



Strengthening EE In Your Country

A Discussion Guide

GEEP GLOBAL 全球 ENVIRONMENTAL 環境 EDUCATION 教育 PARTNERSHIP 夥伴

環境部 Ministry of Environment

EPA United States Environmental Protection Agency

naaee North American Association for Environmental Education

FOUNDATION FOR ENVIRONMENTAL EDUCATION FEE

GEEP APRC 全球環境教育夥伴亞太中心 Global Environmental Education Partnership Asia-Pacific Regional Center

FOREST SERVICE US DEPARTMENT OF AGRICULTURE

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A Discussion Guide

On behalf of the GEEP Advisory Group and Leadership Team, welcome to *Strengthening EE in Your Country: A Discussion Guide.* This Guide is designed to help you advance environmental education in your country. We organized it into several sections to help you reflect on what's happening in your own country and to learn more about what's happening in other parts of the world.

The Global Environmental Education Partnership (GEEP), is an international learning network focused on strengthening environmental education around the world. Our network is designed to spark innovation, strengthen leadership, and build bridges across organizations, institutions, and communities, as well as boundaries, disciplines, and sectors. We believe that education is a powerful tool in our toolbox to create a more just and sustainable future, where people and nature thrive. And our hope is to build a world where environmental and social responsibility drive individual, community, and institutional choice.

Thank you to everyone who made this Guide possible, including the members of the GEEP Advisory Group (see below). A special thanks to Esther Cowles and Kathy McGlauflin, as well as Rachel Bayer, Olivia Copsey, Andy David, Madeline Halvey, Nina Hamilton, Alex Kudryavtsev, Ginger Potter, Alan Reid, Pramod Sharma, Bora Simmons, and Anne Umali.

We look forward to your comments and will continue to update this Guide to reflect the needs of the field globally.

Sincerely,
Judy Braus
Executive Director, NAAEE
Secretariat of the GEEP

GEEP Leadership Team and Advisory Group

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I. Introduction

This discussion guide is designed to help you and your colleagues and partners answer the following questions and others. It will help you assess environmental education (EE) efforts in your country or region and how well your programming and policies address the UN Sustainable Development Goals (SDGs). Use it to discuss where your strengths are, what gaps might exist, and how to make improvements.

- What does a strong environmental education program in a country or region look like?
- How does a strong program link to the UN Sustainable Development Goals?
- What needs to be in place to ensure that people of all ages have opportunities to develop the awareness, knowledge, skills, and motivations to tackle the environmental and social issues we face as a global society?
- What is the status of environmental education in your country or region?
- How does EE change our society, its values, and broader systems (such as economic, political, and educational) that share our interactions with the environment?
- How does EE in your country contribute to long-term social prosperity?

If you're working in EE and sustainability, whether it's in government, nonprofits, academia, corporations, or other settings, this discussion guide is for you. While it identifies essential components of EE at the country and regional level, it can also be applied to states, provinces, territories, tribal nations, and other entities.

Are you working in environmental education or sustainability as a...

- Government official
- Nonprofit leader
- Education program manager
- Higher education faculty
- College student
- Environmental educator
- Classroom teacher
- School administrator
- Nature center educator
- EE network coordinator
- Youth group leader
- Corporate sustainability manager
- Zoo or aquarium educator
- Volunteer

Whatever your position–if you want to strengthen EE in your country–this discussion guide is for you!

How to Use the Discussion Guide

A hallmark of a strong national EE program is inclusivity for all audiences. This same quality can and should be applied to the process of using this guide. As you scroll through the pages and envision the many ways that EE can do more to improve education and to tackle complex and important issues in your country, you are encouraged to engage with people from multiple disciplines and sectors to benefit from one another's knowledge in your respective areas of expertise. And to involve a broad spectrum of people in your country, bringing diverse lived experiences to the conversation of what is working well for whom, and where improvements can be made. While it is possible to use this discussion guide individually, collaborating with others broadens the base of knowledge about what exists in your country, focuses the range of possible actions, and builds commitment and capacity to implement solutions.

There is no one way to organize EE in a country. The possibilities are as multiple and varied as the nations on our planet. For ease of review, this guide groups the components of a strong national environmental education program into four main categories:

- Structure
- Programs
- Quality assurance
- Funding

Each section describes the related components, highlights examples, and poses questions about the status of EE in your country. A final section provides guidance and prompts for crafting a plan to strengthen EE in your country. Your plan may address just one component that is an area of greatest need or impact, or it may address multiple areas.

It is possible to have a strong EE program without all the components of each category, depending on your country's unique context. But the more that are present, the better the chances for all people and places to benefit from the transformative power of EE.

II. What Makes a Strong National Environmental Education Program?

About Environmental Education

For this discussion guide, EE is defined as a process that helps individuals, communities, and organizations learn more about the environment, and develop skills and understanding about how to address global challenges. It has the power to transform lives and society. It informs and inspires. It influences attitudes. It motivates action. EE is a key tool in expanding the constituency for the environmental movement and creating healthier and more civically-engaged communities.

The definition above builds on an early definition developed in 1977 at an international conference in Tbilisi, Republic of Georgia.

> *"EE is a learning process that increases people's knowledge and awareness about the environment and its associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action."*

The modern field of EE is built on a rich history of research and practice, as well as core values of stewardship, justice, innovation, and other ideals passed down through generations and cultures around the world. The field has continued to evolve, responding to international efforts to address key environmental and social challenges, includingthe UN SDGs and the UN Greening Education Partnership.

Three Moments in History that Shaped Today's Field of EE

1977, Tbilisi, Georgia

The United Nations Educational, Scientific, and Cultural Organization and UN Environment Programme hosted the **Intergovernmental Conference on Environmental Education**, which laid out the goals, objectives, and guiding principles of environmental education that many environmental educators still use today.

1992, Rio de Janeiro, Brazil

World leaders at the United Nations Conference on Environment and Development, commonly referred to as the **Earth Summit**, signed on to Agenda 21, which affirmed that environmental education is foundational to global environmental protection and sustainable development.

2015, United Nations, New York

At the **UN Sustainable Development Summit**, world leaders adopted the 2030 Agenda for Sustainable Development, including new Sustainable Development Goals (SDGs) and targets as a "shared blueprint for peace and prosperity for people and the planet, now and into the future."

Components of a Strong National EE Program

Collectively, the components of a strong environmental education program help to create global citizens who are motivated to tackle the environmental, social, and economic issues facing our world, including the UN Sustainable Development Goals.

- **All Audiences:** A national EE program is inclusive, reaching all ages, backgrounds, and sectors, including formal and nonformal education, government ministries and agencies, NGOs, corporations, and other community organizations that focus on education and the environment.
- **Policy:** Government legislation or policies advance EE through mandates, funding, and programs.
- **Frameworks:** Standards of excellence demonstrate what high-quality EE looks like and provide guidance for how to improve the quality of EE.
- **Networks:** A professional association or network provides opportunities for EE practitioners and leaders in the field to share, learn, and grow.
- **Formal Education:** EE is integrated into formal education—from early childhood to higher education.
- **Nonformal EE:** EE is a part of nonformal organizations, including zoos, aquariums, museums, community centers, and more.
- **Curriculum and Instructional Materials:** High-quality teaching materials are accessible to educators of all ages in both formal and nonformal settings.
- **Professional Development and Training:** EE professionals, including formal and nonformal educators, have access to and receive high-quality professional development.
- **Higher Education:** Higher education institutions offer degrees in EE and sustainability, and incorporate EE into the preparation of teachers, business leaders, health experts, and other key professions.
- **Certification:** EE institutions and environmental educators are recognized through certification or other quality recognition programs for meeting stringent professional componentencies.
- **Accreditation and Quality Assurance**: Third-party, standards-based recognition programs ensure that EE programs in formal education are implemented in a high-quality "whole-institution approach."
- **Evaluation:** The impact of EE is measured at the program level, as well as rolled up to demonstrate the difference it is making on quality, inclusion, and relevance; the lives of learners and their wider communities; and the planet.
- **Innovation:** Promoting experimentation, new ideas, opportunities for collaboration across disciplines, and other initiatives spark new thinking.

The UN Sustainable Development Goals

In 2015, world leaders adopted the 2030 Agenda for Sustainable Development. At its core are 17 Sustainable Development Goals (SDGs) that call on all countries to...

"secure a sustainable, peaceful, prosperous, and equitable life on earth for everyone now and in the future. The goals cover global challenges that are crucial for the survival of humanity. They set environmental limits and set critical thresholds for the use of natural resources. The goals recognize that ending poverty must go hand-in-hand with strategies that build economic development. They address a range of social needs including education, health, social protection, and job opportunities while tackling climate change and environmental protection. The SDGs address key systemic barriers to sustainable development such as inequality, unsustainable consumption patterns, weak institutional capacity, and environmental degradation."

Source: United Nations. Transforming Our World: The 2030 Agenda for Sustainable Development. 2015. Retrieved from https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20 Development%20web.pdf

Education is explicitly addressed in SDG #4, Quality Education, and seeks to "[e]nsure inclusive and equitable quality education and promote lifelong learning opportunities for all." Education also has a critical role to play in addressing all of the sustainable development goals, from climate action to life on land to responsible consumption and more. EE builds learners' capacity to work individually and cooperatively to improve environmental quality, social equity, and economic prosperity, which supports progress on the SDGs.

SDG #4 Quality Education

Of the 10 targets and indicators for the education goal, target 4.7 projects, "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity, and of culture's contribution to sustainable development."

In addition, this target will be measured by the "[e]xtent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education and (d) student assessment."

SDG #13 Climate Action

Sustainable Development Goal 13 (SDG 13) focuses on "Climate Action" and aims to take urgent action to combat climate change and its impacts. **SDG 13 Target 13.3** relates to the critical role of education in fostering a more sustainable and climate-resilient society.: *"Improve education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning."*

In practical terms, achieving this target involves integrating climate change education into formal and nonformal education at all levels. It also emphasizes the importance of enhancing the capacity of institutions to develop and implement strategies for climate change mitigation and adaptation.

The Education We Need for the World We Want

"In the context of a global climate crisis, rapid technological transformation, profound changes in the world of work, lower levels of trust in public institutions, the erosion of democratic values, and the rise of disinformation, intolerance and hate speech, current systems of learning are failing children, young people, and learners of all ages."

– From About the UN Transforming Education Summit

That one of the 17 UN Sustainable Development Goals addresses Quality Education underscores the pivotal role education must play in tackling the global challenges of today and tomorrow. Increasingly, people are asking if our dominant educational systems and approaches are up to the challenge of equipping all people with the knowledge, skills, attitudes, and motivation needed to create a more sustainable world.

At its 2022 Transforming Education Summit, the UN identified a "global crisis in education – one of equity and inclusion, quality and relevance" and sought to "elevate education to the top of the global political agenda." Among many questions, the Summit sought answers to "What transformative pedagogical approaches can best prepare learners to collaborate with others, navigate complexity, and solve future challenges (e.g., project-based learning, problem-posing, inquiry-based learning, student laboratories, technical and vocational workshops, and artistic and creative collaborations)?"

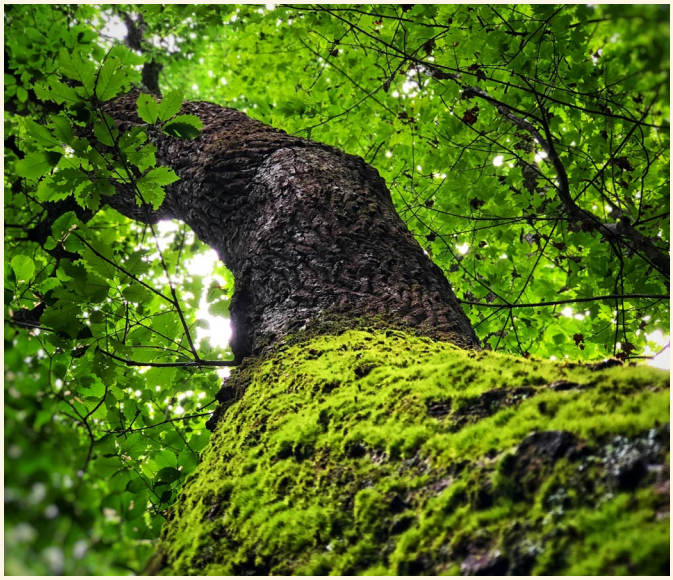
Education and sustainability thought leaders across sectors and disciplines are examining how to transform education. It isn't enough to teach knowledge and skills for technical solutions. Instead, education must move more intentionally and urgently toward building new cross-discipline knowledge and developing agency in learners to create solutions around complex issues and global problems. Ideas include greater attention to transformational capacities (e.g., systems thinking, working within complexity, analyzing unequal systems of power, and more) that build on important life skills (e.g., critical thinking, creativity, collaboration, flexibility, etc.).

The field of EE has much to contribute to the discussion and move toward more transformative education. One of its strengths and underpinnings is its ability to address topics and issues in ways that intersect disciplines, sectors, and more. It is also able to integrate the teaching of content knowledge and skills with exploration of values, attitudes, and motivations to inspire hope and action. This guide emphasizes how EE is delivered rather than what should be taught, not because the "what" is unimportant, but instead because it is so varied and dependent on the unique needs of learners and communities.

To learn more about emerging thinking on transforming education, consult these resources.

- A New Green Learning Agenda: Approaches to quality education for climate action, Brookings Institute
- Future of Education and Skills 2030, Organization for Economic Cooperation and Development
- Sustainable Development Goals: Education, United Nations
- Transforming Education Summit, United Nations
- Mission 4.7, UN Sustainable Development Solutions Network, in partnership with the Ban Ki-moon Center for Global Citizens, UNESCO, and the Center for Sustainable Development at Columbia University

Greening Education Partnership



At the 2022 UN Transforming Education Summit, the term "greening education" was coined to imagine a "whole-of-system" education response to the climate crisis. The collaborative Greening Education Partnership (GEP) was subsequently launched to accelerate and mainstream actions at the international, national, and local levels.

Countries are encouraged to join the GEP and commit to targets in four areas:

Pillar One: Greening schools. All countries will adopt a green school accreditation scheme with at least 50% of schools, colleges, and universities attaining green accreditation and operating sustainably.

Pillar Two: Greening curriculum. The number of countries with climate education in their school curricula at the early childhood, primary, and secondary levels will double from the current level of 45%.

Pillar Three: Greening teacher training and education systems' capacities. All school leaders and at least one teacher per school will be trained on how to integrate climate education into teaching and learning throughout the school.

Pillar Four: Greening communities. All countries will report at least three different ways that learning opportunities are available for adults outside the formal education system to develop the skills, attitudes, and actions that will foster community resilience to climate change.

Environmental Education, Education for Sustainability, and Education for Sustainable Development

Rather than tease apart the similarities and differences among these educational approaches, this discussion guide explores generally how education can tackle the environmental, social, and economic issues facing global societies.

EE and education for sustainability share a goal of creating a more equitable and sustainable future. All the elements of environmental education and education for sustainability are vital and necessary to create a more environmentally literate and civically engaged global citizenry. Protecting the environment is inherently linked to equity and inclusion, shared prosperity, and more resilient communities.

EE also shares similarities with education for sustainable development (ESD), which is sometimes used interchangeably with EE and has a strong presence in many countries around the world.

UNESCO uses this definition: *ESD empowers learners to take informed decisions and make responsible actions for environmental integrity, economic viability, and a just society. ESD is a lifelong learning process and an integral part of quality education. It enhances the cognitive, social, and emotional and behavioral dimensions of learning. It is holistic and transformational, and encompasses learning content and outcomes, pedagogy, and the learning environment itself.*

ESD is recognized as a key enabler of all Sustainable Development Goals and achieves its purpose by transforming society. ESD empowers people of all genders, ages, present and future generations, while respecting cultural diversity.

Source: UNESCO. 2019. What is Education for Sustainable Development? Retrieved from https://en.unesco.org/themes/education-sustainable-development/what-is-esd

Key Underpinnings of Environmental Education

These foundational themes tend to be universal to our collective understanding of quality environmental education, though different countries may describe them differently.

Human Well-Being: Human well-being is inextricably bound with environmental quality. Humans are a part of the natural order. Humans, and the systems they create—societies, political systems, economies, religions, cultures, technologies—impact the total environment and are impacted by the environment. Since humans are a part of nature rather than outside it, they are challenged to recognize the ramifications of their interdependence with Earth systems.

Importance of Where One Lives: Beginning close to home, EE helps learners connect with, explore, and understand their immediate surroundings. It also helps learners appreciate the nature around them wherever they live. The sensitivity, knowledge, and skills needed for this local connection to both the natural and built environments provide a base for moving into larger systems, broader issues, and an expanding understanding of connections and consequences.

Integration and Infusion: Disciplines from the natural sciences, social sciences, and the humanities are interconnected through the environment and environmental issues. EE offers opportunities to integrate disciplinary learning, fostering a deeper understanding of concepts and skills. EE works best when infused across the disciplines rather than treated as a separate or isolated experience.

Justice, Equity, Diversity, and Inclusion: EE instruction is welcoming and respectful to all learners and embraces the principles of fairness and justice. EE is designed to employ and engage people with different backgrounds, experiences, abilities, and perspectives through culturally relevant and responsive instruction. EE actively works to create equitable learning opportunities and promotes the dignity and worth of people of all races, ethnicities, religions, genders, sexual orientations, gender identities, abilities, incomes, language groups, marital statuses, ages, geographic locations, and philosophies.

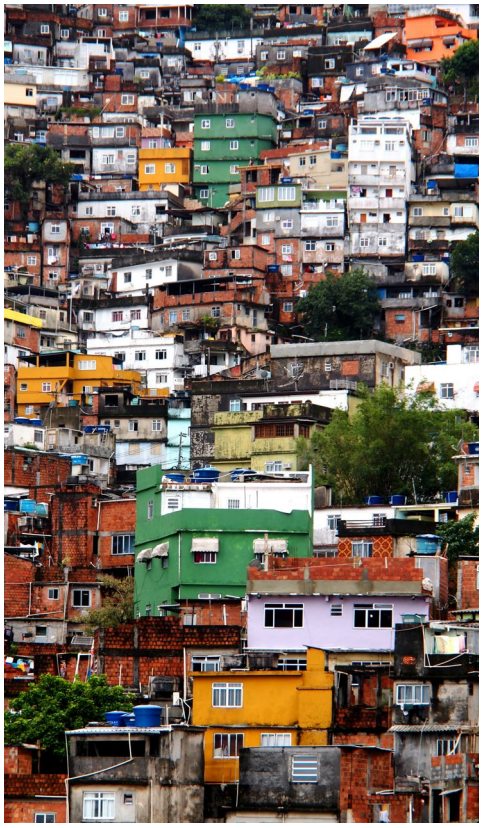
Lifelong Learning: EE emphasizes critical and creative thinking, decision making, communication, and collaborative learning. Development and ongoing use of a broad range of skills and practices are essential for active and meaningful learning, both in school and over a lifetime.

Roots in the Real World: Learners develop knowledge and skills through direct experience with their community, the environment, current environmental issues, and society. Investigation, analysis, and problem solving are essential activities and are most effective when relevant to learners' lives and rooted in their experiences.

Sustainable Future: Supporting the United Nations Sustainable Development Goals, learning reflects on the past, examines the present, and is oriented to the future. Learning focuses on environmental, social, and economic responsibility as drivers of individual, collective, and institutional choices.

Systems and Systems Thinking: Systems thinking helps make sense of a large and complex world. A system is made up of parts. Each part can be understood separately. The whole, however, is understood only by examining the relationships and interactions among the parts. Earth is a complex system of interacting physical, chemical, and biological processes. Organizations, communities of animals and plants, living cells, and families can all be understood as systems. And systems can be nested within other systems.

Justice, Equity, Diversity, and Inclusion



EE as a field and approach can honor the beliefs, attitudes, languages, interpersonal styles, and values of all individuals, and promote equity, diversity, inclusion, and justice. EE plays an essential role in raising awareness of environmental injustices for a country's marginalized communities, and ensuring they have a voice in tackling issues that affect them. EE can also help people living in vulnerable and underrepresented communities acquire the knowledge, skills, motivations, and confidence to advance positive changes that are culturally relevant and meaningful for them.

While EE can't heal all divisions and inequalities in society, it can help to create opportunities for cross-cultural understanding and exchanges. It can also ensure that everyone—especially those groups that have more power and support—tackle systemic racism and center equity in their programming, communications, and policies. EE must help to build a stronger movement by creating a field that supports, inspires, and welcomes everyone.

National Issues & Priorities

The impacts from climate change are being felt around the world, along with loss of biodiversity pollution, and other threats. It is important to have a population with the knowledge, skills, and motivation to tackle complex environmental, educational, social, and economic issues to build resilience now and in the future. Strong EE programs are a valuable tool to address these issues. Different countries have different priorities and every country has a unique political, cultural, and economic context to address them.

How can EE help to tackle issues in your country? Is your country facing significant challenges from climate change, loss of biodiversity, water quality and access, habitat loss and fragmentation, urban sprawl, overfishing, illegal hunting, pollution, or something else? Many issues require a multi-faceted approach and EE can play an important role. It can raise understanding for immediate, pressing issues, as well as equip people to tackle longer-term strategies that change behavior and build will for systemic action.

A hallmark of EE programs is their ability to present unbiased information on issues that are often controversial, guide and support all learners to apply their own ways of knowing, and generate creative, culturally relevant solutions to complex environmental issues.

National, provincial, state, and local government agencies, universities, and NGOs are good sources of information on issues. They can help you identify key issues, surface root causes, and identify opportunities for education and action. Several case studies on theGEEP.org highlight how other countries use EE to address environmental issues.

III. Structure: How Is EE Organized in Your Country?

How a country's EE program is organized relies on governmental agencies, intergovernmental and non-governmental organizations, and networks and collaborations. The structure of your country's EE program may include one or more of these key components. When agencies and organizations collaborate, it elevates the quality and reach of EE and enhances interdisciplinary approaches to address the key issues in a country.

National Governments

National governmental agencies and ministries play an instrumental role in creating and sustaining environmental education programs. They can serve many roles, including creating and implementing policies and mandates, setting and providing strategic directions, serving as thought leaders and ambassadors, funding programs and initiatives that build capacity in the field, and much more.

As you consider the structure of EE in your country, what is the influence of how your country is organized politically (i.e., nationally, federally, by province, state, or territory, by biozones, ethnicity, etc.), that is crucial to discussions about EE programming, strategy, and innovation? How are decisions made? For example, is there a national curriculum or are decisions made at the local level?

In most countries, the governmental agencies and ministries that are often most active with environmental education policy and programming include:

Education agencies and ministries are responsible for overseeing schools and educational systems, promoting student achievement and preparation to be engaged citizens of the world, including environmental literacy, and funding educational priorities.

Environmental agencies and ministries are responsible for protecting people and the environment from significant health risks, developing regulations to enforce environmental laws, contributing to related research, and advancing EE.

Natural resource agencies and ministries are responsible for developing land management policies, conducting research, and managing and educating about public lands and natural and cultural resources.

Some countries also authorize research agencies or ministries to advance the development of knowledge in science and other disciplines that contribute to EE policy and programs. Other agencies and ministries that may play a role in supporting EE are state departments and embassies, regional funding agencies, and more. Below are examples of national governmental agencies and ministries with responsibility for EE.

Find out more at the Global Environmental Education Partnership website.

The Country Profiles showcase environmental education efforts in over 60 countries around the world. Each profile identifies people and organizations who are leading EE efforts, as well as policies and practices.

A growing library of Case Studies offers insights into what EE looks like in practice for many countries when applied to a variety of topics, such as the SDGs, eco-clubs, youth development, air quality, climate change, and much more.

National Government Mandates, Laws, and Policies

In many countries, governments set forth laws, mandates, and policies to equip people with the knowledge, skills, attitudes, and behaviors to live sustainably. These guiding documents may apply at one or more levels of country, region, province, state, municipality, and more. For this discussion guide, emphasis is placed on governments at the country level, with the understanding that their policies may be scaled for application in smaller jurisdictions. The following are examples of countries that have adopted constitutional mandates and government laws and policies. Refer to the Country Profiles on the GEEP website for more details and examples.

Constitutional Mandates

Argentina

The importance of EE is broadly represented in the Argentine constitution. It establishes that "[t]he authorities will provide for the protection of this right [healthy environment], the rational use of natural resources, the preservation of natural and cultural heritage and biological diversity, and environmental information and education."

Brazil

The Brazilian Constitution of 1988 contains guidelines for national education that includes EE as an area of focus. In Brazil, EE is a state policy, encoded in the National Environmental Education Program. The act provides that EE is a right for all people and it be delivered in formal and nonformal settings at all educational levels. Key components address management and planning of EE in the country; capacity-building of environmental educators; communication for EE; inclusion of EE in educational institutions; and monitoring and evaluation of programs and projects in EE.

Mexico

In 2019, the Mexican government amended its constitution to include an understanding of and respect for the natural world as a basic requirement of education.

Government Laws and Policies

Armenia

The Law of the Republic of Armenia on Environmental Education and Training of Citizens, enacted in 2001, establishes "continuous EE" as state policy. Key provisions of the law authorize the government to develop and implement a national EE program at all educational levels, establish competencies for the training of educators, government employees, and others in EE, and certification of institutions and organizations that deliver EE.

Australia

In 2005, the Australian Government Department of the Environment and Heritage (renamed the Department of Climate Change, Energy, the Environment and Water on July 1, 2022) adopted Educating for a Sustainable Future: A National Environmental Education Statement for Australian Schools. This statement provides a description of the nature and purpose of environmental education for sustainability through all years of schooling, including a vision and a framework for its implementation. In 2009, Living Sustainably: The Australian Government's National Action Plan for Education for Sustainability identified the knowledge and skills required to live sustainably for all Australians. In 2010, the Sustainability Curriculum Framework set forth what students need to learn to live sustainably, and considers the most appropriate times and environments in which these learnings should occur.

Chile

In 2009, Chile enacted its National Education Policy for Sustainable Development. The Chilean Environmental Ministry has an Environmental Education Division dedicated to implementing strategies and projects for sustainable development in Chile. The Ministry also offers funding for EE initiatives through its Environmental Protection Fund. EE is present in formal and nonformal educational settings, and the Chilean Environmental Ministry oversees a National System of Environmental Certification for Educational Establishments. Teachers and environmental educators may participate in online and in-person professional development courses, and some of the nation's universities also offer diploma and degree programs related to EE.

Colombia

Colombia's National Policy of Environmental Education was updated in 2012 and emphasizes the rights of all people to EE and their obligation to manage the environment sustainably. It bestows responsibility for institutionalizing an "ethical framework which emphasizes attitudes of appreciation and respect towards the environment" to authorities at the national, regional, and local levels. It strengthens EE in formal education at all levels and supports school-based projects to "allow children and teenagers [to] develop basic and community competences so that they can make ethical and responsible decisions regarding the sustainable management of the environment." Examples cited in the act of critical environmental issues facing Colombia are "climate change, biodiversity, water, soil management, risk management, and comprehensive solid waste management, among others."

Italy

In 2019, Italy enacted what is considered to be the world's first law mandating that climate change and sustainable development education be addressed as part of its national curriculum. In addition, the Ministry of Ecological Transition established the National Program for Environmental Education, Information and Training in 2015 to disseminate EE programs across the country.

Japan

In 2013, the government enacted the Act on the Promotion of Environmental Conservation Activities through Environmental Education, which updated a 2003 EE act by embedding the principles of ESD. The act promotes EE through voluntary efforts, stipulates "the promotion of EE at home, in school, in the workplace and in the community" to improve public understanding of environmental conservation, promotes teacher training, and develops instructional materials. The Ministry of Environment is primarily responsible for EE in the nonformal sector, while the Ministry of Education, Culture, Sports, Science and Technology advances EE in the formal sector.

Mexico

In 2019, Mexico's Ministry of Education and Ministry of Environment collaborated to create a new EE law, making EE and ESD obligatory throughout schools in the whole country. The development of this new law followed a Constitutional amendment to include an understanding of and respect for the natural world as a basic requirement of education.

Morocco

In 2009, a National Charter for Environment and Sustainable Development elevated the importance of EE nationwide. The Charter serves as a government-mandate to expand EE across the nation. Article 8 of the Charter specifies the need for environmental and sustainable development awareness programs, academic learning opportunities, and training for the people of Morocco. The Ministry of National Education and Vocational Training grants regional Education Districts the responsibility of implementing EE policy in public schools.

New Zealand

New Zealand schools are guided by both The New Zealand Curriculum and Te Marautanga o Aotearoa (based on Māori philosophies). EE and sustainability are positioned as cross-curricular in both guiding documents. Schools are also supported to design and implement EE in their own school curriculum by the Guidelines for Environmental Education in New Zealand Schools, set forth by the Ministry of Education. In addition, students can earn Education for Sustainability credits.

Philippines

The National Environmental Awareness and Education Act, passed in 2008, promotes national awareness of the importance of EE for sustainable development in the Philippines. This policy mandates that EE be integrated into school curricula at all levels, and that students are provided with a core curricular foundation in environmental issues and laws, the state of international and local environmental policy, citizens' responsibilities to participate in environmental behavior, and sustainable development. The National Environmental Action Plan, 2018-2040 aligns local and global development agendas to enhance education in the Philippines through formal, informal, and nonformal EE measures.

Republic of Korea

Korea's Environmental Education Promotion Act, passed in 2008, advances EE at the national and local levels through several initiatives. The Minister of Education and Minister of Oceans and Fisheries,

in collaboration with other agencies, are required to prepare and implement a comprehensive EE plan every five years, with regional plans also required. The act advances EE in public schools through the development and distribution of EE programs and materials for use in environment-specific and general education curricula. In the nonformal sector, the act promotes EE through the development and distribution of instructional materials for use in "national institutions, military camps, businesses, and social organizations" and through human resources programs. The act also provides for the certification of nonformal environmental educators who design, deliver, and evaluate EE programs and provide systemic EE at the national and local levels. Finally, the act allows for the designation of EE Centers responsible for training educators, developing and distributing EE instructional materials, and otherwise supporting and promoting EE nationally and locally.

Taiwan

The Environmental Protection Administration of Taiwan (EPAT) was founded in 1987 to promote blue skies and green earth, verdant mountains and pristine waters, and health and sustainability. In 2011, Taiwan adopted a visionary EE policy, the Environmental Education Act. The act provides a nationwide process for advancing environmental literacy and achieving the goals of Taiwan's strategic plan for sustainable development. It informs national EE guidelines, an EE action plan addressing certification programs, evaluations, and assessments, as well as the conduct of government organizations. The national policy requires that all students and any staff in government and business engage in four hours of government funded EE curriculum each year.

United States

The United States Environmental Protection Agency (U.S. EPA) was founded in 1970 to protect human health and the environment. It houses the Office of Environmental Education responsible for implementing the National Environmental Education Act of 1990. The office supports a number of program areas including professional development for educators, youth and educator recognition, competitive grants, and educational resources. The Act requires the US EPA to provide national leadership to increase environmental literacy and is implemented through the Office of Environmental Education.

The US Forest Service, within the Department of Agriculture, manages more than 193 million acres of public lands, including national forests, grasslands, experimental forests, and research and development stations. Their Conservation Education (CE) Program provides EE programs, funding, and technical expertise to individuals, communities, organizations, and agencies to expand learning, understanding, and action for cultural and natural resources.The CE Program, in collaboration with other branches of the Forest Service, develops and delivers EE programs across the country, in partnership with local and Indigenous communities on educational initiatives. The U.S. Forest Service also has an International Program that works collaboratively with intergovernmental organizations, (such as the UN and World Bank), non-governmental organizations, and universities to promote sustainable forest management and biodiversity conservation internationally. Some of this work intersects with EE.

Intergovernmental Organizations

Several intergovernmental organizations (IGOs) play essential roles in advancing EE globally and across countries in geographic regions. Agencies within the United Nations have established foundational policies, principles, goals, definitions, and more for EE. They continue to set much of the international agenda for EE, along with other key influential organizations, including these examples.

Association of Southeast Asian Nations

The Association of Southeast Asian Nations (ASEAN) promotes intergovernmental cooperation across 10 states in Southeast Asia. Its Working Group on Environmental Education promotes coordination and collaboration among ASEAN member states. Their Environmental Education Action Plan outlines actions related to ESD at the national and regional level.

European Union

The European Union is a supranational union with 27 member states located primarily in Europe. In 2020, the European Commission of the European Union adopted the Council Recommendation on Learning for Environmental Sustainability that calls on member states, NGOs, and education providers to equip all learners with knowledge and skills related to sustainability, climate change, and the environment. Supporting this proposal was a new European competence framework on sustainability identifying skills needed to make informed decisions that benefit the environment and global climate. The Commission's recommendations provide for all learners to have access to high-quality and inclusive education and training on climate change, biodiversity and sustainability; prioritize learning for environmental sustainability; promote systemic approaches to education for sustainability; promotes educational partnerships with local and wider communities; and funds infrastructure, training, and resources to support a green transition.

United Nations Educational, Scientific and Cultural Organization

The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to build peace through international cooperation in education, sciences, and culture. UNESCO's programs contribute to the achievement of the Sustainable Development Goals defined in the 2030 Agenda, adopted by the UN General Assembly in 2015. It is leading the Global Education 2030 Agenda through Sustainable Development Goal 4.

United Nations Environment Programme

The United Nations Environment Programme (UNEP), formed in 1972, sets the global environmental agenda, promotes the implementation of the environmental dimension of sustainable development, and serves as an advocate for the global environment. UNEP's work addresses the root causes of the three planetary crises of climate change, nature and biodiversity loss, and pollution and waste, and raises awareness and advocates for effective environmental action.

Visit the GEEP website to search country profiles that include hundreds of Intergovernmental and Non-Governmental Organizations Operating around the world.

UN Decade on Ecosystem Restoration

Environmental education plays a vital role in addressing urgent global challenges. The UN General Assembly proclaimed 2021-2030 as the UN Decade on Ecosystem Restoration, heralding a compelling call to action to preserve and revitalize life on Earth. The associated action plan identifies Education "to educate the next generation of citizens to be aware of the value of nature, and to train a generation of professionals who can scale up restoration efforts" (p.68) as one of 12 restoration challenges. Education also plays an essential supporting role in other challenges, such as Youth and the Human-Nature Relationship. Strengthening EE programs in all countries, at local to global levels, and in partnership with all stakeholders and rights holders is essential to living in harmony with our environment.

UNITED NATIONS DECADE ON ECOSYSTEM RESTORATION 2021-2030

Non-Governmental Organizations

Non-governmental organizations (NGOs) play an important role in EE. They provide funding for programs, create supplementary instructional materials, design and deliver programs for formal and nonformal educators, partner with national agencies and ministries to implement programs, and influence policy and decision making. NGOs active in EE tend to have varied missions. Some focus explicitly on EE. Some advocate for environmental issues—such as climate change, renewable energy, clean water, species conservation, and habitat loss—and support EE, too. Still others address specific education topics, such as social studies, science, math, or language arts—and may also have programs, policies, and funding to support EE. Thousands of NGOs operate at the global to local levels. Below are just a few examples of international and national NGOs involved in EE, many of which can direct you to organizations at provincial, state, regional, and local levels.

International NGOs

EarthDay.org

EARTHDAY.ORG works with more than 150,000 partners in over 192 countries to drive positive action for our planet and to ensure that students across the world benefit from high-quality EE.

Environmental Education Association of Southern Africa

The Environmental Education Association of Southern Africa (EEASA) is an association of educators, researchers, policy makers, students, and practitioners. EEASA hosts conferences, publishes the Southern African Journal of Environmental Education, and develops EE and ESD programs.

Foundation for Environmental Education

The Foundation for Environmental Education (FEE) is one of the largest and best-established organizations involved in EE globally. FEE's flagship Eco-Schools program and Green Flag international standard of excellence have operated for 30 years in 81 countries with 20,000 institutions from early childhood to higher education. FEE programs, including Eco-Schools, Young Reporters for the Environment, Learning About Eco-Systems and Forests (LEAF), FEE Eco-Campus, and FEE Academy all support integration of active problem-based learning on relevant local challenges. FEE is co-coordinator of the Greening Education Partnership Pillar 1 on Greening Schools and a lead partner in the UN Decade of Eco-System Restoration.

Mission 4.7

Mission 4.7 is a collaboration of governments, academia, civil society, and businesses, which advances and advocates for EE and other types of transformative education envisioned in the UN Sustainable Development Goal 4.7. It builds upon UNESCO's global leadership in education, curates and creates educational resources, promotes greater investment in education, and more.

North American Association for Environmental Education

The North American Association for Environmental Education (NAAEE) works with partners to promote excellence in EE, accelerate environmental literacy and civic engagement, and create a more sustainable future. NAAEE's influence stretches across North America and around the world, with members in more than 30 countries and 56 affiliate organizations in the United States, Canada, and Mexico. Collectively, their membership exceeds 20,000 professionals with EE responsibilities and interests representing government, NGOs, academia, business, formal education, nonformal education, early childhood education, and other sectors.

National NGOs

Here's a sample of the many national NGOs that have an education missions and are advancing environmental education.

Australia

The Australian Science Teachers Association (ASTA) is a federation of Science Teachers Associations from all Australian states and territories and is the national voice of science teachers and works to promote the profession. It helps to advance EE.

Czech Republic

Environmental education centers in the Czech Republic can become members of Network of Environmental Education Centres Pavučina, a national NGO EE association with over 45 member organizations. Within the national government, the Unit of Voluntary Instruments and Cooperation with NGOs at the Ministry of the Environment takes a lead role in coordinating environmental education at a national level.

Jordan

Jordan has a notable history of EE promotion and initiatives and continues to work to advance the field. Since its establishment in 1966, The Royal Society for the Conservation of Nature (RSCN) has been a driving force for EE efforts. The Royal Society for the Conservation of Nature seeks to build a national network of protected areas to preserve biodiversity in Jordan, integrate with the development of local communities, and at the same time secure popular support for the protection of the natural environment. The Royal society helps works to integrate EE into school curricula and developing environmental education programs in natural reserves.

India

India's Center for Environment Education (CEE) enhances understanding of sustainable development in formal, nonformal, and informal education through its work with schools, higher educational institutions, policy makers, youth, and the general public. It works to support education as a key driver for change in demonstrating and advancing sustainable practices in rural and urban communities, and in business and the public sector, and in meeting challenges of global issues such as climate change and biodiversity conservation. CEE also promotes individual and collective positive Handprint actions that are environmentally sound, economically viable, and socially beneficial.

Mexico

The mission of the Center for Environmental Information and Communication of North America, AC (CICEANA) is to contribute to a sustainable society focusing on EE and communication.

Nigeria

The Social Studies Educationists Association of Nigeria (SOSAN) is a professional organization of learners, teachers, educators, curriculum developers, writers, and qualified educational practitioners in the field of social studies education.

South Africa

The South African Education and Environment Project (SAEP) is a Cape Town-based nonprofit organization that aims to empower people who are neglected by South Africa's education system through tutoring, skills development, enrichment activities, support, and mentorship.

The Wildlife and Environment Society of South Africa (WESSA) is a national environmental organization that aims to initiate and support high impact environmental and conservation projects. They work with schools and teachers throughout South Africa on a range of local and international programs to support and improve school curricula.

Sweden

Skogen i Skolan works to increase students' knowledge of the forest and its many values through a national collaboration between the school and Sweden's forestry stakeholders.

United Kingdom

The UK National Association for Environmental Education's purpose is to promote all forms of environmental education, and to support all those involved in its delivery. The Association is committed to campaigning for a strong focus on environmental and sustainability issues across the school curriculum. It focuses on environmental education within early years settings, primary and secondary schools, and institutions responsible for teacher education within the UK and elsewhere.

Networks and Collaboration

Having professional networks or alliances in a country or region provides opportunities for EE leaders, practitioners, and others to learn from one another and grow the capacity and impact of the field. These networks may be formal organizations or they may be informal associations of people and organizations with shared interests in EE. The field of EE is strengthened and elevated through collaborations within and across government agencies or ministries, NGOs, corporations and businesses, funders, communities, schools, educators, and more. Through cooperation, EE stakeholders can share and learn effective practices, create and innovate programs and initiatives, and leverage greater capacity for systemic change.

Canada

The Canadian Network for Environmental Education and Communication (EECOM) is a member association of government agencies, NGOs, businesses, academics, nonformal educators, community organizations, schools, teachers, and more. Through networking and collaboration, EECOM strives to ensure all Canadians are environmentally literate, engaged in environmental stewardship, and contributing to a healthy and sustainable future.

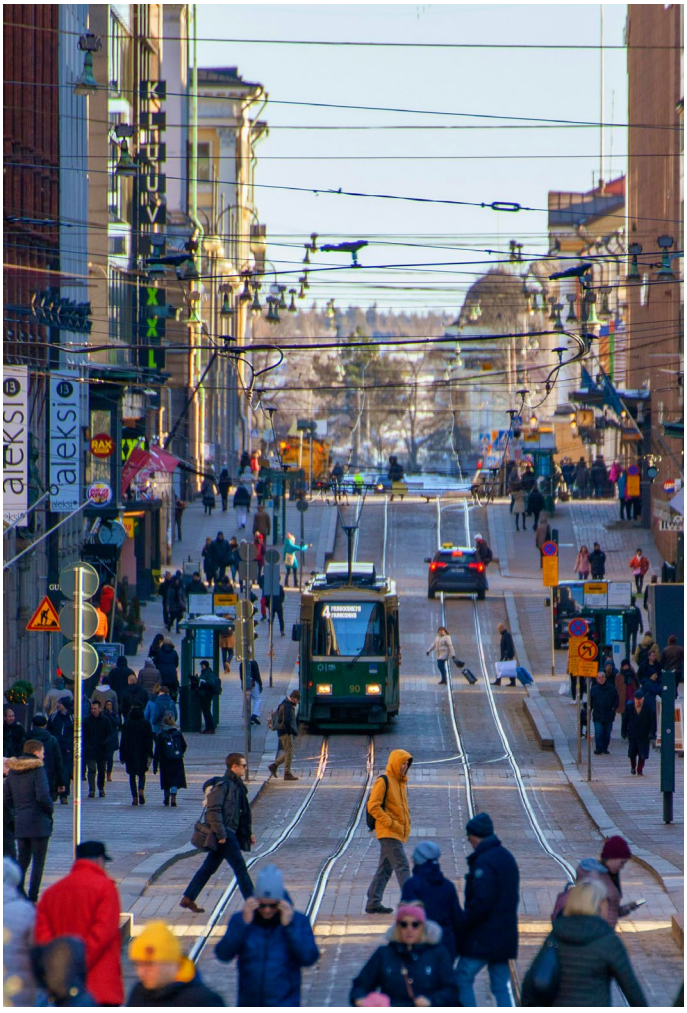
Finland

In Finland, several ministries and NGOs collaborate to advance EE at the local, regional, and national levels. The Ministry of Environment, Ministry of Education and Culture, and the National Board of Education cooperate in national and regional programming. Both the Ministry of Environment and Ministry of Education and Culture subsidize organizations that offer EE services for schools and communities. Two national associations also instrumental in EE are the Association for EE in Finland (Suomen Ympäristökasvatuksen Seura, FEE Finland) and the Association of Nature Schools and Environmental Schools (Luonto- ja ympäristökoulujen liitto, LYKKY) Regional associations are also active.

International

The Global Environmental Education Partnership (GEEP) champions EE around the world using the power of education to create a more just and sustainable future, where people and nature thrive. GEEP is a global network and platform that shares best practices to improve the quality and quantity of EE around the world.

The International Union for Conservation of Nature (IUCN) is a diverse environmental network of more than 1,400 member organizations and 15,000 experts. IUCN implements conservation projects worldwide that combine the latest science with traditional knowledge of local communities to work to reverse habitat loss, restore ecosystems, and improve people's well-being.



Questions to Consider

National Governments, Mandates, Laws, and Policies

1. How is EE reflected in your country's constitution, executive orders, acts, or other national policies?
2. Which international initiatives and declarations on EE has your country signed on to (i.e., ESD for 2030, the Greening Education Partnership, others)?
3. Which government agencies are involved in EE? What are their roles and responsibilities for EE? Note if they are local, regional, provincial, or national in scope.

IGOs and NGOs

4. What IGOs and NGOs are involved in EE in your country? How does EE fit into their work? Note if they are local, regional, provincial, or national in scope.

Collaboration and Networks

5. In what ways do the agencies, IGOs, and NGOs in your country collaborate? How effective are their collaborations?
6. Who are the leaders of EE in your country? Is there a strong alliance or network for EE?
7. In what ways are agencies, IGOs, and NGOs in your country connected to international EE initiatives? How much do they collaborate with and learn from other countries' EE programs?
8. In what ways are agencies, IGOs, and NGOs fostering sustained and effective leadership through mentoring, succession planning, and other strategies?
9. How are networks and partnerships creating and advancing innovative approaches, such as youth movements?

IV. Programs: How Is EE Delivered in Your Country?

The term "program" is used to mean an integrated sequence of planned educational experiences and materials intended to reach a particular set of objectives. EE programs, taken together, are the methods by which an organization's education goals are accomplished. EE program components vary depending on the country, context, objectives, and intended audiences.

Program Types

Formal

Formal EE programs are delivered in the formal education system, which includes early childhood, primary and secondary schools, universities, community colleges, and vocational colleges. EE may be part of a standardized curriculum for all students in a school or it may be a curriculum delivered for certain grade levels. The curriculum may be nationally mandated or locally determined. Alternatively, it may be offered as a supplement to the school's curriculum and delivered based on the interest or commitment of school leadership, teams of teachers, or even individual teachers. Instruction in EE may be delivered by teachers and faculty, or guest instructors from the community or NGOs. When integrated across the curriculum, EE draws upon the interconnectedness of the natural and physical sciences, social sciences, and humanities. An advantage to formal EE programs is they can reach a broad population of students who might not otherwise have access to high-quality learning about the environment.

Examples of formal EE programs

- **Green Schools** refers to a category of programs and recognitions for schools that typically address a combination of sustainability-focused lessons or units, auditing and improving school site performance, and engaging in community programs. Eco-Schools, a program of FEE, is the largest global green schools program engaging approximately 50,000 schools in more than 90 countries.

- Chile's Environmental Ministry oversees the National System of Environmental Certification for Educational Establishments, which gives a certification to K-12 schools that develop methodologies and strategies for EE practices.
- **Nature-based Schools** organize their learning experiences to be mostly or exclusively outdoors. These are more common for early childhood and primary grade levels than upper grade levels. Nature-based preschools use nature and natural elements to address a child's development of cognitive, physical, emotional, aesthetic, and spiritual domains, plus ecological identity. (See NAAEE's Natural Start Alliance and Nature-Based Preschool Professional Practice Guidebook.) Forest Schools situate all or most learning in a natural outdoor setting. Student learning is self-directed through exploration, discovery, and connections, with trained educators facilitating the learning process.

Formal Education is the hierarchically structured, chronologically graded education system, running from primary school through the university and including general academic studies, as well as a variety of specialized programs and institutions for full-time technical and professional training. K–12 and tertiary education from colleges are characterized as formal education. Source: K–12 Academics. Formal Education. 2021. Retrieved from https://www.k12academics.com/Education%20Worldwide/Education%20in%20the%20Philippines/formal-education

Nonformal Education is institutionalized, intentional, and planned by an education provider. The defining characteristic of nonformal education is that it is an addition, alternative, and/or a complement to formal education within the process of the lifelong learning of individuals. It is often provided to guarantee the right of access to education for all. It caters to people of all ages, but does not necessarily apply a continuous pathway-structure; it may be short in duration and/or low intensity. Source: International Standard Classification of Education. Non-formal Education. 2011. Retrieved from International Standard Classification of Education (ISCED) 2011

Some use nonformal and informal education interchangeably, while others apply specific criteria to differentiate them.

Nonformal

Nonformal EE programs are developed and implemented by community-based groups, service organizations, government agencies, residential centers, nature centers, zoos, aquariums, museums, youth organizations, out-of-school organizations, and others. They take place in a variety of settings, such as parks, forests, neighborhoods, laboratories, online, school yards, vacant lots, school courtyards, business districts, nature centers, and community gardens. Some also take place within schools as supplemental programs that enrich the school's established curriculum. Nonformal EE programs tend to be locally focused in both the themes and issues that they address, and in how they are delivered by local organizations.

Example of a nonformal EE program

- Offered in over 60 countries, the Roots and Shoots program of the Jane Goodall Institute offers a four-step process to create positive change for people and the environment through service projects. It is typically delivered as an enrichment program in schools.

Who Are Environmental Educators?

Not surprisingly, many environmental educators work in nature centers, parks, museums, zoos, and other institutions, connecting people with nature and helping to build stewardship values that can last a lifetime. Others work with teachers, administrators, and school boards to integrate EE into curricula, conduct teacher training, and help schools green their buildings and schoolyards. And some are university professors, training the next generation of educators and environmental professionals. Still others work in government ministries and agencies, creating and implementing policy, as well as providing resources, training, and programs.

But environmental educators aren't limited to educational settings. Some work with businesses, helping managers and employees establish sustainable workplaces. Others work with doctors, nurses, and other health professionals to increase understanding about the link between public health and the environment. Many work alongside conservation professionals, helping communities address environmental problems. And others work with journalists, decision makers, and others to advocate for science education. Environmental educators have a place in all sectors of society.

graphy

Curriculum Development and Instructional Materials

High-quality EE depends upon quality curriculum and instructional materials and qualified educators. In some countries, governments at the national, provincial, or local level develop and disseminate a standardized curriculum and accompanying instructional materials for use with students at all grades or selected grades. In other places, governments and NGOs develop learning standards that define what students should know and be able to do at specific stages in their learning. These standards may be specific to EE, such as environmental literacy plans (see below). Academic standards in other disciplines (such as civics, language arts, or science) also address concepts that contribute to environmental literacy. School graduation requirements are another way that governments promote environmental literacy for their populations. These requirements are typically tied to academic standards and measured through performance assessments at the secondary level. These standards and requirements inform the design and content of school curricula.

Instructional materials include activity guides, lesson plans, assessments, and other resources that bring the curricula to life for educators and their students. They may be developed by individuals or teams of teachers, community groups, NGOs, governments, and others. High-quality EE materials reflect key characteristics, such as being accurate and inclusive, building skills and depth of understanding, personal and civic responsibility, instructional effectiveness, and usability. In places with learning standards, correlating instructional materials to these standards facilitates adoption of the materials by educators who are held accountable to the standards.

Examples

- Italy requires that climate change and sustainable development education be addressed as part of its national Civic Education curriculum. Learners at all grade levels are required to receive 33 hours a year to discuss climate and ecological issues.
- In the US, most states offer environmental literacy plans, which are state-specific comprehensive frameworks that support school systems in expanding and improving EE programs. In the US state of Maryland, the state board of education mandates that students must complete an environmental literacy requirement to graduate from high school. These plans are developed by coalitions of NGOs, educators, and government agencies, but don't carry a mandate that is enforceable.
- The Foundation for Environmental Education (FEE) Academy offers free professional development courses for educators seeking to integrate environmental literacy across subjects and grade levels. Participants gain strategies and resources to teach students about complex sustainability issues through active learning pedagogies from experienced experts. Whether attending sessions on waste reduction techniques or facilitating outdoor education, teachers walk away with ideas and approaches that build students' skills in systems thinking, analytical problem-solving, and evidence-based actions regarding human-environment interactions. By investing in environmental educators, the FEE Academy aims to create a future generation of sustainability-minded citizens and leaders prepared to address pressing 21st century ecological challenges.

Curriculum

The term curriculum refers to the lessons and academic content taught in a school or in a specific course or program. Depending on how broadly educators define or employ the term, curriculum typically refers to the knowledge and skills students are expected to learn, which includes the learning standards or learning objectives they are expected to meet; the units and lessons that teachers teach; the assignments and projects given to students; the books, materials, videos, presentations, and readings used in a course; and the tests, assessments, and other methods used to evaluate student learning. An individual teacher's curriculum, for example, would be the specific learning standards, lessons, assignments, and materials used to organize and teach a particular course.

Source: Glossary of Education Reform. Retrieved from https://www.edglossary.org/curriculum/

Academic/Learning Standards

Learning standards are concise, written descriptions of what students are expected to know and be able to do at a specific stage of their education. Learning standards describe educational objectives—i.e., what students should have learned by the end of a course, grade level, or grade span—but they do not describe any particular teaching practice, curriculum, or assessment method (although this is a source of ongoing confusion and debate).

Source: Glossary of Education Reform. Retrieved from https://www.edglossary.org/learning-standards/

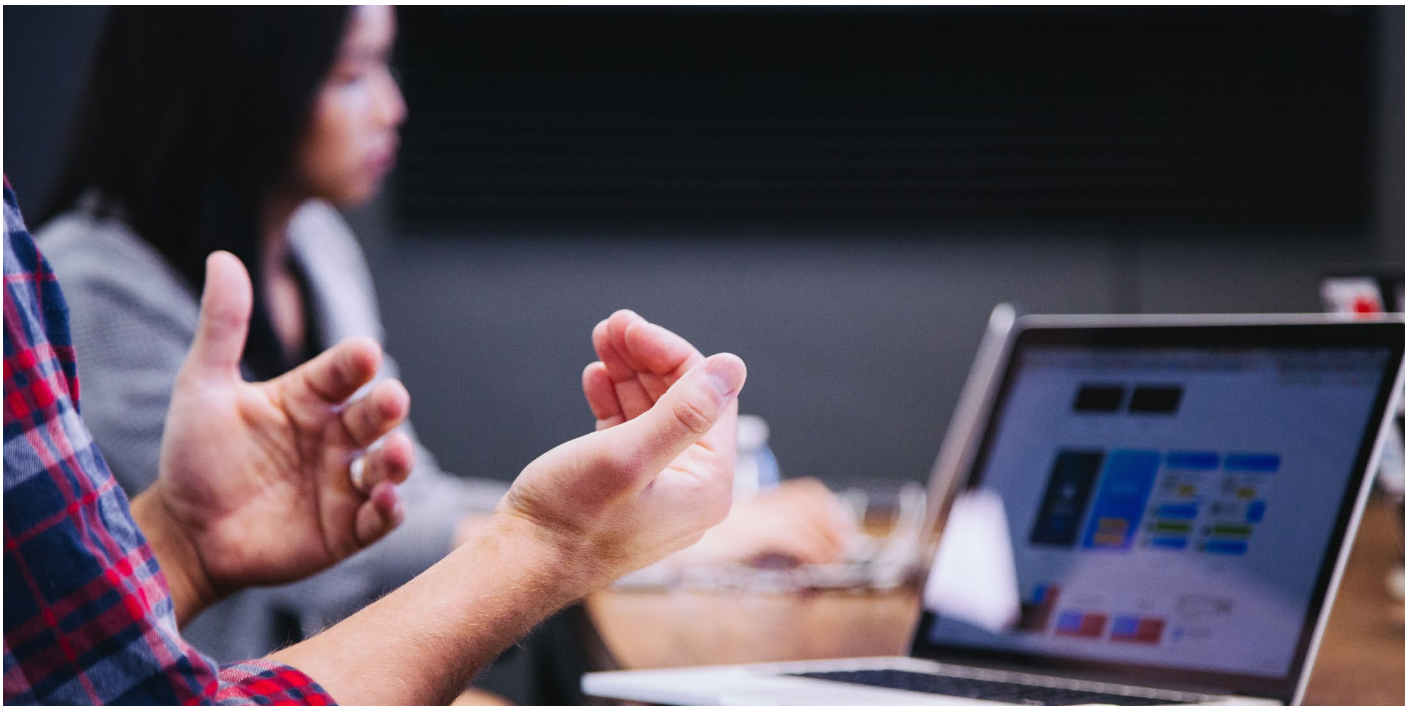
Climate Change Education Across Curricula

An analysis by UNESCO in 2021 found that about half of the national curriculum frameworks of 100 countries did not mention climate change, and others only briefly included it. This deficiency is reflected in a knowledge gap among young people, with a 2022 UNESCO survey revealing that 70% felt they lacked the knowledge to explain climate change.

The problem extends beyond curriculum content to teacher preparedness, as a 2021 UNESCO survey showed that 40% of teachers felt unable to assess students' ability to engage with education for sustainable development (ESD), and 33% could not assess interdisciplinary topics in ESD.

Furthermore, climate change education tends to be confined to science and social science subjects, emphasizing earth science, environmental science, or biology. This narrow approach fails to connect climate change to broader societal and global efforts addressing human behavior and the root causes of climate change. A survey of K-12 educators and administrators in the United States by Edge Research and NAAEE found similar data, highlighting that educators do not feel informed or confident to teach about climate change and don't feel that they have the relevant resources they need. They also said that they wanted climate change to be taught across the curriculum, but that wasn't happening and that they didn't have the support they needed to integrate climate change into their teaching.

Source: UNESCO 2023, Greening every curriculum: Development of the Greening Curriculum Guidance. Retrieved from Greening every curriculum | UNESCO. Edge Research and NAAEE 2023, The State of Climate Change Education Findings from a National Survey of Educators.



Professional Development and Training

Providing EE professionals, teachers, business leaders, and others with training and support is critical to the success of EE programs. Professional development opportunities also foster connections with educators and practitioners from other fields, which can strengthen interdisciplinary learning and expand the reach of EE. Professional development can take many forms:

- **Inservice** professional development occurs as part of a person's employment and builds expertise within their profession or occupation. It is a common form of training for school teachers and nonformal environmental educators working in schools and NGOs. Within the field of EE, inservice teacher professional development is often designed and delivered by nonformal EE professionals.

  Outside of the education field, this form of training is more commonly called **staff development or corporate training**. Governments, businesses, foundations, and others provide professional development for their employees in sustainability and EE. These programs may be designed and delivered by nonformal EE professionals.

- **Preservice** training is provided for students in higher education degree programs. They may be studying to become teachers or may be enrolled in other disciplines that care about sustainability (e.g., business, natural resources, economics, social studies, etc.). These programs are typically delivered by faculty or nonformal EE professionals. Some teacher certification programs require coursework or training in EE to become certified.
- **Courses, workshops, webinars, and other events** are often selected by teachers and EE professionals to advance their knowledge, skills, and practices in delivering high-quality EE programming. These trainings can also help participants to develop the capacity to lead programs, mentor others, create materials and training for others, and become skilled EE professionals.

Professional development and training programs may address any number of topics that build individual expertise and organizational capacity for high-quality EE programs. These topics include but are not limited to sustainability themes, curriculum and instructional material development, adult training and professional development, pedagogy and teaching youth, program development and evaluation, project management, leadership development, policy and advocacy, civic engagement, communications and outreach, and more.

Questions to Consider

Program Types

1. How is EE being implemented in your country? Note if programs are local, regional, provincial, or national in scope.
2. How effectively is EE integrated into formal education, including early childhood through college? What are the barriers to integrating EE into formal education?
3. How effectively is EE integrated into nonformal education? What are the barriers to integrating EE into nonformal education?

Curriculum Development and Instructional Materials

4. What EE curricula programs are available to formal and nonformal educators?
5. How is EE implemented as part of a standardized or supplemental curriculum? Are there gaps in audiences, geographic places, or concepts being addressed? Note if the curricula are local, regional, provincial, or national in scope.
6. If your country, province, state, or other entity applies academic standards, how well do they address EE? Do EE programs and frameworks in your country align or correlate to academic standards and how are they assessed?

Professional Development and Training

7. What types of professional development are provided to formal educators to help them integrate EE into their curricula and instruction? What is the quality of the professional development?
8. What types of professional development are provided to nonformal environmental education professionals to help them strengthen their programs? What is the quality of professional development?
9. What types of training programs are provided to government, corporate, business or other employees to build their knowledge, skills and practices related to sustainability? What is the quality of these training programs?

V. Quality Assurance: How Is High-Quality EE Cultivated in Your Country?

A strong national EE program depends upon high-quality components, ranging from the development of curriculum and instructional materials, to the preparation of environmental educators, teachers, and other professionals, to the design and evaluation of effective programs and more.

Guidelines for Promising and Effective Practices

Programme for International Student Assessment (PISA)

One example of providing guidelines for excellence in learning is the Organisation for Economic Co-operation and Development's (OECD) Programme for International Student Assessment (PISA), first implemented in 2000. OECD, an intergovernmental organization of industrialized countries, administers PISA, which is a system of international assessments designed to measure 15-year-olds' knowledge and skills in reading, mathematics, and science. To help ensure that the assessments are relevant and timely, PISA, which is administered every three to four years, is revised approximately every decade. In the 2022 revisions to the science framework, OECD convened a group of environmental science education experts, asking them to create a supplement focused on knowledge and skills relevant to the environment, climate change, and other pressing sustainability challenges. Describing the concept of Agency in the Anthropocene, the supplement emphasizes the importance of being able to explain the impact of human actions on Earth's systems, making informed decisions to act based on diverse sources of evidence, and demonstrating hope and respect for diverse perspectives (White et al., 2023, p. 16).

North American Frameworks and Guidelines

NAAEE's Framework for Assessing Environmental Literacy focuses on the types of knowledge, competencies, and behaviors associated with environmental literacy. Many of the general skills and strategies that make up environmental literacy are broadly applicable to other social issues. Because many environmental and social problems are inextricably linked (e.g., access to water, food, or energy resources; proper methods of disposing of and treating sewage or solid waste), the development of environmental literacy can support a more comprehensive understanding and sustainable approach to addressing complex issues.

The National Project for Excellence in Environmental Education offers guidelines for the development of balanced, scientifically accurate, and comprehensive EE programs and materials. Quality EE programs develop an environmentally literate population that has the skills, knowledge, and inclinations to make well-informed choices and exercises the rights and responsibilities of members of a community and global economy. This six-part series provides guidelines for excellence in early childhood, K-12 education, EE materials, EE programs, community engagement, and the preparation of environmental educators.

Certification and Accreditation

Certification of Environmental Educators

Professional certification ensures that individuals are fully prepared for work within a specific field of expertise. Certified environmental educators meet stringent requirements for proficiency in both the interdisciplinary content and pedagogy necessary to develop and deliver high-quality, effective EE programs.

While it is not necessary to be certified to work as an environmental educator, certification readily distinguishes highly qualified professionals and enhances the resumes of those who have attained it. Having a community of certified professionals also elevates respect for the profession. Certification programs vary and may require a combination of approaches based on experience, courses, mentorships, and demonstrating achievement of specific criteria. Much like with the accreditation of colleges and universities, some countries recognize programs that certify environmental educators, determining the programs meet rigorous standards.

Examples

- The Republic of Korea's Environmental Education Promotion Act, passed in 2008, provides for the certification of nonformal environmental educators who design, deliver, and evaluate EE programs and provide systemic EE at the national and local levels. It also allows for the designation of EE Centers responsible for training educators, developing and distributing EE instructional materials, and otherwise supporting and promoting EE nationally and locally.
- In Taiwan, environmental education professionals can be certified through one of six approaches: education, experience, expertise, recommendation, examination, and training. Environmental educators can be trained in certified EE facilities or institutes.
- In the US, 15 states certify environmental education professionals. NAAEE offers a program to accredit state certification programs based on the Professional Development of Environmental Educators: Guidelines for Excellence.

Higher Education Accreditation

Some countries provide accreditation of higher education programs that engage in the preparation and professional development of environmental educators. These third-party, standards-based recognition programs ensure that environmental educators possess the knowledge and abilities to provide high-quality education to diverse audiences in various settings. Regardless of the EE program setting—whether in rural, suburban, or urban areas—environmental educators need practices and materials that effectively foster a high standard of environmental literacy.

Examples

- NAAEE's Accreditation program recognizes colleges and universities that meet the Professional Development of Environmental Educators: Guidelines for Excellence. Interested institutions complete a self-study audit showing evidence toward meeting six themes detailed in the Accreditation Manual. Twelve US colleges and universities are accredited as of 2022.

Certification of Environmental Education Institutions

Some countries certify organizations and institutions that deliver EE programs. These programs are often related to the certification of environmental educators.

Examples

- Through it law on Environmental Education and Training of Citizens, Armenia certifies institutions and organizations that deliver EE.
- The Wildlife Habitat Council (WHC) consults with companies on their sustainability and biodiversity efforts. WHC's certification program, called Conservation Certification®, is "the only voluntary sustainability standard designed for broad-based biodiversity enhancement and conservation education activities on corporate landholdings" Forty-seven U.S. states and 28 countries currently hold Conservation Certification® from WHC.

Evaluation and Research

High-quality EE can demonstrate that it is making a difference for people and the planet. The goals of EE are bold and there are rarely enough resources to implement all good ideas. Evaluation offers a systematic way to understand what is and is not working in a program. It provides information and evidence about a program's performance and informs decision-making. Should a program be continued? Scaled up or down? Refined for some audiences or expanded to reach new ones? Beyond informing program improvements, evaluation is also useful for communicating about the role and value of EE, raising additional funding to support individual programs or the field more broadly, and improving overall practice in the field to optimize impact.

Capacity to conduct evaluations and research is vital to a strong field of EE. Key components to capacity are professional evaluation practice through consultants and/or program staff, organizational commitment to evaluation, and investment by funders. Countries with robust evaluation and research capacity tend to have an active and collaborative community of professional evaluators with expertise in EE. However, program providers can apply evaluation processes on their own to measure progress toward their individual or collective goals.

EE programs vary tremendously in their goals, designs, audiences, partners, duration, settings, results, and more. Common results for EE programs, known as "outcomes" in evaluation terms, are environmental knowledge, skills, and behaviors; sense of place and connection to nature; civic engagement and community action; and much more. There is no single "right" outcome and most EE programs address more than one.

Culturally responsive and equitable evaluation (CREE) is an important and emerging shift in evaluation. CREE seeks to ensure that the practice of evaluation itself—not only the programs being measured—contributes to healthier communities and more just and equitable outcomes for all people. It attends to the rich diversity that exists in EE programs regardless of age, sex, disability, race, ethnicity, origin, religion or economic or other status. It embeds values of equity and inclusion in evaluation processes, to move beyond past injustices for marginalized communities.

What's the Difference?

It is common to hear people using the verbs "assessing" and "evaluating" interchangeably when talking about how they seek to measure a program's success. But these verbs mean different things within the field of evaluation. A useful way to distinguish between them is by the audience. Generally, we assess people and we evaluate programs. Another distinction is between evaluation and research. Again, evaluation is used to measure change in a program. Research looks at multiple evaluations or studies to create and generalize new knowledge for a wider population.

- Assessment seeks to measure change in an individual. Are program participants gaining new knowledge, skills, attitudes, or behaviors? Assessments provide information on the effectiveness of program activities.
- Evaluation seeks to measure a program's progress toward its goals. Is the program creating desired change in people or places? Evaluation provides information for making decisions about programs.
- Research seeks to generate new knowledge and understanding. In what ways does EE contribute to a population's environmental literacy? Research findings are generalizable beyond a program's participants to a wider population.

In some countries, EE thought leaders from government, NGOs, academia, foundations, and other partners pursue research agendas to demonstrate the value, impact, and effective practices of EE broadly. These research initiatives examine the findings of multiple evaluations and studies to generalize and publish evidence-based results of EE. This research can strengthen the understanding of policy makers and the public about the essential role of EE in tackling global, national, regional, and local challenges.

Examples:

- Brazil's National Environmental Education Program provides for the monitoring and evaluation of programs and projects in EE.
- The International Zoo Educators Association and World Association for Zoos and Aquariums' Social Change for Conservation:The World Zoo and Aquarium Conservation Education Strategy (2020) identities a goal to "Strengthen the evidence of the contributions, value, and impacts of conservation education by zoos and aquariums."
- The Association for Zoos and Aquariums' Social Science Research and Evaluation Scientific Advisory Group advances social science-based research and evaluation for members' conservation education and other programs.
- In North America, the eeWORKS Anecdotes to Evidence initiative examines existing research within the field through a series of systematic literature reviews to communicate and share the role of EE in achieving conservation and environmental quality-related outcomes and impacts.

Questions to Consider

Guidelines for Promising and Effective Practices

1. What guidelines and framework exist to advance, review, and assess the quality of EE curricula and programs?

EE Accreditation and Certification

2. Are there accreditation programs for colleges and universities that confer degrees in or relate to EE? What is the quality of the program?
3. What certification programs exist to review and assess the quality of organizations and institutions that deliver EE? What is the quality of this certification program?
4. What certification programs are available to professional environmental educators to develop their expertise and verify their credentials? What is the quality of the program?

Evaluation and Research

5. How are agencies and organizations using evaluation to demonstrate and communicate the impact of EE programs?
6. How are the results of evaluations shared within the EE community and more broadly with stakeholders who care about EE programs?
7. How well are evaluation results being shared as a way to improve the overall practice of EE in your country? Are program providers sharing what is working well and where improvements can be made?
8. How well do EE program funders support evaluations as part of EE program design and implementation?

VI. Funding: How Is EE Funded in Your Country?

Stable, dedicated, and diverse funding is critical for EE program success. Funding sources vary by how EE is organized in your country, EE program types and purposes, intended audiences, and other factors. It is also affected by a country's culture of philanthropy, especially by private funders such as corporations, foundations, and individuals. Funding may be provided by governments, IGOs, NGOs, foundations, corporations, and/or individual donors. Funding for related social goals can often be an important source of support for EE programs. Initiatives that advance youth development and employment, green job and career readiness, civic engagement, walkable communities, urban agriculture, and more can and do fund EE directly and indirectly. Having diverse sources of funding creates greater stability and sustainability for EE programs.

Government

Government agencies and ministries with authority over EE policies and mandates can be one of the largest sources of funding in a country. They may fund educational priorities at the national, provincial, state, or local level; form cooperative agreements and pass funds to specific organizations and programs; and offer competitive grants. They may provide direct support for EE programs. In addition to funding for programs, government agencies and ministries often contribute funding for research and innovation, as well as organizational and staff expertise, to advance knowledge in effective policies, programs, and practices in the field of EE.

Examples

- Benin's Ministry of the Living Environment and Sustainable Development contributes financial support to environmental projects through the National Fund for Environment and Climate.
- Fonds Français pour l'Environnement Mondial (French Facility for the Global Environment) was established by the French government in 1994 to advance sustainable development projects in developing and emerging countries. They have supported more than 350 projects in over 120 countries, mostly in Africa and the Mediterranean, including EE.
- In Taiwan, a number of ministries support environmental education, including the Ministry of Environment and the Ministry of Education.

IGOs and NGOs

Intergovernmental and non-governmental organizations fund EE in many countries. They may design and deliver their own EE programs, partner with organizations for programming, and/or fund initiatives designed to address a country's unique needs.

Examples

- The Inter-American Development Bank (IADB) provides financial and technical support to countries in Latin America and the Caribbean. With a goal to foster sustainable and climate-friendly development, IADB makes investments to improve health, education, and infrastructure while working to reduce poverty and inequality. IADB's educational initiative Súbete Bid Cambio Climático seeks to educate young people about climate change and supports them to achieve viable, sustainable, and long-term solutions to combat its effects.
- The Sustainable Forestry Initiative advances sustainability solutions through third-party certification of forest products, conservation research, community engagement, and EE. Annually, it provides small grants to support EE initiatives across Canada and the US through its Community Grants Program.

Foundations

Foundations are active funders of EE in many countries. They tend to fall into three categories: community, family, and private. Each type may design and deliver their own initiatives, partner with and pass funds to selected organizations, and/or offer competitive grant programs.

Examples

- Fondo Verde (The Green Fund) partners with local environmental organizations, with Latin America as a priority geographic region. In 2021, they had active projects in Bolivia, Dominican Republic, Mexico, Peru, and Spain.
- Pisces Foundation supports collaboration between the EE community and other stakeholders to increase EE in the lives of children. They support research, professional development, and innovative approaches to infuse EE in and outside of schools.

Corporations and Businesses

Corporations and businesses are a substantial source of funding in many countries for major philanthropic causes, such as education, environment, health and well-being, community improvement, sustainability, economic empowerment, diversity, equity, inclusion, justice, and more. Because EE addresses so many issues of economic, environmental, and social significance, it often aligns well with corporate priorities. Some corporations preselect the organizations and programs that they support, while others invite solicitations or proposals on a periodic basis. Some also advance EE through visitor and educational centers, as well as internal staff training programs.

Most corporations offer one or more channels for funding organizations and programs, making it important to research all the options.

- Sponsorship of programs and events, often funded through their marketing budgets.
- Grants to support programmatic and/or operational expenses, often funded through company foundations or philanthropic divisions.
- Grants, sponsorships, and/or partnerships through their Corporate Social Responsibility programs, which invest funds and other resources to advance shared societal goals.
- Corporate matching of employee gifts to charitable causes.
- In-kind donations of employee time and expertise, goods, and services to benefit an organization or program.

Examples

- Panasonic's Green Plan 2018 seeks to provide EE to 2 million students around the world. Panasonic partners with UNESCO, local governments, and others to provide EE through its Eco Learning Programs in China, Myanmar, and Vietnam. Programs are tailored to local cultures and needs, with the goal of providing climate change and conservation education and project-based learning.
- Nissan's Waku-Waku Eco-School provides students aged 11–12 with opportunities to learn about climate change-related issues and Nissan's environmental initiatives, including education and projects involving electric vehicles. This program has been piloted with Nissan's subsidiary companies in the U.K. and China. The Japan program has reached over 100,000 students since its initial launch in 2008 and is being piloted in the U.K. and China.
- As part of their company-wide sustainability efforts, Suntory provides EE to tens of thousands of their employees. Suntory offers many different EE courses, including an environmental management course, a sustainability management training, and environmental law training. Beyond EE courses, Suntory employees participate in environmental-focused efforts and volunteer at the Suntory Natural Water Sanctuaries.
- The Alcoa Foundation supports programs in communities where they have a presence, in nearly a dozen countries. A priority is "contributing to more equitable access to education and skills development, especially for underrepresented and underserved populations." The Foundation for Environmental Education (FEE) is one of their partners, supporting a global K-12 environmental literacy initiative focused on Green STEM as part of FEE's Eco-Schools Program.
- Deloitte offers programs that incorporate EE into their employee education and organizational consulting services. They recently invested $1 billion to expand the Sustainability and Climate programs, including "build[ing] on its efforts of empowering individuals as part of its WorldClimate strategy by offering a robust curriculum of sustainability training courses to all 345,000 professionals along with its clients and suppliers. The curriculum will be offered virtually and through the network of Deloitte Universities."

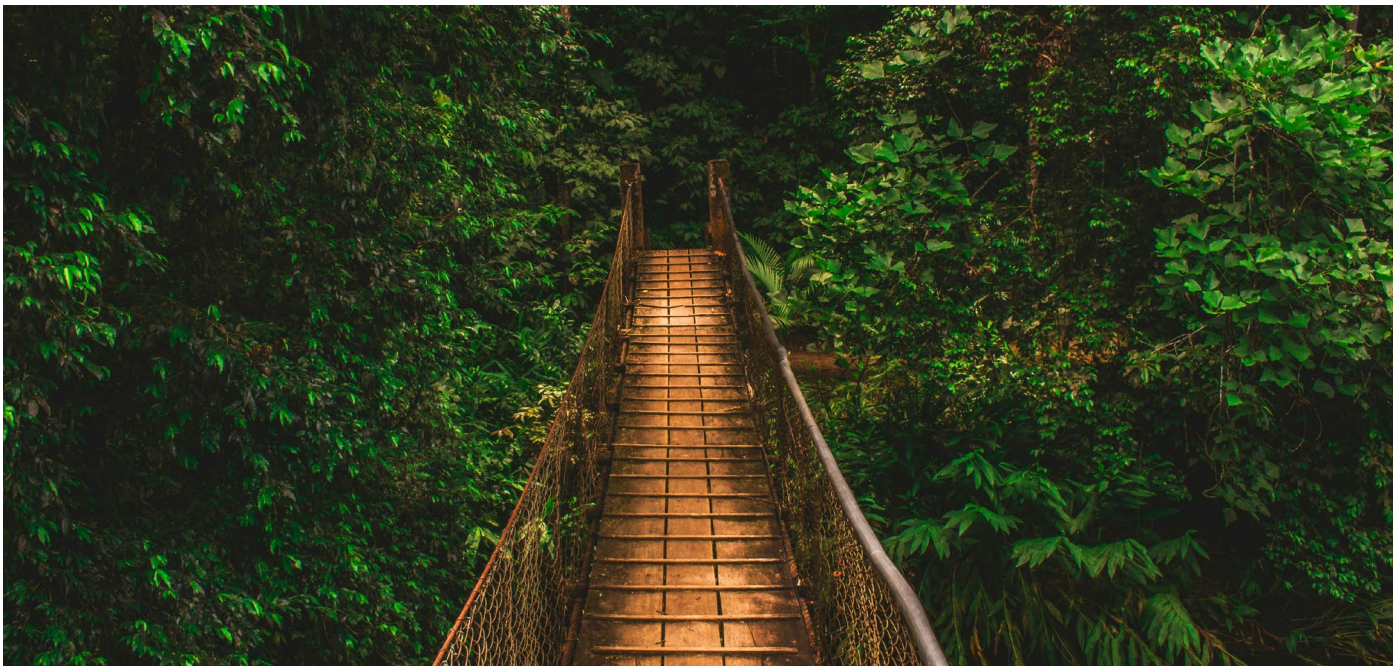
Individual Donors

In some countries, donations from individuals account for the largest source of charitable giving, as much as 70% or more of total donations. Individuals may make one-time gifts to an organization, or recurring donations on a monthly, yearly, or other basis, or join as members of a nonprofit organization. Collectively, individual donors support causes at all levels, from national to provincial/regional to local. Some are major donors, who give fewer, very large gifts, while most give smaller gifts more frequently. Many donors also provide charitable donations through their wills and bequests, called planned giving.

Questions to Consider

1. In what ways do the following types of funders support EE in your country?
   - Government agencies
   - IGOs and NGOs
   - Foundations
   - Corporations and businesses
   - Individual donors
2. How stable, sustainable, and diverse is funding for your country's EE program?

VII. Action Planning



Guidance for Next Steps

After assessing some or all of the components of EE in your country, what comes next? Identifying next steps will allow you to build on strengths, fill gaps, and enhance environmental literacy to tackle issues and needs of greatest importance to your country.

Strong and successful EE programs are multifaceted and multilateral. As you begin to assess some or all components of EE in your country, it will be critical to collaborate with others. No one organization can do this work alone and it's important to build on the progress, ideas, and partnerships already taking place. Through cooperation, you are able to learn from each others' perspectives and experiences, generate more creative and innovative ideas, build enthusiasm and momentum to take action, grow the capacity to tackle large and small actions, and broaden the interest and commitment for EE generally.

One way to initiate collaboration is to engage with key stakeholders in your country's EE community. Reflecting on your answers to questions in the preceding sections, what individuals and organizations are now involved in EE in some way? Are there networks or alliances of people and organizations already focused on EE? Common stakeholders are government officials, NGO staff and volunteers, EE practitioners, funders, landowners, community leaders, schools, educators, and youth.

Think also about people who are the most affected by environmental and social issues and problems, but whose voices are too often overlooked in defining problems and designing solutions, such as people from historically marginalized communities. You may choose to form a core team who will collaborate on the process of developing a plan, or invite stakeholders at key junctures in your process, such as identifying gaps in EE, brainstorming or prioritizing actions, serving as ambassadors or advocates to build support for EE generally or specific actions, and more.

What are the next steps to take? They depend on your country's needs and where you and others see as areas of greatest need or impact. Some possible actions include:

1. Collaborate with key stakeholders and constituents to assess the status of EE in your country.
2. Identify 3-5 action steps that are feasible for your organization or a consortium of organizations. These actions might build on areas of strength, address areas of improvement, or fill key gaps.
3. Conduct a survey of educators, stakeholders, or others to gather data on needs for the future.
4. Form a working group to identify next steps, establish a timeline, implement actions, and monitor progress.

Planning Prompts

The prompts below are designed to help you generate strategies and actions in response to what you and others identified as strengths and gaps in the Questions to Consider of each discussion guide section. Armed with a list of potential strategies and actions, a next step is to prioritize them based on importance, urgency, or other factors relevant to your country. In tandem to prioritization, you may also want to identify what people and organizations would affect or be affected by the strategy or action, and who is best suited to play a role in its implementation.

Structure

Government Mandates or Policies

- What are the strengths and gaps in your government's mandates and policies?
- If you seek to introduce mandates or policies, what are effective approaches to enacting legislation? Who should be involved? What information is needed to make the case for policies that support EE?
- If you seek to strengthen implementation of existing mandates or policies, how can you work with the agency or ministry responsible to leverage greater action? How can you promote the impact and importance of EE legislation?

Networks and Collaboration

- What are the strengths and gaps in collaboration for EE?
- If a strong network or alliance does not already exist, how might you build one or strengthen what already exists?

Programs

Program Types

- What are the strengths and gaps in the types of EE programs delivered in your country?
- What are strategies to build on your strengths and fill your gaps?

Curriculum Development and Instructional Materials

- What are the strengths and gaps in the availability of high-quality EE materials for formal and nonformal educators in your country?
- What are strategies to build on your strengths and fill your gaps?
- What are strategies to align or correlate EE programs and materials to academic standards?

Professional Development and Training

- What are the strengths and gaps in the availability of high-quality professional development and staff training for governments, NGOs, corporations and businesses, formal and nonformal educators, and others?
- What are strategies to build on your strengths and fill your gaps?

Quality Assurance

Guidelines for Promising and Effective Practices

- What are the strengths and gaps in existing guidelines?
- How can creating new guidelines or strengthening existing ones help to advance EE in your country?

Accreditation and Certification

- What are the strengths and gaps in the availability of accreditation and certification programs in your country?
- What are the strategies to build or strengthen an accreditation program for higher education?
- What are the strategies to build or strengthen a certification program for professional environmental educators?

Evaluation and Research

- What are the strengths and gaps in EE evaluation and research in your country?
- What are strategies to build on your strengths and fill your gaps?

Funding

- What are the strengths and gaps in funding EE in your country?
- What are strategies to optimize and diversify funding for EE?

Strengthening EE In Your Country

A Discussion Guide

This Discussion Guide is made possible with contributions from the following agencies and organizations, plus guidance from the GEEP Advisory Group, which represents leaders from around the world.