

Ec literacy to Achieve Sustainable Development Goals

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Abstract

All living organisms cannot live in isolation as they are dependent on each other to maintain the conditions that make life worth living. Hence, sustainability involves a whole community and is not an individual property. One should always remember that 'the whole is more than the sum of its parts', which means that all the important living systems depend on connections among the system's components. Thus to support each other and make others live comfortably, each one should know about the environment they live in. In the billions of years of Earth's evolution, the ecosystems have developed specific standards to sustain life. Understanding this is called as 'ec literacy'. By becoming ecologically literate, one will be able to identify the patterns that help to sustain life and the ways in which these patterns were ignored by the previous generations. This literacy has to be arrived at an early stage by introducing interactive learning programs that allow children to participate in these initiatives. This will also encourage healthy habits and healthy lifestyle. The UN has propounded the Sustainable Development Goals (SDGs) which pave the way for living a peaceful and healthy life. This paper demonstrates how Eco literacy can contribute towards the SDGs and how ec literacy could be a blessing for the Mother Earth and what are the challenges in implementing ec literacy.

Keywords: Eco Literacy, Earth, Ecosystems.

Introduction

In the contemporary era, much emphasis is given on the Sustainable Development by the United Nations. What is left for our children after what is consumed by us matter a lot, which is defined efficiently as Sustainability. To address the global challenges which pose a threat to the world is of paramount importance. Thus, The United Nations, as a forefront, committed to devising the framework of 17 interlinked objectives to address the multifaceted issues plaguing the Earth. These goals envisage a collective vision, ranging from eradicating poverty and hunger to ensuring clean water, affordable and clean energy, decent work, and responsible consumption, among others.

Environmental degradation, climate changes, social inequalities and economic disparities are the interwoven key challenges that require a holistic approach to tackle with. Understanding the urgency of these challenges, the international community has committed itself to the pursuit of these goals, anticipated to be achieved by the year

2030. Amidst the vast umbrella of strategies to achieve a greener and sustainable future, one key factor emerges as a linchpin for fostering a deeper, more meaningful connection to the environment and sustainable practices- ecoliteracy.

The prefix ‘Eco’ means Ecology. Ecoliteracy is the ability to possess a solid knowledge and awareness that humans are interconnected to every other living being on earth, and in a deeper picture, it refers to the awareness that humans are influenced as well as influence every living being, with a sharp focus on conserving the resources as well. It is a potent tool for understanding sustainability, surpassing traditional environmental education. It delves into a broad grasp of ecological, social, and economic dimensions, cultivating profound awareness. This empowerment enables informed decisions aligned with sustainable practices, encouraging responsible consumption, environmental stewardship, and community engagement. It also promotes critical thinking, enabling the analysis of root causes and the envisioning of innovative solutions.

Objectives

- To explore ecoliteracy’s role in deepening the understanding of environmental, social, and economic interconnectedness
- To demonstrate ecoliteracy’s contributions to each SDG with real-world examples and case studies
- To analyse challenges and opportunities in integrating ecoliteracy into educational systems, and propose global-scale recommendations for realizing the vision outlined in the Sustainable Development Goals

Review of Literature

The term Ecological Literacy was initially used in 1986 by Risser¹ in his Address of the Past President to the Ecological Society of America. The term Ecoliteracy was first published in 1997 by Capra², who was the founder of the Center for Ecoliteracy which is a not-for-profit organisation that provides education for sustainable living.

Fang et al (2022)³ states that Environmental Literacy is an abstract and subjective concept and concludes that if the learning process is the overall effect of being literate, then the final collective environmental consciousness will transform from thought to proper behaviour and this will have a positive effect on the tasks of sustainable development.

With regard to the implementation of eco literacy in education system, Syah et al (2021)⁴ have found that there is a positive influence of students’ knowledge and their behaviour towards the environment. An environmentally cultured atmosphere within the school acts as a catalyst for the behaviour of the student outside the school environment.

Ecoliteracy and Understanding of Environmental, Social and Economic Interconnectedness

Ecoliteracy plays a crucial role in shaping our understanding of the interconnectedness between the environment, society, and the economy. It involves nurturing an awareness of ecological systems, the influence of human activities on these systems, and the resulting implications for social and economic well-being.

The Bhutanese Model

One notable example of a holistic approach to Ecoliteracy comes from Bhutan. The small Himalayan kingdom introduced the concept of Gross National Happiness (GNH) as a more comprehensive alternative to Gross Domestic Product (GDP) to measure the country’s progress. The GNH framework considers not only economic factors but also social, cultural, and environmental

well-being. Bhutan's focus on preserving its unique environment, commitment to renewable energy, and emphasis on community well-being showcases how an Eco literate approach can lead to a more sustainable and interconnected society.

Circular Economy in Scandinavia

The concept of a circular economy exemplifies Ecoliteracy in action. In a circular economy, resources are used more efficiently, waste is minimized, and the life cycle of products is extended. Scandinavian countries, such as Sweden and Denmark, have been pioneers in implementing circular economy principles.

Sweden's Waste-to-Energy Programs

A country with high Ecoliteracy levels, has turned waste into a resource through advanced waste-to-energy programs. Only 1% of Sweden's household waste ends up in landfills. The rest is recycled, composted, or converted into energy. This approach not only addresses environmental concerns but also creates economic opportunities and social benefits by reducing pollution and reliance on finite resources.

Agroecology in Sub-Saharan Africa

Imagine a scenario in Sub-Saharan Africa where communities adopt agroecological practices. By understanding the local ecosystem, farmers can improve soil health, reduce dependence on chemical inputs, and promote biodiversity. This ecoliterate approach not only enhances environmental sustainability but also has positive social and economic impacts by improving food security, community resilience, and livelihoods.

Ecoliteracy's contributions to each SDG

SDG 1:No Poverty- Ecoliteracy plays a pivotal role in addressing poverty through sustainable agriculture and community empowerment. In Kenya, the Green Belt Movement, founded by Nobel laureate Wangari Maathai, combines environmental conservation with poverty reduction. Through Ecoliteracy programs, local communities learn sustainable land management, afforestation, and agroforestry techniques. As a result, families enhance their livelihoods by cultivating diverse crops and participating in sustainable forestry practices. Ecoliteracy not only breaks the cycle of poverty but also fosters a deeper understanding of the interconnectedness between environmental stewardship and economic well-being, contributing to the broader goal of eradicating poverty (SDG 1).

SDG 2:Zero Hunger - Ecoliteracy contributes to sustainable agriculture practices, such as agro ecology. In Malawi, the Soils, Food, and Healthy Communities project empowers farmers with Ecoliteracy, leading to improved crop diversity, increased yields, and food security.

SDG 7:Affordable and Clean Energy–Ecoliteracy is essential in promoting renewable energy solutions. Costa Rica, known for high ecoliteracy levels, has achieved nearly 100% renewable energy through hydropower, wind, and solar sources.

SDG 11:Sustainable Cities and Communities - Ecoliteracy supports urban planning for sustainable cities. In Curitiba, Brazil, ecoliterate policies led to efficient public transportation, waste management, and green spaces, enhancing the city's sustainability.

SDG 13:Climate Action - Ecoliteracy drives climate resilience initiatives. The “Great Green Wall” project in Africa involves planting a mosaic of trees, combating desertification and empowering communities with ecoliteracy to adapt to climate change.

SDG 14:Life Below Water - Ecoliteracy aids marine conservation efforts. The Ocean School

program in Canada educates students about marine ecosystems, fostering a sense of responsibility and contributing to ocean protection.

SDG 15:Life on Land- Ecoliteracy is crucial for biodiversity conservation. In the Amazon Rainforest, indigenous communities leverage ecoliteracy to protect their land, promoting sustainable practices and preserving biodiversity.

SDG 17:Partnerships for the Goals- Ecoliteracy fosters collaboration for sustainable development. The Ecoliteracy for Kids initiative in India involves partnerships between schools, NGOs, and local governments, promoting environmental education at a grassroots level.

Challenges

Curriculum Integration

Integrating ecoliteracy into existing curricula can be challenging due to the need for interdisciplinary approaches, and some educational systems may resist change.

Teacher Training

Many educators may lack the training and resources to effectively teach ecoliteracy, hindering its integration into classrooms.

Infrastructure and Resources

Inadequate infrastructure and insufficient resources, particularly in developing countries, can impede the implementation of practical ecoliteracy initiatives.

Policy and Standardization

The absence of standardized policies related to ecoliteracy may result in inconsistent integration efforts across educational systems.

Opportunities

Curriculum Integration

Develop flexible curriculum frameworks that allow for the incorporation of ecoliteracy across various subjects, emphasizing real-world applications and hands-on experiences.

Teacher Training

Implement comprehensive teacher training programs that provide educators with the necessary skills, resources, and support to incorporate ecoliteracy into their teaching practices.

Infrastructure and Resources

Advocate for increased investment in educational infrastructure and the provision of resources, ensuring that schools have access to materials, outdoor spaces, and technology that support ecoliteracy education.

Policy and Standardization

Encourage governments and educational institutions to develop and implement policies that prioritize ecoliteracy, ensuring a standardized and inclusive approach to environmental education.

Global-Scale Recommendations

Advocacy for UNESCO to prioritize ecoliteracy in its global education agenda is paramount. This recommendation encourages member countries to incorporate ecoliteracy into their national education policies, fostering a more unified and concerted effort. Establishing international

funding initiatives dedicated to supporting ecoliteracy programs, especially in regions with limited resources, ensures equitable access to environmental education. This recommendation addresses disparities and promotes a more inclusive approach.

Developing a global monitoring and evaluation framework is essential to assess the effectiveness of ecoliteracy integration. This framework provides feedback for continuous improvement and ensures accountability on a global scale.

Encouraging the development of inclusive, culturally relevant ecoliteracy curricula is a recommendation aimed at addressing diversity. This approach ensures that educational content reflects local environmental challenges and incorporates diverse perspectives, creating a more comprehensive educational experience.

Current State of Eco-Literacy in India

In India, there is a growing awareness of environmental issues, but comprehensive eco-literacy initiatives face challenges. Factors such as population density, diverse cultural contexts, and variations in educational infrastructure contribute to the complexity of promoting eco-literacy across the country.

Eco-Clubs in Schools: The Ministry of Environment, Forest and Climate Change (MoEFCC) has initiated the National Green Corps (NGC) program, known as Eco-Clubs, in schools. These clubs aim to promote environmental education and awareness among students through activities like tree plantation drives and waste management programs.

Moreover, the Government has made the Environmental Awareness course mandatory for all programmes and for all students in the Higher Educational Institutions.

Community-Led Initiatives: NGOs such as Chetna Vikas in Madhya Pradesh work with rural communities to promote sustainable agricultural practices, water conservation, and natural resource management.

Strategies for Eco-Literacy Development

Incorporating Eco-Literacy into School Curricula: Eco-literacy should be integrated into formal education by revising school curricula. Practical, hands-on experiences should be emphasized that connect students with their local ecosystems.

Teacher Training Programs: Implementing comprehensive training programs for educators to enhance their eco-literacy could be done. They should be equipped with the skills to effectively teach environmental concepts through partnerships with educational institutions and NGOs.

Public Awareness Campaigns: The governments should launch national and local-level public awareness campaigns to highlight the importance of eco-literacy. They should collaborate with media outlets, influencers, and community leaders to reach a broader audience.

Community Engagement and Empowerment: Fostering community-led eco-literacy initiatives that address local environmental challenges should be done. Communities should be encouraged to take ownership of conservation projects, promoting a sense of responsibility.

Technology for Outreach: Utilization of technology, including online platforms and mobile applications, to disseminate eco-literacy content. This can make educational resources more accessible, especially in remote areas.

Policy Advocacy: Advocating for the inclusion of eco-literacy in national education policies, collaborating with government bodies, educational institutions, and NGOs to develop and implement policies that prioritize environmental education.

Collaborate with Industries: Partnering with industries to promote sustainable practices and eco-literacy. This collaboration can include awareness programs, employee training, and initiatives for

sustainable corporate practices. Research and Innovation: Encouraging research in the field of eco-literacy to continually refine and update educational approaches. Promoting innovation in teaching methods and materials to keep eco-literacy content engaging and relevant.

Developing eco-literacy in India requires a multifaceted approach, involving collaboration between government bodies, educational institutions, NGOs, and the community. By addressing the unique challenges and leveraging existing opportunities, India can make significant strides in enhancing eco-literacy nationwide.

Conclusion

Ecoliteracy emphasises the fact that our Earth does not need people who live long nor people who are successful in their lives, rather it desperately needs healers, restorers and lovers of nature who live well in their places. Each and every citizen has to realise that the earth, air and the water resources are a loan from our children and not inherited from our forefathers. Hence it is the bounden duty of them to handover these resources to their next generation as it was given to them. Incorporating ecoliteracy from an early stage in the school curriculum will definitely give the children a sense of responsibility and ownership over their environment and this develops innate dogmatic values regarding sustainability.

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