It focuses on expanding knowledge and strengthening one's capacity to understand and address environmental issues. Environmental Education aims to develop a populace that is dedicated to working both independently and jointly to address current issues and prevent the emergence of future ones. The primary objective of this study is to enhance public participation in environmental decision-making through giving environmental Education. This study is based on an Online questionnaire which is distributed among 90 people in Sri Lanka. The sample is selected using a convenient sampling method and data is analyzed using SPSS software. The study identifies that environmental education is classified into 3 subsections formal education, informal education, and experiential learning. All these categories have statistically significant strong positive correlations with intention to public participation. Sri Lanka can enhance its environmental education efforts by developing national standards for climate change education, training of teachers, strengthening community-based programs, planning to strengthen community-based diversity, and mass communication, use of digital channels and social media to expand the reach and impact of educational programs. This will promote sustainable practices and better-informed decision-making, strengthening the nation's environmental sustainability and resilience. The future of Sri Lanka's environment rests on the joint efforts of its citizens, and effective environmental education can significantly increase public involvement.

**Keywords:** Environmental Education; Environmental Decision Making; Public participation; Sri Lanka

### 1. Introduction

Sustainable development necessitates informed environmental decisions, in particular in addressing worldwide challenges inclusive of pollutants, climate alternations, and biodiversity loss. Incorporating the values, needs, and issues of impacted groups into environmental regulatory norms requires public participation which enhances transparency, accountability, and equitable results (Stec & Casey-Lefkowitz, 2014). However, a lack of environmental information and knowledge often prevents meaningful public participation. Strategies that contribute to the development of environmental information, the ability to think critically, and active actions related to environmental sustainability and conservation are environmental education objectives (Uddin, 2023). Environmental education is therefore an important tool to enable people and communities to actively participate in environmental stewardship and promote a global shift toward sustainability. To facilitate the global transition towards sustainable development, Environmental Education is consequently an important tool that enables people and communities to actively participate in environmental governance (Ramírez Suárez V., Acosta-Castellanos, Y.A, & Queiruga-Dios, 2023). By promoting a holistic understanding of environmental methods, environmental education enables people to make smart choices and act

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responsibly in the areas around us. Through Environmental Education, students benefit from expertise approximately ecological systems, how human and herbal ecosystems are interconnected, and how man or woman and institutional behaviors affect ecological health (Poppe, 2018). According to Richardson and Razzaque (2006), Environmental Education is intrinsically interdisciplinary, integrating elements of science, ethics, coverage, and social values to assist people in significantly assessing environmental issues and investigating viable solutions.

The process is not only improves community participation but also motivates and encourages public responsibilities, as it gives an opportunity to the public to actively involved in the decision-making process and take responsibility for environmental consequences. According to the Environmental Grantmakers Association (2009), EE's ultimate purpose is to create an informed, responsible public committed to solving modern environmental problems and heading off destiny ones.

International popularity has been given to public involvement in environmental choice-making as an essential issue of efficient environmental governance. For example, the Aarhus Convention guarantees that selections are inclusive and attentive to the hobbies of the public by way of highlighting the human's right to get admission to environmental information, take part in selection-making, and search for justice in environmental problems (Stec & Casey-Lefkowitz, 2014). To provide accountability and transparency and enable communities to voice their concerns and aspirations, these initiatives emphasize the importance of community, stakeholder and individual input in environmental policy Project 21 encourages greater community involvement by emphasizing education as a means of promoting sustainable lifestyles and the environment awareness (United Nations, 1992). Citizen participation in choice-making to reap truthful and equitable surroundings is especially crucial in developing international locations wherein environmental troubles frequently engage with social and monetary challenges within the 19th-century

In Sri Lanka, rich in biodiversity but susceptible to environmental strain, sustainable control of herbal assets and resilience to climate-related failures depends on community duty might be concerned. However, a lack of get right of entry to environmental education limits many Sri Lankans' potential to participate in environmental governance in a powerful manner (Ruzaik, 2020). It will take a concentrated effort to incorporate environmental education both formal and informal gaining knowledge of structures with the purpose of dealing with this challenge and supplying humans with the facts, skills, and drive to take part in selection-making. Scaling up a wide range of EE policies in the country can enable people to support sustainable practices and influence legislation that takes into account Sri Lanka's unique socio-environmental circumstances. By selling people's ideas and engaging them through environmental education, Sri Lanka can work towards building a more informed and resilient consumption-ready society addressing emerging environmental problems.

### 1.1. Research Objectives

- To identify the concept of Environmental education and public participation in environmental decision-making.
- To assess the current role of environmental education in Sri Lanka
- To investigate the role of environmental education in enhancing participation in environmental decision-making
- To suggest strategies for the development of environmental education to foster public participation

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## 2. Literature Review

According to the Tbilisi Declaration (1978), environmental education is a curriculum that expands people's understanding of the environment and the problems they face, provides knowledge to solve these problems, and creates important attitudes, motivations, and commitments Do the right things by making the right decisions. Environmental education (EE) is described as "a well-established discipline, which focuses on ways to conserve and preserve it, properly manage its resources, and on the relationship of humanity with the natural environment" by UNESCO. With the present environmental issues the globe is facing, EE has grown in importance. Raising awareness and taking action to address environmental issues are just as important as simply teaching people about the environment. The EE principles must be applied to all facets of society, including environmental management, community involvement, education, and policymaking (Ramírez Suárez V., Acosta-Castellanos, Castro Ortegón, & Queiruga-Dios, 2023). The long-term goal of environmental education (EE), a transgenerational process, is to instill ecological knowledge, attitudes, values, commitments for action, and ethical obligations for sound and sustainable development as well as for the prudent use of resources. Beyond meeting fundamental educational needs, Agenda 21 emphasizes the value of formal and informal education as a means of raising environmental and development consciousness and developing the skills required for sustainable lifestyles. According to the UNEP, young people will soon face significant obstacles in supplying enough food and water, managing illnesses, producing enough energy, and adjusting to climate change. Because of this,

the UN-Decade "Education for sustainable development (ESD)" was created between 2005 and 2014, and lifelong learning and the teaching of skills linked to sustainability and global environmental challenges are seen as becoming more and more important.

Public participation (PP) is the involvement of people and groups that are either interested in or directly impacted by a proposed intervention (e.g., a project, program, plan, or policy) that is subject to a decision-making process, according to the International Association of Impact Assessment (IAIA) (Suškevičs, Ehrlich, Peterson, Hiimäe, & Sepp, 2023). In recent decades, public participation in environmental decision-making has become a standard feature of many global environmental regulatory frameworks. People and groups affected by land use plans, development permits, pollution licenses, and other regulatory procedures have called for increased participation and more accountable and transparent decision-making. Public participation can take many different forms in these institutions. Public participation can take many different forms in these institutions. Education, information sharing, advisory or review boards, public advocacy, public hearings and submissions, and even legal action can all be used to achieve it (Richardson & Razzaque, 2006). The growth of civil society is closely related to public participation in environmental issues. It has been interpreted differently in various societies because to its strong relationship to fundamental societal functions. As a result, there has been variation in the emphasis placed on various facets and purposes of public involvement. In several situations, raising environmental awareness has been the primary focus, while in others, legal considerations have taken center stage. A relatively new development is the acknowledgment of public participation in a variety of international environmental activities, here defined as conventions, accords, declarations, and general international policy pronouncements. Papers by Stec and Casey-Lefkowitz (2000) from the perspective of the Aarhus Convention, Bruch and Czebiniak (2002) in light of regional initiatives, and Haklay with a focus on the history of sharing environmental information have all clarified the history of international law in relation to public involvement (Furman, Hildén, Nicro, & Dass, 2002).

Thinking skills, not just content knowledge, are the foundation of effective environmental education. Environmental education puts environmental issues within a complex ecological, social, and economic framework rather than promoting any one position over another. Developing citizen-activity skills and offering chances for action are two ways that environmental education motivates people to actively participate in environmental problem-solving. However, creating excellent standards for professional training and instructional materials is crucial to preserving the integrity of the field since educating on contentious topics like the environment may be contentious (Environmental Grantmakers Association, *Environmental Education: A strategy for the future*, 2020). Environmental education encompasses a variety of methods by which we assist one another in understanding life on Earth. Collective action founded on ecological values and concern for people and the environment can be bolstered by this shared learning. In turn, civic participation encompasses a wide range of activities that assist one another in figuring out how to coexist peacefully both together and apart. This serves as a basis for creating communities that work toward justice, solidarity, wellbeing, and inclusiveness while pursuing shared goals. Particularly when it comes to rethinking our shared environments and working together to create desirable futures, both of these areas of activity are essential to democratic life. Fundamentally, the ecological and climate crises are crises of public, political, and economic imagination:

- A crisis of political imagination, in which organizations and world leaders are finding it difficult to act and think wisely and quickly enough to prevent the worst outcomes of a world that is changing due to climate change.
- A crisis of public imagination where we are led to believe that our current political and economic arrangements are the only ones that are feasible or desirable.

- A crisis of economic imagination where we are confining ourselves to systems of economic organization that put extraction, accumulation, and exploitation ahead of people and the planet.

To combat these challenges and rewire these areas of imagination and action, civic involvement and environmental education are essential. However, our legacy institutions frequently struggle with incapacity, complacency, and inertia, which hinder transformation at the necessary size and speed. Environmental education is being prioritized by Central Environmental Authorities (CEA) and other government and non-government groups in Sri Lanka. Various programs are conducted by CEA for school kids, including the Environmental Pioneer Program, Badge Promotion Scheme, Environmental Camps, Eco-Club/Primary program, Pre-school program, and Environmental Song, among others, with a focus on different groups. According to Ruzaik (2020), the most deficient aspect in Sri Lanka is public behavior change about the environment; this includes environmental education, which is a crucial component of public engagement.

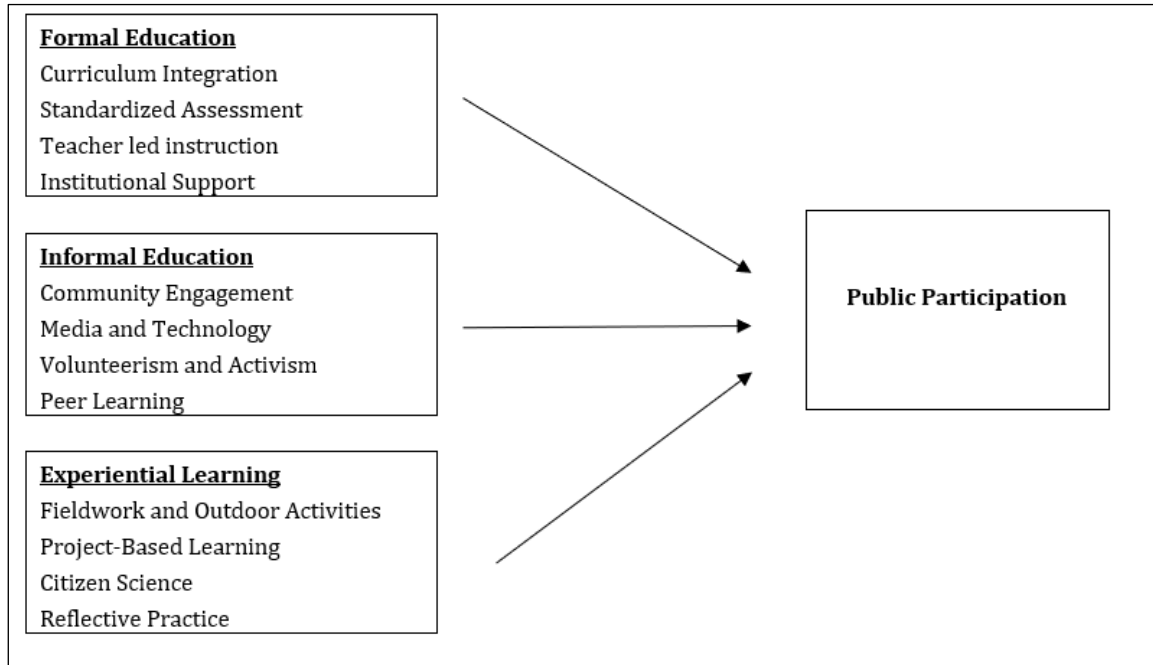
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### 3. Methodology

Both primary and secondary data served as the foundation for this investigation, which was planned as exploratory research. Nine Sri Lankan provinces were included in the questionnaire study. Authorized representatives of the

Ministry of Environment, local government, and the central environmental authority participated in Key Informant Interviews (KIIS). To gather primary data, focus group discussions (FGDs) and structured questionnaires were conducted. A non-probability sample method called convenience sampling was used to choose key informants for in-depth interviews. The study's target demographic was responsible environmental officers, and the study population consisted of 136 officers from all 9 districts. Both qualitative and quantitative methods were used in the analysis, which allowed for the discovery of previously undiscovered facts. The data gathered via distributed questionnaires was analyzed using the 21st edition of the IBM Statistical Package (SPSS).

### 3.1. Conceptual Framework



**Figure 1** Conceptual framework of independent and dependant variables

### 3.2. Hypothesis

- H1: Formal education has an impact on public participation
- H2: Informal education has an impact on public participation
- H3: Experiential Learning has an impact on public participation

## 4. Results and Discussion

### 4.1. Reliability Test

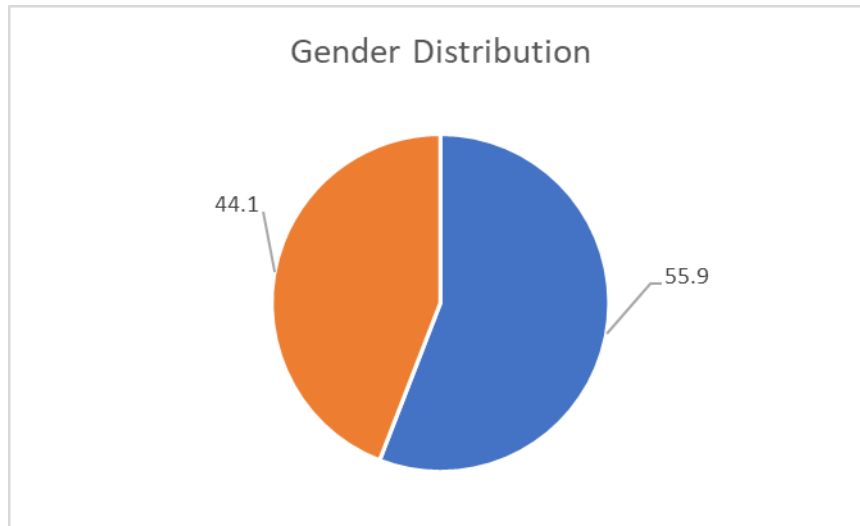
**Table 1** Reliability test results of independent variables

Variable	No of items	Cronbach's Alpha
Formal Education	4	0.850
Informal Education	4	0.958
Experiential Learning	4	0.959

According to Table 1's Cronbach's alpha values, every study variable had reported values greater than 0.70. Consequently, if the study questionnaire has a higher degree of internal consistency, it can provide accurate measurement for the research variables.

## 5. Demographic factor Analysis

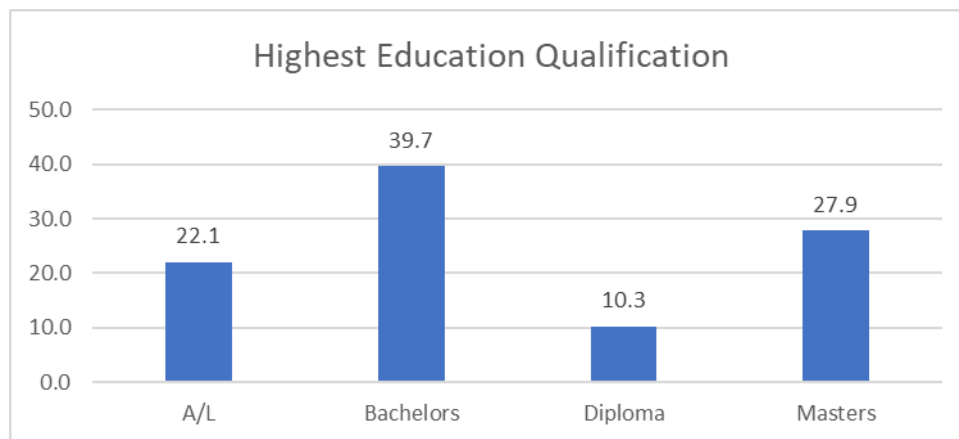
### 5.1. Gender Distribution



**Figure 2** Gender Distribution

As per the above graph, 44.1% are Male participants while 55.9% are female. Therefore it can be concluded that the majority of them are Females.

### 5.2. Education Distribution



**Figure 3** Educational level of participants

According to this graph, most of the participants from the sample passed A/L which is 41.4%. 92.2% of the sample represent the education level passed A/L or higher.

### 5.3. Correlation Analysis

As stated in the table all 3 variables are statistically significant strong positive correlations with intention to public participation & reported p-values are below 0.05. That means all 3 variables have a positive relationship with public participation and all the hypotheses can be accepted. According to the correlation analysis and Chi square analysis, it is revealed that different education types significantly affect public participation in environmental decision-making in Sri Lanka. These each type of education promotes engagement of public in unique ways.

**Table 2** Correlation Analysis of independent variables

Hypothesis	Pearson Correlation Value	P value
H1: Formal education has an impact on public participation	0.606**	0.000
H2: Informal education has an impact on public participation	0.727**	0.000
H3: Experiential Learning has an impact on public participation	0.767**	0.000

### 5.3.1. Formal Education:

This still demonstrates a meaningful impact on public participation though it has the lowest correlation among three independent variables. This is supported by studies showing that formal schooling provides the necessary cognitive abilities and understanding needed to identify complex environmental issues. The foundation-based curriculum and formal school teaching regularly emphasize the theoretical knowledge-novel aspect, it is important to generate a knowledgeable population. But given its relatively low level of correlation, it is allowing images to mix well with other learning styles such as experience and incidental learning.

### 5.3.2. Informal Education

This has a stronger correlation and it highlights the value of non-traditional community-based learning in participating individuals in environmental-related actions. This often consisted of Context-specific, flexible programs that related to the daily experiences of participants, making it a significant tool for fostering public participation and increasing environmental awareness. This result aligns with the research that suggests informal education via channels like workshops and community meetings. These can be effective highly in promoting grassroot level community involvement, especially in estates where access to formal education is limited.

### 5.3.3. Experiential learning

The highest correlation with experiential learning highlights the effects of practical hands-on experiences in promoting environmental commitment and involvement. Experiential learning such as participation in cleaning campaigns, tree planting activities and gives individuals a tangible and direct understanding of impacts related to the environment. This kind of learning creates an impression that is lasting, as participants can see the outputs of their actions, which may grow the motivation to be involved in environmental decision-making processes. This learning not only builds environmental skills but also creates a responsibility toward the conservation of environment and a sense of ownership

## 6. Conclusion

The findings of the study propose that multi dimensional approach to education can enhance public participation in environmental governance. As a result, policymakers and academic establishments need to supply pinnacle priority to a well-rounded approach that consists of casual gaining knowledge of and experiential getting to know into the reputable curriculum. The public might also end up greater informed, stimulated, and capable because of this method, permitting them to actively guide sustainable environmental rules and practices. Through community events, NGO initiatives, and awareness campaigns, informal education continues to spread awareness and encourage community participation. Experiential learning, including hands-on and citizen science programs, deepens understanding and creates a personal connection to the environment Despite progress, several barriers hamper environmental education and public participation in Sri Lanka. These include resource deprivation, socioeconomic differences, institutional challenges, and cultural factors. Addressing these barriers requires a multi-pronged approach, including program integration, capacity building, community and stakeholder engagement, and the use of technology role is included. According to the study, it is identified that formal, informal, and experiential learning has a strong relationship with public participation. Apart from that there are several limitations like resource constraints, socioeconomic disparities, institutional challenges, educational system limitations, and cultural and social factors when carrying out this study. Sri Lanka can enhance its environmental education efforts by developing national standards for climate change education, training of teachers, strengthening community-based programs, and planning strengthening community-based diversity, and mass communication Use of digital channels and social media to expand the reach and impact of educational programs. Future research should focus on the effectiveness of different educational approaches, the role of technology in the education of the environment, the implementation of knowledge in indigenous, sustainability of initiatives in education, and initiatives that youth lead. Ultimately, a comprehensive and inclusive approach to environmental education can enable Sri Lankan citizens, especially the youth, to participate in environmental

governance loudly. This will lead to more informed decision-making and sustainable practices, contributing to the country's environmental resilience and sustainability. Sri Lanka's environmental future depends on the collective efforts of its members, and public participation can be greatly enhanced through strong environmental education.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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## References

- [1] Declaration, T. (1978). Intergovernmental conference on environmental education. UNESCO.
- [2] Environmental Grantmakers Association. (2009). Environmental Education: A strategy for the future. New York: Environmental Grantmakers Association.
- [3] Environmental Grantmakers Association. (2020). Environmental Education: A strategy for the future. Suite: Environmental Grantmakers Association.
- [4] Furman, E., Hildén, M., Nicro, S., & Dass, S. (2002). EVOLUTION OF PUBLIC INVOLVEMENT IN ENVIRONMENTAL ISSUES WITHIN THE ASEM- PARTNERS: AN ANALYSIS OF INTERNATIONAL REGIONAL AND BILATERAL CONVENTIONS, AGREEMENTS AND OTHER INITIATIVES. Helsinki: Asia-Europe Environmental Technology Centre (AEETC).
- [5] Poppe, M. W. (2018). Public Participation and Environmental Education. In S. Schmutz, & J. Sendzimir (Eds.), Riverine Ecosystem Management. Aquatic Ecology Series (pp. 435-458). Vienna: Institute of Hydrobiology and Aquatic Ecosystem Management, University of Natural.
- [6] Ramírez Suárez, V., Acosta-Castellanos, P., Castro Ortegón, Y., & Queiruga-Dios, A. (2023). Current State of Environmental Education and Education for Sustainable Development in Primary and Secondary (K-12) Schools in Boyacá, Colombia. *Sustainability* 2023, 15(13).
- [7] Richardson, B., & Razzaque, J. (2006). Public Participation in environmental decision making. In *Environmental Law for Sustainability*.
- [8] Ruzaiq, F. (2020). Evaluation of environmental education as a strategy for sustainable development in Sri Lanka. *Journal of Institute of Human Resource Advancement*, 7(2), 107-124.
- [9] Stec, S., & Casey-Lefkowitz, S. (2014). The Aarhus Convention :An Implementation Guide. UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE.
- [10] Suškevičs, M., Ehrlich, T., Peterson, K., Hiimäe, O., & Sepp, K. (2023). Public participation in environmental assessments in the EU: A systematic search and qualitative synthesis of empirical scientific literature. *Environmental Impact Assessment Review* 98.
- [11] Uddin, K. (2023). Environmental education for sustainable development. *Sustainable Development*, 1-5.