The National Environmental Education Action Plan 2018-2040

(VERSION 1)

LUNTIANG PUSO

BAYANIHAN • PAGTITIPID • MALASAKIT

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The National Environmental Education Action Plan 2018-2040 (Version 1)

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List of Acronyms

EE — Environmental Education

EFA — Education for All

ESC — Education for Sustainable Consumption

ESD — Education for Sustainable Development

ESCP — Education for Sustainable Consumption and Production

SDGs — Sustainable Development Goals

EXECUTIVE SUMMARY

Human capital development is the largest and most profitable long-term investment for any nation to invest in. Human capital is critical to national economic development and there is a strong correlation between quality education and economic performance. The world is constantly changing and the demands and challenges are persistently growing in volume and intensity. Quality education is a form of education that should be able to prepare the young to face such challenges and to be able to think critically. Education systems should not be limited by rigid and archaic forms of structures and syllabi that do not adapt to global needs, advancement and changes. Many countries across Europe and Asia have recognized the need to provide education that addresses the three pillars of sustainable development.

Respect, understanding and preservation of values and cultural heritage of the different communities should also be incorporated into educational designs to promote world peace and global citizenship. Social cultural values are important drivers towards sustainable development. The National Environmental Education Action Plan 2018-2040 is a comprehensive document aligned with local and global development agendas. It is a document that aims to enhance and complement education across the educational cycle in the Philippines through formal, informal and non-formal educational measures. The Action Plan presents the model of environmental education, in the context of sustainable development, in the Philippines and has identified local socio-cultural values as drivers towards sustainable development. It is divided into three phases: medium term, long term and foresight to foster proper planning and execution of the identified incremental strategies. The responsibility to educate and create awareness especially among students is a shared obligation that all stakeholders have a crucial part to play.

SETTING THE STAGE

1 SETTING THE STAGE

Education is one of the most powerful tools to develop and shape a nation. It is the national obligation of every nation to provide free and compulsory universal primary education to all children to fulfill the basic human rights of the children. The scope of education today has developed far beyond the basic skills of numeracy and literacy. Goal 4 of the Sustainable Development Goals (SDGs) clearly indicates the need to provide not just education but quality education. Education systems around the world are striving to provide 'quality education' to not only the young minds of the nation but to every citizen. Realizing the misleading message of quantitative data of the number of children attending schools and the number of new school buildings and other related physical infrastructure to measure the provision of quality of education provided course for the Jomtien Declaration 1990 in Thailand and Dakar Framework for Action 2000 in Bangladesh to progress towards the provision of quality education.

The World Education Forum 2015, organized by UNESCO on Quality Education describes quality education as education systems that "foster the conditions for global peace and sustainable development"[1]. This has provided clear direction for education systems around the world on what should be included in educational designs. Therefore, to ensure that the prescribed national level education is of substantial quality, it is necessary to incorporate knowledge and skills that promotes national and global peace and to educate students to understand and contribute towards sustainable development.

In addition, quality education also provides a practical reason for children to attend school and for parents to see the need to send their children to school. Quality education should be able to address the needs of the nation while keeping abreast with evolutions that are taking part in the world. The Education For All (EFA) Global Monitoring Report of 2005 clearly states that if education is of higher quality "individuals achieve their own economic, social and cultural objectives and helps society to be better protected, better served by its leaders and more equitable in important ways"[2]. It is deceiving to measure and claim that a nation fulfilled its responsibility of providing quality education to its children by computing the number of students who have or are merely attending school. This physical act of being present in school provides misleading quantitative data. The quality of education provided is best captured qualitatively because qualitative data paints the actual picture of what is imparted and received in the name of education. We should not be complacent with the growing number of physical educational institutions and ignore the need and responsibility of providing quality education to young minds.

1 United Nations Educational, Scientific and Cultural Organization. (2015). World education forum 2015: Final report. France: UNESCO.
2 United Nations Educational, Scientific and Cultural Organization. (2004). EFA Global monitoring report 2015: Education for all, the quality imperative. France: UNESCO.

MOVING
FORWARD

National and International Policy Cohesion

Building on the Jomtien and Dakar declarations, the Incheon Declaration on education titled Education 2030: Towards inclusive and equitable education and lifelong learning for all was yet another momentous development in the pursuit of providing quality education. Besides the charting of a common direction for education which is to provide quality, equitable and lifelong learning opportunities the World Education Forum witnessed the pledge of non-governmental organizations (NGOs) towards their civic society vision towards education post 2015. This clearly demonstrates that providing quality education to especially the young of the nation should be shouldered not only by formal educational institutions but also the civic society.

During the World Education Forum 2015, it was reiterated that culture plays an important role in the post 2015 education agenda. To achieve quality education, it is fundamental for education systems to strive to educate the young on global citizenship to maintain peace and harmony and to progress collectively. Respecting, understanding and accepting the culture of every society was seen as the key to achieving the Sustainable Development Goals.

The 1987 Brundtland Report defines Sustainable Development as the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Governments around the world have channeled their efforts to develop various policies, action plans and regulations to be: economically viable, socially just and environmentally sustainable but what remains the missing link in many countries is an educational framework that educates and informs the young of global issues, common threats, necessary affirmative

action and shared global agenda's such as the SDGs. This in turn impedes the young from having a broader view of the real world and hinders them from being aware of the current challenges and risk faced locally and globally. The failure to provide quality education with a global perspective stunts and limits the ability of people, students especially, to think critically and relate common academic subjects towards solving the problems we face today and to create a better future for themselves. Therefore, education systems that do not integrate knowledge on global agenda's and commitments have deprived the younger generation of their fundamental right by "compromising the ability of the future generations to meet their own needs"[3].

Global Citizenship is about how we live together, the values we share and cultural literacy.

To know the culture and heritage of others and your own.

UNESCO Director General Irina Bokova

3 NGO Committee on education of the conference of NGOs. (n.d). UN Documents: Gathering a Body of Global Agreements Our Common Future, Chapter 2: Towards Sustainable Development. France: UNESCO.

The agenda of sustainable development is and will remain relevant because it aims to protect the wellbeing of all. The relationship between human beings and nature has drastically changed over the centuries. Upon realization of the risks and potential detrimental short and long-term effects of unplanned and irresponsible development and economic activities, the agenda of sustainable development is striving hard and promoting for an ecological civilization, which tries to achieve harmony between humans and nature. Given the urgency of the situation, drastic national level action plans and policy amendments are fundamental to yield immediate results but the effect of education as a means towards sustainable development should not be discounted.

This Action Plan proposes a top down and bottom up strategy known as the "Bibingka Strategy". From the top – national level roadmaps, policies, legislation, incentives and enforcement and this is supported from the bottom by – education, awareness campaigns, programs and incentives. This strategy aims to expedite the effort to develop in a sustainable manner and enhance the quality of life of the Filipinos.

Understanding Education for Sustainable Development

Education for sustainable development (ESD) aims to educate and enable students and citizens to contribute towards sustainable development by empowering people, through education, to shoulder their responsibility of creating a sustainable future. It seeks to engage people from all walks of life, in bringing about changes for a better world. The aim and objective of education should not be focused on mere grades but should strive beyond to instill fundamental values and awareness to mold responsible citizens who are not self- centered or self-biased. Providing quality education is not the sole responsibility of the Agency dealing with education. Stakeholders across sectors have a role to play in changing the way education is delivered and ensuring we make decisions are made for a better future[4].

In the education fraternity, there are many different terms commonly used to relate to sustainable development. Terms such as education for sustainable consumption and production (ESCP), green schools, environmental education (EE), climate schools and education for sustainable consumption (ESC) are used in schools to deliver educational content related to sustainable development. These terms might have a slightly different focus but are predominantly focused on environmental concerns and issues and the dissemination of knowledge and creating awareness about sustainable development from an environmental lens. Besides educating students in the classrooms, sustainable education aims to reach and create awareness beyond the classrooms by making the boundary between school and community indistinct. This allows for classroom education to be related to real people in the community and eventually to solve real life everyday problems. The local community will also benefit from such activities and this would create a positive and functional relationship between school and community. ESD therefore should not be based on abstract concepts that students memorize facts about and regurgitate during exams to obtain good grades. Students should be allowed the opportunity to relate and apply abstract knowledge to the real world. Therefore, ESD should be based on a curriculum that is focused on learning to change the society. Ideally the curriculum design should be flexible enough to allow for the different schools and teachers to include local issues and problems in the teaching and learning process. In addition, to create an immersive environment the school compound or campus should be eco-restorative. It should be a representation or model of a balanced eco-system where sustainable practices and values are institutionalized. This will function as a prototype of an ideal environment.

4 United Nations Educational, Scientific and Cultural Organization. (2015). Incheon Declaration and SDG4 – Education 2030 Framework for Action. France: UNESCO.

The Role of Stakeholders in Education for Sustainable Development

Successful and effective ESD call for concerted effort. The UNECE affirms that "education must play a role in enabling people to live together sustainably"[5] and that this will require working with learners across all levels and types of education, formal, non-formal and informal. The different modes of education available, formal, in-formal and non-formal, should be capitalized to disseminate knowledge and awareness on sustainable education to people from different walks of life. The three modes of education are defined as below:

- **Formal education** is carried out in school, college and university systems and is based on an established curriculum and on approved teaching and assessment methods;
- **Non-formal education** occurs outside the formal system, but through other organized learning settings; and

- **Informal education** results from daily life activities related to work, family or leisure, and is provided within families, religious organizations, and community groups, as well as by news organizations, social media and various forms of entertainment.

Ultimately, learning to live in a sustainable way is a long-term proposition requiring everyone's attention and involvement. Various stakeholders such as policy-makers, institutional leaders, educators, youth, local authorities, and civil society organizations should collaborate towards initiatives to institutionalize, educate and disseminate knowledge and awareness on the Sustainable Development.

Global Programs

The UN Decade on Education for Sustainable Development 2005-2014 envisioned a world "where everybody has the opportunity to benefit from education and learn the values, behavior and lifestyles required for a sustainable future and for positive societal transformation"[6]. Education is an important tool to disseminate the necessary values, propagate the behavioral changes and encourage people to make more informed decisions in their everyday lives beyond simple justifications based on needs and affordability. The post 2015 education agenda is dedicated towards inclusive and equitable education and lifelong learning for all with culture as one of the main drivers to achieve the objectives set and to achieve peace and cultivate responsible people through the concept of global citizenship.

UNESCO member countries have each implemented national level programs to support the aims of the Decade for ESD. In Europe, the Ten Years of the United Nations Economic Commission for Europe (UNECE) Strategy for ESD reported that at least 50 per cent of reporting states, are addressing all three dimensions of sustainable development (social, economic and environmental), meeting or in many cases exceeding the target set by the Expert Group on Indicators for ESD. The report stated that the rest of the member states are more inclined on providing education with an environmental focus. It is important to note that a syllabus that addresses all three domains of sustainable development provides a more holistic approach towards sustainable development which exposes students to balanced perspective on local and global issues, concerns and needs that represent the three pillars of sustainable development.

5 Ten Years of The UNECE Strategy for Education for Sustainable Development Evaluation, (2012) Report on the implementation of the UNECE Strategy for Education for Sustainable Development from 2005 to 2015 (p. 10)
6 United Nations Educational, Scientific and Cultural Organization. (n.d) UN Decade of Education For Sustainable Development: The DESD at a glance. France: UNESCO.

Today the human population is faced with great challenges brought upon mostly by our own actions. We are challenged with interrelated environmental, social and economic issues at unprecedented scales and intensity that students should be made aware of and prepared for. Students should be empowered to reverse, reduce or eliminate these negative effects through quality education.

Now more than ever, education has a critical role to play, not only in providing learners with knowledge and skills to address these challenges, but also in promoting the values that will instill respect and responsibility towards others and the planet itself. ESD calls upon educators to step back and redefine education based on the challenges we face today. It is recommended that "ESD should be based on pedagogical principles such as inter-disciplinary, value orientation, cultural awareness, problem-solving orientation, methodological diversity, participation and local relevance. The overall aim of education is far beyond the classroom or exam hall, it is to EMPOWER the individual to shape society in a reflected and responsible manner"[7].

Following the UN Decade for Sustainable Development Agenda 2005 to 2014, the Global Action Programme (GAP) on Education for Sustainable Development, aims to guide nations towards prioritizing and achieving the Sustainable Development Goals as part of the post 2015 agenda. Below are the shared 17 Sustainable Development Goals identified by the UN:

These goals have been identified as immediate and common to member countries around the globe but countries and education systems are not limited by these goals. In addition to the 17 SDGs, countries are free to identify their immediate needs and problems and to be included this in their syllabus.

A Glimpse of Education for Sustainable Development in Asia and Europe

Best practices in Asia

To educate and create awareness among the younger generation in **Malaysia**, Education for Sustainable Consumption and Production (ESCP) was introduced into the school syllabus to complement and support Green Growth incorporated in the national level development plan.

With the underlying assumption that consumption is the main driver of production, Education for SCP empowers individuals to make SCP choices in daily life to achieve better life quality by getting "more useful output through less input"[8]. Through multiple consultation with various stakeholders and the strong support of the Ministry of Education the ESCP master curriculum for secondary schools was developed. It aims to inculcate desired behaviors in daily life practices that lead to resource conservation and resource use efficiency for better quality of life. The curriculum content structure consists of eight themes with clearly designed learning areas, desired behavior, objectives and learning outcomes. The learning outcomes clearly incorporates the intended knowledge, skills and attitudes for every theme which is closely linked to the SDGs.

The curriculum aspires:
- to attain SCP benefits within the three pillars of sustainable development of social, environment and economy
- to achieve a better quality of life
- to foster behavioral change through SCP practices in daily life
- and to promote people to make SCP considerations in daily consumption choices such as buying, using and disposing and to ideally enculture life cycle thinking such as "more resources, less waste" amongst the Malaysian people.

Education for sustainability in **Indonesia** focuses on Education for Sustainable Consumption (ESC) and Production. It aims at providing knowledge, values and skills to enable individuals and social groups to adapt to more sustainable consumption behaviors. Although most countries focus on Education for Sustainable Development (ESD) and Education for Sustainable Consumption and Production (ESCP). The Indonesian education system has chosen ESC as a valuable tool to achieve sustainable development through existing mandates via education.

The Indonesian education system views ESC as a representation of the three pillars of sustainable development. ESC is education that enables people to have an understanding of the environmental, social and economic impacts of their consumption choices, which

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8 The National SCP Blueprint 2016-2030, (2016) Economic Planning Unit, Prime Minister's Department, Malaysia. Developed with the support of the European Union SWITCH Asia Project SCP Policy Support Malaysia

can later be translated into actions in daily life that can reverse or reduce these negative impacts. ESC is regarded as an excellent starting point for ESD as it is closer to the people as it deals with issues in our daily lives. The goal of ESC is to promote responsible learning which aims to encourage people to make informed and responsible purchasing decisions in their live that contributes to local and global wellbeing.

The role of educating the young is a concerted effort that is not only shouldered solely by teachers and educational institutions: teachers, trainers, curriculum module developers, as well as journalists, writers focusing on environmental and social issues, TV and radio producers, and those who are concerned with human welfare and the environment must share this shared obligation. These educators play a crucial role in disseminating messages related to sustainable consumption.

Although consumption is the pulse of Indonesia's economy, and viewed as essential to economic growth and development, the education system realizes that the detrimental consequences needs to be addressed. Unsustainable consumption and production patterns are already contributing to many of the environmental, economic and social challenges we are facing, such as climate change and loss of biological diversity. The main foundation to ESC in Indonesia is when young people understand the link between consumption and its impacts, they can develop into socially and environmentally responsible individuals, determined to create a sustainable world for generations to come.

In **Bhutan**, environmental education is used as a medium to instill respect towards earth by conserving natural resources. Green schools in Bhutan operate based on several key features, among others the natural environment provides an integrating context for all learning. Green schools use the local natural environment to teach students concepts in all disciplines, while emphasizing hands-on real-world learning experiences. In addition to that, a green school incorporates the community in the process, so that the school becomes a place for the whole community to learn and contribute to — in this way, students develop stronger ties to their community, a greater appreciation for the natural world, and a heightened commitment to serving as active, contributing citizens.

An ideal "Green School" is a small-scale model of an ecologically sustainable society. Learning includes all academic disciplines and not limited to just science and environmental sciences. Specific educational strategies are used to achieve these objectives, and a strong connection between a school and its community is forged. Education in isolation without relevant community engagement and benefit to the community as a whole would not serve the intended purpose of the pursuit of a quality education. This is in direct relation to the Gross National Happiness: Bhutan's approach to development.

Best practices in Europe

In **Slovakia**, the *Action Plan for Education towards Sustainable Development in Slovakia[9]* was introduced in 2005. There have been high-level commitments, government directives, amendments to education legislation, training and accreditation for teachers and tertiary institutions to support efforts and initiatives directed towards ESD. This effort to reform education has received committed agreement and support from the Slovak Minister of Education, Science, Research and Sport and the Minister of Environment. A special committee called the Environmental Committee for Education was established in 2005 to carry out education tasks that would support sustainable development across Slovakia.

The emphasis was on developing the competences of pupils to understand and form their own behaviors and social responsibility to the environment and a healthy way of life, as well as to appreciate the interconnectedness of local, national and international issues. Education is used as the main tool to achieve these objectives. At primary and secondary schools - cross-cutting themes throughout the curriculum, such as multicultural education, personal and social development, environmental education and healthy lifestyles. Kindergartens use The National Educational Programme for Pre-Primary Education - which now include environmental education as a cross-cutting theme.

In terms of implementation schools are allowed the flexibility in how they implement the ministry's directives and instructions. In some cases, the cross-cutting themes of environment and sustainable development are integrated into various school subjects; in others, they are separate subjects, each with plenty of scope for suitable classroom and field projects. Every school is allowed the autonomy to select the method, project and time of implementation of a cross-cutting theme.

In **Germany**, matters related to ESD is governed and advised on by a top-level body known as the National Committee. This committee represents several federal and state ministries, the Parliament, non-governmental organizations, the media, the private sector and the scientific community.

The National Committee intermediates between the initiators and stakeholders of ESD by bringing together partners, projects and initiatives. It also coordinates and monitors national implementation and puts it in an international context. The primary objective of the National Plan of Action was nothing less than to anchor the idea of sustainable development in all areas of education. To take the plan into action, more than 100 sustainability and education stakeholders from all over Germany come together once a year at the Round Table, with all 16 federal states represented. The working groups developed concrete guidelines to embed sustainable development in their respective educational areas. This coordination created the bridge between the decision-makers in ministries and the stakeholders on the ground.

A highly successful instrument of the National Plan of Action was the official award scheme for innovative ESD projects. Recognizing and highlighting high-quality ESD work has led to increased visibility for ESD overall. Over 2000 projects have been awarded and are publicized in a database as beacons of good practice. Throughout the last 10 years it has become clear that follow-up activities are indispensable. The progress of ESD in Germany has led to an increase in its inclusion in policy, regulatory and operational frameworks at local, federal state and national levels.

Policy and Institutional Framework in the Philippines

Republic Act No. 9512, the National Environmental Awareness and Education Act of 2008, provides the policy framework for incorporating environmental awareness into the country's educational system. RA 9512 aims to promote environmental education through an inter-agency and multi-sectoral approach. Education for sustainable development in the Philippines is implemented under the umbrella of environmental education.

Based on RA 9512, the DENR issued in 2009 its Special Order No. 142 creating the DENR Environmental Education Committee. The DENR chairs the Inter-Agency Steering Committee on Environmental Education composed of key government agencies such as the Department of Environment and Natural Resources (DENR), the Department of Education (DepEd), the Technical Education and Skills Development Authority (TESDA), the Commission on Higher Education (CHED), the Department of Science and Technology (DOST), the Department of Interior and Local Government (DILG), and the Department

of Social Welfare and Development (DSWD). Also included in the Inter-Agency Steering Committee are other government agencies such as the Philippine Information Agency (PIA) and the Local Government Academy, as well as private organizations such as the Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management (PATLEPAM), the Philippine Association of Colleges and Universities, the Catholic Educational Association of the Philippines (CEAP) and the Philippine Federation for Environmental Concerns (PFEC).

A number of other acts also inform environmental education in the Philippines. These include Clean Air Act of 1999 (RA 8749), the Climate Change Act (RA 9729), the Philippine Disaster Risk Reduction and Management Act of 2010 (RA 10121), the Clean Water Act (RA 9275), the Ecological Solid Waste Management act (RA 9003), the Toxic Substances Hazardous and Nuclear Waste Control Act (RA 6969), the Environmental Impact Statement System (Presidential Decree 1586). These provide guidance in framing educational awareness in schools and are incorporated in curricula and syllabi at the primary, secondary, and tertiary level educational institutions.

Two relatively new policy issuances have been released by the government, namely *AmBisyon* Natin 2040: A Long Term Vision for the Philippines and the Philippine Development Plan, 2017-2022. AmBisyon Natin 2040 is a vision document that was initiated by the National Economic Development Authority (NEDA) based on a visioning process that started back in 2015 and approved by virtue of Executive Order No. 5 in October 2016.

The vision document answers the question, "Where do we want to be?" The vision for the Philippines for the next 25 years (i.e. by 2040) is for the country to achieve *"Matatag, Maginhawa, at Panatag na Buhay."* This means that Filipinos are strongly rooted (*matatag*), comfortable (*maginhawa*) and secure (*panatag*).

Concretely, by 2040, the Philippines is envisioned to be:
1. A prosperous middle class society where no one is poor;

2. People live long and healthy lives and are smart and innovative; and

3. The country is a high-trust society where families thrive in vibrant, culturally diverse, and resilient communities.

Education is mentioned as a key element in improving the quality of life by enabling students to acquire the foundational literacies (i.e. reading, numeracy, scientific literacy, ICT literacy, economic and financial literacy, cultural and civic literacy); obtain competencies (i.e. critical thinking, problem-solving, creativity, communication, collaboration); and develop character qualities (i.e. curiosity, initiative, persistence and grit, adaptability, leadership, social and cultural awareness).

Recognizing that "the school system is a vital part of our basic learning system and a powerful vehicle for change", the Environmental Management Bureau (EMB) of DENR, together with members of the Inter-Agency Steering Committee on Environmental Education initiated in 2009 the National Search for Sustainable and Eco-friendly Schools. This national competition aims to document, encourage, and recognize environment-friendly schools that have initiated and integrated in their instruction, research, extension and/or administration, programs which are environment-related.

EMBARK

ENVIRONMENTAL EDUCATION TOWARDS SUSTAINABLE DEVELOPMENT

3 EMBARK: ENVIRONMENTAL EDUCATION TOWARDS SUSTAINABLE DEVELOPMENT

The Missing Link

It is observed that in education for sustainability across the different countries often the emphasis is on environmental aspects and socio-cultural aspects tend to be an afterthought in the curriculum design. However, it is worthy to take cognizance that the key aspects regarding behavior, change and lifestyles are socio-culturally driven, hence the importance of this element should not be discounted. Education for sustainability across the world should aim to provide a more holistic and balanced view of sustainable development which focuses all the three pillars of sustainable development. In an attempt to avoid a skewed approach or understanding of sustainable development students should be provided with comprehensive and holistic knowledge to enhance their understanding about sustainable development and to be able to take their position as responsible leaders and global citizens who display understanding and respect towards one's own culture and other cultures, respect for the past, present and future generations and respect towards the planet and what it provides to us within the context of their respective local culture which will also help to unite and empower the people.

The Philippine Environmental Education Model

Section 3 of the Environmental Awareness and Education Act of 2008 (RA 9512) states that

The Department of Education (DepEd), the Commission on Higher Education (CHED), the Technical Education and Skills Development Authority (TESDA), the Department of Social Welfare and Development PSWD), in coordination with the Department of Environment and Natural Resources PENR), the Department of Science and Technology POST) and other relevant agencies, shall integrate environmental education in its school curricula at all levels, whether public or private, including in barangay day care, preschool, non-formal, technical vocational, professional level, indigenous learning and out-of-school youth courses or programs. Environmental education shall encompass environmental concepts and principles, environmental laws, the state of international and local environment, local environmental best practices, the threats of environmental degradation and its impact on human wellbeing, the responsibility of the citizenry to the environment and the value of conservation, protection and rehabilitation of natural resources and the environment in the context of sustainable development.

In line with the act above and the context of sustainable development, Figure 1 presents the extended model of neo environmental education in the Philippines. The model is built of 5 levels of interconnected rings moving outwards. The core of the model is the environment which is then expanded into three types of environment in the second ring; i) natural environment ii) socio-cultural environment and iii) built environment. The third ring represents the cultural values of the Filipino people that have been identified as the main drivers towards sustainable development and to achieve the SDGs which are i) Bayanihan ii) Pagtitipid and iii) Malasakit. The fourth ring represents the common global agenda that all nations are striving to do their part to achieve which are the 17 SDGs and the final 5th most outer ring represents the final vision for Philippines to be a sustainable nation.

FIGURE 1: Philippines Environmental Education Model

Environmental Education for the Philippines

The Ambisyon Natin 2040 and the Philippine Development Plan (PDP) 2017 to 2022 have planned development around the needs and culture of the Filipino people. In these documents culture has been identified as a core driver towards a balanced and people centered development. The shared culture is believed to be able to unite the Filipino people in commonality. This is in line with the post 2015 education agenda and The Incheon Declaration on education that reiterate the important role culture has to play in development and quality education.

In line with the above national and international documents, this Action Plan proposes that education for sustainable development should be people centric. Based on deliberate stakeholder engagement and international best practices the Environmental Education Action Plan (2018-2040) has identified local cultural values as a key driver and entry points to create awareness and educate students and citizens on the SDGs and to do their part at the national and global level. Environmental Education (EE) in the Philippines will be closely guided but not limited by the SDGs. EE in the Philippines would not be a foreign concept imposed on the local community but will be made relevant to the local people by incorporating local cultural values, issues and situations specific to the Philippines at the provincial or national level.

Culture is a very unique yet powerful tool. Every society has cultural practices that promote good values and supports harmony between man and nature. However, over time as the world became more globalized and borderless through travel, modern media and the internet these amazing cultures have been forgotten or reduced to symbolic events and ceremonies. Therefore, we should tap into our pool of rich local cultural values, practices and customs to promote and achieve sustainable development. Besides that, culture provides a society with its identity; valuable intangible heritage that promotes unity, nationalism and patriotism.

The overlapping of positive values among cultures around the world should be recognized as the common platform that binds the world with respect, responsibility and love towards our planet and for mankind: global citizenship.

The identified overall theme for various efforts towards sustainable development in the Philippines which includes EE is 'Luntiang Puso' which is directly translated into 'Green Heart' which incorporates three main local values which are:
i) *Bayanihan* (co-operation)
ii) *Pagtitipid* (prudence) and
iii) *Malasakit* (empathy)

These values are not alien to Filipinos and echo the intentions of government documents such as Ambition 2040 and the PDP. The values are described and related in a back to basics, non-complicated manner to the SDGs in the form of inspiring messages.

Bayanihan
Let us triple our efforts together. Let us help one another in creating a sustainable and safe environment for every Filipino.

Pagtitipid
Let us practice prudence in our buying habits. Let us avoid wastage of energy, water, food and other resources to ensure quality of life. It is time to cultivate the habit of saving.

Malasakit
Empathy for one another helps create a selfless and caring nation. Love for one another, love towards our nation and planet Earth, our home.

Kindergarten, elementary, high school and tertiary level students would be able to relate well to these three values and the overall binding theme of 'Luntiang Puso' and eventually relate them to the objectives of sustainable development and SDGs. Sustainable development would no longer exist as an alien policy level concept that the younger generation and locals were not able to relate to.

The Spirit of Luntiang Puso

Silhouette image of two children (a girl and a boy) represent our hopes and the future of the nation. It also reminds us of our responsibility towards the younger generations.

The green heart 'Luntiang Puso' inspired by a 14 year old student, Mariel Eugene M. Rivera from E. Rondon High School conveys the message that love towards our planet Earth and local cultural heritage should be in the heart of every Filipino.

LUNTIANG PUSO

BAYANIHAN • PAGTITIPID • MALASAKIT

Our local cultural values "*Bayanihan*" (cooperation) , "*Pagititipid*" (prudence), & "*Malasakit*" (empathy) can drive us towards sustainable development. They also reinforce the spirit of nationalism and patriotism, out of love towards the nation and to attain wellbeing amongst all Filipinos.

The image of the Earth represents our only home: Earth. The message it carries is we the citizens of the Philippines who are also global citizens who share the responsibility to protect and to preserve our earth.

FIGURE 2: The spirit of Luntiang Puso

THE ACTION PLAN

4 THE ACTION PLAN

Aim: To educate the young to play their role as responsible citizens in achieving the SDGs grounded in national needs, culture and context and to enhance sustainable practices as a common culture among Filipinos.

Objective: To support the achievement of SDGs in the Philippines through environmental education by capitalizing on local values and culture as a viable approach to achieve sustainable development.

Scope: The Action Plan is based on the neo-model of Environmental Education in the Philippines. Its foundation is based on the 3 pillars of sustainable development: environmental, social and economic. Integration of the SDGs in the Action Plan addresses environmental, social and economic issues and concerns that are interconnected and equally important in any effort towards sustainable development.

The Philippine Environmental Education Action Plan 2018 -2040 is divided into three main implementation periods:
i) medium term from 2018 to 2022
ii) long term from 2023 to 2030
iii) foresight from 2030 to 2040.

Key results have been described for each implementation period and 7 key strategies have been identified to achieve the key results over the duration of the Action Plan.

NATIONAL ENVIRONMENTAL EDUCATION ACTION PLAN 2018-2040

	Medium Term (2018–2022)	Long Term (2023–2030)	Foresight (2031–2040)
Key Results	• SDG themes are introduced as a key theme across all environmental education policy instruments • Filipino socio-cultural values are introduced as a key driver in environmental education policy instruments • Institutional arrangements enhanced to support environmental education in the large scale • Plans and budgets established for extension of environmental education in the large scale	• 50% of schools (elementary, high and tertiary) participate in environmental education outreach programs towards sustainable development guided by the SDGs • Curricula to support the SDGs developed and made compulsory at all education levels • Comprehensive stakeholder engagement to support the SDG themes	• 100% of schools (elementary, high and tertiary) participate in environmental education outreach programs towards the SDGs and new development agendas • Update curricula to support the SDGs and new development agendas • Stakeholder engagement strengthened and partnerships sustained to meet future development goals

7 Key Strategies

	Medium Term (2018-2022)	Long Term (2023–2030)	Foresight (2031–2040)
Institutional Arrangements	• Strengthen the Inter-Agency Committee on Environmental Education • Engage peripheral communities • Establish national sub-committees on education and awareness for every SDG and cross cutting themes (socio-cultural, communication/outreach and monitoring) • Annual budget allocated for extension of environmental education	Establish regional sub-committee on education and awareness for every SDG established and cross cutting themes (socio-cultural, communication/outreach and monitoring)	Scheduled nation-wide training workshops for teachers and students by SDG sub committees
National and International partnerships	• Flagship partners and stakeholders identified and contact initiated • Partnerships with local telecommunication companies and media to send out messages on environmental issues, data and important dates	• Cooperation with flagship partners and stakeholders to support environmental education for sustainable development • Schools participate in identified international competitions • Application for international grants • Participate in international conferences	International and national partnerships on new development agendas beyond SDGs extended
Initiatives and Awards	• Enhanced NSSEFS with a balanced integration of environment, socio-cultural and economic factors and alignment with SDGs • Introduce additional socio-cultural prize	• Elements of the NSSEFS made compulsory to all schools and educational institutions • Awards for all the SDGs (themes) designed and suitable sponsors identified • Hall of fames award established for winning schools to compete	• Compulsory school and community level projects guided by the new development plans and other identified needs • Organized problem based internship programs related to SDGs and socio-cultural values for tertiary students • Awards updated in line with new development agendas
Curriculum	• Workshops on ESD • Developed master curricula on Environmental Education to support SDGs and socio-cultural values for elementary, high and tertiary education. • Integration of EE/knowledge on SDGs integrated into STEM education	Develop syllabus for sustainable development as a compulsory elective subject in tertiary education institutions	Update curriculum to integrate issues being addressed in new development plans

	Medium Term (2018-2022)	Long Term (2023-2030)	Foresight (2031-2040)
Teaching and Learning Materials	• Develop teaching module on Environmental Education guided by SDGs and socio-cultural values • Compile and provide recommended reading list for school libraries • Establish a knowledge center for developing interactive teaching and learning materials with subject matter experts guided by SDG themes	• Develop repository on available national and international materials and tools as reference for teaching • Teaching guidebook developed to support teaching of SDG themes and integration of socio-cultural values in the classroom	Teaching materials updated to match new development goals
Capacity Building	• Workshops for teachers on how to integrate knowledge environmental education guided by sustainable development and linked to local socio-cultural values • Develop modules for environmental education as a specialization or as a compulsory elective module for teacher training institutes • Tertiary educational institutions to organize forums and conferences on environmental education • Publish research papers in journals on environmental education and sustainable development	• National forum for teachers on environmental education • Education beyond the classroom to support Life Long Learning	Publish educational journal on environmental education guided by SDGs
Monitoring & Evaluation	• Establish data base to record data on all environmental education initiatives (across all agencies) for monitoring, coordination and decision making • Establish a monitoring framework and indicator system for outputs and outcomes of environmental education • Develop capacity of staff from agencies in inter-agency committee in monitoring including quantitative and qualitative data analysis • Establish online self-reporting tools for schools • Report on progress of targets and issues to the inter-agency committee, partners and stakeholders	• Develop committee to monitor the quality and relevance of teaching and environmental education learning materials produced • Undertake monitoring of environmental education instruments including NSSEFS at annual intervals and measure progress towards targets • Generate high quality monitoring reports in line with development partner requirements	• Update monitoring framework and indicator system to be in line with new national and global development agendas • Workshop to train staff on updated framework and indicator system

7 Key Strategies in Further Perspective

Institutional Arrangements
Medium term (2018-2022)

1. Strengthen the interagency committee

Currently the inter agency committee on environmental education is chaired by the Department of Environment and Natural Resources (DENR). As formal institutionalized education is not directly under the purview of this department the execution of certain initiatives becomes challenging. In addition to that the current structure adds more layers to the existing procedures.

STRATEGY: Interagency committee to be Chaired by DENR and co-chaired by DepED and CHED to better coordinate efforts on environmental education for sustainable development.

2. Engage peripheral communities

Currently there are schools from certain peripheral communities that are not engaged in the environmental education activities due to political or geographical constrains. It is necessary to engage schools from all communities and eventually all schools to ensure equity and quality in education in line with SDG 4. No community should be left behind due to such reasons.

STRATEGY: Mechanism to engage peripheral communities in environmental education identified.

3. Establish national sub-committees for every SDG and cross cutting themes

Unlike common school subjects like math and language, every SDG is based on a growing and evolving technical body of knowledge. Therefore, it is important to keep abreast with the development and evolution taking place in these different bodies of knowledge.

STRATEGY: Due to the technicality of every SDG it is important to establish a national sub-committee for every SDG to convene and develop necessary syllabus, programs, activities and networks to facilitate environmental education for sustainable development in schools. This is a shared responsibility that should be shouldered by the civil society especially professional and technical bodies. These committees should convene annually to check on the relevance of current syllabus and activities and to update on new innovations, findings and issues of every subject matter. A committee for cross cutting themes such a socio-cultural, communications/outreach and monitoring is also necessary. Representatives from every committee should also convene annually to discuss and incorporate their inputs into a master plan chaired by the inter-agency committee on environmental education.

4. Annual budget allocated for extension of environmental education and awareness

To enable the planned activities to be carried out effectively it is necessary to allocate a specific budget for the purpose of implementation of planned activities. Most agencies find the lack of budget a main hurdle in carrying out planned activities. Therefore, it is necessary for every agency to include a budget for the planned environmental education and awareness activities.

STRATEGY: Every relevant department should secure finances and budget for the planned environmental education activities.

Long term (2023–2030)

1. Establish regional sub-committees for every SDG theme and cross cutting themes

Education systems often operate on a one size fits all model. In reality due to the vast geographical, political, economic and cultural backgrounds the needs and issues of every community varies from one another.

STRATEGY: To cascade information to the regions and to gain insights into regional issues and initiatives it is important to establish a second tier of committee at the regional level. This regional level sub-committee will consist of experts and experienced people in relation to every SDG and cross cutting theme. Representative from the regional sub-committee will convene on a biannual basis and will join the national SDG sub-committee annually to discuss monitoring and evaluation, progress, needs and intervention strategies.

Foresight (2031–2040)

1. Schedule nation-wide training workshops for teachers and students by SDG sub committees

Common institutionalized teacher training methods might not be able to keep abreast with the need to provide and update information causing existing knowledge and content to be obsolete.

STRATEGY: The SDG sub-committee should aim to disseminate new expertise and technical knowledge to teachers and students on a first-hand basis instead of the common training of trainers (ToT) method which consumes too much time and at times dilutes the content and message. This should be done based on a scheduled nationwide training session. The training sessions could be organized as part as a corporate service responsibility (CSR) initiative. The 17 sub-committees of the SDGs could work on a shared schedule of workshop session or it could be done on a simultaneous rotation basis.

National and International Partnerships

Medium term (2018–2022)

1. Flagship partners and stakeholders identified

A nation is never a standalone entity. It is part of a larger global network. Therefore, besides national and regional level sub-committees and partnerships it is important to establish international networks to be able to keep at par with global events, issues and latest teaching methodology.

STRATEGY: Identify and engage with flagship partners and stakeholders such as the European Union, 10YFP and Asian Development Bank (ADP).

2. Partnerships with local media and telecommunications companies

Mobile phones are widely used in many countries including the Philippines. It provides a practical access to the majority of the population. This existing available network should be leveraged on, to disseminate important messages and reach out to the Filipino people.

STRATEGY: As part of an initiative to provide lifelong learning opportunities and to create awareness on environmental education and sustainable development among the masses the relevant agencies should partner with local telecommunication companies and media to send our scheduled text/digital/picture messages/advertisements on important data in relation to the SDGs and other environmental concerns locally and globally. Eg: information on the number of trees cut down every minute all around the world, the number of animal species that has become extinct, reminder to conserve water or campaigns such as the world environment day.

Long term (2023–2030)

1. Flagship partners and stakeholders to support environmental education for sustainable development

Upon successful engagement of flagship partners, it is necessary to optimize the benefit of such engagement. The main aim is to enhance national environmental education outputs and outcomes.

STRATEGY: Flagship partners and stakeholders support implementation of specific national strategies and plans for environmental education.

2. School participation in international competitions

Participation in international competitions related to environmental education for sustainable development would provide experience and broaden the world view of students. Besides that, it would serve as a platform for learning and knowledge sharing.

STRATEGY: National and regional education and DENR offices shall identify international competitions and help identified and support interested schools to take part in such competitions.

3. Application for international grants

There are many international grants offered periodically. These grants aim to encourage programs related to environmental education and promote innovation. Schools should take advantage of such available grants.

STRATEGY: National and regional education and DENR offices shall identify international grants and help identified and support interested schools to apply for such grants or participate in grant projects.

4. Participate in international conferences

Conferences are established platforms for knowledge sharing and learning. New findings are presented in such platforms and it also provides a platform for discussion.

STRATEGY: National and regional education and DENR offices shall identify suitable national and international conferences. Identified or interested teachers should be encouraged to participate in conferences on environmental education and sustainable development. These teachers should also be encouraged to present research papers at these conferences.

Foresight (2031-2040)

1. International and national partnerships on new development agendas extended

The target to achieve the SDGs is by 2030. It is important that efforts towards promoting and educating students and citizens on sustainable development does not end in 2030. New sustainable development agendas or targets will be set by the end of 2030 and it is important to continue educating students and disseminating knowledge to citizens on these new agendas.

STRATEGY: To maintain and extend national and international partnerships to support education on new national and global sustainable development agendas.

Initiatives and Awards
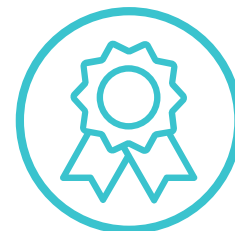
Medium term (2018–2022)

1. Enhance the National Search for Sustainable and Eco-Friendly Schools (NSSEFS)

The National Search for Eco-Friendly and Sustainable Schools (NSEFSS) is a functional and well accepted existing platform of non-formal education to provide EE in the Philippines. Therefore, the Action Plan proposes to capitalize on this existing platform instead of introducing a new mechanism. The competition has gained a lot of support from government agencies and business entities. The focus of the original competition was found to be more environmentally inclined although there were efforts to include socio-cultural and economic elements.

It is an unconventional mode of education that is not limited by rigid syllabus and constrained by the walls of a classroom. It offers the right balance between, education, fun, critical thinking and engagement.

STRATEGY: The National Search for Eco-Friendly and Sustainable Schools is an existing platform in the Philippines should be recognized as an organized form of non-formal education in the schools. To enhance and improve the NSSEFS a well balance between the pillars of sustainable development should be introduced into the competition.

2. Introduce additional socio-cultural prize

The current NSSEFS offers prizes for the 1st, 2nd, and 3rd place winners at the national level for the elementary, high school and higher education categories and one prize for every regional finalist. In addition to that there are special awards for water leadership by Nestle, energy leadership by Meralco and the environmental leadership by the Landbank at the regional and national levels for all the categories. Currently there is no prize or award offered for the socio-cultural category.

Upon the enhancement of the NSSEFS and the integration of a balanced socio-cultural element it is necessary to encourage and reward schools and institution that perform well in the socio-cultural domain. In support of the competition and initiatives to educate the young on sustainable development and to encourage and sustain local Filipino culture and values as an intangible national heritage that is in harmony with local development agenda and the global SDGs it is important to introduce a socio-cultural prize in the competition. The prize will be awarded to winning projects that identify and show effort to sustain local culture in the form of values, traditions, customs or other forms of art or culture with aesthetic value.

STRATEGY: To create guidelines and to identify sponsors for the new socio-cultural prize at the regional and national level by 2019.

Long term (2023–2030)

1. Elements of the NSSEFS made compulsory to all schools

Currently participation in the NSSEFS competition is on a voluntary basis. This Action Plan proposes that the competition should be recognized as an official non-formal learning platform as part of the national education system that enhances the quality of education offered in the country. Therefore, to ensure equality and inclusivity to all students in the nation the program should be implemented in every school.

STRATEGY: The elements of NSSEFS should be made compulsory to every school/ educational institutions. Schools that are prepared enough can submit their entry to compete in the NSSEFS competition.

2. Awards for all SDGs designed and suitable sponsors identified

As the number of participating schools increase it would be important to encourage and motivate especially at the initial years. Therefore, as the elements of the competition are made compulsory to all school and the number of schools that participate increase, additional recognition should be offered. Many schools might not be prepared to participate in the full competition but they could be awarded for good and innovative initiatives in relation to a specific SDG.

STRATEGY: An award for every SDG theme should be designed and made known to all schools. A special task force of judges should be identified to judge schools for these additional awards. Judges could be from the SDG sub-committees. It would be really motivational if the SDG sub-committees could sponsor the prizes.

3. Hall of fames established for winning schools to compete

The current practice is that winning schools are not allowed to participate in the next cycle of competition to allow other schools an opportunity to win. Although the intention is to provide an opportunity for other schools to win, this sometimes might discourage winning schools from maintaining their efforts. Eventually schools should be encouraged to understand that the sustainable development practices and projects are part of non-formal education that the school is obliged to offer. In an effort to instill this culture winning schools should be encouraged to sustain their best practices.

STRATEGY: The Hall of Fames Award should be established to enable winning schools of every cycle to learn from one another and compete against each other. The Hall of Fames Award could be offered every 5 years after two cycles of the NSSEFS and could be a source of best practices to other schools.

Foresight (2031–2040)

1. Compulsory school and community level projects guided by the new development plans and other identified needs

Environmental education for sustainable development aims to provide students with real life experiences and to be connected to real world issues. EE should also encourage communication and engagement with the community. The ultimate aim would be for communities to benefit from EE in schools and for students to sharpen their critical thinking and problem-solving skills. These suggested initiatives need not be guided by the NSSEFS descriptors and should be independent programs initiated by schools.

STRATEGY: To make it compulsory for schools to organize community level projects guided by the SDGs or other identified needs at least every two years. Although the SDGs are targeted for 2030 this should not limit activities and initiatives at the school level.

2. Organize problem-based internship programs related to SDGs and socio-cultural values for tertiary students

With a broader set of specialized knowledge and skills tertiary students will be able to propose better solutions to community problems through prototypes and programs. This would also allow students to use their knowledge and skills to more practical use.

STRATEGY: Tertiary education institutions should establish close contact with LGUs and Barangay heads to identify needs and issues. This information should be channeled to students of different majors to communicate with the communities on the ground and propose solutions.

3. Awards and prizes updated in line with new development agendas

Post 2030 there is a high probability that new national and global development agendas will be introduced and it is important to be in sync with such changes.

STRATEGY: New awards in line with new descriptors added to the competition guidelines should be updated. It is not necessary to replace all descriptors post 2030 as it is highly likely that it will be still be relevant.

Curriculum

Medium term (2018–2022)

1. Workshop on environmental education

It is given that any form of curriculum development and integration is a lengthy process. Therefore, in order to avoid students from being deprived or delayed of additional value and quality to their education and to ensure equality of knowledge, on environmental education and sustainable development guided by the SDGs, could we disseminated via organized workshops (weekends, summer programs, school holiday, camps).

STRATEGY: The EU-SWICTH PSC project has designed modules based on the SDGs for educational use. These materials are suitable for classroom use or to conduct workshops on sustainable development for all three levels of education (elementary, secondary and tertiary)

2. Master curricula to support sustainable development and socio-cultural values developed for elementary, high school and tertiary education

Given that the NSSEFS is recognized as a non-formal form of education it is also important to support this initiative with formal education to enhance students' knowledge and skills. Formal education will provide a platform for students to obtain and share knowledge, views and opinions in a classroom setting.

STRATEGY: A master curricula is designed for every level of education with clear objectives, content, skills output and outcomes based on the SDGs. This master curricula could be based on an incremental design. It could be delivered as a stand-alone subject, integrated into existing subjects or used to enhance Higher Order Thinking Skills (HOTS).

3. Environmental education guided by SDGs integrated into STEM education

The syllabus for year 7 and 8 are currently being designed and revised in the Philippines. This is a good entry point to integrate EE into the syllabus. This initiative should be urgently addressed.

STRATEGY: ESD and knowledge on the SDGs should be integrated into the year 7 and 8 STEM education preferably as a stand-alone subject or at least integrated into existing subjects.

Long term (2023–2030)

1. Develop syllabus to offer environmental education as a compulsory elective subject in tertiary education

Knowledge on sustainable development should not be made exclusive to only certain majors and students in the hard sciences such as engineering, architecture or agriculture. Every student irrespective of their major or course should be educated on environmental education and the current SDGs.

STRATEGY: Syllabus and course outline on sustainable development should be designed for tertiary education. This should be offered as a compulsory elective subject. Tutorials could be matched to students' major.

Foresight (2031–2040)

1. Update of curriculum to integrate new development plans

Post 2030 new national and global sustainable development plans and goals will be introduced and sustainable education syllabus should be updated accordingly.

STRATEGY: Update the curriculum of elementary, high school and tertiary education to include post 2030 sustainable development agendas.

Teaching and Learning Materials

Medium term (2018–2022)

1. Develop teaching module on environmental education and socio-cultural values

Findings demonstrate that teachers are unsure on how to teach or impart knowledge on sustainable development. Most of them feel that it is not their immediate responsibility as they are language teachers, math teachers or art teachers. Some feel that it should be the science teachers or civic teachers that teach on sustainable development.

STRATEGY: The EU-Switch PSC Program has developed an ESD teaching module that is not subject specific. Based on the current context it was suggested to be used during the *Araling Panlipunan* subject but it is not limited to any specific subject. Teachers could use this module and adapt it to their own classrooms and subjects. It is highly suitable for developing Higher Order Thinking Skills (HOTS) and 21st Century Skills.

2. Compile and provide recommended reading list to school libraries

While the process of developing environmental education syllabus and modules is time consuming other short-term measures could be taken. One of the viable options is to compile and provide recommended reading lists and links to schools. This way students and teachers could do their own referencing and self-directed learning.

STRATEGY: Experts, tertiary academics and government agencies in the relevant fields could identify reading materials and suitable link for the different levels of education. This list should be disseminated to schools around the country for the consumption of students and teachers.

Long term (2023–2030)

1. Develop teaching module and teacher guide book on sustainable development based on the SDGs and integrate identified socio-cultural values

As currently there are no specific teacher training or materials on environmental education in the Philippines, it is necessary to develop teaching modules suitable for the local context. The teaching modules on environmental education should be guided by the SDGs and socio-cultural values such as – bayanihan, pagtitipid and malasakit. Other suitable cultural values could be included if necessary. These modules and accompanying teacher's guide could have teachers confidently deliver environmental education as either a stand-alone subject, integrated subject or to develop HOTS.

Environmental education specifically knowledge on the SDGs could be technical in nature therefore it is important to develop an e-repository and physical repository of national and international materials and tools as reference for teaching and learning. The relevant government agencies and the SDG sub-committees should take on the task to set up repositories at the school, regional and national levels.

STRATEGY: Develop teaching guide books to support ESD teachers to teach in the classroom.

Capacity Building
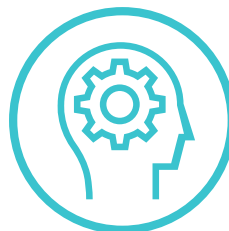
Medium term (2018–2022)

1. **Workshop for teachers on sustainable development and environmental education linked to local socio-cultural values**

To build the confidence of teachers to deliver lessons on environmental education and sustainable development capacity building is pivotal. Teachers who attend capacity building workshops are more confident and are move motivated to be creative and innovative in their lessons.

STRATEGY: Depending on the needs, workshops should be organized to help teachers integrate environmental education and local cultural values into their lessons of suitable subjects such as *Araling Panlipunan*, languages and sciences. Workshops should be organized at the regional and national levels. Workshop should include suggested teaching methods such as project based learning.

2. **Develop modules for environmental education as a specialization or as a compulsory elective module for teacher training institutes**

It is important for the future cohorts of teachers to be knowledgeable and able to teach environmental education in schools. Therefore, teacher training institutes should be prepared to produce capable teachers to be posted to schools across the Philippines.

STRATEGY: Develop modules for environmental education as a specialization or as a compulsory elective module for teacher training institutes. This should be in line with the decision to offer environmental education either as a stand-alone subject, integrated subject or in the form of non-formal education.

3. **Tertiary educational institutions to organize forums and conferences on environmental education for sustainable development**

Organizing forums and conferences on sustainable development allows for organizers to decide on the themes based on their identified needs or gaps. It also helps to establish a community of practice.

STRATEGY: Tertiary educational institutions are best positioned to organize forums and conferences on sustainable development with an educational focus. Teachers should be encouraged to present and publish among others their action research in such platforms.

Long term (2023-2030)

1. National forum for teachers on environmental education

It is important to offer teachers a forum to discuss their experiences and share their knowledge. As the NSSEFS caters to a limited number of regional and national level winners it is important to create other avenues for knowledge sharing and exchange.

STRATEGY: A national forum for teachers on environmental education should be organized every year to enable the participation from the different regions to participate and to play an active part in environmental education. The platform could we used for schools to share their innovations and projects.

2. Education beyond the classroom to support Life Long Learning

Students should be exposed to other viable modes of learning such as field trips, visits to science centers and museums, visits to agricultural farms and factories.

STRATEGY: Students should be exposed to other forms of non-formal and informal learning methods to enable them to contextualize their knowledge and be aware of real world issues. This could be achieved by promoting education beyond the classroom to support lifelong learning.

Foresight (2031–2040)

1. Publish educational journals on environmental education

Publishing journals at a national level provides authority in the field and encourages local academics and practitioners to highlight and address local concerns. It also allows for sharing at an international level. Common problems could share common solutions. Publishers could decide on the suitability of materials and topics that are published.

STRATEGY: Tertiary educational institutions that have the experts in the fields of the various SDGs should take the lead in publishing journals in environmental education and sustainable development.

Monitoring & Evaluation

Appropriate M&E systems, processes and resources are an important prerequisite to ensure that activities supporting this roadmap can be monitored and steered towards achieving their intended results and objectives. The activities below are proposed:

Medium Term (2018-2022)

- Establish data base to record data on all environmental education initiatives (across all agencies) for monitoring, coordination and decision making.
- Establish a monitoring framework and indicator system for EE.
- Develop capacity of staff from agencies in inter-agency committee in monitoring including quantitative and qualitative data analysis.
- Establish online self-reporting tools for schools.
- Report on progress of targets and issues to the inter-agency committee, partners and stakeholders.

Long term (2023-2030)

- Develop committee to monitor the quality and relevance of teaching and EE learning materials produced.
- Undertake monitoring of environmental education instruments including NSSEFS at annual intervals and measure progress towards targets.
- Generate high quality monitoring reports in line with development partner requirements.

Foresight (2031–2040)

- Update monitoring framework and indicator system to be in line with new national and global development agendas.
- Workshop to train staff on updated framework and indicator system.

Students participating in the 'Colours of Sustainability' learning event and poster making contest