Forum: Environment Assembly

Issue: Promoting the teaching and studying of environmental issues for an inclusive and livable future

Student Officers: Antonin Baboucek & Malcolm Wood

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I. Introduction

As the world faces unprecedented environmental challenges, it is crucial to ensure that all individuals—regardless of background, location, or socioeconomic status—have access to education on climate change. Climate literacy empowers people to make informed decisions, advocate for sustainability, and contribute to a livable future. However, environmental education is inconsistent across different communities, with gaps in accessibility and resources. This research report explores the significance of climate education in shaping a sustainable world.

By strengthening climate education, society can help present and future generations address pressing climate issues. This report seeks to contribute to that conversation to assist the EA in developing accessible and impactful environmental learning across all sectors.

II. Key Terms

A. Climate literacy

Climate literacy refers to the knowledge and understanding needed to understand climate change's causes, impacts, and solutions. Recognizing that climate change is a two-way system, the North American Association for Environmental Education (NAAEE) notes on their website: "Climate literacy is understanding your influence on climate and climate's influence on you and society."[1]

Climate-literate people, groups, and governments are able to understand the science of climate systems and can evaluate information by assessing different sources as well as looking at reliable scientific data. They are also aware of research-backed climate strategies and actions they can take to do their part for the environment.[2]

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[1] "What Is Climate Literacy?" https://naaee.org/programs/coalition/resources/what-climate-literacy. Accessed 9 April 2025.

[2] "Empowering Young People Through Climate Literacy." https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/11/ClimateBrochure_Nov2024_FIN.pdf. Accessed 9 April 2025.

B. Sustainability

Sustainability is commonly recognized to have three "pillars," which came to be recognized in the mid-20th century: economic, social, and environmental. In all cases, the goal of sustainability is to develop healthy and resilient societies for the present as well as the future.[3]

Economic sustainability focuses on economic activities that meet current needs while supporting growth and development, while social sustainability revolves around the well-being of all. Both are relevant to the teaching and studying of environmental issues, but the most central pillar to the topic is certainly environmental sustainability. This refers to responsible management and conservation of natural resources to meet the needs of the current generation while making future generations able to meet their own needs. This involves minimizing harm to nature, protecting biodiversity, and ensuring the long-term health of the environment.[4]

C. Biodiversity

Short for biological diversity, this term refers to the variety of life on earth, including genes, species, ecosystems, and the processes that involve them. It includes all living organisms, from the smallest microbes to the largest mammals. Biodiversity is not just about rare or endangered species; it also involves diversity in ecosystems and in a species' genetic code. This "web of life" has evolved over billions of years, creating a delicate balance where every organism and ecosystem plays a role.[5]

The importance of biodiversity stems from how it provides "ecosystem services," which are essential for the survival and well-being of all species, including humans. These services include oxygen and water purification, soil fertility, pollination, as well as

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[3] "What is Sustainability?" https://sustain.ucla.edu/what-is-sustainability/. Accessed 14 April 2025.
[4] Purvis, Ben, et al. "Three Pillars of Sustainability: in search of conceptual origins." https://link.springer.com/article/10.1007/s11625-018-0627-5. Accessed 14 April 2025.
[5] "What Is Biodiversity?" https://naturalhistory.si.edu/education/teaching-resources/life-science/what-biodiversity. Accessed 15 April 2025.

climate stability. However, biodiversity is threatened by human activities, leading to habitat loss, climate change, and extinction.[6]

D. Climate justice

Climate justice emphasizes the ethical and social dimensions of climate change and how it disproportionately impacts marginalized communities. It contends that wealthier nations and industries, which have historically emitted the most greenhouse gases, are responsible to support communities disproportionately affected by the climate crisis.[7] For the discussion on promoting environmental learning, climate justice is a crucial aspect to create inclusive and equitable solutions. Widespread understanding of the intersection of environmental issues and social inequality can help to ensure that climate action and education benefits all communities, not just the privileged few.[8]

III. General Overview

A. Historical context of environmental issues

Environmental issues have historical roots stretching back as far as the Industrial Revolution in the 18th and 19th centuries. It was during this period, around the turn of the 19th century, that fossil fuels and new, much more effective agricultural methods began to lead to pollution and depletion of natural resources at an unforeseen speed.[9]

The 20th century saw the emergence of environmental movements and global awareness. Rachel Carson's environmental science book, *Silent Spring*, is often credited with sparking concern among the Western middle class for environmental harm caused

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[6] "What is Biodiversity?" https://www.amnh.org/research/center-for-biodiversity-conservation/what-is-biodiversity. Accessed 15 April 2025.

[7] "Climate Change is a Matter of Justice – Here's Why." https://climatepromise.undp.org/news-and-stories/climate-change-matter-justice-heres-why. Accessed 15 April 2025.

[8] Taylor, Dorceta, and Gerald Torres. "Yale Experts Explain Environmental Justice." https://sustainability.yale.edu/explainers/yale-experts-explain-environmental-justice. Accessed 15 April 2025.

[9] Hayes, Amy. "The Troubles of Pollution: Environmental Impact of Industrialization." https://www.thecollector.com/environmental-impact-industrial-revolution-pollution/. Accessed 15 April 2025.

by pesticides, which brought awareness to the wider environmental movement. Grassroots efforts by regular citizens, including labor and agricultural unions, were key parts of the "groundswell for change" in the 1960s and 1970s.[10]

B. Current environmental challenges

Current environmental challenges are diverse and interconnected, posing significant threats to ecosystems and human societies. Climate change remains a pressing issue, leading to extreme weather events, rising sea levels, and biodiversity loss. Pollution, including contamination of air, water, and soil, continues to harm natural habitats and public health. Deforestation makes this situation worse by degrading the environment's ability to absorb and cope with rising carbon dioxide (CO2) in the atmosphere. Additionally, exploitation of natural resources like freshwater and fossil fuels highlights the urgent need for sustainable practices.[11]

In recent decades, climate change has been a central focus of public discourse. Scientific research on climate change has led to international agreements like the Kyoto Protocol (1997) and the Paris Agreement (2015). Education has emerged as an especially important tool for addressing these challenges, with environmental studies integrated into curriculums to boost awareness and critical thinking.[12]

C. Environmental inequities

Environmental benefits and burdens are often unfairly distributed among communities. These inequities are usually influenced by socioeconomic, racial, or geographic factors, and manifest in ways such as limited access to clean air, safe drinking water, green spaces, and healthy living conditions.

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[10] "Origins of the Environmental Movement." https://michiganintheworld.history.lsa.umich.edu/environmentalism/exhibits/show/main_exhibit/origins. Accessed 15 April 2025.

[11] Varekar, V. B., et al. "Environmental Sustainability: Challenges and Solutions." https://link.springer.com/article/10.1007/s11356-025-36093-0. Accessed 15 April 2025.

[12] Petruzzello, Melissa. "A Timeline of Environmental History." https://www.britannica.com/story/a-timeline-of-environmental-history. Accessed 15 April 2025.

D. Importance of education

Education plays a crucial role in addressing the climate crisis by equipping people with the skills and motivation needed to take action. It fosters climate literacy, helping people understand the causes and effects of climate change. It also empowers individuals and communities to adopt sustainable practices, advocate for policy changes, and innovate solutions to reduce greenhouse gas emissions. By promoting collaboration and raising awareness, education helps promote the systemic changes necessary to combat the climate crisis and build a more resilient future.[13]

IV. Major Parties Involved

A. Brazil

Brazil has emerged as a major player in environmental education, especially through its implementation of a "Blue Curriculum," an ocean literacy program developed in cooperation with UNESCO, into its school system in April 2025. This initiative emphasizes not only the scientific and theoretical aspects of environmental protection, but also social equity and regional issues, ensuring that communities from different parts of the country can learn about their specific contexts.[14] By engaging a wide range of stakeholders, such as the Ministry of Education and Science as well as local governments and universities, Brazil's approach paves the way for an inclusive model of environmental education that addresses both ecosystem conservation and social justice.

B. Germany

Environmental education in Germany stands out for its structured, multidimensional approach to sustainable learning. Educational institutions from K-12 schools to leading research universities have made sustainability a core part of their curricula. Teacher

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[13] United Nations. Education Is Key to Addressing Climate Change. Accessed 20 April 2025. https://www.un.org/en/climatechange/climate-solutions/education-key-addressing-climate-change.

[14] Coulton, Jack. "Brazil Becomes the First Country in the World to Commit to a National School Curriculum on Ocean Literacy." https://oceanliteracy.unesco.org/brazil-becomes-the-first-country-in-the-world-to-commit-to-a-national-school-curriculum-on-ocean-literacy/. Accessed 16 April 2025.

training initiatives such as the "Learning to Teach Sustainability" project at the Heidelberg Center for the Environment help ensure that educators nationwide are able to integrate environmental issues into everyday teaching.[15] Germany's commitment to environmental responsibility is also reflected in its waste management regulations, renewable energy projects, and local initiatives. These efforts provide a strong academic foundation for sustainability and empower students to become advocates of change both locally and globally.

C. China

As not only the world's largest emitter of greenhouse gases, but also as a leader in green technology, China plays a significant role in the climate crisis.[16] The country has integrated climate education into its curriculum by including climate change topics among secondary school science classes and university courses, focusing on green skills as well as environmental awareness. China emphasizes climate literacy among its sustainability goals to ensure that students understand climate change and its implications.[17]

D. Greenpeace

Greenpeace is an independent, non-governmental organization (NGO) based in Canada that is among the world's leading advocates for comprehensive environmental learning. The organization works with governments and institutions to promote climate literacy to ensure that communities are able to address climate challenges. The organization

[15] "Learning to Teach Sustainability." https://www.hce.uni-heidelberg.de/en/research/learning-to-teach-sustainability. Accessed 16 April 2025.
[16]Chatham House. Climate Briefing: China's Role in International Climate Diplomacy and Action. Accessed 20 April 2025. https://www.chathamhouse.org/2025/03/climate-briefing-chinas-role-international-climate-diplomacy-and-action.
[17]Climate Scorecard. Climate Change Education in China. Accessed 20 April 2025. https://www.climatescorecard.org/2020/01/climate-change-education-in-china/.

pushes for systemic changes in education, arguing that more climate literacy and sustainable development is needed to combat the growing threat of climate change.[18]

V. Timeline of Key Events

1972 The Stockholm Conference on the Human Environment, the first major international conference dedicated to addressing environmental issues, emphasizes the role of education in promoting sustainability.[19]

1977 The first Intergovernmental Conference on Environmental Education results in the Tbilisi Declaration, setting global principles for environmental education. The Declaration emphasizes lifelong interdisciplinary learning and the essential role of education in hindering the unraveling climate crisis.[20]

1987 The UN publishes the pivotal environmental science book *Our Common Future* (also known as the Brundtland Report), introducing the concept of sustainable development, a major step in educating the public on environmental issues.[21]

2005 The United Nations Educational, Scientific and Cultural Organization (UNESCO) launches the UN Decade of Education for Sustainable Development (DESD), an initiative to integrate sustainable development principles into worldwide education systems throughout the next decade.[22]

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[18]Global Partnership for Education. Blog Series: The Role of Education in Addressing Climate Change. Accessed 20 April 2025. https://www.globalpartnership.org/blog/blog-series-role-education-addressing-climate-change.

[19] Chasek, Pamela. "Stockholm and the Birth of Environmental Diplomacy." https://www.iisd.org/articles/deep-dive/stockholm-and-birth-environmental-diplomacy. Accessed 15 April 2025.

[20] "Tbilisi Declaration (1977)." https://www.gdrc.org/uem/ee/tbilisi.html. Accessed 15 April 2025.

[21] "UN World Commission on Environment and Development, ed., Report of the World Commission on Environment and Development: Our Common Future." https://www.environmentandsociety.org/mml/un-world-commission-environment-and-development-ed-report-world-commission-environment-and. Accessed 15 April 2025.

[22] "UN Decade of Education for Sustainable Development, 2005-2014: The DESD at a Glance." https://unesdoc.unesco.org/ark:/48223/pf0000141629. Accessed 15 April 2025.

2015 The UN adopts the Sustainable Development Goals (SDGs). Goal 4.7 focuses on striving to "ensure that all learners acquire the knowledge and skills needed to promote sustainable development."[23]

VI. Previous and Possible Solutions

A. Climate education in school curriculums

Incorporating climate education into school curriculums is one of the most effective ways to build long-term environmental awareness. This includes teaching students about climate science, sustainability practices, biodiversity, and the human impact on ecosystems.[24] Countries like Finland and Costa Rica have successfully integrated environmental education from primary through secondary levels, setting a precedent for others.[25] By embedding such content across subjects — from science to social studies — students can gain a holistic understanding of environmental issues and their real-world implications.

B. Community-based learning programs

Community-based learning programs empower citizens by connecting environmental knowledge with local action. These programs often involve workshops, participatory research, clean-up initiatives, and conservation projects.[26] Involving local leaders, indigenous knowledge holders, and youth groups helps tailor solutions to specific environmental contexts while promoting civic engagement. Such grassroots approaches can be especially effective in areas where formal education access is limited.

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[23] "Sustainable Development and Global Citizenship." https://unesdoc.unesco.org/ark:/48223/pf0000265866. Accessed 15 April 2025.
[24] UNESCO. "Education for Sustainable Development: A Roadmap." https://unesdoc.unesco.org/ark:/48223/pf0000379875. Accessed 15 April 2025.
[25] "Sustainable Development in Education." https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162185/OKM_2020_11.pdf Accessed 15 April 2025.
[26] UNESCO. "Education for Sustainable Development: Best Practices." https://en.unesco.org/themes/education-sustainable-development/best-practices. Accessed 15 April 2025.

C. Mobile learning units for remote areas

To address educational gaps in remote and underserved areas, mobile learning units — such as eco-buses, solar-powered classrooms, and traveling educators — have shown great promise. These units can deliver interactive, place-based environmental education to communities that lack infrastructure.[27] By using multimedia tools and local languages, they foster understanding and inclusivity. Partnering with NGOs and using technology like offline educational apps can further enhance their reach.[28]

D. Global climate education campaigns

Global campaigns such as "Earth Day," "Fridays for Future," and UNESCO's "Education for Sustainable Development" have significantly raised environmental awareness. Such campaigns can be amplified through social media, influencers, and partnerships with schools and universities.[29] Multilingual content and visual storytelling can make complex issues more accessible and emotionally resonant. Expanding such initiatives with localized content can help bridge the global-local divide in climate education.

VII. Conclusion

The teaching and studying of environmental issues are crucial for building a livable and inclusive future. Through formal education, community engagement, technological innovation, and international cooperation, the global community can empower individuals to take informed action. Bridging the education gap on environmental matters is not only a matter of policy but also of justice — ensuring that all people, regardless of geography or background, can participate in safeguarding the planet.

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[27] World Bank. "EdTech in Remote and Low-Resource Settings." https://www.worldbank.org/en/topic/edutech. Accessed 15 April 2025.

[28] Business Connect India. "Dr. Smit Patel: A Visionary Educator Bringing Innovation in Schools of Gujarat & Rajasthan." https://businessconnectindia.in/dr-smit-patel-a-visionary-educator-bringing-innovation-in-schools-of-gujarat-rajasthan/. Accessed 15 April 2025.

[29] UNESCO. "Greening Education for a Sustainable Future." https://www.unesco.org/en/sustainable-development/education/greening-future. Accessed 20 April 2025.

VIII. Questions to Consider

- How can environmental education be tailored to different age groups and cultures?
- What role should governments play in funding and mandating climate education?
- How can developing countries be supported in implementing comprehensive climate education?
- What are the best ways to evaluate the effectiveness of environmental education programs?
- How can technology be used to increase the accessibility and engagement of environmental learning?

IX. Sources for Further Research

- UNESCO: *Education for Sustainable Development Goals: Learning Objectives*
- United Nations Environment Programme (UNEP): *Youth and Education*
- IPCC Reports: *Climate Change 2023: Synthesis Report*
- Intergovernmental Panel on Climate Change (IPCC): *Summary for Policymakers*
- UNICEF: *Climate Change Education in Children's Lives*
- World Bank: *The Learning Generation: Investing in Education for a Changing World*
- University of New England: *Shaping Our Climate Future: Innovation in Climate Education (https://www.youtube.com/watch?v=i33iaeHQQTE)*

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