



Bộ Giáo dục và Đào tạo
Nước CHXHCN Việt Nam
Ministry of Education and Training
S.R. Viet Nam



United Nations
Educational, Scientific and
Cultural Organization

Tổ chức Giáo dục,
Khoa học và Văn hóa
của Liên Hợp Quốc



Working together for a more resilient and sustainable society

MOET, UNESCO and Samsung ESD Initiative

Final Report - Extended Version



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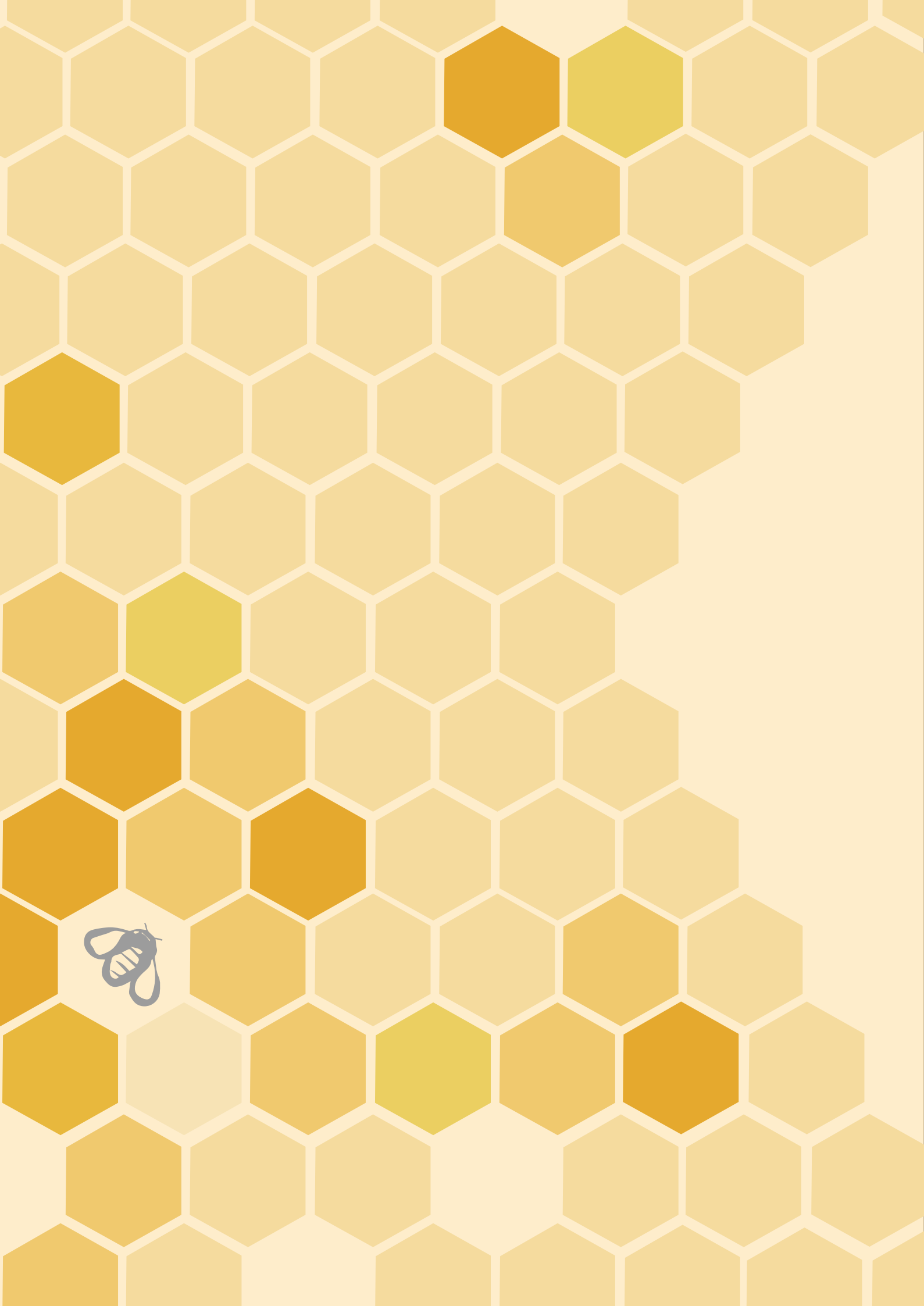
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Glossary of Acronyms

AIBD	Asia-Pacific Institute for Broadcasting Development
AMP	Agence de Médecine Préventive
BOET	Bureau of Education and Training (district level)
BC	Biodiversity Conservation
CAP	Community Action Plan
CC	Climate Change
CCFSC	Central Committee for Flood and Storm Control
CED	Continuing Education Department
CLC	Community Learning Centre
DESFACT	Department of Facilities, School Equipment and Children's Toys
DOET	Department of Education and Training (provincial level)
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
DSTE	Department of Science, Technology and Environment
DTEA	Department of Teachers and Administrators
ESD	Education for Sustainable Development
HNUE	Ha Noi National University of Education
HOU	Ha Noi Open University
ICCROM	International Centre for Study of the Preservation and Restoration of Cultural Property
ICOMOS	International Council on Monuments and Sites
ICT	Information and Communication Technology
INEE	Inter-Agency Network for Education in Emergencies
M&E Plan	Monitoring and Evaluation Plan
MAB	Man and the Biosphere Programme (or Viet Nam Man and Biosphere Committee)

MIC	Ministry of Information and Communication
MOCST	Ministry of Culture, Sports and Tourism
MOET	Ministry of Education and Training
MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technologies
Natcom	National Commission
NGO	Non-Government Organization
NRSC	National Remote Sensing Centre
NIEM	National Institute for Education Management
PC	People Committee
PED	Primary Education Department
SDMC	School Disaster Management Committee
SPP	School Preparedness Plan
TLSF	Teaching and Learning for Sustainable Future
UN	United Nation
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children’s Fund
UNISDR	United Nations International Strategy for Disaster Reduction
VNEN	Viet Nam New School Model
VNIES	Viet Nam Institute of Educational Sciences
VNRED Sat	Vietnam Natural Resources, Environment and Disaster Monitoring Satellite
VNU	Viet Nam National University
VOV	National Radio Voice of Viet Nam

Presentation

The implementation of the Education for Sustainable Development (ESD) Initiative in Viet Nam is a relevant source of practical inputs for the comprehensive education reform and the renovation of school curriculum in which the Ministry of Education and Training is moving forward towards integrating a competency-based approach.

The ESD Initiative has allowed Viet Nam to develop a comprehensive framework for ESD in order to tackle their needs and aspirations. ESD is about competencies, about empowering students to better understand their school environment and their communities in order to be empowered to contribute in different ways and at different levels to the well-being and safety of their schools, homes and communities. ESD is about bringing parents and the community closer to schools, reinforcing what the students are learning, especially in relation to life skills and issues that are relevant to the overall society. ESD is about creating an enabling environment for young generations to share what they learn in their schools at home and in their community and to empower them as enablers of innovative learning for their parents and neighbours. ESD is also about taking the messages on these issues to the broader society, since there is a need for change in collective attitudes and defining measures to address the challenges of sustainability.


The ESD Initiative in Viet Nam began with three key areas of interest to the whole country: climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation as a priority solution for the first two. If all teachers in Viet Nam learn

to help their students become bioliterate citizens who live in harmony with nature and develop green behaviours, then we will have made a difference in the education of these generations who, in turn, will be able to take urgent action to ensure that development and growth are sustainable and mindful of the needs of generations to come.

The use of innovative e-learning teacher training courses in these three key areas of interest allows teachers to have the opportunity to enhance their capacity through courses that have been developed to be utilized both online and offline. This becomes integrally important as we strive to reach all teachers nationwide, especially those in remote and vulnerable areas, in a way that facilitates their continued professional development while taking into account their unique situation, allowing them to learn at the pace and location that suits them best. These courses serve as an important mechanism within the context of education renovation and reform, allowing teachers nationwide to have access to quality and relevant training that is exciting and engaging and can be reinforced by face-to-face, interactive and hands-on learning.

Promoting education for parents and the community in support of their schools and in developing Community Action Plans that tackle defining long-term safeguarding measures is a priority for Community Learning Centres in Viet Nam. The responsibility of educating young generations is shared between the government, parents and society. Children learn by example and the community needs to provide them with the conditions to apply what they learn in school.





The ESD Initiative in Viet Nam has proved that it is possible to foster change and to achieve an ESD enabling environment at the provincial level. The local authorities of Thua Thien-Hue Province who led the piloting of the Initiative at the local level showed their commitment, openness and leadership towards implementing an Initiative which they know will bring long term benefits.

The partnership with the private sector, in this case with Samsung Global, has evidenced how a responsible private sector actor can contribute to the piloting of an Initiative that is a practical reference for policy development at the national level. We are pleased to have received the support of Samsung Global, who fully supported the implementation of the programme and who went beyond financing to provide technical support and learning materials that were translated and adapted for use in Viet Nam.

The participation of a broad range of stakeholders, including the Government through MOET, institutes, universities, specialized committees, local authorities, NGOs, schools, community members, national and international experts in various fields, the media and many others, was a significant challenge in terms of overall programme coordination, but proved that

contributions from diverse sources enrich the results beyond expectations. The hand-in-hand implementation with national and provincial authorities from planning to reporting ensured a high level of ownership and contributed to the Initiative's sustainability. This broad participation was an essential requirement for effective implementation because of the comprehensive nature of the programme combining eight components in an integral manner, as carefully documented in this report.

Recommendations for further implementation of the Initiative in Viet Nam and future replication of the Initiative in other countries are also include in this report. An executive summary facilitates the understanding of the Initiative but a complete and thorough reading of the full-length report is necessary for those who would support its further implementation or replication.

MOET's leadership in the enterprise to contribute to the renovation of education in Viet Nam has been the main driver for the success and achievements of the ESD Initiative. It is now the role of MOET to use and further advance these results in a way that they benefit the education system and Vietnamese society at large.

The Editorial Team would like to thank all stakeholders, who are mentioned throughout this final report, and UNESCO team members for their contributions to the implementation of the ESD Initiative in Viet Nam and to the production of this document. The Editorial Team consisted of: Katherine Muller-Marin, UNESCO Representative to Viet Nam; Pauline Patte, ESD Initiative Programme Manager; Juan Pablo Ramirez-Miranda, Monitoring and Reporting Officer; and Nathan Biondolino, Communications and Reporting Officer.

Introduction

1.1. Background

Viet Nam is one of the countries most vulnerable to the impacts of natural disasters and climate change. Communities and individuals face a series of threats they need to adapt and react to. With over 23 million students and teachers, the Education Sector needs to play a fundamental role in addressing climate change, biodiversity loss and natural disasters.

UNESCO in Viet Nam has prioritized supporting the Government in the comprehensive renovation of the Education Sector and established the Initiative for Education for Sustainable Development (ESD) to contribute to the development of a strategic relationship between schools, parents and communities and to building their resilience through joint efforts. It is a key UNESCO intersectoral programme, complementing efforts towards the development of a Learning Society, the use of information and communications technologies (ICTs) in education, the reform of primary education teaching and learning methods, and the capacity building of the Education Sector to assess its progress in the implementation of its Strategic Education Sector Plan, among various other areas of UNESCO's collaboration with Viet Nam.

UNESCO Headquarters and Samsung Global established a Framework Agreement through which Viet Nam is the first country to benefit, considering its high vulnerability to natural disasters and the effects of climate change and its commitment to the reform of the national curriculum and teaching methodologies to enhance the quality of education.

A Letter of Agreement was signed between the Ministry of Education and Training (MOET) and UNESCO Viet Nam to facilitate the implementation of the ESD Initiative in order to ensure national ownership and nationwide dissemination of training materials, tools and results. A second Letter of Agreement was signed between the Provincial People's Committee of Thua Thien-Hue Province and UNESCO to facilitate the implementation of piloting activities in the province. Following a strategic approach, the ESD Initiative was implemented as a joint effort between MOET, the Department of Education and Training of Thua Thien-Hue Province and UNESCO.

The ESD Initiative was strengthened by the private sector support of the four Samsung Global in order to enhance the education system's responses to contemporary challenges to sustainable development and to integrate ESD, specifically education for disaster preparedness and risk reduction, climate change mitigation and adaptation, and biodiversity conservation and regeneration into education policies, development plans and programmes.

The ESD Initiative has benefitted from the reinforcement of Samsung-funded programme components with UNESCO funding for four additional components and by their integration into one single Initiative, resulting in a more comprehensive approach for greater impact and sustainability.

1.2. The Initiative

1.2.1. Components

The components of the Initiative implemented **with funding from Samsung Global** were:

Component 1: Teacher capacity building for integrating ESD into daily teaching practices.

Component 2: Awareness raising for school principals, parents and national and local authorities on ESD.

Component 3: Awareness raising for the media on ESD and supporting project visibility.

Component 4: Project monitoring, evaluation and documentation for further replication.

The components of the Initiative implemented **with funding from UNESCO** were:

Component 5: Tools for school risk assessment and preparedness plan preparation.

Component 6: Use of satellite imagery as a tool for evidence-based decision making.

Component 7: Awareness raising on participatory Community Action Plans.

Component 8: Preparation of disaster risk management plans for World Heritage Sites.

1.2.2. Objectives

The following overall objectives directed the implementation of all the Initiative components:

- a. Build teacher capacities to contextualize and integrate ESD into school practices through developing, piloting and disseminating open-licensed educational resources on ESD.
- b. Raise awareness on ESD of school principals, parents, community, and national and local authorities through a participatory process to contribute to an enabling environment for ESD mainstreaming.

- c. Raise media awareness on ESD to strengthen media capacity to effectively communicate information relating to preparedness for disasters, climate change mitigation and adaptation, and biodiversity conservation.
- d. Document lessons learned of the ESD Initiative and develop recommendations to be used as a reference for further ESD mainstreaming.
- e. Develop tools and promote the participatory assessment and development of preparedness plans for schools. Promote the use of satellite data for
- f. evidence-based decision making. Raise awareness on the development
- g. of Community Action Plans for climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation. Enhance the resilience of UNESCO World
- h. Heritage Sites to environmental disasters due to their importance in the livelihoods of Vietnamese people.

1.2.3. Key activities

In order to reach the Initiative's objectives, the following key activities were implemented:

- a. Produce and pilot e-learning teacher training courses on climate change, disaster risk reduction, and biodiversity conservation and restoration; support teachers in delivering lessons to students, in leading the development of school preparedness plans, and implementing school events.
- b. Create an enabling environment for ESD by conducting awareness raising sessions for school principals, parents, community, national and local authorities, and the media on climate change, disaster risk reduction and biodiversity conservation.
- c. Train media organizations and support them in developing communication plans in order to better inform and educate

the wider public on climate change, disaster risk reduction and biodiversity conservation.

Monitor, assess and document the d. Samsung-funded components of the Initiative, its activities and results for further ESD mainstreaming in Viet Nam and other countries.

Produce and test tools for school risk e. assessment and preparedness plans and support the school community to implement them.

Develop awareness raising activities on f. the use of satellite imagery as a tool for evidence-based decision making and for awareness raising among a number of actors.

Implement awareness raising sessions g. on the importance of developing Community Action Plans through an intersectoral response to the local challenges of climate change, natural disasters, and biodiversity loss.

Develop disaster risk management plans h. for Heritage Sites (Hoi An Ancient Town, Hue Monuments Complex and Thang Long Royal Citadel), using UNESCO's contextualized methodology for managing disaster risks in Viet Nam's World Heritage Sites.

Provide capacity building for education i. trainers at the Centre for Research and Training on Climate Change and Disaster Risk Reduction under the National Institute for Education Managers (NIEM), as a cross-cutting activity integrated into the components.

1.2.4. Strategy

The overarching aim of the Initiative is to support Viet Nam in shaping a more resilient and sustainable learning society by: (i) developing and implementing e-learning primary teacher training courses to strengthen teachers' understanding of ESD and enhance their capacities to integrate it into primary classroom activities; (ii) creating

an enabling environment for ESD by raising awareness of the community, the media, authorities, parents and school principals on the challenges of climate change, disasters and biodiversity loss; and (iii) empowering communities and schools to respond to climate change and biodiversity loss and to be better prepared for disasters through Community Action Plans (CAPs), School Preparedness Plans (SPPs), World Heritage Site disaster management plans and local media Communication Plans. This holistic approach mobilizes schools and that communities to comprehensively tackle challenges they have identified and to do it in a way that is most appropriate for their locality.

Practical application and piloting of the Initiative has taken place at the provincial level in Thua Thien-Hue Province. Materials produced through this programme will be made available to schools and communities nationwide. In order to ensure effective implementation, the Initiative was designed using a strategic intersectoral approach that supports policy at the national level and promotes best practices at the provincial level for further replication nationwide.

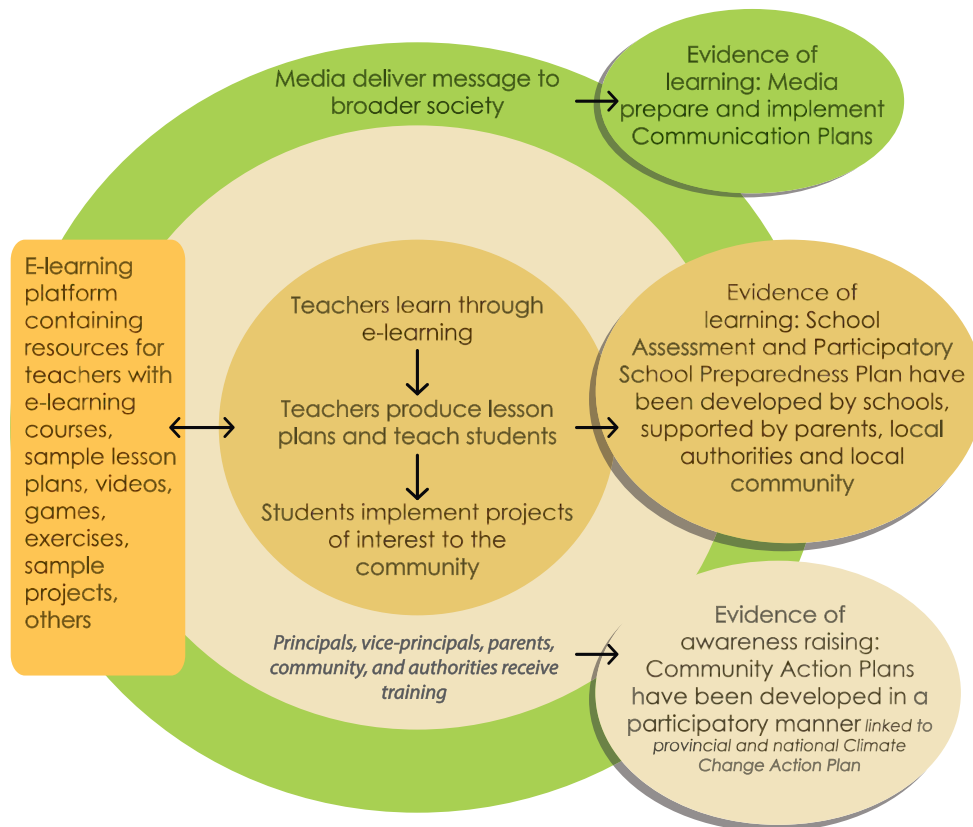
The strategy for the ESD Initiative was developed to establish enabling environments for students to better apply what they learn in school within their homes and communities, and to enhance the education of parents and the community through students. The strategy applies to various themes under ESD. In the case of the current implementation of the Initiative, the key areas are: climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation and restoration, in line with the United Nations Decade of Education for Sustainable Development (UNDESD) and national needs and strategies.

The enabling environment consists of having parents and communities understand what

the students learn at school about topics that are relevant to the community and reinforce the opportunities for students to continue their learning and adopt more sustainable practices. This is in line with the concept that ESD goes beyond school walls and must encompass community.

The Initiative targets three levels, as can be seen in the following diagram:

- a. Within the school;
- b. Within the community around the school;
- c. Within the wider society.



Within the school

Through e-learning courses on ESD, teachers enhance their capacity to mainstream ESD into classroom and extra-curricular activities. Teachers produce lesson plans and help students learn to develop competencies. Students then develop practical activities or projects demonstrating what they learned, engaging parents and community. Projects must be useful to the community.

Schools utilize an assessment and preparedness toolkit that enables them to

assess internal and external disaster risks and threats and vulnerabilities to climate change and biodiversity loss, providing information to develop and implement school preparedness plans in response to identified risks and threats. Parents, community members, and local authorities contribute to the implementation of the preparedness plans, taking action to make the school safer.

Within the community around the school

Parents and the wider community raise their awareness on the issues that children learn about in school through a series of targeted trainings, creating an enabling environment for the students to apply what they learn in school in the community and at home. This awareness raising, extended to local authorities, School and District Storm and Flood Control Committees, mass organizations such as the Women's, Farmers and Youth Unions, and to the local media, is reinforced through training on how to develop a participatory Community Action Plan. This process prepares parents and communities to develop plans to respond to locally identified challenges posed by disasters, climate change and biodiversity loss, and to link community activities to student projects in the schools, further strengthening the link between school and community and the link between formal education and continuing education. Community Action Plans are developed in line with the corresponding Provincial Climate Change Action Plan, and other norms and plans.

Within the wider society

In order to further promote the enabling environment and raise awareness of the wider community on issues relevant to the students' education, the media receives training on ESD areas with a gender-sensitive focus. The training enhances the capacity of journalists and media experts to report on issues that are relevant to the schools and communities, through the production and broadcasting of various media outputs to take the message to the wider society. As a result, the media can support society in identifying risks and threats presented by disasters, climate change and biodiversity loss, and provide information for better societal preparedness. Media professionals are further supported to develop communication plans for their local media institutions to ensure that production of these outputs is ongoing rather than a one-

time occurrence and that the message of long-term preparedness will be enhanced.

Examples of strategy implementation

One example of school projects benefitting the community in the Red River Delta, where UNESCO first piloted the ESD Initiative, is the development of joint solutions for local pollution resulting from the burning of rice straw. In this example, the community identifies the burning of rice straw as a risk and a major environmental concern. Teachers and school principals participate in community discussions. These priorities are shared with students through lesson plans and they are motivated to implement actions that can reduce this risk. With the support of teachers, parents and local experts, including NGOs and local authorities, students learn about composting methods and develop project activities to dispose of straw in an environmentally friendly way while also providing good quality, organic fertilizer for local farmers to use.

In one of the community projects, when a student's parent, a broadcaster at a local media station, began to air radio broadcasts about what the students were doing, floods of requests came in from community members asking for students' support and



A parent broadcaster supports the school to disseminate their message to the community.

for explanations on how to develop the fertilizers for their farming activities. This is an example of the community coming together to find simple solutions to reduce climate change impacts while also producing tangible benefits for the community and improving students' education and positive role in their community.

Another example involves students raising the profile of sustainable farming by demonstrating how the use of sawdust bedding in animal pens can successfully reduce the negative impacts of family-scale farming on the environment. Students learn how to mix sawdust with organic waste (mainly from rice farms), store the mix in a warm environment for two days and then distribute it around livestock pens. The sawdust bedding reduces the need for cleaning pens, mitigates the risk of disease and limits the amount of contaminated runoff usually created during the cleaning

process, a particular problem resulting from the lack of adequate water management in the area.

In one of the community projects, the district Agricultural Promotion Centre broadcasted messages over the district radio and distributed flyers to local farmers. The campaign produced numerous requests from community members for students to help them after school to learn how to apply sawdust bedding on more family-scale farms in the area. The project received attention from neighbouring community members who visited the project sites to observe and replicate the technique.

These examples hold evidence that, when properly stimulated, schools and communities can cooperate with each other and students can learn how to take care of their community.



Students collecting husk, one of the materials used for the bio-base mixture.

Preliminary work: joining hands for ESD

2.1. Stakeholder commitment: Launching ceremony

The MOET, UNESCO and Samsung ESD Initiative in Viet Nam was formally inaugurated during a launching ceremony, in which a wide range of project stakeholders and high-ranking authorities highlighted the importance of the project for Viet Nam and pledged their support towards its successful implementation.

The ceremony was attended by over 100 participants from 15 different governmental, multilateral and non-governmental organizations and the media, including H.E. Ha Chan-Ho, the former Ambassador of the Republic of Korea; Nguyen Vinh Hien, Vice Minister of Education and Training; Wonhwan Shim, Head of Samsung Electronics Viet Nam Complex; and Ms. Keich Lee, Senior Manager at Samsung Global Communications. The participation of numerous partners demonstrated the widespread commitment of the diverse range of agencies implementing the Initiative. The launching provided a great opportunity for all those involved to forge relationships and to share their thoughts on the Initiative. The event was also an opportunity for all stakeholders to have a harmonized understanding of the project purpose, expected results and different activities through presentations provided by the various implementing partners.

At the ceremony, the Deputy Director-General of MOET's Department of Science, Technology and Environment (DSTE), Assistant Professor Le Trong Hung, and UNESCO Representative to Viet Nam, Ms. Katherine Muller-Marin, jointly delivered a presentation on the project's activities, highlighting the Initiative's significance at the national and international levels, noting that the courses and materials produced would be made available nationwide and the experience would be shared widely.

Samsung representative, Mr. Wonhwan Shim discussed the Korean experience in giving importance to education to address inequalities among people and countries, stating, *"We [the Republic of Korea] went through hard times ourselves. It is time for us to share the heart-throbbing experience and what we have learned through the long and tough journey. We are now truly ready to change from given to giving"*. Mr. Shim also spoke about Samsung's *"Ladder of Hope"* project for children living in harsh conditions resulting from natural disasters and climate change who never stop dreaming, explaining how the Initiative under the partnership is in line with their priorities and global actions.

Vice Minister Nguyen Vinh Hien stressed that addressing climate change, natural disasters, and biodiversity loss requires efforts from the entire political system and society, undertaken with *"extraordinary consensus and determination from the local, regional, national and global levels."* Vice Minister Hien also stated that *"for Viet Nam, strengthening education in response to climate change, disaster prevention and biodiversity conservation is being considered a strategic task of the whole sector. The education sector is working towards renovating the curriculum and textbooks. Through the ESD Initiative and MOET's commitment, Education for Sustainable Development will be integrated into teaching and learning programmes to the extent possible to address this task. Given that a large pool of education managers, teachers and students account for one fourth of the population in the education sector, knowledge and skills in response to climate change, disaster prevention, and biodiversity conservation taught in school will be widely distributed to residential communities and the larger society."*



Vice Minister Nguyen Vinh Hien (far left) and then Ambassador of the Republic of Korea to Vietnam, H.E. Ha Chan-Ho (left), with Wonhwan Shim, Head of Samsung Electronics Viet Nam Complex



Mrs. Nguyen Hoang Minh, Communication and Information Programme Coordinator for UNESCO Viet Nam, coordinated activities involving the media.

H.E. Ha Chan-Ho highlighted the importance of the Initiative as a "model case for further global cooperation around the world since this is the product of close collaboration between the central and local governments, international organizations and global enterprise."

In addition, representatives of the Continuing Education Department of MOET, Ha Noi Open University, the Department of Education and Training of Thua Thien-Hue Province, the National Institute for Education Managers (NIEM), the National Remote Sensing Centre and the Man and Biosphere Programme (MAB) pledged commitment to fulfil their respective roles within the project. They stressed the necessity for each organization to utilize their respective expertise and to coordinate across all project activities. Dr. Nguyen Hoang Tri, MAB Secretary General, summarized the sentiments expressed by many participants: "Sustainable development is not the responsibility of a single individual, agency or sector; we must coordinate and cooperate throughout the implementation of this project."



From the left: Mr. Ha Chan-Ho, then Ambassador of the Republic of Korea to Viet Nam; Katherine Muller-Marin, Representative of UNESCO to Viet Nam; Vice Minister Nguyen Vinh Hien; Wonhwan Shim, Head of Samsung Electronics Viet Nam Complex; and Ms. Keich Lee, Senior Manager, Samsung Global Communications.

2.2. Main implementing partners

2.2.1. Ministry of Education and Training (MOET)

The Government counterpart for the Initiative is the Ministry of Education and Training. Overall coordination takes place at the vice-ministerial level. All activities implemented under the Initiative are official activities carried out jointly with MOET and all content is enriched and approved by MOET officials, providing official endorsement and ensuring activity alignment with the Ministry's policies and regulations.

A joint specific work plan outlining activities, responsibilities and dates was agreed upon by stakeholders. Joint meetings among stakeholders, with the presence of officials at the vice-ministerial level, facilitated the flow of activities.

Five main MOET departments were assigned direct responsibilities for implementing the ESD Initiative, and others were invited to participate as needed and as agreed upon with vice ministers.

Various coordination and monitoring meetings took place with the participation of Vice Minister Nguyen Vien Hien and the UNESCO Representative to Viet Nam.

During a visit to Viet Nam, in which UNESCO Director-General Irina Bokova met with the Minister of Education and Training, Pham Vu Luan, to discuss joint cooperation, Ms. Bokova spoke referred to the public-private partnership of the ESD Initiative which responds to the actual needs of communities. The Minister of Education and Training highlighted MOET's interest in continuing to learn from international experiences, especially relevant community-based models.



Vice Minister of Education and Training, Nguyen Vinh Hien, and UNESCO Representative Katherine Muller-Marin, co-chairing one of the coordination meetings.



Representatives of the various MOET departments participating in one of the training sessions in the ESD Initiative.

a. Department of Science, Technology and Environment (DSTE)

DSTE facilitated the internal coordination of Initiative activities within MOET. Its technical role was to ensure quality development of content both for the awareness raising sessions and for the e-learning teacher training courses.

DSTE's role also included ensuring that content developed through the Initiative informs the process of the national curriculum revision.



DSTE Deputy Director General, Le Trong Hung, was appointed focal point for reporting with Ministry leaders and coordinating the project with the various departments.

b. Department of Teachers and Education Administrators (DTEA)

As the department in charge of pre- and in-service teacher training curricula, DTEA ensured the quality of the e-learning methodologies for the courses and will provide access to them for all teachers nationwide.

DTEA Director General, Hoang Duc Minh, is supporting the process of e-learning course production and the in-service teacher training taking place in Thua Thien - Hue Province.



c. Department of Facilities, School Equipment and Children's Toys

The Department led the development of the process of school assessment and preparedness planning and therefore had a relevant role in providing inputs for both of these activities. It will also ensure the official use of the assessment and preparedness toolkit nationwide.

The Department integrated the assessment elements into its Information System for Disaster Risk Management in the Education Sector.



The Deputy Director General of the Department of Facilities, School Equipment, and Children's Toys, Mr. Pham Hung Anh, has taken the lead in working with UNESCO to develop and validate the school assessment and preparedness plan toolkit.

d. Primary Education Department (PED)

PED is the MOET department responsible for state management of primary education. It ensured the relevance and appropriateness of the e-learning courses and activities at the primary education level.



The PED Director General, Pham Ngoc Dinh, is also the Project Director of the Project Management Unit of the Global Partnership for Education – Viet Nam Escuela Nueva Project, which will benefit from the ESD Initiative development of e-learning courses for primary school teachers.

e. Continuing Education Department (CED)

The Continuing Education Department led a team integrated by MAB, Hue University and UNESCO in conducting the awareness raising process for parents, communities and other stakeholders on ESD, as well as on the preparation of Community Action Plans. CED is committed to scaling up activities from the ESD Initiative in Community Learning Centres (CLCs) nationwide. CED produced a policy brief draft on integrating school activities with community and parental engagement through a mutually beneficial approach in which the schools contribute to the well-being of communities and parents and communities take responsibility for supporting their schools.

CED's participation in the ESD Initiative is highly relevant due to it being in charge of non-formal education programmes in Viet Nam through the establishment and management of Continuing Education Centres (CECs) and Community Learning Centres (CLCs).



The CED Director General, Nguyen Cong Hinh, has the task of leading the Secretariat for the National Steering Committee on Building a Learning Society and is working to strengthen the role of Community Learning Centres and providing education for better community awareness and preparedness for disasters and better responses to climate change issues as a contribution to developing a resilient learning society.

2.2.2. National Institute for Education Management (NIEM)

As the public institution mandated by MOET to develop human resources for education management and deliver training to education sector managers and school principals, NIEM is strengthening the capacity of its Centre for Research and Training on Climate Change and Disaster Risk Reduction, established with UNESCO assistance, and will include ESD themes from the Initiative in its curriculum to train education managers.



Le Phuoc Minh, NIEM Vice Rector and Director of the Institute's Centre for Research and Training on Climate Change and for Disaster Risk Reduction, is responsible for leading NIEM's participation in the ESD Initiative.

2.2.3. Thua Thien-Hue Provincial authorities

The UNESCO Representative to Viet Nam held various meetings with local provincial authorities throughout the Initiative implementation. Meetings included the Secretary of the Provincial Party Committee, and the leaders and members of the Provincial People's Committee.



Mr. Nguyen Ngoc Thien, Secretary of Thua Thien-Hue Provincial Party Committee, meeting with Katherine Muller-Marin, UNESCO Representative to Viet Nam, to discuss the ESD Initiative.

Provincial authorities have shown their ownership of the project through expressing their commitment to its successful implementation and by assigning staff who have been actively contributing to local project activities.

From the left: Ms. Tran Thi Thuy Yen, Director of Administrative Affairs of Department of Science and Technology; Mr. Hoang Bao Hung, Vice Director of Department of Information and Communication; Mr. Phan Thanh Hai, Director of Hue Monument Conservation Centre; Dr. Katherine Muller-Marin, Representative of UNESCO in Viet Nam; Mr. Phan Ngoc Tho, Vice Chairman of Thua Thien Hue's People Committee; Ms. Do Thi My Chau, Vice Director of Department of Foreign Affairs; Mr. Cao Chi Hai, Vice Director of Department of Culture, Sports and Tourism; Mr. Hoang Duc Binh, Vice Director of Department of Education and Training; and Thua Thien-Hue Provincial People's Committee Administrative Department officers.



The UNESCO Director-General met with the Chairman of the Hue Provincial People's Committee and the Chairman of the Hue City People's Committee, as well as members of the Hue Monuments Conservation Centre, during her 2013 visit to the country. An overview of the cooperation between UNESCO and the province highlighted the ESD Initiative, implemented in the province in coordination with MOET.

UNESCO Director General Irina Bokova was welcomed in Hue by Mr. Nguyen Van Cao, Chairman of the Provincial People's Committee (PPC), Mr. Ngo Hoa, Standing Deputy Chairman of the Provincial People's Committee, and Mr. Phan Thanh Hai, Director of the Hue Monuments Conservation Centre.

2.2.4. Thua Thien-Hue Department of Education and Training (DOET)

Provincial education authorities were responsible for coordinating and facilitating the successful implementation of the Initiative at the local level. They oversaw the implementation of all the activities at the five participating schools selected as beneficiaries of the Initiative. DOET

organized the logistics for workshops and events held in Thua Thien-Hue Province and facilitated visits to the schools for UNESCO and partners. Furthermore, DOET's efforts were key to securing the participation of teachers and motivating schools to engage with the Initiative.



Mr. Phan Van Hai, Head of Primary Education Department of Hue DOET has been essential for the successful organization and implementation of local activities.

Mr. Pham Van Hung, Director of the Hue DOET, attends an ESD Initiative event. Mr. Hung oversaw all activities implemented in the schools in Thua Thien-Hue Province



2.3. Technical support partners

2.3.1. Ministry of Information and Communication (MIC)

The Ministry of Information and Communication, responsible at the national level for capacity building for media institutions, coordinated with VOV in the delivery of training courses to media professionals and institutions.

2.3.2. National Radio Voice of Viet Nam (VOV)

VOV is the sole national radio broadcasting institution in Viet Nam, covering more than 98% of the country's territory. UNESCO and VOV have worked on a number of projects to promote community radio broadcasting, as well as developing the capacities of media professionals and broadcast training institutions.

As part of the ESD Initiative, VOV developed media awareness raising and training materials and delivered media training to 20 local journalists from Thua Thien-Hue Province. They also supported the development of media communication plans in each of the participating journalists'

institutions. VOV trainers provided on-demand technical assistance on the production of quality media outputs by local and national media institutions to raise awareness on the Initiative among the wider public.

2.3.3. Viet Nam National Institute of Educational Sciences (VNIES)

VNIES' role as a national research institute is to conduct studies and develop curricula, textbooks and teaching methodologies. Under the leadership of MOET, it provided the core technical input to the formulation of the National Education Development Strategic Plan 2012-2020, and is now tasked with contributing research findings to the radical and comprehensive education renovation in Viet Nam.

Within the Initiative, VNIES conducted research on "Integrating non-cognitive/transversal competencies in education policy and practice" with the aim of developing students' comprehensive competences towards critical thinking, creative thinking, and global citizenship education, key areas for ESD.

2.3.4. Ha Noi Open University (HOU)

Ha Noi Open University provided technical expertise on e-learning methodologies and the use of ICTs for content development and the training of teachers. HOU, in coordination with MOET and UNESCO, produced the e-learning teacher training courses on (i) disaster risk reduction, (ii) climate change mitigation and adaptation, and (iii) biodiversity conservation.

As part of the ESD Initiative implementation, the capacity of HOU staff was raised through the provision of software and training for the production team.

2.3.5. Ha Noi National University of Education (HNUE)

HNUE is charged with preparing qualified educators for the education system, thereby contributing to the development of education in Viet Nam with a view to building a modern learning society. The Department of Primary Education of HNUE provided inputs to the development of content for the e-learning courses on climate change, biodiversity conservation and disaster risk reduction. HNUE ensured the quality of content, the courses' suitability for the context of Viet Nam, the pedagogical approach and its alignment with the proposed renovated curriculum for schools, especially in the development of educational activities for teachers to implement with students.

2.3.6. Viet Nam Man and Biosphere (MAB) Programme

MAB Viet Nam is the national representative of the MAB Intergovernmental Programme under the Sub-Committee of Natural Sciences within the Viet Nam National Commission for UNESCO. MAB and UNESCO have a close long-term cooperative

relationship, working on biodiversity, climate change, community action plans, environmental conservation and the application of UNESCO Teaching and Learning for Sustainable Future (TLSF) modules in schools in biosphere reserves.

As part of the ESD Initiative, MAB provided technical expertise in the areas of biodiversity conservation and climate change mitigation and adaptation for the development of e-learning courses and awareness raising material. MAB also supported the provision of training on the development of Community Action Plans and School Preparedness Plans, in coordination with UNESCO and the Continuing Education Department.

2.3.7. Hue University of Sciences

Hue University of Sciences provided on-site assistance for activities linked to remote sensing as well as supporting community members involved in the development of action plans. The University also provided venues and support for project meetings, training courses, awareness raising sessions and events.

2.3.8. Live & Learn Viet Nam

Live & Learn Environmental Education is an international NGO that develops and implements projects and programmes for teachers, schools, communities and other target groups to establish action-based, effective and creative learning models and teaching methodologies in the field of environmental and developmental education. Live & Learn provided guidance and expertise, resources, videos and other teaching materials and content for the development of the e-learning courses and provided technical support to communities in Thua Thien–Hue to develop their Community Action Plans and School

2.4. Introduction of the Initiative in schools in Thua Thien-Hue Province

In order to examine the conditions of the participating schools and to generate enthusiasm in principals, teachers and students, the Representative of UNESCO to Viet Nam and team members visited the participating schools to meet with the school principals and the teachers involved in the project. The visit also allowed the team to gain a better understanding of the needs and specific conditions of the schools.

2.4.1. Thanh Toan Primary School

Thanh Toan Primary School has 21 staff members responsible for 317 students, with girls accounting for almost 50 per cent (155) of the student body. The school is recognized as a National Standard School.

Preliminary assessment: Thanh Toan Primary School is at risk of flooding due to its proximity to rivers that often overflow. A number of high and low voltage electricity power lines pose an additional hazard to students and teachers in emergencies. Furthermore, the school's stairways have visible structural faults.



At Thanh Toan Primary School, the UNESCO Representative in Viet Nam met with the Principal Mr. Nguyen Huu Bon, Vice Principal Ms. Tran Thi Tuyet Mai and Mr. Phan Van Hai, Head of the Primary Education Department of Thua Thien-Hue DOET to discuss the project.



Children at Thanh Toan Primary School work together in the school's computer lab.

2.4.2. Huong Long Primary School

Built in 2009, Huong Long Primary School employs 36 staff members and supports the learning and development of 997 students, out of which 417 are girls and 580 are boys. The school also takes part in the piloting of the Viet Nam New School Model (VNEN).



Library at Huong Vinh No. 1 Primary School.



Children at Huong Long Primary School, one of the pilot schools in the Viet Nam New School Model.

Preliminary assessment: the school is located in a relatively safe location, with easy access and evacuation routes. However, due to the low-lying terrain surrounding the school, classrooms are at risk of flooding. For this reason, the school has installed a drainage system. The Initiative recommended Huong Long Primary School develop and practice evacuation and emergency response plans.

2.4.3. Huong Vinh No. 1 Primary School

Huong Vinh No. 1 Primary School is located in Huong Tra District in Thua Thien-Hue Province. The school has 294 students and 17 staff members, with girls accounting for almost half of the student body (140). The school underwent significant renovations in 2001 and 2007, constructing new two-story structures to enhance school safety and learning outcomes.



Ms. Han Thi Bay, School Principal at Huong Vinh No. 1 Primary School.

Preliminary assessment: Huong Vinh No. 1 Primary School is at risk of flooding due to its low-lying location and incomplete drainage system. The area is regularly inundated with water, which impacts students and teachers' ability to reach the school. A lack of trees in the school yard means students are not protected from the sun during recess and physical education class. For this reason, the Initiative proposed that the school plant trees to provide shade.

2.4.4. Quang Loi No. 1 Primary School

Quang Loi No. 1 Primary School, located in Quang Dien District, employs 24 staff members and is responsible for 238 students. Almost half of the students are girls (116). The school was built in 2009 using Official Development Assistance from the Government of Japan and achieved a Type 1 National Standard. The school also takes part in the Viet Nam New School Model (VNEN).



Ms. Nguyen Thi Kim Hoa, School Principal; Mr. Le Van Lanh, Vice Director of Bureau of Education and Training of Quang Dien District; Mr. Dang Ngoc Quy, Vice School Principal; and three teachers (Mr. Nguyen Hoa, Mr. Ha Vinh Hien and Mr. Nguyen Van Sung) discuss with UNESCO their participation in the project.



A student leads an interactive session during an afternoon class.



Students at Quang Loi No. 1 in a classroom organized according to the principles of participation within the Viet Nam New Education School Programme.

Preliminary assessment: A number of fences surrounding the school are damaged, which poses the risk of injuring students. Power and water resources suffer frequent shortages, especially during the summer, limiting the school's ability to use technology to deliver quality teaching and making it more difficult to maintain proper sanitation.

2.4.5. Phu Mau No. 1 Primary School

Opened in 2007, Phu Mau No. 1 Primary School is located in Phu Vang District. The 38 school staff members are responsible for 674 students (350 girls and 324 boys), with 253 students from poor or disadvantaged families. Girls account for approximately half of the total students. Students attend two sessions per day, in the morning and afternoon.

Preliminary assessment: The school's awareness on fire safety and protection needs to be enhanced. This is a particularly urgent need, as the school is surrounded by agricultural production areas where rice straw is burned at the end of the harvest season. Additionally, waste management practices need to be put in place in order to protect student and staff members' health and prevent environmental pollution.



Presentation by UNESCO on project activities and expected results at Phu Mau 1 School in the presence of Ms. Nguyen Thi Kim Hue, School Principal; Mr. Vo Binh, Vice-School Principal; Mr. Phan Van Hai, Head of Primary Education Department of Thua Thien-Hue DOET; and Mr. Tran Xuan Cuong, Coordinator for Primary Education at the district level (BOET).



Students gather outside and work together at Phu Mau No. 1 School.



Students and staff at Phu Mau No. 1 School pose for a group photograph.



Implementation and achievements (Samsung-funded components)

3.1. Component 1: Teacher capacity building for integrating ESD into daily teaching practices

Expected results: Teachers' capacities to contextualize and integrate ESD into their school practices are built through the development, piloting and dissemination of open-licensed educational resources on ESD, climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation.

Achievements: Teachers in Viet Nam now have e-learning courses from which they can learn and teach their students about climate change, disaster preparedness and biodiversity conservation.

Key activities towards achievements:

- Teachers' needs on ESD and ICT skills were assessed and teachers received training on the use of ICTs
- Course content was developed using international and national sources
- E-learning courses on climate change, biodiversity conservation and disaster risk reduction were produced and piloted with teachers in Thua Thien-Hue Province
- Final versions of the e-learning courses were adjusted based on the piloting results
- E-learning courses are made available for nationwide implementation



E-learning course on Biodiversity Conservation: layout of Chapter 4 – Threats and Risks to Biodiversity.

The challenges of climate change, disasters and biodiversity loss can now enter the classroom and motivate teachers and students to be better prepared and take responsibility in environmental conservation, which is key to the country's sustainable development. This is possible because of the development and dissemination of new and exciting teacher training courses that focus on explaining the causes of climate change and the need for adequate assessment in schools and communities. The courses also help to understand that living in harmony with nature and biodiversity conservation are fundamental in educating people to find ways to be better prepared when disasters hit and to mitigate and adapt to climate change.

Teachers are empowered to engage their students and inspire them to better understand and love nature, supporting a clean, safe and beautiful environment. These training courses are delivered in e-learning format, an innovative interactive approach that puts the learner at the centre of the experience and enables him or her to study at a suitable pace. The development of the courses followed a multi-step process that took place with the support of the Initiative's stakeholders, including government officials, local authorities, international and national experts, school leaders and teachers.

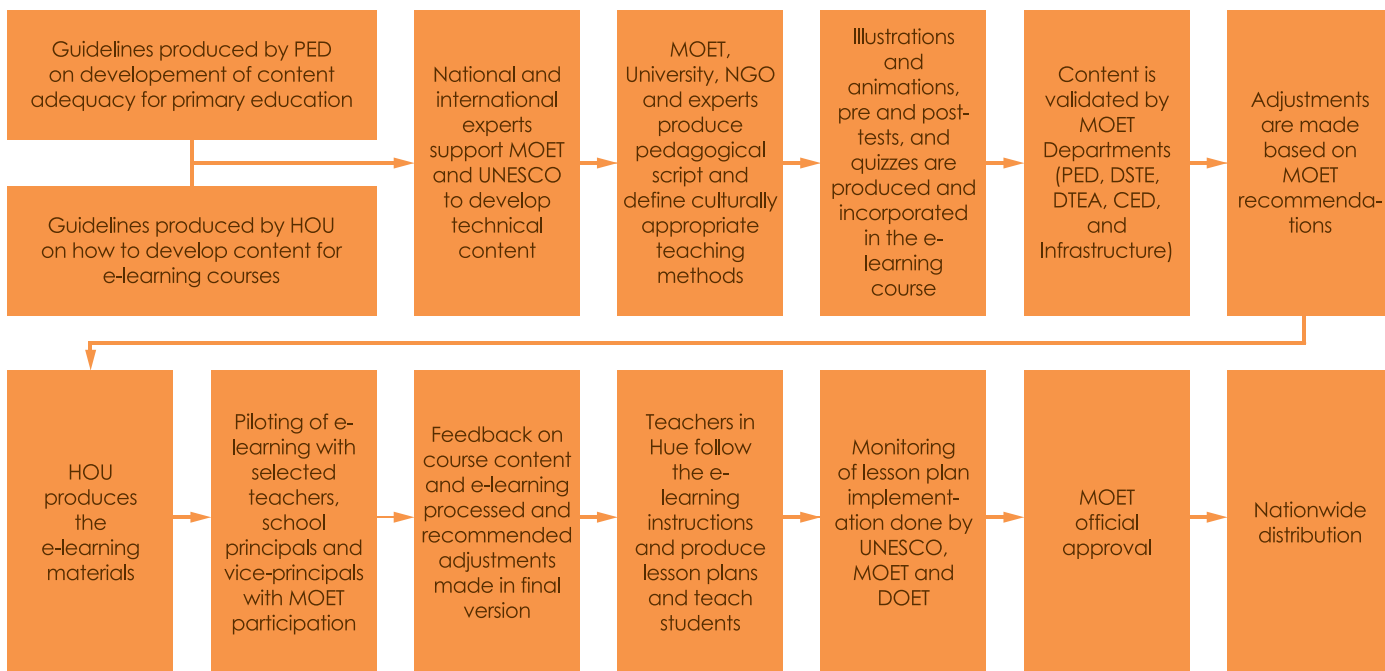
The nationwide availability of the e-learning courses provides a unique opportunity for teachers and students to comprehend the importance of conserving, restoring and taking pride in Viet Nam's biodiversity as a solution to reduce the risks associated with disasters and to better respond to climate change.



School principals, vice-principals and teachers in Thua Thien-Hue Province took part in the piloting of the e-learning courses.

The following diagram summarizes the e-learning course development, piloting and finalization process.

E-Learning Developing Process



E-learning Development Process: MOET: DSTE, PED, CED, DTEA and infrastructure; DOET/ Thua Thien-Hue, MAB, Live & Learn, HOU, HNUE, national and international experts.

3.1.1. ESD needs assessment and workshop

Output 1.1: ESD instructional needs and expectations of teachers identified through consultation: **fully achieved**



Ms. Nguyen Thuy Hong, Deputy Director General of the Department of Teachers and Educational Administrators of MOET, highlighted the importance of mainstreaming ESD as a key guideline and strategy for modern and innovative schools.

Before the team of national and international experts could begin developing e-learning courses, there was a need to understand how much teachers already knew about: (i) the use of Information and Communications Technology, including e-learning, in teaching; (ii) the principles and core messages of Education for Sustainable Development; and (iii) climate change, disaster risk reduction and biodiversity conservation. Assessing these needs helped identify knowledge gaps and informed the design and content of the e-learning courses.

A workshop on ESD was organized by MOET, UNESCO Viet Nam, national experts, Live & Learn and MAB in which teachers learned about ESD concepts and principles and the importance of integrating it into their day-to-day teaching and extra-curricular activities. Teachers also gave practical recommendations for mainstreaming ESD into school activities as a cross-cutting element, as well as identifying specific requirements for the integration of disaster risk reduction, climate change mitigation and adaptation, and biological and cultural diversity into teaching and learning. Primary school teachers from the five schools in Hue, as well as teachers from schools in Nam Dinh, Cat Ba and Ha Noi, were empowered by this endeavour.

Recommendations by teachers included:

- Providing specific training on ESD and innovative learning and participatory methodologies
- Increasing cooperation between schools, communities and education authorities
- Boosting the participation of parents, community members, the media, the Youth Union, the Women's Union and other mass organizations in school activities
- Increasing financial support
- Focusing on practical ESD measures rather than theory and discourse
- Encouraging students to contribute to the enhancement of ESD learning in their classrooms by facilitating student feedback
- Promoting cultural education
- Utilizing outdoor activities so students can learn by seeing and doing



Participants identify how to better mainstream ESD as a cross-cutting element in their daily teaching and learning methodologies.

The following table contains further detail on teachers' initial discussion on ESD mainstreaming.

Teachers' situation in terms of ESD		Teacher's needs
a	Teachers lack an understanding of the concept of ESD	<ul style="list-style-type: none"> ● Have access to open ESD resources and online ESD resources in Vietnamese, ESD handbooks and guidebooks ● Attend training workshops for teachers on ESD concepts and methodologies, especially on how to integrate ESD into various subjects. ● Take part in ESD networks and online ESD forums to share knowledge and best practices for ESD
	Teachers lack an understanding of and insights into ESD background (ESD point of view, approaches, strategies and methods of teaching and learning)	
b	Teachers lack the capacities (skills, approaches and methods) to design and implement ESD	
c	Teachers are faced with an overloaded school curriculum and large class sizes	
d	Teachers lack the necessary conditions (climate change education resource materials, computers or laptops with access to the Internet, available class room space and time for extra-curricular activities on climate change education) to mainstream ESD into their school activities	<p>Establish close cooperation between stakeholders and garner stronger support from school leaders</p> <p>Provide necessary technological equipment to mainstream ESD into primary schools</p>

3.1.2. ICT needs assessment and training course

Teachers' ICT needs were assessed next. Experts from Ha Noi Open University conducted an ICT needs assessment at the pilot schools in order to identify the schools' ICT infrastructural capacity and the teachers' ICT skills. The results of the

needs assessment were used to develop a targeted practical training course for teachers and school leaders on the use of ICTs and e-learning methodologies. The following needs were identified:

- Some participants presented limited skills in using computers
- The assessed schools had good ICT infrastructure in place
- The participating teachers were willing to learn how to utilise ICT in the classroom
- The majority of teachers did not know how to fully exploit the internet to prepare lesson plans and research fun and appropriate teaching aides
- Teachers rarely used the internet to share and distribute information or exchange ideas with colleagues
- Further training on the use of the internet for teaching purposes and e-learning methodologies and tools was identified as a priority



Teachers learn the required skills to actively use an e-learning platform and ICT tools.

The Primary Education Department of the Department of Education and Training of Thua Thien-Hue Province and Ha Noi Open University conducted an ICT training course to provide an introduction to ICTs, including instructions on how to use e-learning teaching and learning methodologies. The training course is composed of two parts: a face-to-face training session in Hue City and a week-long online training course.

In the face-to-face training session, teaching professionals from Ha Noi Open University gave the 25 participating primary school teachers, principals and vice principals an overview of how to use the internet for teaching and research purposes and introduced them to the basics of online learning and e-learning. The participants familiarised themselves with the online training system developed by Ha Noi Open University, which the participants needed to utilise during the week-long online training course. Prior to the technical training sessions, participants took a pre-course test, with results clearly showing that the majority of participants did not yet understand the value of ICTs and e-learning.

During the online training course, participants accessed the HOU e-learning platform and familiarized themselves with its technical aspects. The teachers participated in forum discussions, completed multiple choice questionnaires, submitted assignments online and provided input to virtual classes via webcams and microphones.

At the end of the course, all the participants understood the value of ICTs and e-learning and demonstrated basic skills in utilizing these tools. Below can be found a selection of some of the results from the pre and post tests:

Question related to	Pre-test	Post-test	Increase
	Correct Answer	Correct Answer	
Web page	68%	96%	28%
Domain	24%	92%	68%
Main characteristics of e-learning	72%	100%	28%
Advantages of e-learning	32%	84%	52%
Online communication	32%	92%	60%

Teachers expressed their keen interest in learning more about ICTs and e-learning, especially in regards to studying climate change mitigation and adaptation and biodiversity conservation through the use

of e-learning technologies. The feedback received from teachers was used to inform the design of the e-learning courses in the steps that followed.

Mr. Dinh Tuan Long, Deputy Director of the E-learning Centre of Ha Noi Open University delivered the training on ICT skills to teachers from Thua Thien-Hue Province who took part in the piloting of the e-learning courses. Mr. Long highlighted several successes.

"After the training, I can see a lot of changes in the participants' attitudes and knowledge. Teachers did not know anything about e-learning before taking this training course. Based on the needs assessment made before the training, we were expecting that by the end of the training session, at least one participant per school would have developed the capacity to use the online platform and could then help the other teachers after the ICT training. However, by the end of the afternoon, all participants, even the ones with no previous ICT knowledge, were able to independently log in, take a test, upload documents, navigate the e-learning site and use the platform on their own. Participants were motivated and eager to participate in the training. They were excited to learn something new: participants particularly enjoyed discovering the different functions of the e-learning platform and the virtual class, and all participants showed great focus and interest during the lectures.

Solidarity within the group of trainees and the mutual assistance that resulted from it was another highly positive aspect of the training. The training course was an opportunity for participants to get to know each other better, which would facilitate upcoming training and activities. A difference in computer and internet literacy was noticeable between younger and older participants. Younger participants were able to use the platform intuitively with very little or no help from the trainers. This allowed the training team to spend more time with the older participants who needed one-on-one guidance on how to navigate the platform and make use of its functions. Each school selected at least one teacher with experience in the ICTs for the training. In many situations, teachers helped each other, answering their questions without having to call upon the trainer, reinforcing teachers' self-confidence and empowering participants to become more and more engaged in using the new technologies."

3.1.3. E-learning course content preparation

The e-learning development process was jointly undertaken by UNESCO, MOET representatives, MAB, Live & Learn, and national and international experts.

a. Production of guidelines for content development

Output 1.2: ESD content covering three themes developed based on existing and locally developed materials: **fully achieved**

MOET's Primary Education Department produced a set of guidelines for e-learning course content developers that set out orientation on how to determine appropriate content for the primary education level, especially in relation to climate change since DRR and biodiversity conservation are not yet in the national curriculum. A brief orientation for the production of e-learning materials was then produced by the Hanoi Open University.

b. Identifying existing materials

Desk reviews were undertaken by the UNESCO team and project partners to identify educational materials to use as reference for the courses. Resources included teacher training manuals, handbooks and practical classroom activities.



The responsibility of developing the content of the e-learning courses was shared by a large team of international and national experts.

Materials identified in the areas of disaster risk reduction, climate change and biodiversity conservation include, among others: (i) international conventions and national legal frameworks; (ii) international and national curricula and training modules; and (iii) other resources and multimedia.

Resources were selected based on their relevance to the context of Viet Nam. The use of materials produced by governmental or United Nations organizations and institutions, as well as those available under an Open Access licensing system, simplified the copyright attainment process for some content.

The selected materials were used to develop engaging and informative course content, collated in logically-structured chapters. All three courses included a section of educational activities for teachers to use with their students.

c. Obtaining permits to use, adapt and translate selected materials

In order to ensure compliance with international copyright regulations, the right to use the materials identified in the e-learning courses needed to be officially granted to UNESCO.

The Publication Unit of UNESCO's Sector for External Relations and Public Information supported the development of a consent form that follows UNESCO's and Viet Nam's regulations regarding copyrights and open-resource materials. Permission consent was obtained from copyright holders for those materials that needed it. A monitoring chart was developed to follow up on the status of the requested and obtained permits for each course.



A member of the UNESCO team presents the permit monitoring chart.

Additionally, Samsung Global authorized the translation and use of 22 audio-visual educational materials for children produced by the company.



Samsung Global provided 22 audio-visual educational materials that has been translated, adapted and included in the e-learning courses as tools for teachers to use in their lessons.

3.1.4. E-learning course production

Output 1.3: E-learning courses on ESD, covering three themes, developed for teachers: **fully achieved**

Once the selection of materials was finalized and permits were obtained, a detailed outline of each course was developed, including: (i) an overview of the course content; (ii) the courses' learning objectives; (iii) the learning objectives of each section within each course; (iv) learning outcomes; (v) teaching methodologies; (vi) learning materials and resources; and (vii) the course structure.

International and national experts, local NGOs and the Department of Primary Education of the Ha Noi University of Education provided input to the development of the outline to ensure that courses are appropriate for the Vietnamese context. MOET created a Validation Committee, composed of representatives of MOET's Departments, teachers and experts, to provide follow-up and review course outlines and content.

A team of national experts supported the content development process by ensuring compliance with national legal frameworks. The team consists of i) Dr. Luu Duc Hai, an expert on climate change, who is the Dean of the Faculty on Environmental Sciences at the Viet Nam National University of Sciences; ii) Mr. Nguyen Thanh Lam, an expert on natural resources from the Faculty of Natural Resources and the Environment at the Ha Noi University of Agriculture; and iii) Mr. Dong Thanh Hai, an expert on biodiversity conservation from the Faculty of Forest Resources and Environmental Management at the Viet Nam Forestry University. These experts worked together with the team of the Man and Biosphere Programme and the NGO Live & Learn.

Education experts then worked on reviewing the language used in the courses to make sure it is directed at teachers. They also developed and reviewed the educational activities contained in all courses to support teachers in helping their students learn. Experts included: (i) Ms. Dang Thi Kim Nga, Director, (ii) Ms. Nguyen Thi Than, and (iii) Ms. Nguyen Thi Van Huong, from the Primary Education Department of the Ha Noi National University of Education; (iv) Dr. Bui Phuong Nga, a specialist in curriculum development; and, (v) Ms. Bui Thanh Xuan, Head of the General Research Department of the Research Centre for Non-formal Education and researcher at the VNIES. Both Dr. Nga and Ms. Xuan also helped review the teachers' lesson plans and Dr. Nga took part in the monitoring of the implementation of these plans.




Dr. Bui Phuong Nga (left) and Ms. Bui Thanh Xuan (right) during the final school event organized in Hue.

The content development process was supported by two international experts who shared best practices from other countries with the national team of experts. One of these experts has extensive experience in disaster management and humanitarian aid in more than 30 countries; and the other has more than 30 years' experience working with communities on biodiversity conservation and environmental issues.



International consultants Moustafa Osman, from Osman Consulting Ltd. (left) and Robert Wild (right).

The three courses were structured as a series of chapters per topic, as described in the following table:



	Climate Change Mitigation and Adaptation	Biodiversity Conservation: Living in Harmony with Nature*	Disaster Risk Reduction School Assessment and Preparedness
Chapter 1	Understanding climate change: concepts, causes and impacts	Becoming bioliterate and helping students understanding bioliteracy	The School Assessment Tool
Chapter 2	Climate change responses	Discovering biodiversity: Taking pride in our nature	The School Preparedness Plan
Chapter 3	Educational activities	The benefits and services of biodiversity	Protocols
Chapter 4		Threats and risks to biodiversity	Family Preparedness led by Students
Chapter 5		Biodiversity conservation and bioliterate competences	
Chapter 6		ESD for Green Growth towards social transformation	

**In the case of Biodiversity Conservation, each chapter is in itself a course and each one contains a separate section on educational activities.*

a. Developing an e-learning format




The course content was documented in a Microsoft Word file, including photographs, illustrations, graphs, tables and boxes that helped illustrate the content. This version is validated by experts. Next, the content is converted into an e-learning script based on the methodology selected to develop the learning in each section. The format of the e-learning script represents a table with three columns:

- The main column, identified as visual presentation, corresponds to the visual images that the learner will have on his or her screen. It specifies technical

instructions for the developer of the e-learning course, such as the insertion of an animation, picture, text or quiz. It also specifies the sequence for the visual images to appear in coordination with the narration

- The column to the left of the visual presentation contains the narration of the course and technical instructions for the recording of the voices. A specific script is developed for each of the voices or characters used to animate the course. When needed, the instructions can refer to the use of music or background noises

● In the column to the left of the narration, the type of narrator or character is defined

	Narration	Visual presentation
Text to be said by Narrator	<p>Technical instructions:</p> <ul style="list-style-type: none"> - Audio to be recorded by HOU <p>Text for audio:</p> <p>Welcome to the second section of the chapter on Discovering Biodiversity and Taking Pride in Our Nature!</p>	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following title will be shown on the screen: <p style="text-align: center;"><i>Vietnamese heritage is recognized internationally</i></p>
Text to be said by Narrator	<p>Technical instructions:</p> <ul style="list-style-type: none"> - Audio to be recorded by HOU <p>Text for audio:</p> <p>While Vietnamese have long known of the striking beauty of their own land, the rest of the world has turned its interest towards enjoying the wealth of Viet Nam's heritage as well. Viet Nam boasts an abundance of internationally recognised biosphere reserves, World Heritage Sites and a geopark, along with other areas that are rich with natural heritage. The objective of this chapter is to provide you with a better understanding of how important Viet Nam's biodiversity is and to show you some of the places that serve as a source of pride for Vietnamese society.</p>	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following title will be shown on the screen: 
Text to be said by Narrator	<p>Technical instructions:</p> <ul style="list-style-type: none"> - Audio to be recorded by HOU <p>Text for audio:</p> <p>Now, we would like to invite you to discover rare and unique natural sites that Viet Nam has to offer through a virtual tour around the country's well-known sites.</p>	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following images will be shown on the screen: 
Text to be said by Narrator	<p>Technical instructions:</p> <ul style="list-style-type: none"> - Audio to be recorded by HOU <p>Text for audio:</p> <p>At the end of this section, you will be able to:</p> <ol style="list-style-type: none"> 1. Identify areas in Viet Nam with important biodiversity; 2. Use the information learned to motivate others to learn about those sites that serve as a source of pride for Vietnamese society. 	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following text will be shown on the screen: <p><i>At the end of this section, you will be able to:</i></p> <ol style="list-style-type: none"> 1. <i>Identify areas in Viet Nam with important biodiversity;</i> 2. <i>Use the information learned to motivate others to learn about those sites that serve as a source of pride for Vietnamese society.</i>
Text to be said by Narrator	<p>Technical instructions:</p> <ul style="list-style-type: none"> - Audio to be recorded by HOU <p>Text for audio:</p> <p>Today we will explore the vast natural diversity around you. Together we will have a look at all of the beautiful sites that are available to you and visitors from around the world. As an educator, you can share with your students what you learn about from these sites so they have an opportunity to take a future stand in the conservation, restoration and promotion of this natural beauty. The ideal option would be to go directly to one of the sites but in case you do not have this opportunity, you can organize an imaginary trip with your students following the same model as the one we are going to use right now.</p>	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following text will be shown on the screen: <p style="text-align: center;"><i>The people of Viet Nam should be proud of their nation, a country renowned for its ancient natural beauty and biodiversity!</i></p>
Text to be said by Narrator	<p>Technical instructions:</p> <ul style="list-style-type: none"> - Audio to be recorded by HOU <p>Text for audio:</p> <p>A special guest and expert will accompany us on our journey today. Dr. Tri is the Secretary General of the Viet Nam Man and Biosphere Programme, also called MAB. MAB is a programme that aims to establish a scientific basis for the improvement of relationships between people and their environments. It predicts the consequences of today's actions on tomorrow's world and thereby increases people's ability to efficiently manage natural resources for the well-being of both human populations and the environment. The MAB Programme focuses on sites internationally recognized within the World Network of Biosphere Reserves, so Dr. Tri is the perfect guide for our trip in Viet Nam's biosphere reserves.</p>	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following animation will be shown on the screen: 
Text to be said by Dr.	<p>Technical instructions:</p> <ul style="list-style-type: none"> - Audio to be recorded by HOU 	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following animation will be shown on the screen:

Example of e-learning format.

	Narration	Visual presentation
Text to be said by (specify the narrator)	<p>Technical Instructions:</p> <p>Audio to be recorded by...</p> <p>Text for Audio:</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>Technical instructions:</p> <p>A slide with the following title/text/animation/picture will be shown on the screen:</p>

The template contains all information to allow the technicians to produce the final version of the e-learning course.

The Word document can eventually be used as a handout material to be distributed to the e-learning participants. This material can also be used to inform policy-makers or other education managers on the content that is contained in the e-learning courses.

When developing the e-learning format, this content is adapted according to the e-learning methods that have been chosen, such as creating narrators and developing dialogues between narrators. Other instructions are also included here to provide links to documents or videos that support the course.

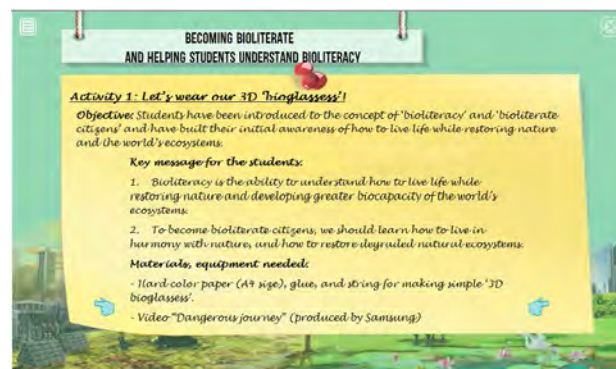
b. Developing illustrations and designs


Based on the content of the courses, a number of illustrations and animations are designed to make the course content as attractive as possible. Reader-friendly fonts are selected and the content is split into smaller sections that are easier for the learner to understand and follow.

<p>Lời văn do cô Thỏ nói</p>	<p>Nhiệm vụ 1: Thành lập nhóm và phân công nhóm trưởng</p> <p>Nhiệm vụ 2: Định hướng cho các thành viên trong nhóm nhằm đạt được sự thống nhất chung về kết quả mong đợi</p> <p>Nhiệm vụ 3: Xác định phương pháp lập kế hoạch PCTT-THAT</p> <p>Nhiệm vụ 4: Đánh giá kết quả của các công cụ đánh giá an toàn</p> <p>Nhiệm vụ 5: Cùng với nhóm rà soát lại các khái niệm</p> <p>Nhiệm vụ 6: Cùng với nhóm rà soát lại các khái niệm</p> <p>Nhiệm vụ 7: Cùng với nhóm rà soát lại các khái niệm</p> <p>Nhiệm vụ 8: Cùng với nhóm rà soát lại các khái niệm</p> <p>Nhiệm vụ 9: Tìm hiểu về các mẫu đồng trong việc lập kế hoạch</p>	<p>Nhiệm vụ</p> <ul style="list-style-type: none"> - Nhiệm vụ 1: Thành lập nhóm và phân công nhóm trưởng - Nhiệm vụ 2: Định hướng cho các thành viên trong nhóm nhằm đạt được sự thống nhất chung về kết quả mong đợi - Nhiệm vụ 3: Xác định phương pháp lập kế hoạch PCTT-THAT - Nhiệm vụ 4: Đánh giá kết quả của các công cụ đánh giá an toàn - Nhiệm vụ 5: Cùng với nhóm rà soát lại các khái niệm - Nhiệm vụ 6: Cùng với nhóm rà soát lại các khái niệm - Nhiệm vụ 7: Cùng với nhóm rà soát lại các khái niệm - Nhiệm vụ 8: Cùng với nhóm rà soát lại các khái niệm - Nhiệm vụ 9: Tìm hiểu về các mẫu đồng trong việc lập kế hoạch 
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<p>Text to be said by the gecko</p>	<p>Technical instructions: Audio to be recorded by HOU</p> <p>Text for audio:</p> <p>At a teacher you have the ability to adapt the messages and exercises to the ages and conditions of your students.</p>	<p>Technical instructions:</p> <ul style="list-style-type: none"> - A slide with the following text will be shown on the screen: <p>Activity 1: Let's wear our 3D 'bioglasses'!</p> <p>Objective: Students have been introduced to the concept of 'bioliteracy' and 'bioliterate citizens' and have built their initial awareness of how to live life while restoring nature and the world's ecosystems.</p> <p>Key message for the students</p> <ol style="list-style-type: none"> 1. Bioliteracy is the ability to understand how to live life while restoring nature and developing greater biocapacity of the world's ecosystems. 2. To become bioliterate citizens, we should learn how to live in harmony with nature, and how to restore degraded natural ecosystems. <p>Materials, equipment needed:</p> <ul style="list-style-type: none"> - Hard colored paper (A4 size), glue or staples, scissors and string for making simple 3D bioglasses. - Video "Dangerous journey" (produced by Samsung).
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<p>Text said by the gecko</p>	<p>Technical instructions: Audio to be recorded by HOU</p> <p>Text for audio:</p> <p>Using an imaginative tool called "bioglasses", Mr. Avaro will allow you to see the environmental impact of all things, products, services and human behaviours.</p> <p>In Section 2, we will motivate teachers to lead students in producing their own "bioglasses" to stimulate their imaginations in order to better understand how humans impact nature.</p>	<p>Technical instructions:</p> <ul style="list-style-type: none"> - The gecko is shown on the full screen holding the "bioglasses" in his hand and then putting them on on the spectacle. <p>Animation:</p> 
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Examples of content in the e-learning format and the corresponding slide produced by the HOU team for the e-learning courses - examples from the course on Disaster Risk Reduction course (top) and the Biodiversity Conservation course (middle and bottom).

Designers were requested to produce a range of materials, from simple illustrations and complex pictures to animations. The selection of the designs should be based on the target audience. In the case of teacher materials, student-friendly visuals are necessary so the teachers can use them to enhance their lesson plans. For each course/chapter, narrators were created and animated to ensure the attractiveness of the courses and the interactivity of the presentation. These narrators each have an area of expertise and share information and advice.



The tree presents the benefits and services provided by nature.



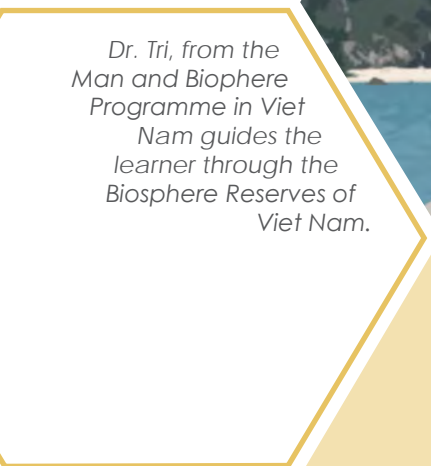
The gecko describes biodiversity in Viet Nam and the core principles on how to be bioliterate and live in harmony with nature.



The moon bear teaches the learner about endangered species.



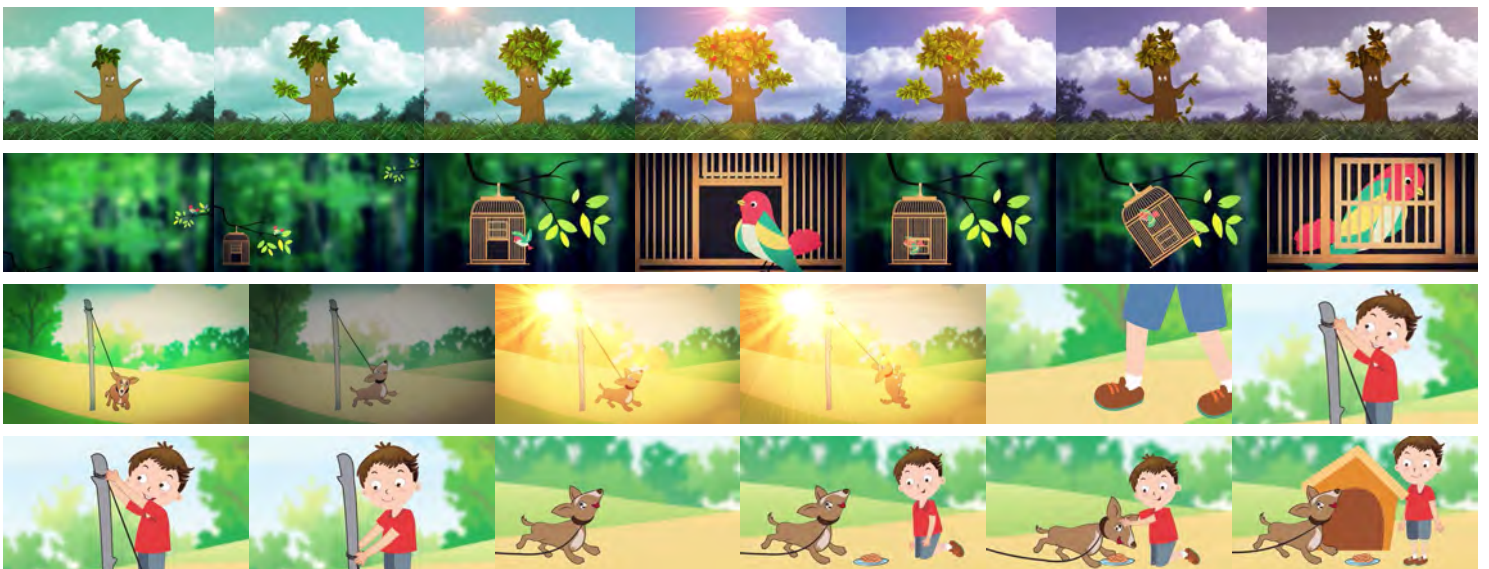
A school principal takes the learner through the different behaviors students and teachers should adopt at school to be bioliterate citizens.



Dr. Tri, from the Man and Biosphere Programme in Viet Nam guides the learner through the Biosphere Reserves of Viet Nam.



A fireman gives advice on protocols to follow in case of fire.



Examples of animations designed especially for the e-learning courses on biodiversity conservation

c. Recording of audio materials

Different narrative characters were chosen for the voice recordings in Vietnamese and English, including male and female voices. A selection process was conducted by the UNESCO Ha Noi Office to choose suitable actors for the recording of the voiceovers. The candidates were selected based on two criteria:

- Their ability to play with their voices so they can embody one or more narrators in the e-learning courses
- A neutral accent so they can be clearly and easily understood by the largest number of learners

Prior to the recordings, the candidates were provided with a transcript that included (1) the character scripts of the narrative parts included in the e-learning courses; and (2) the scripts of the videos included in the courses. The scripts were established for each character, with the narration being divided to correspond to each image of the course. This allowed the team of developers to have access to the audio materials, already separated to match the visuals, hence facilitating the production process.

UNESCO supported the Ha Noi Open University to upgrade the recording studio with new materials, to ensure a better quality of the recordings and easier conditions of work for the sound technicians.



E-LEARNING: BC5
 CODE/CHARACTER: BC5 M1 (MALE GECKO)
 TOTAL TIME FOR CHARACTER: 00:16:10
 CHAPTER 5 – INTRODUCTION

Video	Character	Duration	Text
BC Ch 5 Intro	Male Gecko	00:00:30	Welcome to the chapter on biodiversity conservation and bioliterate competences. In this chapter, we will discuss the concept of bioliterate citizenship in relation to biodiversity conservation. This chapter will highlight the legal and institutional frameworks that reinforce bioliteracy for sustainable development and the basic competences of a bioliterate citizen which support these frameworks.
		00:00:45	In the later sections of the chapter, we will identify and analyse the knowledge, skills, and attitudes of bioliterate citizens and students, as well as provide suggested educational activities which reinforce these competences in the classroom, the home, and the community.

Vietnamese dialogues and English voiceovers were recorded at Ha Noi Open University. Mr. Mark Gergis (top left) uses the character scripts (bottom right) to record more than ten different characters for all the courses, giving each one a distinctive voice and way of speaking.

d. Production of quizzes and tests

A number of quizzes and tests were included in order to engage learners and help monitor their learning progress.

For each course, a pre- and post-test was also designed with two functions:

- During the piloting, the tests allowed the UNESCO team and MOET to monitor the learning progress and ensure that the content is appropriate, clear and easy to understand. In order to allow a comparison, the questions in the pre- and post-tests need to be the same. The responses given in the pre-test, which is done before initiating the course, and the post-test, which is completed after finalizing the course, are compared and analysed. These tests allowed the content developers to have an indication of the parts of the courses that were not understood by the learners. Based on this analysis, courses have been reviewed and enhanced by pedagogical experts
- Scores of the pre- and post-tests were calculated. Learners had access to the results of their tests, allowing them to identify the areas they needed to review and the parts of the course they should study again

Quizzes were inserted throughout the sections of the course as an intermediary evaluation for the learners. These quizzes were developed to allow the learners to review the main ideas of each session and test their learning throughout the course.

The quizzes include true or false, multiple choice and fill in the blank questions.

e. Capacity building of the Ha Noi Open University

Use of a new e-learning tool



Dr. Le Van Thanh, Director of HOU recognizes AMP's contribution to the University, with Ms. Dorothy Leab, Programme Leader and Director of Human Resources for Health of the AMP Viet Nam Office.

Ha Noi Open University was provided ten copies of the e-learning tool INOVAE Publisher, software donated by the French company INOVAE SA, thanks to the support of the NGO Agence de Médecine Préventive (AMP). The e-learning software was selected as it is easy to use and compatible with the CD-ROM application used for the production of the courses as well as with the e-learning platform Moodle. AMP helped refine the software to suit the Initiative's objective to disseminate the courses online and offline and provided in-depth training and continuous technical support to the production team at HOU.

The e-learning software presents more diverse options and possibilities in terms of e-learning production than the one normally used by HOU. It allows developers to be more creative in the presentation of the courses, the designs and the interactivity of the different interfaces.



Mr. Tran Thien Hoang, Deputy Director of the Centre for Educational Materials of the Ha Noi Open University lists several advantages of using the new INOVAE Publisher software.

"The INOVAE Publisher software is very useful in the production of e-learning lesson plans and scenarios with interactivity. The use of this software contributed to reinforcing HOU's capacities in developing and utilizing e-learning courses. Before the INOVAE Publisher software, HOU used a software which was only intended to create courses for online training. One modality involved offline training but without the possibility of monitoring on behalf of the university. At this point in time, HOU did not consider the submission of learners' outcomes to the training institutions as a possibility.

With the use of the new software, the idea of combining online and offline training modes appealed to HOU, especially with regard to reaching out to learners in remote areas that lack reliable internet access, through the use of USB sticks or CD-ROMs or other offline devices. If the learner has internet access, after completing the course, they can press the 'Call' button to submit their work to their instructors. If not, learners' results, scores and completion time are automatically recorded in a PDF file on their desktop. The file can then be copied onto a USB stick and emailed to the training institution from a commune-based post office or cultural centre, or an office or school that does have internet access. This constitutes a very good and useful method that has so far not been taken into account by the Ha Noi Open University.

As for the future training courses of the Ha Noi Open University, we would like to continue to deliver training courses following the methodology developed with UNESCO, distributing offline e-learning courses throughout the country, especially to remote areas. By doing so, more people can have access to our courses and can study according to their own time requirements. For the time being, we are still running e-learning courses that require learners to be constantly online; but soon, they will be able to study offline and submit their study results to the corresponding training institutions."

Training of the e-learning production team

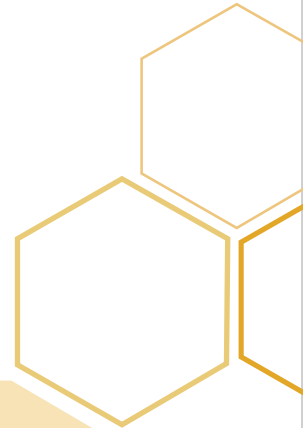
Ten technicians from HOU acquired the necessary skills and knowledge to use the new INOVAE Publisher software. They are now able to independently develop e-learning courses using the software. AMP developed and led a two-day training course for the HOU e-learning production team and continued to provide assistance and monitoring throughout the development of the first e-learning course (climate change mitigation and adaptation e-learning course).

The training focused on (i) giving an overview of the specifics of the software and the methods to build an online training course,

including using a CD-ROM application for distance learning and integrating lectures, exercises, video and audio files; and (ii) understanding how to fix bugs when producing an e-learning course using INOVAE and how to create and modify the CD-ROM application.

Trainers from AMP used the production process for the e-learning course on Climate Change as a practical exercise for the production team to apply their new skills. The team of developers was also provided with two guidelines to support them in the use of the software: i) "How to create and modify the CD-ROM application"; and ii) "How to fix bugs when producing an e-learning course using INOVAE Publisher software".

After two days of training, the e-learning production team was able to start the production of the courses and the platform, with the continuous support and technical advice of AMP.



HOU takes the lead in e-learning production



Mr. Tran Duc Vuong, Director of the Learning Resource Centre of HOU, stated that “HOU adopted a new approach in designing training programmes, developing learning materials, as well as in ways of packaging e-learning resources. Staff and technicians of the University now have access to new tools for packaging learning materials and developing e-learning resources in a more interactive and appropriate way.”

Since the Initiative provided in-depth training on how to use the software, HOU developed its expertise further and the team members are using their newly acquired skills to produce a range of e-learning courses in addition to those designed and produced as part of the ESD Initiative.

The tool used to create CD-ROM e-learning courses helped HOU start thinking about reaching out to learners in remote areas with limited internet access, who would previously have been unable to participate in and benefit from e-learning.

HOU was empowered to take initiative and expand its operations into new fields of work, demonstrating a high level of confidence in using the software and production tools. Furthermore, this shows that the Initiative developed a sense of ownership in HOU over the expertise and technology provided, contributing to the overall sustainability and long-term results of the Initiative.

Through its participation in the Initiative, HOU got in touch with a new range of partners and potential beneficiaries. The University is traditionally focusing on carrying out higher education training programmes, but now also has experience in teaching primary school teachers and education managers from general education schools, bringing new teaching opportunities to HOU.

f. Production of the courses and the platform

Once the content was developed with inputs from experts, and following its approval, the technical team focused on formalizing the content developed. This entails inserting the content developed in the e-learning script of each course into the e-learning software (matching the visual part and the audio part

recorded), adding multimedia resources on the CD-ROM and creating the pre- and post-tests in the e-learning platform for the piloting of the courses.

The following tools were used for the e-learning production:

- The e-learning platform Moodle was used to create the pre- and post-tests for piloting. As the platform was already being used by HOU, their technicians were familiar with its use and different functionalities. The platform gives each user private access and collects data easily. Furthermore, Moodle is the most popular platform of its kind in Viet Nam, which is an advantage for learners as they may already be familiar with it
- The e-learning tool INOVAE Publisher software
- A customized CD-ROM application, used to copy the courses and additional multimedia resources onto CD-ROMs. The tool was developed by AMP and updated by HOU to enable learners to work offline by allowing them to save their quiz results in a PDF file, which can be sent via email whenever needed. By saving the ongoing learning session onto a USB stick, the learner can easily continue studying the course even if they have to switch between computers at home, at the local DOET or at school to continue studying the course



The e-learning production team works on the e-learning courses in the HOU recording studio.

Close coordination between the content developers and the e-learning production team at the HOU was of the utmost importance. The UNESCO e-learning specialist worked full time with the HOU team during the production process, providing on-site support when needed and supervising the production of the final versions of the courses.

The production team was divided into different sub-teams working simultaneously on different parts of the courses. Each team was assigned to produce a specific session to produce, both in English and in Vietnamese, to ensure the harmonization of both versions. Specific teams were also identified for the audio recording process, the customizing of the platform and its management and the pre- and post-tests, respectively.

HOU team leader, Mr Tran Thien Hoang, Deputy Director of the Centre for Educational Materials, ensured overall coordination of the HOU team members and worked in close collaboration with UNESCO to ensure the quality of the final courses. He led the adaptation of the CD-ROM template for each course, customizing the design, fonts, titles, illustrations, flash animations and interfaces as necessary. HOU Director of the Learning Resource Centre, Mr Trang Duc Vuong, oversaw the general production process.



The production team makes adjustments to the e-learning courses.

g. Checking the courses and debugging

An important final step was to check that the e-learning courses ran smoothly before and after copying them onto CD-ROMs or USB flash drives. During this testing, some technical bugs were identified, such as a mismatch between audio and text or animations not showing correctly. Once the necessary revisions were made, the e-learning courses were copied onto CD-ROMs and USB flash drives for piloting.

3.1.5. Training course on the use of e-learning and piloting of the courses

Output 1.4: E-learning courses on ESD piloted in five schools for fifteen teachers and feedback from teachers obtained: fully achieved

The e-learning courses have been piloted in five schools in Thua Thien-Hue Province to ensure that they are user-friendly, easy to understand and appropriate for primary school teachers in Viet Nam. A group of teachers, school principals and vice principals was selected to pilot the e-learning courses and provide feedback. The piloting helped identify some technical issues pointed out by the learners, such as some slides moving too quickly or the score not resetting back to zero if they restarted the course. At the same time, the piloting process also allowed teachers to learn more about the use of e-learning as an innovative learning resource.

In order to prepare the selected teachers, school principals and vice principals to implement and complete the piloting process and the corresponding data collection instruments, a workshop was held in Thua Thien-Hue Province. During the workshop, UNESCO provided an introduction to the e-learning courses and the piloting process and facilitated the training course on how to use the software and how to fill in the forms developed to register feedback on the courses.

During the training workshop, participants began the piloting of the Climate Change Mitigation and Adaptation course. Prior to exploring the e-learning course on climate change in detail, participants completed a pre-test in order to assess their pre-existing knowledge. Initial instructions and technical support were provided and participants completed the e-learning course's first session of the first lesson to demonstrate their understanding of the instructions

and determine any other technical or instructional needs prior to the self-learning experience. Participants were then given three weeks to complete the rest of the course with distance support and monitoring provided by UNESCO.



Mr. Tran Thien Hoang, Deputy Director of the Centre for Educational Materials at HOU, supervised the implementation of the first phase of the piloting in Hue to support teachers in case of technical issues.

As a result, participants understood the basic functions of the software and learned how to set up their equipment. Participants praised the option of being able to complete the courses offline in the event that no internet connection is available. Participants also understood the importance of the e-learning program and the potential of its application to enhance their learning interaction with students, parents and the school community.



A participant creates her personal profile prior to taking the course on Climate Change.

Also, participants understood the importance providing solid feedback to the production team. By the end of the training workshop, participants reported that it had been useful and beneficial in helping them learn how to use e-learning for their training.

Throughout the preparation and implementation of the training workshop, the UNESCO team and the Initiative's stakeholders, including DOET and school

leaders, cooperated effectively and strengthened their working relationship.

Participants' learning progress over the duration of the piloting process was closely monitored. The automatically-generated learning reports were sent to the participants to keep track of their individual and collective progress. The data was also sent to the UNESCO team for analysis.

Thua Thien-Hue DOET's valuable support to and involvement in the Initiative's success

DOET played a key role throughout the duration of the Initiative. They were responsible for overseeing the practical application of all the Initiative's programmes at the provincial level, not only ensuring smooth implementation but also making important contributions to the quality of the materials and methodologies used.

Since the Initiative focused on primary education, the Primary Education Department within the DOET played a particularly important role in the overall organization of training and awareness raising events, supporting and motivating teachers and school principals, and collecting feedback to enrich the quality of the materials and activities carried out.

Particularly relevant was the role of Mr. Pham Van Hai, Director of PED/DOET, who ensured that the activities were appropriate for the local context throughout the whole implementation process.

The piloting of the ESD Initiative's e-learning courses provided DOET with an additional innovative approach to in-service teacher training. DOET's motivation and support to the piloting participants allowed them to gain confidence in using e-learning as a tool to enhance their performance. PED ensured that the parents and community members could observe what the students learned from their teachers as a result of taking part in the e-learning initiative. This was done through various school events celebrating its success.

One of DOET's most notable contributions to the Initiative was their commitment to the implementation of School Preparedness Plans. As part of the implementation of these plans, in which swimming lessons were identified as priority activities, Mr. Hai mobilized funds to teach students how to swim. His initiative was so successful that he obtained enough funds from local private sector contributions to train more than 5,000 students from 62 schools in the province, including more than 300 students from three of the Initiative's pilot schools (Ph \square Mau, Quang Loi and Thanh Toan). Swimming lessons will continue in 2015.



Mr. Phan Van Hai, Director of the Primary Education Department of DOET, takes on the role of facilitator during a training session on the development of school preparedness plans, explaining concepts with specific examples that are practical for the participating schools in Thua Thien-Hue Province.

Mr. Hai was involved in ensuring safety in schools and led many meetings with school principals and teachers to discuss potential risks and solutions to reduce them.

This resulted in DOET building up a sense of ownership over the Initiative and its strategy, which contributed to the successful achievement of the Initiative's results. This ownership also empowered DOET to feel confident implementing similar projects independently in the future. In its new planning cycle, DOET committed to incorporating the Initiative's activities and strategy, aiming to create "clean, beautiful, safe, sustainable schools" within all primary schools in Thua Thien-Hue Province.





Results from the piloting process were collected using the following instruments: (i) a monitoring matrix that was developed to record participants' feedback on the course; and (ii) an evaluation questionnaire that was developed to collect participants' opinions on the overall quality of the courses and on their satisfaction. Further details on these instruments are provided in the following section.

The evaluation showed that the piloted courses provided teachers with valuable knowledge on the topics and increased teachers' interest. The clear examples and quizzes developed for the courses helped teachers understand the course content better.

Based on the feedback collected during piloting, UNESCO and HOU staff, in consultation with relevant national experts, undertook the necessary adjustments in the e-learning courses in order to reflect the comments made by the participants. This led to an improvement in the overall quality, relevance and usability of the course.



Mr. Pham Ngoc Dinh, Director of the Primary Education Department of MOET, addresses the pilot participants through the platform and highlights the importance of distance education

After the successful piloting of the e-learning courses in the five schools in Thua Thien-Hue Province, it is expected that these e-learning materials will be disseminated throughout Thua Thien-Hue Province and in other provinces nationwide.

This means that more than 670,000 teachers will have the opportunity to take the e-learning courses and integrate the principles of ESD into their lesson plans and schools, including climate change mitigation and adaptation, natural disaster risk reduction and biodiversity conservation. The courses enable teachers to learn about some of today's most pressing and complex issues and identify ways to integrate them into their day-to-day work and their interactions with students.



A participant fills in the monitoring matrix with his observations on the course.

The overall piloting responses for all three courses showed that 99% of participants were highly satisfied with the e-learning courses since they provided them with valuable information and practical experience. The remaining 1% pointed out minor issues with technical aspects, such as typing mistakes, grammatical errors and software issues, which, once corrected, enhanced the quality of the courses.

3.1.6. Highlights of piloting results

a. Teachers' learning progress

At the beginning of each course, teachers took a pre-test to identify their prior knowledge on the courses' topics. Upon completion of the course, learners took a post-test, which consisted of the same questions as the pre-test, to measure the change that took place over the course. Teachers were awarded points for correct responses and were graded using a

percentage scale (with 100% being the maximum possible score). A comparison between the pre- and post-tests indicates how much new knowledge the learners acquired. The completion of the courses was closely monitored by UNESCO through the online platform that gathered the individual responses and calculated results.

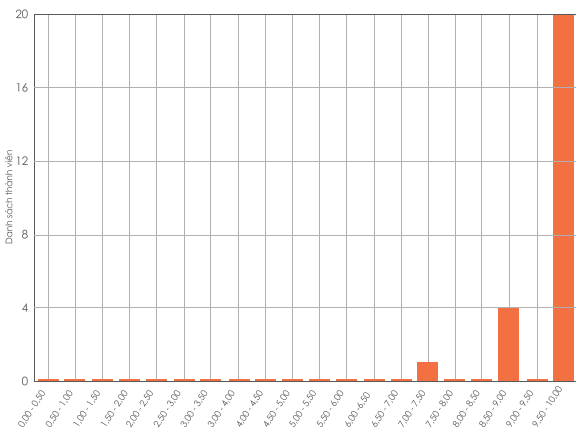
	Participant 1 Review attempt	14 Tháng Hoàn 2015 8:22 AM	14 Tháng Tháng 2015 8:27 AM	5 phút 3 giây	7,04	✓ 1,11	✗ 0,00	✓ 1,11	✓ 0,37	✓ 1,11	✗ 0,00	✓ 1,11	✓ 1,11	✓ 1,11
	Participant 2 Review attempt	14 Tháng Hoàn 2015 8:28 AM	14 Tháng Tháng 2015 8:30 AM	1 phút 39 giây	7,04	✓ 1,11	✗ 0,00	✓ 1,11	✓ 0,37	✓ 1,11	✗ 0,00	✓ 1,11	✓ 1,11	✓ 1,11
	Participant 3 Review attempt	15 Tháng Hoàn 2015 6:20 AM	15 Tháng Tháng 2015 6:24 AM	3 phút 49 giây	7,78	✓ 1,11	✗ 0,00	✓ 1,11	✓ 1,11	✓ 1,11	✓ 1,11	✓ 1,11	✓ 1,11	✗ 0,00
	Participant 4 Review attempt	25 Tháng Hoàn 2015 4:02 PM	25 Tháng Tháng 2015 4:10 PM	8 phút 10 giây	4,07	✗ 0,00	✓ 1,11	✓ 1,11	✓ 0,74	✗ 0,00	✗ 0,00	✓ 1,11	✗ 0,00	✗ 0,00
	Participant 5 Review attempt	25 Tháng Hoàn 2015 4:12 PM	25 Tháng Tháng 2015 4:15 PM	3 phút	5,19	✓ 1,11	✗ 0,00	✓ 1,11	✓ 0,74	✓ 1,11	✗ 0,00	✗ 0,00	✗ 0,00	✓ 1,11
	Participant 6 Review attempt	28 Tháng Hoàn 2015 1:46 AM	28 Tháng Tháng 2015 1:52 AM	5 phút 54 giây	7,78	✓ 1,11	✗ 0,00	✓ 1,11	✓ 1,11	✓ 1,11	✓ 1,11	✗ 0,00	✓ 1,11	✓ 1,11

Follow-up of pre-test on the platform, indicating the name of the learner, his or her email address and detailing his/her answer to each question.

Họ	Tên đệm và tên	Thư đến từ	Đề dạng sinh học	Kiểm tra đầu khóa của chương 1	Kiểm tra đầu khóa của chương 3	Kiểm tra cuối khóa của ...	Kiểm tra cuối khóa của ...	Test coc dang co
Participant 1		@yahoo.com.vn		7,17		9,17		
Participant 2		@gmail.com		5,08		6,58		
Participant 3		@yahoo.com.vn		9,50		10,00		
Participant 4		@gmail.com		8,75		10,00		
Participant 5		@gmail.com		8,67		9,17		
Participant 6		@yahoo.com.vn		10,00		10,00		
Participant 7		@gmail.com.vn		6,92		8,17		
Participant 8		@gmail.com		8,42		10,00		
Participant 9		@gmail.com		7,17		7,67		
Participant 10		@gmail.com		9,42		10,00		
Participant 11		@gmail.com		6,08		10,00		
Participant 12		@gmail.com		8,25		10,00		
Participant 13		@noetedu.vn		-		-		
Participant 14		@gmail.com		8,67		9,42		
Participant 15		@yahoo.com.vn		8,67		8,67		

Comparison chart for all participants between their score in the pre-test and the post-test

Overall number of students achieving grade ranges



Overall number of students achieving grade ranges

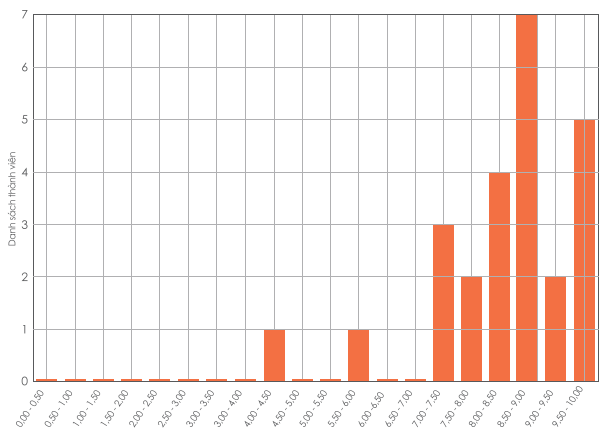


Diagram illustrating the repartition of learners' grades for the pre-test (left), and the post-test (right) generated by the online platform. This example highlights the progress made by the learners, with 20/25 participants scoring a perfect score in the post-test, against 5 in the pre-test.

The analysis of the pre- and post-tests results for each of the three courses shows significant progress in the average score of the 25 participants, as can be seen in the table below:

	Pre-test (% of correct answer)	Post-test (% of correct answer)	Difference
Climate change adaptation and mitigation	41%	77%	+ 36 points
Disaster risk reduction	47%	89%	+42 points
Biodiversity conservation and restoration	74%	89%	+15 points

It should be noted that the relatively high scores obtained during the pre-tests are the result of teachers, school principals and vice principals having taken part in the awareness raising sessions with parents and the community.

b. Piloting feedback

The end-of-course evaluation questionnaire was one of the most important tools for assessing the success of the piloted e-learning courses. Participants were asked to reflect upon the following statements:

- The course has provided me with valuable knowledge
- The course objectives were met
- The examples and explanations increased my interest in the subject
- The course is an innovative tool for learning
- The course assessments allow me to track my learning by myself
- The quizzes and assessment questions are adequate and sufficient
- This course has been a worthwhile education experience
- I will incorporate my knowledge from this course into the classrooms
- The course should be used by every teacher in Viet Nam
- I would be happy to participate again in this type of course

The evaluation of the climate change e-learning course showed that 98% of respondents indicated positive answers for all questions. The remaining 2% expressed an interest in including more examples in the course. The evaluation questionnaires on the disaster risk reduction and biodiversity conservation e-learning courses showed that 100% of the participants agreed in full with the statements.

In addition to responding to the list of statements, teachers used the monitoring matrix (presented below) to provide detailed feedback on each of the course modules. The template was divided by module and lesson to allow the monitoring team to better identify and address possible problems.

Climate Change E-learning Course Monitoring Matrix for Piloting

First, evaluate each completed lesson Second, evaluate the module as a whole		Please circle YES or NO in every cell										Please provide comments for every NO
Section to evaluate	Objectives are clear	Content and concepts are clear	Content is sufficient	Language is clear	Examples are clear	Examples are pertinent	Visual supports are clear	Learning is relevant	Learning can be applied	Quizzed are clear	Comments:	
0 Module 0. Introduction	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO		
MODULE 1 Lesson 1. Basic concepts - Session 1. Introduction to weather and climate	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO		

The majority of the participants praised the three courses for their clear objectives, reader-friendly content, practical learning activities and useful examples.

Ms. Tran Thi Giang, vice-principal of Huong Vinh Primary School made the following comment: *"As a result of these courses, I acquired a lot of new knowledge that I can use in my teaching job as well as in my own life. I firmly believe we have to extend this knowledge to all members of the community and to our students' families in order to be better prepared for fighting disasters and climate change. The three e-learning courses helped us acquire knowledge and develop life skills, boosting our qualifications and confidence to teach students how to lead a responsible and more sustainable life for themselves and their communities. I enjoyed it a lot!"*



Piloting the e-learning courses had an additional result: teachers felt empowered to support each other and offer peer-to-peer training on the use of ICTs. Some of the participants from older generations were initially unsure about the use of e-learning methodologies, computers and the software in general. During the Initiative, younger teachers eagerly helped their colleagues and provided guidance and support.



Ms. Tran Thi Giang during the piloting of the climate change course.

3.1.7. Lesson plan production and implementation

As Viet Nam is currently in the process of renewing its education system, it is essential for teachers to apply innovative teaching and learning methods. As part of the Initiative, teachers were trained on how to develop engaging lesson plans that include ESD-related content.

To collect evidence of what teachers learned from the e-learning courses, a lesson plan development and implementation workshop was organized in Thua Thien-Hue Province to allow participants to use their recently acquired knowledge through the e-learning courses, to develop innovative and creative lesson plans that are based on a student-centred approach. The lesson plans were then presented during a plenary session and reviewed by the other participants and education experts. After the workshop, the lesson plans were shared with MOET departments (PED, DSTE and DTEA) and other counterparts, including the Department of Primary Education at Ha Noi National University of Education, MAB and national experts. The teachers were provided feedback to refine their lesson plans.

Production

The development of lesson plans allowed participants to: (i) design quality and innovative lesson plans geared towards capacity development for students using the knowledge from the e-learning courses; and (ii) to ensure that ESD methodologies and content are integrated into teaching practices to develop students' skills. The educational activities included in each e-learning course were used by teachers as a reference or example of activities they could develop for their lesson plans.

Education experts leading the training course highlighted the major steps that need to be carried out when developing lesson plans:

1. Identifying the expected results and the corresponding objectives by following the SMART framework;
2. Developing participatory methodologies;
3. Selecting methods for classroom organization for the activities;
4. Preparing and designing the activities;
5. Integrating all of the above into a final lesson plan.

Participants discussed the importance of being inclusive by engaging all students and ensuring that the proposed activities are appropriate for each grade level.

Developing **SMART** lesson plans:

- Specific – target a specific area for improvement
- Measurable – quantify or at least suggest an indicator of progress
- Assignable – specify who will do it
- Realistic – state what results can realistically be achieved given available resources
- Time-related – specify when the result(s) can be achieved

Different innovative techniques were developed for the Initiative, including an evaluation checklist created by experts for peer assessment of the developed lesson plans and role playing exercises to test the lesson plans in order to obtain more feedback and ideas for improvement.

As a result of the workshop on lesson plan development, participating teachers:

- Enhanced their knowledge and skills on developing participatory and engaging lesson plans for their students to relay ESD-related content on climate change, biodiversity conservation and disaster risk reduction
- Improved their communication, observation and collaboration skills
- Committed to the further development and implementation of these lesson plans

Some comments and recommendations from participants pertaining to the schools' lesson plans were that:

- Lesson plans should contain practical solutions and build upon Global Citizenship Education
- Clear objectives and clear solutions to develop students' capacities, such as critical thinking, should be a part of each lesson plan
- Developing more engaging activities to allow students to have first-hand experiences makes the content more clearly relatable

Implementation

Once the lesson plans were reviewed and finalized by education experts, they were ready for implementation in the classroom. To this end, one teacher was selected from each of the five schools to demonstrate the lesson. In order to facilitate the monitoring of the lesson plans, the demonstrations took place in two schools.

A monitoring team composed of MOET officials and members of DOET, the UNESCO Regional Office for Education in Asia and the Pacific, and UNESCO Viet Nam conducted a monitoring mission to witness and document the implementation of the lesson plans.

In the interest of implementing the lesson plans in a real classroom environment, the lessons were demonstrated during school hours. The lessons included practical examples such as group exercises, games and outdoor activities.

One of the highlights of the lesson demonstrations was that teachers from different schools successfully delivered lessons to previously unknown classes of students at a school different to their own. Not only did this show that teachers can

adapt the lessons to any environment, but also that they were comfortable being observed by a monitoring team as a result of being empowered by the training workshops.

The monitoring team observed that teachers were fully committed to teaching innovative lesson plans and that students engaged in the activities enthusiastically. Teachers and students were eager to answer questions about what they learned and shared their impressions of the lessons.

The importance of biodiversity conservation, climate change adaptation and natural disaster preparedness

Ms. Duong Thi Thu Hoa, a teacher from Phu Mau 1 Primary School, organized an exciting and practical extra-curricular lesson that introduced the importance of biodiversity conservation, climate change adaptation and natural disaster preparedness to students. Students were motivated to participate in interactive sessions, in which they received a question, discussed their ideas in small groups and presented their response.





The role of nature in human life

Ms. Nguyen Thi Tam delivered the science lesson “The Role of Nature in Human Life” to fifth grade students. In this lesson, she helped students learn about the role and influence of nature on human life and how to respect and protect the environment. Ms. Tam used the concept of the food web as an interactive example to demonstrate the interdependence of all forms of life. She also used “bioglasses” to help students understand the impact of ecological footprints.



Students carry out the activity ‘Interactive Food Web’ from Chapter 3 of the Biodiversity Conservation course, in which each student acts as a link in a food chain and is then connected to the previous and following links using a ball of string. Students learned how we are all connected and that if one of the links is cut, the food web is interrupted



Ms. Che Thi Hoa

Learning about waste

Ms. Che Thi Hoa, a teacher from Thanh Toan Primary School, taught the third grade lesson on waste, which helped students understand the causes and impacts of waste on the environment and climate change. Through this lesson, Ms. Hoa was able to make students aware of age-appropriate behaviours they can adopt in order to protect the environment.



Items made by students reusing waste and recycled materials



Mr. Nguyen Hoa

Understanding Climate Change

Mr. Nguyen Hoa, a teacher from Quang Loi 1 Primary School, taught a fourth grade science lesson on climate change. By integrating knowledge on climate change into his science lesson, students learned what climate change is and what it implies for their community. They also learned that climate change is a cause of droughts.



Students work in groups at Huong Long Primary School



Ms. Nguyen Minh Man

Hurricanes: causes and impacts

Ms. Nguyen Minh Man, a teacher from Huong Long Primary School, delivered a fourth grade science lesson on hurricanes. In an extra-curricular class, she imparted age-appropriate ways for students to protect themselves from floods before, during and after a hurricane.



One of the posters displayed at the school events showing the activities implemented by students on prevention and disaster risk mitigation and adaptation to climate change.

3.1.8. Community school events

As a result of what students learned through lesson plan implementation, and in order to recognize the achievements that schools and local communities made through the Initiative, two celebratory community events were organized by the schools, parents and local community: one mid-term school event and one final school event.

The school events represented the perfect opportunity to gather together students, teachers, school authorities, parents, community members, national and local authorities and the media to witness the enabling environment which was created as a result of the joint work and awareness raising of all the participants.

Mid-term school event

The mid-term school events took place in May 2014 in each of the five schools participating in the piloting process in Thua Thien-Hue Province: Thanh Toan Primary School, Huong Long 1 Primary School, Huong Vinh 1 Primary School, Phu Mau 1 Primary School and Quang Loi Primary School.

The events provided children the opportunity to express and share what they learned in school as a result of the Initiative in creative and engaging ways such as writing, acting in and directing their own comedic theatre presentations that included dialogues on the local effects of climate change and actions that every person can take to reduce these effects. For example, when discussing the increasing concentration of greenhouse gases in the environment, characters in the play shared ideas of combating pollution, reducing unsustainable consumption and enhancing local biodiversity. Students also hosted recycled fashion shows where they displayed clothing and accessories they had created by repurposing and reusing waste, such as plastic bags, compact discs, bottle caps and old raincoats.





Students, teachers and parents took part in a variety of activities including contests and team-building exercises integrating the themes of environmental protection, climate change, biodiversity conservation, disaster preparedness and cultural heritage. Those present at the events could also enjoy arts and crafts focusing on utilizing recycled materials or conveying bioliterate messages as well as games and exercises that included identifying and developing solutions to local biodiversity issues.

Students at Phu Mau Primary School showed off their problem-solving and teambuilding skills during an activity related to disaster preparedness and response. The activity allowed students to apply the knowledge and skills they developed over the course of the Initiative during a fast-paced game that focused on coordination, communication and response after a disaster emergency.



Principals or vice-principals from each school made a presentation detailing specific activities and actions developed under the Initiative including updated reporting on progress in identifying and mitigating risks and threats in the school community as well

as plans for further school and community action. Examples of school and community activities organized by each school include:

- **Thanh Toan Primary School:** planting trees and a medicinal herb garden; hosting a water and electricity saving campaign at the school and in Thuy Thanh Commune; conducting swimming lessons for fourth and fifth grade students; practicing of fire drills and fire prevention; planting trees along the riverside, around offices, schools and empty lands to mitigate the risks associated with seasonal flooding
- **Huong Long Primary School:** conducting fire prevention and protection awareness raising; planting trees and a school garden; classifying and recycling school waste; saving water and electricity; hosting awareness raising sessions on traffic safety for students and parents
- **Huong Vinh 1 Primary School:** collecting and recycling school waste; promoting safe and resilient learning environments by improving school rainwater drainage system; raising student awareness on environmental protection and sanitation; and collecting ferns to make organic fertilizers
- **Phu Mau 1 Primary School:** organizing swimming lessons for students and providing awareness raising on drowning prevention; upgrading the electrical system of the school; providing training on disaster risk reduction and biodiversity
- **Quang Loi Primary School:** levelling holes and hazardous areas around the school grounds; conducting swimming lessons for fourth and fifth grade students and teachers; planting trees in coastal Ha Cong Village; planting and nursing 200,000 seedlings

A delegation from Samsung, including the Vice President and Leader of the Global Citizenship Group at Samsung Electronics and the President of Samsung Electronics Viet Nam participated in the school events. Representatives from Samsung were joined by H.E. Nguyen Vinh Hien, Vice Minister of Education and Training, and MOET departmental representatives, leaders of

the People's Committee of Thua Thien-Hue Province as well as senior representatives from UNESCO Headquarters in Paris, the UNESCO Regional Bureau of Education for Asia and the Pacific, UNESCO Viet Nam and the Viet Nam National Commission for UNESCO. Their presence contributed to all participants' understanding of the high-

level support and powerful partnership which laid the foundation for their successful endeavours. The direct interaction between UNESCO representatives with the funding partner, national and local authorities, and beneficiaries allowed for everyone to exchange, interact and celebrate these achievements.



At each school event, representatives of Samsung and UNESCO presented the school authorities with a certificate for their achievements on the ESD Initiative. From left to right: Dr. Soo Choi, Director of the Division of Teaching, Learning and Content from UNESCO Headquarters, Ms. Katherine Muller-Marin, UNESCO Representative to Viet Nam, Mr. Cheolgi Kim, President of Samsung Electronics Viet Nam, Ms. Han Thi Bay, Principal of Huong Vinh School, Mr. Jinuk Shin, Vice President and Leader of the Global Citizenship Group at Samsung Electronics, and H.E. Nguyen Vinh Hien, Vice Minister of Education and Training.

Mr. Jinuk Shin, Vice President and Leader of the Global Citizenship Group at Samsung Electronics, participated in the school events to witness the excitement of the schools around the Initiative's implementation.



Other relevant partners actively involved in the Initiative were also present, including: Live & Learn Viet Nam, the Viet Nam Man and Biosphere Programme, Viet Nam National Commission for UNESCO, Ha Noi National University of Education, Hue University of Science, and national and international experts.



"I have a chance to know teachers and delegates from MOET. Thanks to the hazard map, we know more about risks in our schools. I like the activity to identify the risks through hazard mapping because I can identify the risks in school. I often water the plants in the morning, and save energy by turning of televisions and fans when not using them."

Hoang Thi Ut Thuy, Grade 4, Quang Loi 1 Primary School



"The school event is important for me. This is the chance for me to better understand my friends, and to learn more knowledge through the quizzes in the event. I do not litter garbage and now plant more trees. I stop my friends when they break the tree branches. I do not throw garbage into the river."

Tran Thi Kieu, Grade 4, Quang Loi 1 Primary School

"The school event is very important. Through this event, I learned more about storms, thunders and floods. I do not destroy the forest, and do not crack the branches."

Van Thi Tu Anh, Grade 4, Quang Loi 1 Primary School



A cultural approach to disaster education

During the school events, students took part in an interactive activity, developed by UNESCO, linking disaster risk reduction and heritage conservation where they identified disaster risks associated with local Heritage Sites and the school community as well as solutions to address and mitigate the risks.

Through participatory and active discussions among the groups, students identified and discussed the benefits enhancing biodiversity in their communities as well as taking action to reduce the local disaster risks.

The game targeted students in schools in Thua Thien-Hue Province due to its location on Viet Nam's coastline, consequent risks to disasters and the adverse effects of climate change in the area. Since hazards differ according to the geographical characteristics of an area, the areas on the map were selected to reflect the geographical diversity of the province. Students received a map and were tasked with identifying and labeling heritage sites and the risks and threats in the surrounding area.

The students quickly identified ways to reduce vulnerability to disasters while enhancing local biodiversity through complex solutions, such as growing grass to reduce the risk of erosion and planting mangroves near coastal areas to mitigate the risk of seasonal flooding. Although the activity was first intended to focus solely on Heritage Sites, students went further and identified risks associated with other locations on the map. For example, the students identified the risk of fire as a constant threat to local forest areas during the dry season.

The activity provided students an opportunity to creatively engage with each other in participatory dialogues and exercises. One of the principles of the activity is to encourage team work among primary school children. Throughout the activity, students were able to articulate their opinions and defend their ideas in a positive and constructive manner. As such, the activity has encouraged a sense of confidence and pride among the students. Upon completing the exercise, the students were truly proud to present the map to other non-participating peers and have the map displayed in the classroom. The activity exemplifies UNESCO's approach to addressing the issues of sustainable development, such as disaster risk reduction, in a locally-specific and culturally appropriate way by utilizing learning methods which can empower and motivate children to develop positive behaviours and take actions to support their schools and communities, as well as reinforce what they have learned in school.



"I am so happy that my students won this game. I know they are feeling proud of themselves too. The competition has given them a chance to think about natural events around them which they might not have been well aware of before. It also improves their emergency preparedness. We will use the extra map and icons to play the game again at our school."

*Ms. Mai Hoang Anh, Teacher
Huong Long Primary School*

Community responses to disaster risk reduction, climate change and biodiversity conservation

The school events provided a platform to share and celebrate the accomplishments made together within the enabling environment created by the schools and communities taking part in the Initiative. In each of the events, students, teachers, parents and community members presented and discussed the progress made in the community and expressed hope for future actions towards more resilient and sustainable schools and communities.



Thanh Toan Primary School

Students and teachers at Thanh Toan Primary School promoted awareness on disaster prevention and preparedness and worked together to plant trees along the riverside and around the school to enhance biodiversity and strengthen community vulnerability to seasonal flooding. During the events, students took part in drawing and painting contests, creating art depicting sustainable living in harmony with nature.

Huong Long 1 Primary School

During the events, students and parents performed musical and theatre performances reinforcing the ESD concepts they learned throughout the Initiative in addition to reporting on the progress of community actions such as awareness raising on traffic safety for students and parents as well as physical improvements made to the schools drainage system. School principals made presentations of their preparedness plans.



Huong Vinh 1 Primary School

The school and community carried out a campaign to protect local biodiversity from insects and disease, and planted trees and a school garden to enhance local biodiversity and increase learning opportunities for students. Students and teachers led interactive activities and games, such as a student relay activity, reinforcing the importance of reducing the ecological footprint by having students race to classify, recycle and reuse old materials.

Phu Mau 1 Primary School

During the events, students, parents and community members worked together to create a safe learning environment for students by clearing a field on the school grounds. Parents and community members came together to ensure that students have a safe and clean environment to learn in and that students see what they learned in school reinforced and strengthened by the community.



Quang Loi Primary School

During an impromptu question and answer session at Quang Loi Primary School, Vice Minister Hien asked students directly about concrete actions for disaster preparedness. After asking students, "What should you do in the event of a lightning storm?", students were eager to respond. After being called upon, a first grade student responded that he had learned "to seek shelter indoors and help my parents unplug all electrical devices, like the TV and refrigerator."



Final school event

A final celebratory event was hosted at Huong Long Primary School in Hue City, one of the five schools participating in all ESD Initiative pilot activities.

UNESCO joined national, provincial and local education authorities and representatives, teachers, students, parents, community members, guests and the media to share success stories, challenges and lessons learned and exchange experiences among the pilot schools and target groups, as well as celebrate the cultural heritage of Hue, an important asset in the sustainable development of livelihoods in this province.



The events were also an occasion where Initiative implementing partners and beneficiaries could share their thoughts on the Initiative and exchange stories showing the change that the programme activities had made at school, at home and in the community.



"I love to protect the environment now. Through this Initiative, I learned so much about the importance of biodiversity. The experience provided me with significant knowledge on what I can do to protect my local environment."

Le Thi Thu Uyen, Grade 5, Huong Vinh Primary 1 School



The final event represented an opportunity to bring people together in the implementation of the activities and to show evidence of the effectiveness and sustainability of the ESD Initiative. Most importantly, the school events provided a venue to see the evidence of the enabling environment created in schools and communities as a result of the Initiative.

Students from each of the five schools performed various musical, dance, artistic and cultural performances promoting the behaviours and attitudes of bioliteracy and conveying ESD messages, such as the importance in enhancing local biodiversity and responding to disaster risks and threats to support the development of safe, resilient learning environments.

During his remarks, Mr. Tran Dang Hai, a teacher from Thanh Toan Primary School speaking on behalf of all participating teachers, gave his impressions on the accomplishments and impacts of the Initiative and expressed his hope that similar projects would continue to build on ESD Initiative successes. Mr. Hai stressed the importance of providing teachers their first opportunity to learn online in an innovative and engaging way through the e-learning courses and highlighted the importance to the school and community of developing and implementing School Preparedness and Action Plans.



The UNESCO Representative to Viet Nam shared her impressions of the success of the lesson plans implementation and her pride for parents and community members joining hands to work for more sustainable schools and communities. Ms. Muller-Marin addressed students and parents indicating that project performance was not the true measure of the Initiative, but rather the promotion of future change and leadership towards behavioural change to create safe, green and clean schools, homes and communities with respect for all living beings.



One student from Huong Vinh Primary School spoke on behalf of the all students who have benefited from the training of the teachers and community members, giving specific examples of how the community has come together to make improvements in the schools, including improving the electrical and lighting system, repairing windows and doors, increasing biodiversity as a disaster and climate change mitigation mechanism, and encouraging students to engage in bioliterate behaviours such as reusing waste, turning plastic and paper waste into art and educational materials, and continuing the efforts and the strategies learned during the implementation of the Initiative.

Reinforcing many of the prior speakers, Ms. Nguyen Thi Kim Hue, principal of Phu Mau Primary School, spoke on behalf of school authorities and shared her hopes that the Initiative be replicated nationwide to further increase the efficacy of the enabling environment created and to provide opportunities for other schools to achieve such success. Ms. Hue spoke passionately about the green learning spaces that the Initiative had helped create and the change in behaviours among teachers, students and the community, stressing the importance of building the capacity of teachers to incorporate ESD content into lesson plans and curricular and extra-curricular activity.

Following the opening presentations and remarks, participants, guests and community members were given the opportunity to visit interactive displays hosted by students and teachers from each school containing achievements and examples of actions the schools and communities are taking in regards to disaster preparedness, climate change and biodiversity conservation. The displays included posters and materials showing the accomplishments made over the course of the Initiative, the School Preparedness Plans approved by local authorities and arts and crafts products students made from recycled materials.



"The environment is home to everyone. Protecting the environment is not the specific mission of an individual but all of us. This school event reminds me of the importance of working with everyone in the community to keep the environment clean and green. And now, because of what I have learned, I am actively participating in protecting my environment."
Nguyen Nhat Nha Uyen, Grade 5, Huong Vinh 1 Primary School

3.2. Component 2: Awareness raising on ESD for school principals, parents and national and local authorities

Expected results: Awareness on ESD among school principals, parents, the community and national and local authorities has been increased through a participatory process that contributes to the creation of an enabling environment for ESD mainstreaming.

Achievements: An enabling environment for ESD was created in five pilot communities through the awareness raising of parents, school principals, community members and local authorities. In addition, teachers and media professionals were integrated into these awareness raising sessions to enhance the common understanding and network building among all these stakeholders.

Key activities towards achievements:

- Awareness raising materials and training sessions on ESD, climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation were developed based on stakeholders' needs
- Awareness raising sessions on ESD, climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation were conducted for school community members in order to create an enabling environment for students to apply what they learned at school
- Awareness raising sessions on ESD, climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation were conducted for policy makers and education managers

3.2.1. Consultation meeting in Thua Thien Hue-Province

As the initial part of the process, a consultation meeting held at Hue University brought together the Initiative's various stakeholders, including representatives from the five target schools (principals, teachers, parents and local community members living around the schools), the local media, and representatives from Hue University, the

Thua Thien-Hue Province DOET, DSTE, CED, MAB, Ha Noi Open University and UNESCO Viet Nam. The consultation meeting provided stakeholders the opportunity to discuss project activities, ask questions to UNESCO and MOET representatives, and brainstorm recommendations for the successful implementation of the Initiative. The meeting gave the diverse stakeholders the chance to meet one another prior to beginning their local-level work on the various project components. A total of 120 participants took part in this initial event.

Teachers, local authority representatives and school principals met with parents and community members with various professions, such as construction workers, electricians, engineers, carpenters and farmers. Representatives of the Women's Union, Farmers' Union and Youth Union were also present and engaged in the process.

Following opening presentations by the Director of DOET and the UNESCO Representative to Viet Nam, participants worked in groups to provide recommendations for the successful implementation of the Initiative. Each group agreed upon three recommendations, which were presented to the rest of the workshop participants. At the end of the meeting, participants took a vote on the recommendations they felt were most relevant. This experience introduced the stakeholders to a participatory methodology, which was applied throughout the entire Initiative.

Groups also agreed upon key questions they had regarding the project, which were answered by MOET, UNESCO and DOET. Most questions were related to the overall strategy, the calendar of activities and the kind of assistance they would receive.

Recommendations which received the majority of votes included:

- The entire community should join efforts to respond to climate change and ensure safe living conditions
- The media should be used to raise awareness on Education for Sustainable Development and disaster risk reduction
- The ESD Initiative's competences should be integrated into the school curriculum
- Specialists need to support schools in designing and implementing projects
- It is necessary to contribute human and financial resources to implement community projects
- Practical examples should be used to help learners address challenges
- Disaster risk reduction should be a part of the official curriculum
- Community and Preparedness Plans should be developed based on each locality

A questionnaire on the participants' understanding of disaster risk reduction, climate change, and biodiversity conservation and environmental education was also applied.

The results of the questionnaire revealed the following:

- While 75% of participants indicated that it was safe for children to travel to and from school and 79% felt that children were safe while at school, most participants identified risks in and around schools, such as unsafe electrical wires, a lack of appropriate fire safety equipment, and traffic accidents and unsafe roads
- The most common risks identified were floods, rivers and lakes, and numerous participants indicated that a significant risk was children's lack of knowledge on how to swim
- Of those participants who indicated that schools close in the event of disasters, the majority indicated that schools remained closed for 1-2 weeks
- Over 80% of participants indicated that local groups supported the schools' disaster risk reduction activities, such as mass organizations and local storm and flood control committees
- While the majority of participants felt that burning fossil fuels (59%), clearing forests and mangroves (66%), energy production (56%) and waste (59%) contributed to the warming of the atmosphere, a minority felt that agricultural fertilizers (30%) and livestock production (25%) were also contributors
- In response to the question "What do you know about climate change?" 38% of respondents indicated that they only have a basic understanding
- Approximately three quarters of participants identified appropriate actions for reducing climate change impacts, such as energy saving (72%), using clean energy (75%), planting trees and forests (78%), and restoring natural habitats and ecosystems (64%). Potential mitigation actions, such as riding bicycles (64%), reducing waste (59%), engaging in organic agriculture (50%) and using less fossil fuel (55%), received fewer votes
- Approximately two-thirds felt biodiversity loss was a concern for them as individuals, their communities and Viet Nam, and the majority of participants (76%) felt that there was a link between biodiversity loss, climate change and the occurrence of disasters. Participants' responses indicated an understanding of nature and biodiversity as separate concepts, with humanity not really being a part of biodiversity

As a result of this event, the stakeholders were familiarized with each other and with the Initiative's plans. The questionnaire results

gave the team an indication of what kind of awareness raising interventions needed to be developed and implemented.



Participants developed recommendations for better implementation and voted for the most relevant suggestions.



3.2.2. Preparatory work for awareness raising sessions

Output 2.1: Awareness raising materials developed targeting: i) 10 school principals and vice - principals, ii) 40 parents and community members, iii) 15 local authorities and iv) 50 national authorities: fully achieved

In the planning stage of the Initiative, training at the provincial level was intended to target each group of stakeholders separately. In a joint decision by the Thua Thien-Hue Province DOET and UNESCO, it was deemed more beneficial to train these stakeholders together so that they could learn and cooperate as a group. National authorities were trained in Ha Noi.

At the local level, the awareness raising sessions were carefully designed using participatory methodologies in order to enable stakeholders to work together on Community Action Plans and School Preparedness Plans.

Awareness raising sessions were developed to help parents and community members better understand the concepts, risks and solutions related to disasters, climate change and biodiversity loss, and thereby support students in applying the skills and knowledge that they acquire at school regarding these topics.

One set of awareness raising materials was developed for each of the four joint thematic sessions:

- ◆ Disaster risk reduction for community members in Thua Thien-Hue Province



- Climate change and biodiversity conservation for community members in Thua Thien-Hue Province
- Disaster risk reduction for policy makers in Ha Noi
- Climate change and biodiversity conservation for policy makers in Ha Noi

Awareness raising materials, including pre- and post-tests, presentations, videos, participatory exercises and group work were developed with support from the international and national experts. The awareness raising programmes and materials were validated by MOET.

3.2.3. Implementation of awareness raising sessions

Output 2.2: Four ESD awareness raising sessions implemented: fully achieved

A large group of different stakeholders joined the sessions, including school principals, vice principals, teachers, parents and community members (including members of mass organizations such as the Women’s Union, Farmers Union and Youth Union), members of the School Steering Committees on Flood and Storm Prevention and Control and Natural Disaster Mitigation, representatives of local institutions and education authorities, and media representatives. This approach ensured diverse participation.

a. Awareness raising on disaster risk reduction for communities

With the objective of increasing stakeholders’ understanding of disaster preparedness and the importance of creating an enabling environment for students, an awareness raising session on disaster risk reduction was organized in Hue City. The international expert Moustafa Osman facilitated the workshop with support from the Thua Thien-Hue Province DOET, Hue University of Sciences, MOET and the National Institute for Education Management. Participants included leaders from the five

pilot schools, representatives of the School Steering Committees of Flood and Storm Prevention and Control and Natural Disaster Mitigation, parents, community members, media professionals and representatives of local educational authorities.



The exercises showed that participants were unable to deliver aid effectively since they did not initially have the appropriate mindset to organize themselves during an emergency.



A simulation exercise was conducted, wherein relief organizations attempted to deliver aid to survivors of natural disasters in six different villages, each affected by a different disaster. Different types of aid (e.g. water, food, blankets, shelter, emergency kits) were represented by different coloured balloons. Some participants took the role of different aid organizations and were given numerous balloons of one specific colour, with the objective of delivering as much aid as possible. Other participants were survivors, and had to collect as much aid for their village (i.e. balloons) as possible. Another group acted as first responders who, halfway through the simulation, reached the village to deliver emergency assistance to an injured

pregnant woman. The relief organizations and the survivors were separated by a river with only one bridge to cross over to the other side.

The exercise showed that participants were unable to deliver aid effectively since they lacked the appropriate mindset to organize themselves during an emergency. For the relief organizations, the incentive was to deliver all of their aid to the villages as quickly as possible, even if this meant getting in the way of other relief organizations and preventing them from delivering their aid. Relief organizations did not cooperate with others and did not ask villagers about their needs. Furthermore, they did not pay attention to the paramedic team which needed to cross the bridge as quickly as possible to reach the injured woman. Some villages ended up with a large amount of water and no food, while others had only one shelter and no water.



Moustafa Osman illustrated the situations in which participants did not implement the correct choices during the simulation exercise and helped them to come up with a list of appropriate behaviours to adopt during a disaster.

In a plenary discussion, participants reflected on the exercise and analyzed what had happened, especially what its outcomes would have meant in the event of a real disaster. The agreement was reached that it would be better for them to work together in a more organized way, asking villagers what they needed, and support one another to make sure the supplies got to where they were needed the most. The exercise was

repeated, this time in an organized manner, with participants understanding how to cooperate with each other and be better organized.

Disaster management and risk reduction concepts were introduced and discussed, with a focus on the importance of education in relation to successful disaster risk reduction practices for local communities. International and local examples relevant to the context of Viet Nam facilitated the identification of practices that could be applied in schools, homes and communities in order to be better prepared for disasters.

Following these activities, a basic understanding of natural disasters and the role schools and communities play in developing response mechanisms was achieved. The session was also the initial step required for the development of School Preparedness Plans and Community Action Plans (explained in Components 5 and 6 of this chapter).



Participants identify potential actions that could be implemented by the schools and communities in order to be more prepared and resilient.

Pre- and post-tests enabled the Initiative to monitor participants' learning progress and assess the effectiveness of the awareness raising interventions. The results clearly demonstrate an improvement of participants' knowledge of the topics discussed in the sessions, as evidenced below:

Questions	Pre-test % correct	Post-test % correct	Difference
Please give a definition of a hazard.	31%	60%	+29%
What are the three variables that affect risk (risk formula)?	15%	79%	+64%
What is the relation between hazard, vulnerability and capacity?	2%	50%	+48%



Moustafa Osman, an international consultant on Disaster Risk Reduction, explaining the simulation exercise. Moustafa Osman was selected as the consultant for this project due to his extensive experience in disaster risk management and in humanitarian and post-conflict rehabilitation. He has provided training in over 30 countries and was also a master trainer for SPHERE (the Humanitarian Charter and Minimum Standards in Humanitarian Response) and the INEE Minimum Standards for Education: Preparedness, Response, Recovery.

b. Awareness raising on climate change and biodiversity for communities

Increasing stakeholders' understanding of climate change and biodiversity and the importance of creating an enabling environment for children to learn about these concepts was achieved through an awareness raising session on climate change and biodiversity which was organized in Hue City. International expert Robert Wild

facilitated the session, supported by the Thua Thien-Hue Province DOET, Hue University, MOET, NIEM, the Viet Nam Man and Biosphere Committee, and UNESCO. Leaders from the five pilot schools, representatives of the School Steering Committees of Flood and Storm Prevention and Control and Natural Disaster Mitigation, parents and community members, media professionals, and representatives of local educational authorities attended the session.

The awareness raising session on climate change and biodiversity loss resulted in a broader understanding of these issues by examining the case study of the transformation of the Loess Plateau, which covers 640,000 km² in China's Yellow River. This case study revealed how local villagers worked together to rebuild the ecosystem. By changing their farming practices, replanting barren land and restoring their environment, farmers significantly improved their way of life.

The case study also demonstrated that human action can be detrimental to the environment, but can also restore and conserve nature, even on a large scale, if addressed collectively. Communities were seen to be instrumental to the success in the Loess Plateau case study. Participants agreed that while climate change and biodiversity loss were global problems, they also needed to be tackled at the local level.



Participants actively engage in discussions and share their ideas.



The situation of climate change and biodiversity conservation at the global level and in Viet Nam was explained through a joint presentation delivered by the international expert Robert Wild and Professor Nguyen Hoang Tri of the Viet Nam Man and Biosphere Committee. Case studies from Hue, such as the depletion of the mussel population in the Perfume River, were used to ground the concepts of biodiversity loss and climate change in the local context. These local case studies were presented by the Hue University of Sciences.



Participants work in group to identify challenges in their localities related to biodiversity conservation and climate change mitigation and adaptation.

Key lessons from the case study were identified: a need for people to reduce the rate of biodiversity destruction in order to avoid soil erosion and the necessity for community commitment in environmental conservation and rehabilitation, which can yield numerous benefits to community livelihoods and reduce the likelihood of natural disasters such as landslides and flooding. The key message resulting from the case study was that although environmental degradation and climate change pose huge challenges to communities around the world, if people have the will they can take positive action to conserve biodiversity and reverse the damage already done. This demonstrated the direct link between conserving natural resources and economic benefits.

Participants used the knowledge conveyed during the awareness raising session to draft a list of practical actions that can be taken in their communities. In a group exercise, participants identified community strengths, challenges and opportunities for action to help schools and communities tackle climate change and biodiversity loss in a number of different fields.

Some of the key results from this activity included:

Findings on community awareness and organization:

Strengths of communities: Community members already have a basic knowledge of climate change. The locality has a strong organizational structure which involves the active participation of parents, schools, community members, mass organizations and authorities. There is a strong emphasis on protecting traditional cultural values and knowledge. The community has a good system for raising awareness in the community.

Challenges: The community's budget is a limitation since funds for initiating actions or projects in the community are limited.

Recommendations for action: Develop an action plan to link the community with authorities and mass organizations, students and schools. Mobilize all stakeholders to tackle the budget issue.

Findings on agriculture:

Strengths of communities: Ninety per cent of communities are agricultural communities. Very fertile land and good models of cultivation.

Challenges: Frequent droughts and diseases. Pesticides and herbicides are widely used, but this affects the quality of produce. Chemical fertilizers are often not disposed of safely. There is a high frequency of natural disasters which damages harvests.

Recommendations for action: Members should use the knowledge gained from this workshop to raise the awareness of students and the wider community of these issues and develop solutions. Encourage the use of organic fertilizers.

Findings on nature restoration:

Strengths of communities: Solidarity among community members; diverse flora and fauna.

Challenges: Deforestation is very common, especially in mangrove and uppercatchment areas. Much of the lagoon area is affected by salt water intrusion. There is widespread exploitation of natural resources. The budget for environmental projects is limited.

Recommendations for action: Information on the need for adequate protection of natural resources needs to be disseminated among the community. Need to build dams to prevent salt water intrusion in the lagoon area. Teachers and parents hold a responsibility to educate children and increase their understanding of biodiversity and the need to conserve natural resources.

Findings on energy:

Strengths of communities: Potential for renewable energy development such as solar power and wind power.

Challenges: The budget for such activities is limited. Limited awareness of renewable energy among community members.

Recommendations for action: Need to educate people on saving energy. Need to use energy saving technologies. Recycle waste to produce energy, such as biogas. Make use of natural ventilation to avoid using electric fans. Use solar panels and switch off lights when they are not in use. Encourage the use of bicycles rather than motorized vehicles in order to reduce emissions. Use media to disseminate information on energy consumption. There is a need to organize competitions and events in the community to encourage environmental action, for example, by organizing a cycling week.

Findings on waste:

Strengths of communities: The community regularly mobilizes youth and students to clean up the environment. There are specified areas for waste collection and disposal.

Challenges: The classification of waste is rarely done. Local residents have bad waste management habits due to a lack of awareness. Landfill sites are often close to communities, creating a bad smell.

Recommendations for action: Need a campaign for recycling in the community. Need to disseminate information on adequate practices for waste management. Need to have an anti-plastic bag campaign in the communities.

Findings on transport:

Strengths of communities: Good transport system with good roads and waterways. Bicycles are the main method of transport, which is environmentally friendly. Road safety messages are communicated throughout communities.

Challenges: Few children know how to swim but often travel to school by boat. Awareness of people is limited, especially on traffic safety. The use of motorboats causes water pollution. There is frequent flooding which damages the roads and restricts mobility.

Recommendations for action: Raise awareness on compliance with rules of the road. Plant trees along roads as markers during floods. Limit use of motor vehicles and encourage use of bicycles. Build bridges across the river which is safer for children than boats. Use biofuels in the future.



In a group exercise, participants identified community strengths, challenges and opportunities for action to help schools and communities tackle climate change and biodiversity loss.



Assessing participants' knowledge before and after the awareness raising session showed the following results:

- 67% of participants improved their understanding of the causes of climate change
- By the end of the training, 51% of participants were able to identify more proactive roles for themselves in managing and conserving biodiversity

- 93% of participants identified biodiversity conservation and climate change adaptation and mitigation actions they pledged to take in the future. The most common actions listed included tree planting, energy saving, raising others' awareness and waste management

The awareness raising session on climate change and biodiversity conservation

equipped participants with the knowledge and motivation to mobilize their communities to take action to reduce vulnerabilities to climate change and to increase the capacity to live in harmony with nature. This session complemented the disaster risk reduction awareness raising session attended by the same participants.

Both sessions directly reinforced the preparedness planning sessions, which took place in a next step, in order to ensure that actions for disaster risk reduction are built into the preparedness plans developed by the five schools.

c. Awareness raising sessions on disaster risk reduction for senior officials at MOET

To raise the awareness of national education authorities in the area of disaster preparedness and risk reduction and enhance coordination efforts to contribute to the overall implementation of MOET's Strategy and Action Plan on the Implementation of a National Strategy on Prevention, Control and Mitigation of Natural Disasters for the Education Sector in the 2011-2020 period, a session on ESD and disaster risk reduction was carried out for senior officials.

The session aimed to support officials in working together more effectively within MOET and with other stakeholders in order to implement the Strategy and Action Plan. Twenty-five MOET officials attended the training session. The training approach was based on principles of adult learning using international best practices relevant to the country's context and priorities.

During the training, participants became familiarized with the basic concepts of disaster risk reduction, such as hazard, capacity, vulnerability and risk, and the interaction between them.

The international expert Moustafa Osman delivered the workshop with the aim of enhancing the central government's support for district and provincial level ESD and disaster risk reduction efforts in the community and to lay the ground for mainstreaming ESD into national policies and mechanisms. The objective of this session was to increase policy makers' understanding of Education for Sustainable Development and the importance of including disaster risk reduction into the curriculum.



MOET officials explored ways to enhance coordination and communication mechanisms at all levels (national, provincial and district, inter- and intra-institutional) of the Education Sector on disaster risk reduction, preparedness and response. International best practices were introduced and their possible adaptation to the context of Viet Nam in support of the overall implementation of MOET's Strategy and Action Plan was discussed.



d. Awareness raising sessions on climate change and biodiversity for senior officials at MOET

The objective of this session was to increase policy makers' understanding the importance of integrating climate change adaptation and mitigation and biodiversity conservation into the curriculum and school practices.

The importance of biodiversity conservation for climate change mitigation and adaptation and disaster risk reduction was discussed during this session. Discussions on the key contributions of the Education Sector to biodiversity restoration, climate change mitigation and adaptation, and the promotion of primary schools as "Community Flagships/Models for Biodiversity Restoration and Climate Change Adaptation" took place. As a result of the workshop, national authorities developed a list of suggestions of activities that they can take forward in their work as they implement the Education Sector Action Plan for Response to Climate Change. The workshop also facilitated the exchange of information between MOET departments on the achievements thus far in the implementation of the Education Sector Action Plan for Response to Climate Change and the exploration of the Education Sector's multiple roles in biodiversity restoration and adapting to and countering climate change. A glossary of key climate change and biodiversity terms was distributed for participants' reference.

Twenty-five MOET officials took part in this session, which was supported by the MAB Programme.

e. Training of NIEM trainers

Trainers of the National Institute of Education Management (NIEM), particularly its UNESCO-supported Centre on Disaster Risk Reduction and Climate Change Response, enhanced their expertise in developing and delivering courses on Education for Sustainable Development to education managers. NIEM senior officers and education management trainers increased their understanding of and capacity to instruct education managers on disaster risk reduction, climate change mitigation and adaptation, and biodiversity conservation through training sessions tailored specifically to their needs by the international experts.

NIEM trainers then supported the awareness raising sessions held for national education authorities in Ha Noi, as well as sessions for local authorities in Thua Thien-Hue Province, applying their new knowledge, training skills and teaching methods.

As a result of the training sessions, the basic concepts of disaster risk reduction and preparedness and their interrelatedness, as well as the basic concepts of climate change mitigation and adaptation and biodiversity conservation, are now familiar to NIEM trainers. The experience also allowed participants to strengthen their capacity to develop and utilize innovative teaching methodologies, adapted from the sessions' interactive exercises and activities, and to broaden their expertise in using participatory methods and moderating interactive sessions.



Speaking at the training course, the Vice Minister of Education and Training Tran Quang Quy reaffirmed the Ministry's commitment to integrating climate change into the national curriculum to improve the knowledge and awareness of Vietnamese students on these issues in schools and universities, but also in the communities in which they live.

Main results include:

- Participants improved their knowledge on the training sessions' topics (disaster risk reduction, climate change adaptation and solutions to reduce biodiversity loss)
- Outlines for training programmes to be developed for different levels of education managers were produced and will be used as input to develop courses to train education managers in the future



An example of a participatory methodology to be replicated and adapted by NIEM trainers in the future.

Based on a statement presented by the trainer, participants decide to move to one side of the room or the other, depending on whether they agree or disagree with the statement. Each group then has 3 minutes to prepare its arguments in support of or against the statement. They then have 10 minutes to debate the statement and try to convince the other group.

The training session on disaster risk reduction focused on two main areas: (i) disaster risk reduction and disaster preparedness, and (ii) training techniques and methodologies trainers can use to pass on their newly-acquired skills.

Disaster risk concepts were introduced and, using a video about disasters in the Vietnamese context, participants were able to relate the basic concepts of risk, hazard, vulnerability and capacity to the content of the video. The participants drew the following conclusions:

- More people need to be aware of the increase in the frequency and impact of disasters in Viet Nam

- Preparedness is key to disaster prevention and response. The focus is usually placed on disaster response, requiring more attention for preparedness
- Community members need to come together to develop detailed preparedness and response plans, including actions to mitigate the impact of disasters
- Communities need to develop skills and actions for energy saving, greenhouse gas reduction and reforestation, including planting mangroves in coastal regions to reduce the impacts of flooding and trees on slopes to prevent erosion and flash flooding
- One solution to strengthen disaster preparedness and response in Viet Nam is to actively involve the community. Community members need to be empowered to effectively respond to disasters and better understand and apply the values and attitudes that are a prerequisite for disaster risk response. The community plays a central role in environmental conservation and in preparing for and reducing the risks and vulnerabilities associated with disasters
- We have to realize that we cannot overexploit nature. Viet Nam faces the overexploitation of nature – e.g. hydroelectric dams bring electricity but they can have adverse environmental impacts. It is important to think about the long-term effects of our actions

Mr. Le Phuoc Minh, Deputy Director of the National Institute of Education Management, highlighted that "*disasters are usually seen as natural phenomena, but they can also be manmade. Therefore, it is more difficult to prevent disasters and the best we can do is to mitigate their impact by changing our behaviours and being more aware of the consequences of our actions on our environment. This can be achieved by increasing the capacity of the most vulnerable groups (eg. farmers) in rural areas (those who might lose their jobs as a result of disasters) to respond to natural disasters. The whole community needs to be mobilized, as it is not just a job for the Red Cross and specialized entities. For example, community members*

can monitor water levels of rivers. The community can minimize risks through raising their awareness and adopting appropriate behaviour and actions."



Mr. Le Phuoc Minh contributed to every group activity and supported the groups in developing draft training outlines for particular audiences at the central, provincial and local level.

The training session on climate change and biodiversity conservation gave the participants the opportunity to discuss a case study on the emerging international best practices in responding to climate change and biodiversity loss, and the implications they have on community livelihoods. Participants strengthened their understanding of the basic concepts of biodiversity restoration and its relation to climate change mitigation and adaptation.

The following false statements were presented for a group discussion: (i) biodiversity restoration is not relevant to climate change adaptation in primary schools in Viet Nam; (ii) climate change adaptation is beyond the scope of the individual school community and should be the responsibility of central government.

Mr. Rob Wild reviews the key issues and solutions identified by the participants following a video on a case study of biodiversity restoration, adapting and mitigating climate change, reducing disasters and supporting livelihoods.



As a result of the debate, the following conclusions were agreed upon by the groups:

- Climate change and biodiversity directly affect humans and their habitat, reducing the quality of life for a significant population
- The awareness and responsibility of individuals, as well as national and local organisations, is key to mitigating the impacts of climate change and to promote biodiversity conservation within the community
- Educational organizations, such as schools, play a key role in raising students' awareness on climate change and biodiversity loss and should take the lead in implementing activities to facilitate climate change mitigation and adaptation in the community
- It is essential to prioritize cooperation between the Education Sector and the community, to ensure a better understanding of the issues linked to climate change and biodiversity loss and the identification of appropriate behaviours



A participant in the training session is presenting the draft course outline, developed during group work, to the rest of the trainees.

Participants developed draft training programme outlines for three specific target groups: (i) MOET officials, (ii) provincial and district authorities and (iii) school principals. The draft outlines defined training goals and objectives, an interactive and learner-centred training methodology and approach, training outcomes and a content outline for the training sessions.

Throughout the development of the outlines, support and comments were provided by the international expert as well as by Mr. Le Phuoc Minh.

NIEM can now harmonize their work and teaching based on the advice, recommendations and training material provided by the international consultants. In the future, e-learning courses aimed at education managers on these topics will be developed and integrated into NIEM's training course syllabus. Additionally, with funding from UNESCO's regular programme, NIEM will develop a specific e-learning course for education managers.



Mr. Moustafa Osman gives advice and recommendations to NIEM trainers on new teaching methodologies and approaches and on what it means to be a trainer:

Be a manager! You need to manage the learning environment. Your role is to ensure that people have a conducive and friendly learning environment because adults have varying levels of experience and know different things. The age range is important: the younger learn from older participants. To 'enjoy and relax' is to create the best environment for learning.

Adults learn by solving problems! Remember to include three different methodologies in each one of your lessons, as people learn in different ways (visual, doing, listening). By using various approaches, you take into account these differences and make sure that your teaching has an impact on a wider range of people.

Follow the FTL (facilitator, trainer, learner) triangle! During a training session, you facilitate, you teach and you learn. You often have to learn! You need to be flexible and navigate between these different situations. You manage a safe learning environment. You know some things better than your learners do and they know more than you do in some areas.

3.3. Component 3: Raising awareness of the media on ESD and supporting project visibility

Expected results: Media professionals and journalists have increased the quality and quantity of publications and broadcasts on climate change, disaster risk reduction and biodiversity conservation, which contributes to society's understanding of these issues.

Achievements: Media professionals demonstrated their enhanced knowledge on ESD-related themes, and their capacities to report on them, through improved media outputs that disseminate ESD messages to the broader society. In addition, the publication of quality media outputs increased the visibility of the Initiative's results.

Key activities towards achievements:

- Organize awareness raising sessions on disaster risk reduction, climate change and biodiversity conservation for media professionals
- Support the development of Communication Plans by journalists and media professionals
- Promote the production and publication of quality media outputs on disaster risk reduction, climate change and biodiversity conservation



3.3.1. Developing training content and methodology for media training

Output 3.1: Training for media developed on disaster risk reduction and preparedness, biodiversity climate change and ESD: **fully achieved**



One of the Initiative's objectives is to support media organizations in developing Communication Plans in order to be able to better inform and educate the wider public on climate change, disaster risk reduction and biodiversity conservation.

Expert trainers from the National Radio Voice of Viet Nam (VOV) were joined by an international expert on natural disasters, an international expert on climate change and biodiversity, a national expert on gender and the UNESCO team to develop materials for a six-day training programme on disaster risk reduction, climate change adaptation and mitigation, biodiversity conservation and gender mainstreaming.

Materials included a facilitator's guide, pre- and post-tests, presentations, videos, instructions, group work and hand-outs. These materials were developed using the reference manual Know disaster, tell Disaster Risk Reduction, a training handbook for media professionals developed by Seeds Asia with support from the European Union and the United Nations International Strategy for Disaster Reduction (UNISDR).

A desk review of national and international training materials on ESD themes, produced by UNESCO, was also shared with consultants and trainers as a reference. The training materials were reviewed by MIC, which provided inputs and recommendations for their refinement. The finalized training module is now available to MIC for use in future trainings.

3.3.2. Implementation of media training

Output 3.2: Twenty local journalists and media experts in Hue have enhanced capacities to report on ESD through participation in the ESD awareness raising sessions: **fully achieved**

The expected result of the awareness raising session was for participants to increase their knowledge on and awareness of disaster risk reduction, climate change and biodiversity as well as to enhance their skills on reporting to the public on these issues.

Journalists and media experts strengthened their capacities to report on disaster risk reduction, climate change and biodiversity issues, with a gender-sensitive approach, as a result of their participation in the six-day training on ESD. Participants included nine individuals from Hue-based national and local newspapers, four from Viet Nam Television Hue and Thua Thien-Hue Radio and Television, seven from five district Radio Stations (from the five pilot school districts), and one media professional from the Voice of Viet Nam's online newspaper.

Participants were trained through the collective efforts of the national consultant Hoang Ha from MAB; Mr. Dang Quang Thuong, Deputy Director of VOV1 News and Current Affairs; Ms. Nguyen Vinh Quyen, Deputy Director of VOV's National Assembly Television channel; Ms. Cao Kim Yen, former Director of Education Section of VOV2 on Culture, Education, and Social Affairs; Vu Tuyet Mai, former Director of Women's programme; and the international consultants Moustafa Osman and Robert Wild.

Thừa Thiên Huế online

Chào mừng kỷ niệm 40 năm giải phóng hoàn toàn miền Nam, thống nhất

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Chính trị - xã hội

ĐOÀN CÁN BỘ CỤC BÁO CHÍ VÀ UNESCO LÀM VIỆC VỚI BÁO THỪA THIÊN HUẾ:

Xây dựng kế hoạch truyền thông về giảm nhẹ thiên tai, BĐKH và bảo tồn ĐDSH

Ngày cập nhật: 13/09/2013 18:52

(TTH) - Chiều 13/9, Cục Báo chí và đại diện UNESCO tại Việt Nam làm việc với lãnh đạo Báo Thừa Thiên Huế về kế hoạch tuyên truyền giảm nhẹ rủi ro thiên tai, biến đổi khí hậu (BĐKH), đa dạng sinh học (ĐDSH).

Tại buổi làm việc, lãnh đạo Báo Thừa Thiên Huế báo cáo tình hình BĐKH trên địa bàn tỉnh, công tác thực hiện ứng phó; đồng thời trao đổi công tác tuyên truyền trên báo, trong đó quan tâm các đề tài về BĐKH, ĐDSH và giảm nhẹ rủi ro thiên tai. Các phóng viên phụ trách cũng đã báo cáo kế hoạch tuyên truyền về các vấn đề liên quan, đặc biệt chú trọng tuyên truyền các bài viết mang tính cảnh báo, kinh nghiệm và tác nghiệp khi có thiên tai.



Lãnh đạo Báo Thừa Thiên Huế làm việc với đoàn của Cục Báo chí và đại diện UNESCO tại Việt Nam

Phía UNESCO mong muốn trong thời gian tới, lãnh đạo Báo Thừa Thiên Huế quan tâm và tăng cường hơn nữa trong công tác tuyên truyền các đề tài trên; xây dựng đề cương tuyên truyền mang tính dài hơi, khả thi; đồng thời cần cụ thể hóa với thực tế địa phương, phổ thông hóa các bài viết để người dân dễ tiếp cận, nắm bắt thông tin và áp dụng.

The following is a summary of an article covering the training sessions, published in Thừa Thiên-Hue Province's print and online newspaper on 3 October 2013:

Representatives of the Ministry of Information and Communications, Radio Voice of Viet Nam and UNESCO worked with leaders of media organizations in Thừa Thiên-Hue Province to support the implementation of media Communication Plans developed by their staff during a media training workshop on ESD. The workshop was organized by MIC, VOV and UNESCO within the framework of the ESD Initiative implemented by MOET, Samsung and UNESCO in Thừa Thiên-Hue Province.

Participants worked in groups to identify local disaster risks as well as practices that exacerbate climate change and biodiversity loss. Case studies, such as the overexploitation of marine resources and the destruction of the coastline in Tam Giang, were raised as causes of local disaster risk and biodiversity loss. Looking at the link between ESD themes and their local context, participants enhanced their capacities to report on these issues in an informative and impactful manner.

As a result of the training programme, participants were empowered to report on ESD-related themes, with a focus on reporting skills, format and understanding operational standards prior to, during and following disasters. The group produced a list of local topics that they could focus on when reporting on these fields. Headlines of media outputs include: (i) "Building strong and firm two- or three-floored schools for flood evacuation",

(ii) "Customary rules for mangrove forest protection" and (iii) "Communities benefit in the buffer zone of Bach Ma National Park".



Trainees took part in a field visit to develop media outputs on sustainable development.

Participants decided on subject content and developed scenarios for news stories, reports and programmes. During a field visit, they collected the necessary information and materials. With support from experts, more than 25 media outputs were finalized during the working session and were later broadcasted or published.



Local journalists reported on the school events and activities led by the schools in Thua Thien-Hue Province following the training on ESD delivered by experts from VOV and UNESCO.



Ms. Cao Kim Yen, former Director of Education of VOV and a media professional with 30 years of experience in reporting on education, said the following: "I wholeheartedly support the Education for Sustainable Development Initiative. The programme targets children, our future citizens. If we want them to be able to access information, knowledge and skills, we should work through schools and the mass media. The Education for Sustainable Development Initiative puts a focus on these two target groups – a very wise choice in my eyes. The approach involves teaching staff and the national and local reporters, journalists and media professionals. In addition to the face-to-face interaction between learners and training experts, the project instructors developed a number of materials to facilitate teacher engagement through self-study and e-learning. This constitutes a highly appropriate educational approach in a learning society. I firmly believe that this educational model will be replicated throughout the country."

Another result of the training programme is that media professionals enhanced their capacity to develop media Communication Plans. During the training programme, trainers, with inputs from MIC and UNESCO, presented sample Communication Plans. Participants were then supported in drafting plans for their respective media institutions to inform the general public on climate change, disaster risk reduction and biodiversity conservation. The plans were then reviewed by VOV and UNESCO to provide recommendations for improving their quality and scope. The Communication Plans were later presented to the directors and editors-in-chief of their media institutions for approval and implementation.

The communication plan provides an adequate framework for each media institution's locality. It sets out the plan's objectives, proposes media outputs on local issues regarding disaster risk reduction, climate change and biodiversity conservation, and contains an implementation strategy that includes a timeframe and details on human resources. Much attention is given to reporting on local issues that readers and audiences can relate to. These issues are raised to attract attention and concern, and therefore raise awareness and change behaviours.

For example, Ms. Nguyen Thi Thuong of Thua Thien-Hue newspaper produced the following articles:

- Growing and producing bamboo products in mountainous areas
- Human benefits from forest projects that allocate land to residents for forest protection, such as in Phong Dien Nature Reserve, Sao La Nature Reserve and Bach Ma National Park
- Carbon storage and biodiversity conservation in the central mountain range of Truong Son
- Thua Thien-Hue Forest Protection Department's efforts in preventing poaching and wildlife trade

Speaking about the Initiative, Ms. Nguyen Thi Thuong shared, "Thua Thien-Hue is severely impacted by climate change. The project carried out by UNESCO, Samsung and MOET has contributed to the many ways we have to propagate knowledge and call the community to action. Through the activities, the media also hopes to explore the reality on the ground faced by communities and improve their awareness. Previously, my reporting was not engaging enough, but now it has become much more practical thanks to the training course. I am better prepared to serve as a communicator on ESD-related issues within the community."



Growing vegetables on raised beds: climate change adaptation for sustainable agriculture

The following is a summary of an article, produced by one of the training participants, on a local sustainable development solution to adapt to climate change, published in Thua Thien-Hue Province's print and online newspaper on 24 September 2013:

Quang Thanh Commune in Quang Dien District produces vegetables for the entire province. However, storms and flooding often destroy crops and interrupt production. Recently, the model of growing vegetables on raised beds was introduced, which means villagers using this method are not affected by storms and flooding and can generate sufficient income from their vegetables. The replication of this model is practical and profitable for farmers in flood-prone areas in Thua Thien-Hue Province and it encourages them to uphold the age-old tradition of vegetable cultivation. The model is an example of climate change adaptation and sustainable development in practice.

Participants' knowledge of the content discussed in the training sessions was evidenced by the assessment instruments:

Questions	Correct responses in pre-test	Correct responses in post-test
What are the causes of disasters, climate change and biodiversity loss?	68%	90%
What are the impacts of disasters, CC and biodiversity loss?	68%	85%
What are the best formats for reporting on disasters, CC and biodiversity loss?	36%	75%

A focus on the local context

Mr. Tran Ngoc Minh of Phong Dien District Radio said: "I have become more aware of ESD issues, ways to access information on them, how to make listener-friendly media products and how to identify locally-relevant topics in these areas. I now know how to develop a communication plan and gained knowledge on gender and gender-sensitive reporting. The training workshop was highly effective and practical as it is closely associated with the local context."

ESD media training for a practical, science-based community awareness raising

Representatives from VOV discussed the effects the ESD Initiative has had on media participants and the community. Mr Ngo Minh Hien, the Director of the International Cooperation Department of VOV, said that "the ESD Initiative has created opportunities for VOV to train local media professionals and promote coordination between UNESCO, MIC, VOV and local media institutions. More importantly, participants were supported by UNESCO, MIC and VOV to develop Communication Plans.

Through their working visits, media institutions in Thua Thien-Hue supported and approved the plans developed by their staff for implementation.

This approach is very scientific and practical, and helps raise awareness of not only media professionals but also of leaders of local media institutions on ESD-related topics and gender equality. Throughout the training, local media professionals enhanced their understanding of information flows and coordination in Disaster Risk Reduction, Climate Change and Biodiversity Conservation."

A common sense of responsibility

Ms. Nguyen Thi Ai Huu, a communicator for the Science and Technology Review, of Hue University said: "Trainers and trainees are working with a sense of responsibility. Group work is very effective for experience sharing. I find the training workshop to be very useful: what I have gained from the workshop will surely be used in my professional duties."

A wonderful experience

Ms. Tran Thi Hong Khuyen of Phu Vang District Radio said: "I have had a wonderful experience and acquired valuable knowledge from consultants, trainers and colleagues concerning disaster risk reduction, climate change and biodiversity conservation. I am able to use what I have learned from the training workshop to report on the local risks posed by disasters, climate change and biodiversity loss and to raise public awareness on these issues."

A creative approach

Mr. Nguyen Dinh Dinh from Thua Thien-Hue Radio and Television shared: "After attending the training workshop, my knowledge on reporting on ESD-related topics increased. I now know formats, such as documentaries, investigative reports, news pieces, and others, that can be best used for informing the public about these issues. I enjoyed working in a group as it fostered creativity and a team spirit. As devoted consultants, trainers and facilitators, we can learn and share this experience easily."

Gender-sensitive approach

Participants learned about gender and gender-sensitive reporting in sessions facilitated by Mr. Vu Tuyet Mai, a journalist from VOV who has been conducting specialized programmes on women's issues at VOV for nearly twenty years. The guidelines on gender-sensitive reporting, *Broadcasting for All: Focus on Gender*, developed as a regional guideline by the Friedrich-Ebert Foundation (FES) and the Asia-Pacific Institute for Broadcasting Development (AIBD) and

contextualized to Viet Nam by UNESCO, were used by the facilitator to produce the gender training programme for media professionals to mainstream gender into ESD-related issue reporting.

Gender-sensitive media reports on disaster risk reduction, climate change and biodiversity were produced by the participating media professionals to practice mainstreaming gender, such as "Female boat racing - improving skills to respond to natural disasters" and "Man and wife in self-management for disaster prevention". A general observation was that participants had never thought about gender-sensitive reporting before and did not know what it meant, but provided feedback showing that, following the training, they understood the concept and were committed to applying it consciously and regularly.

3.3.3. Enhancing project visibility

Output 3.3: Local media have produce related media outputs on ESD, which have been made accessible to the public: **fully achieved**

The project has received a great deal of visibility in Viet Nam and globally, with regular press releases being provided to media outlets in Viet Nam which are widely reporting on the Initiative and regular communication materials being highlighted online on UNESCO Viet Nam's website, the UNESCO Regional Bureau for Education in Asia and the Pacific's website and e-newsletters, and the UNESCO Headquarters website, in addition to the UN in Viet Nam's website.



Visibility of the Initiative has been ensured in all steps of implementation. A journalist covers the launching ceremony of the Initiative (top, left); a local journalist in Hue interviews Mr Jinuk Shin of Samsung Global during the school event in Thanh Toan Primary School (bottom, left); the UNESCO Representative in Viet Nam is interviewed by the national media during the final celebratory event of the Initiative in Ha Noi (right).

As part of societal awareness raising and project visibility, the media produced more than 80 media outputs on ESD-related themes, the Initiative and its activities, covering the project's launching and completion ceremonies, the training course for media professionals on ESD-related themes, and the events held at the five piloted primary schools in Thua Thien-Hue Province. Outputs were broadcasted and published on national and local TV, the radio, newspapers and magazines in support of ESD in Viet Nam.

Since the launch of the Initiative, UNESCO Viet Nam's website received over 45,000 page views from nearly 20,000 visitors. Much of this website traffic is for news items and media outputs related to the ESD Initiative.



The media outputs produced by local and national media were documented in a visibility report

Boosting the Initiative's visibility

- A joint logo was created for all documents and events
- Over 45,000 page views on the UNESCO Ha Noi website since the launch of the Initiative
- More than 150 media outputs were produced by local and national media on ESD topics since the beginning of the implementation of the Initiative
- More than 60 media outputs were produced by local and national media on the achievements of the Initiative
- MOET presented the ESD Initiative and its results at the World Conference on Education for Sustainable Development held in Japan. The presentation was made by Mr. Le Trong Hung, Deputy Director General of DSTE. In addition, the Initiative was presented at the "Kominkan-CLC International Conference on ESD" by Ms. Tong Lien Anh, an Officer at CED. Both presentations received highly positive comments
- Final celebratory events took place in Ha Noi and Hue to communicate the Initiative's achievements. The event in Ha Noi was attended by more than 60 participants, including representatives of Samsung, the Viet Nam National Commission for UNESCO, the Ministry of Education and Training, and all partners involved in the implementation of the ESD Initiative as well as journalists. The event in Hue brought together local authorities, schools, parents and communities, with more than 250 participants
- UNESCO supported the organization of an ESD Forum to discuss the results of the UN Decade on ESD, organized by the Viet Nam National Commission for UNESCO, including a presentation of the Initiative and its results

3.4. Component 4: Project monitoring, evaluation and documentation for further replication

Expected results: Project implementation has been monitored, evaluated and documented and recommendations have been made for further national implementation and international replication.

Achievements: (i) Monitoring and evaluation to assess each component and the overall sustainability of the Initiative was carried out through a Monitoring and Evaluation Plan, monitoring missions, progress reporting, a joint mid-term review and a final project evaluation; (ii) the overall implementation of the Initiative was documented through this detailed report; (iii) recommendations for further replication were documented.

Key activities towards achievements:

- Develop a Monitoring and Evaluation Plan
- Carry out regular monitoring
- Document project experiences and produce a final report
- Produce recommendations for replication of project experiences

3.4.1. Monitoring and Evaluation Plan

Output 4.1: A Monitoring & Evaluation plan developed: **fully achieved**

A Monitoring and Evaluation Plan was produced as a result of the close cooperation between UNESCO Headquarters in Paris, including the Director of the Division of Teaching, Learning and Content (then Division of Education for Peace and Sustainable Development) and the Chief of Section of Education for Sustainable Development; the UNESCO Regional Bureau for Education in Asia and the Pacific; the UNESCO Regional Bureau for Science in Asia and the Pacific; the UNESCO Office in Viet Nam; MOET through DSTE; and other national partners.

The ESD Regional Coordinator from the UNESCO Regional Bureau for Education in Asia and the Pacific, Mr. Danilo Padilla, undertook various missions to Viet Nam to work with UNESCO Viet Nam's Planning, Monitoring and Reporting Officers and MOET on the development and implementation of the Monitoring and Evaluation Plan and monitoring chart. At the beginning of the project, Mr. Padilla accompanied the team to Thua Thien-Hue Province to attend a consultation meeting on the Monitoring and Evaluation Plan. The team discussed and finalized the ESD Initiative monitoring chart with MOET (DSTE), local authorities from DOET and the pilot schools.

As per the Monitoring and Evaluation Plan, relevant data and information was collected and documented in order to:

- a. Provide necessary feedback throughout project activities as a result of the monitoring process.
- b. Monitor and review the pilot activities in Hue in regard to: (i) the effectiveness of the ESD e-learning teacher training courses; and (ii) the application of ESD mainstreaming by teachers in school activities.
- c. Provide information for the documentation of the process, stories, lessons learned and recommendations for further implementation and replication.

The Monitoring and Evaluation Plan foresaw the collection of inputs from teachers, students and other beneficiaries to be used in assessing how programme activities facilitated the integration of the ESD strategy into school activities.

The Plan contained the activities and timeline for both monitoring and evaluation. It was mainly structured around: (i) a mid-term evaluation, (ii) a monitoring process throughout implementation, and (iii) a final evaluation of the project.

Activities were scheduled as follows:

- a. Two programme evaluations: a mid-term review (by the end of the first phase of activities) and a final evaluation;
- b. Monitoring missions and working sessions: During every visit to Thua Thien-Hue Province, monitoring was carried out. Examples include regular meetings with DOET, conversations with teachers and school principals, and meetings with Hue University, among others, throughout the total duration of the Initiative. Monitoring also took place in working sessions with MOET staff and the Vice Minister as well as with other counterparts as they produced their work;
- c. Pre-test and post-test activities: The results of these tests, taken by participants in the e-learning courses and in awareness raising and training sessions, were monitored in order to document changes in learning before and after each training session, workshop or piloting activity;
- d. Progress report development and update: From the beginning of the project, all activities were documented for reporting purposes. A progress report was presented in March 2014 and the final report was produced at the end of the project activities, which covered the total duration of the Initiative;
- e. Recommendations for replication: A set of recommendations were produced at the end of project implementation in order to integrate lessons learned in a way that allows others to apply the successes of the Initiative in their own context. These were integrated as part of the final detailed report, which also contains the in-depth description of steps towards implementation.

The Monitoring and Evaluation of the ESD Initiative also included: (i) documentation through photography and video recording and (ii) media outputs produced by participating media professionals. As a key element of the Initiative's strategy, monitoring and evaluation activities followed a participatory and results-oriented approach.



3.4.2. Project monitoring

Output 4.2: Monitoring reports produced with evidence documented; **fully achieved**

Following UNESCO Viet Nam's strategic intersectoral approach, all programmes implemented by the UNESCO Office in Viet Nam, including the ESD Initiative, are monitored by its Monitoring and Reporting Team, from project planning and implementation to the final assessment.



The responsibilities of the Monitoring and Reporting Team are to:

- Support Programme Officers in identifying expected results, indicators and benchmarks and in establishing corresponding work plans. This is done at the beginning of each process
- Follow up on the implementation of work plans, including attending specific events or carrying out monitoring missions in the field that allow for the collection of data and information, evidence and inputs from stakeholders
- Analyse field monitoring data and information obtained to support the production of all intermediate reports, press releases and briefs, and to compare expected results with reported results
- Review the quality of the results obtained through evaluation exercises
- Provide feedback on adjustments or changes to be made
- Support the production of the final report

"The close monitoring carried out by the team allowed for the immediate adjustment of activities during implementation. For example, a training course on how to use e-learning was planned for teachers. Since they needed their school principals to support implementation, it was decided, in coordination with local authorities, that the training session would be extended to include school principals and vice principals."

Juan Pablo Ramirez-Miranda, UNESCO Viet Nam Monitoring and Reporting Officer

Throughout the Initiative, the monitoring team was in constant coordination with all partners and carried out meetings with local authorities in order to monitor the development of the activities, to obtain feedback from partners and participants, and to modify the activities as needed. This was made possible as a result of visits and events organized in the schools



in which the team and stakeholders could directly observe and closely monitor. All beneficiaries of the ESD Initiative, including teachers, students, school principals, and national and local authorities as well as the media, were encouraged to provide their comments and feedback on the status and changes in ESD mainstreaming in school activities to respond to this strategic approach.

Over the course of the ESD Initiative, different monitoring activities and missions were conducted and project reports, summaries and briefings were prepared. Monitoring took place on a routine basis with ad hoc adjustments being made as needed. The results of the missions and working sessions provided the main data for the final report and are summarized below.

a. Monitoring and working sessions with Vice Ministers of Education and Training, MOET departments and DOET authorities

A series of monitoring meetings took place, both within MOET and with DOET. These meetings included various sessions with Vice Ministers of MOET and department personnel to discuss plans, processes and challenges, especially in terms of the workloads of the different departments in relation to the Initiative's calendar of implementation. Corrective measures were agreed upon as needed. The same procedure was followed with DOET authorities in Thua Thien-Hue Province.



Vice Minister Nguyen Vinh Hien is leading the working session with UNESCO and main stakeholders from MOET.

Monitoring discussions also took place around the tools for disaster risk assessment and preparedness planning in schools, as well as for the e-learning courses.

As a result of the coordination and monitoring meetings, MOET and DOET's ownership of the Initiative was enhanced.

b. Missions to schools in Thua Thien-Hue Province to monitor components' progress

Various missions to the pilot schools were undertaken in order to ensure the smooth implementation of activities. The missions coincided with other project activities, such as the awareness raising and training events, in order to maximize travel cost effectiveness. Examples include the monitoring of Community Action Plans and School Preparedness Plans, which were developed, funded and implemented by the schools and surrounding communities.

c. Monitoring the implementation of lesson plans in Thua Thien-Hue Province

The monitoring of lesson plans provided an opportunity to observe how teachers had prepared for the implementation of their lessons and how they interacted with their students. Teachers from each of the five schools implemented a lesson. Two teachers carried out this activity within their own schools. Teachers from three schools were mobilized to teach students from other schools.

Members of this monitoring mission included representatives from MOET, DOET, UNESCO Viet Nam and the Regional ESD Coordinator from UNESCO Bangkok in addition to project experts.

d. Monitoring of e-learning pilot activities

The testing of the e-learning courses was part of the monitoring process as the feedback provided by participants contributed valuable information to make necessary adjustments to the course content and interface.

Following is a summary of the results reported in Component 1 that were collected through the Monitoring Matrix and satisfaction

questionnaire. These results were explained in more detail in Component 1 of this report.



Quality of course content and presentation		Satisfaction		
CC	98% (24 out of 25) of participants find the chapter content, language and presentation clear.	2% (1 out of 25) of participants find the course content needs further clarification. Concerned participants were contacted and provided details on which parts were not clear; and consequently those sections were simplified with the support of national experts.	98% (24 out of 25) of participants were highly satisfied with the course as it provided them with worthwhile education experience.	2% (1 out of 25) of the participants find the examples and quizzes not fully adequate and insufficient. More examples and suitable quizzes were added to better respond to participants needs.
DRR	100% of participants find the chapter content, language and presentation clear.		100% of participants were highly satisfied by the course as it provided them with worthwhile education experience.	
BC	100% of participants find the chapter content, language and presentation clear.		100% of participants were highly satisfied by the course as it provided them with worthwhile education experience.	

e. Other monitoring

As part of the monitoring process, other elements were considered as described throughout the different sections of this report. Elements considered include the number of media outputs that generated visibility and, website traffic, and the results of the pre- and post-tests. All visibility data were described in Component 3, and pre and post-tests results for e-learning were included in Component 1.

f. Performance monitoring chart

A performance monitoring chart was developed as part of the monitoring framework for the entire Initiative. The indicator status and actual value was updated regularly by the monitoring team. The final version of the chart is presented below.

Performance Monitoring Chart

Component 1: Teacher capacity building for integrating ESD into daily teaching practices.

Objectives: Build teacher capacities to contextualize and integrate ESD into school practices through developing, piloting and disseminating open-licensed educational resources on ESD.

Key activities: Produce and pilot e-learning teacher training courses on climate change, disaster risk reduction, and biodiversity conservation and restoration; support teachers in delivering lessons to students and in leading the development of School Preparedness Plans.

Expected results	Indicators	Programmed benchmark	Achievements	Status
Open-licensed ESD e-learning courses for teachers are available for enhancing their capacities to integrate ESD into school practices and have been disseminated to key stakeholders	# of E-learning courses on ESD tested, contextualized and validated	Finalized e-learning courses developed, covering three ESD themes (DRR and preparedness, climate change, biodiversity)	- 3 e-learning courses produced and piloted (including 3 chapters on CC, 6 on BC and 4 on DRR)	Achieved
	# of Departments of Education and Training with access to finalized e-learning courses on ESD	63 Departments of Education and Training have access to finalized e-learning courses on ESD	- E-learning courses made available to the Ministry of Education and Training for dissemination nationwide to 63 Departments of Education and Training	Achieved
	# of Teacher Training Institutions with access to finalized e-learning courses on ESD	98 Teacher Training Institutions have access to finalized e-learning courses on ESD	- E-learning courses made available to the Ministry of Education and training for dissemination nationwide to Teacher Training Institutions	Achieved

Component 2: Awareness raising for school principals, parents and national and local authorities on ESD.

Objectives: Raise awareness on ESD of school principals, parents and national and local authorities through a participatory process to contribute to an enabling environment for ESD mainstreaming.

Key activities: Create an enabling environment for ESD by conducting awareness raising sessions for school principals, parents, national and local authorities, and the media on climate change, disaster risk reduction and biodiversity conservation.

Expected results	Indicators	Programmed benchmark	Achievements	Status
School principals, parents and local authorities and national authorities have increased awareness on ESD to contribute to	# of sets of ESD awareness raising materials developed for specific target groups	4 sets of ESD awareness raising materials developed (1 each for school principals, parents, local authorities and national authorities)	At the request of the local authorities, UNESCO included all target populations at the local level in the same awareness raising sessions. Therefore, the four sets consist of: i) DRR for national authorities, ii) DRR for local level, iii) climate change and biodiversity conservation for	Achieved

an enabling environment for ESD mainstreaming			national authorities, and iv) climate change and biodiversity conservation for local level	
	# of participants participating in ESD awareness raising sessions	10 school principals, 40 parents, 15 local authorities and 60 national authorities have participated in ESD awareness raising sessions	191 participants in total (117 male/74 female) reached, through awareness raising sessions, including 131 community members, parents, principals and vice-principals, teachers, local authorities, flood and storm control committee members; (84 male/47 female) and 60 national authorities (33 male/27 female)	Achieved
	# of participants from target groups participating in implementation of school DRR and climate change response plan activities	At least 10 school principals and vice-principals, 15 teachers, 40 parents and 15 local authorities have participated in implementation of school events to conduct DRR and climate change response plan activities	191 participants in total (117 male/74 female) reached, through awareness raising sessions, including 131 community members, parents, principals and vice-principals, teachers, local authorities, flood and storm control committee members; (84 male/47 female) and 60 national authorities (33 male/27 female)	Achieved

Component 3: Awareness raising for the media on ESD and supporting project visibility.

Objectives: Raise media awareness on ESD to strengthen media capacity to effectively communicate information relating to preparedness for disasters, climate change mitigation and adaptation, and biodiversity conservation.

Key activities: Train media organizations and support them in developing communication plans in order to better inform and educate the wider public on climate change, disaster risk reduction and biodiversity conservation.

Expected results	Indicators	Programmed benchmark	Achievements	Status
Media have increased awareness on ESD and produce media outputs to contribute to an enabling environment for ESD mainstreaming	Training materials on ESD developed for media	Training materials developed covering four themes (DRR and School Preparedness Plans, biodiversity, climate change and ESD)	- Training materials developed covering four themes (DRR and preparedness, biodiversity, climate change and ESD) for local media	Achieved
	# of journalists and media experts who have received training on ESD	20 journalists and media experts have received training on ESD	- 20 journalists (14 male/6 female) from Thua Thien-Hue trained on reporting on ESD	Achieved
	# of media outputs produced by local journalists	At least 5 media outputs published/broadcast	- 153 media outputs produced throughout the implementation of the ESD Initiative, on ESD themes (following the trainings) and reporting on Initiative activities	Achieved

Component 4: Project monitoring, evaluation and documentation for further replication.				
Objectives: Document lessons learned from the Samsung funded components of the ESD Initiative and develop recommendations to be used as a reference for further ESD mainstreaming.				
Key activities: Monitor, assess and document the Samsung-funded components of the Initiative, its activities and results for further ESD mainstreaming in Viet Nam and other countries.				
Expected results	Indicators	Programmed benchmark	Achievements	Status
Guidelines and recommendations, together with final versions of e-learning courses and awareness raising materials, produced to be used as a reference for further development of e-learning courses on ESD in Viet Nam and other countries	Finalized ESD e-learning package including e-learning courses and awareness raising materials	Finalized ESD e-learning package including e-learning courses for teachers and awareness raising materials (for school principals, parents, local authorities, national authorities and media) available	- E-learning package finalized	Achieved
	Guidelines and recommendations on further development of e-learning courses on ESD, included in final report	Guidelines and recommendations on further development of e-learning courses on ESD produced	- Final documentation of the project, including the final reports and recommendations for further development of the Initiative, including e-learning on ESD produced	Achieved
Component 5: Tools for school risk assessment and preparedness plan preparation				
Objectives: Promote community participation in the assessment and development of preparedness plans for schools.				
Key activities: Produce and test tools for school risk assessment and preparedness plans and support the school community to implement them.				
Expected results	Expected results	Expected results	Expected results	Status
An Assessment and Preparedness Toolkit has been developed, piloted and made available in order to contribute to school communities' understanding of the importance of disaster risk assessment, planning and preparedness	Finalized Assessment and Preparedness Toolkit developed for schools	One Assessment and Preparedness Toolkit developed and made available to national authorities for nationwide dissemination	- One Assessment and Preparedness Toolkit for schools developed in a participatory manner and tested by the five pilot schools - One Toolkit now available for nation-wide distribution in a printed edition and as an e-learning course	Achieved
	Number of representatives from schools and community members trained on development of School Preparedness Plans	Representatives of 5 schools (including community members) trained to participate in risk assessment, Disaster Risk Reduction and preparedness plans	- 90 participants (56 male/34 female) from 5 schools and communities trained on the development of School Preparedness Plans	Achieved

	Number of School Preparedness Plans developed	Five plans developed following training	<ul style="list-style-type: none"> - Five schools developed their own preparedness plans, with the mobilization of their school communities to conduct the assessment and develop the plans - The school communities were empowered to obtain funding and implement their School Preparedness Plans with support from parents and community members 	Achieved
Component 6: Use of satellite imagery as a tool for evidence-based decision making.				
Objectives: Promote the use of satellite data for evidence-based decision making.				
Key activities: Develop awareness raising activities on the use of satellite imagery as a tool for evidence-based decision making and for awareness raising among a number of actors.				
Expected results	Indicators	Programmed benchmark	Achievements	Status
National authorities are trained in understanding, assimilating and using satellite data for evidence-based decision-making	Authorities and national experts trained in the interpretation and the use of satellite data for evidence-based decision-making	<p>1 training programme for authorities on the use of satellite data for evidence-based decision-making</p> <p>5 local government officials trained</p>	<ul style="list-style-type: none"> - 133 participants (80 male/53 female) – including national MOET authorities, NIEM trainers, local education authorities, and local community members – taking part in 4 trainings on the use of satellite imagery 	Achieved
Component 7: Awareness raising on participatory Community Action Plans.				
Objectives: Raise awareness on the development of Community Action Plans for climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation.				
Key activities: Develop awareness raising sessions on the importance of developing Community Action Plans through the implementation of an intersectoral response to the challenges of climate change, natural disasters, and biodiversity loss.				
Expected results	Indicators	Programmed benchmark	Achievements	Status
Community stakeholders and local authorities have strengthened capacities to address CC issues through participatory methodology and coordinated development of Community Action Plan (CAP) Community awareness and knowledge is raised on climate change issues and the CAP through	Community Action Plan developed, containing climate change adaptation activities	Community Action Plan developed	<ul style="list-style-type: none"> - 68 community members (52 male/16 female) from 5 communes participated in 2 workshops and 5 working sessions on the development of Community Action Plans - 5 draft CAP produced by the communities 	Achieved
	# of presentations conducted by the core working group in Community Learning Centres and schools on community action plan	<p>2 trainings conducted in local Community Learning Centres</p> <p>CAPs presented in 3 schools</p>	<ul style="list-style-type: none"> - 2 sessions conducted in local Community Learning Centres - CAPs presented in 5 schools in Thua Thien-Hue Province during school events with the participation of local communities and authorities 	Achieved

presentation-trainings at schools and community learning centres				
Component 8: Preparation of disaster risk management plans for World Heritage Sites.				
Objectives: Enhance the resilience of UNESCO World Heritage Sites to environmental disasters due to their importance in the livelihoods of Vietnamese people.				
Key activities: Contextualize UNESCO’s methodology for managing disaster risks in Viet Nam’s World Heritage Sites and develop disaster risk management plans for three sites (Hoi An Ancient Town, Hue Monuments Complex and Thang Long Royal Citadel).				
Expected results	Indicators	Programmed benchmark	Achievements	Status
Preparedness Plans on Disaster Risk reduction with gender responsiveness have been developed for heritage sites	Number of Disaster Risk Management Draft Plans developed based on the trainings	3 Plans for protected sites (produced by site managers)	- 3 Plans for protected sites (produced by site managers)	Achieved
	UNESCO World Heritage Manual on Disaster Risk Management translated and contextualized to Viet Nam	Manual translated and contextualised	- UNESCO World Heritage Manual on Disaster Risk Management translated and contextualized to Viet Nam	Achieved

3.4.3. Project evaluation: mid-term review and final evaluation

Output 4.3 A final project evaluation was conducted; **fully achieved**.

The Initiative's evaluation consists of a mid-term review and a final evaluation. Interviews, workshops and direct observations during the school events provided the ideal scenarios for collecting the necessary data to assess how the project facilitated the integration of ESD into school activities. The evaluation is accompanied by success stories, lessons learned and recommendations for further implementation and replication.

The participatory evaluation included MOET, UNESCO, experts, expertise providers, other implementing partners, teachers, students, parents, community members and media professionals.

This section is structured in the following way:

- a. Methodology
- b. Instruments:
 - Mid-term Review Matrix
 - Final Evaluation Matrix
- c. Implementation:
 - Interviews
 - Direct observations during the school events
 - Final evaluation workshop with piloting stakeholders in Thua Thien-Hue Province
- d. Results by component:
 - Component 1: E-learning
 - Component 2: Parent and community awareness raising
 - Component 3: Media training
- e. Overall results: Relevance and sustainability

a. Methodology

The goal of the project evaluation was to gather information and assess progress and results regarding the enabling environment for ESD through e-learning teacher training, School Preparedness and Community Action Plan development and implementation, and the general impact of awareness raising and

training sessions. This process involved the following partners: (i) MOET's Department of Facilities, School Equipment and Children's Toys, PED, CED and DSTE (ii) the Ha Noi National University of Education (iii) Live & Learn Viet Nam and (iv) the UNESCO Man and Biosphere Programme (MAB), as well as experts.

The methodology for the monitoring and evaluation process was characterized by the following overall aspects:

1. Prior to the implementation of project activities, the Monitoring and Evaluation Plan, matrix and instruments were developed through broad consultation with MOET, DOET and numerous other stakeholders. These plans and instruments were verified by representatives from MOET, DOET and the external evaluator.
2. The monitoring and evaluation process included the participation of an external evaluator, who was not involved in the implementation of the Initiative but had an active role in the process of developing the Monitoring & Evaluation Plan, the mid-term review, the monitoring of the implementation of lesson plans and the final evaluation.
3. The methodology followed an open and participatory approach that allowed stakeholders access to any beneficiaries – students, teachers, school principals and vice-principals, parents, community members and local authorities – at any time in order to ask their own questions about their experience with the Initiative. This level of broad participation in the evaluation process ensured that results were open and transparent. It was only possible due to actual and concrete results easily visible to all.
4. The project evaluation included mixed methods for data collection including: interviews, focus groups, questionnaires and direct observation at both the mid-term and final school events as well as during lesson plan implementation.

Interviews

Targeted interviews were conducted by the evaluation team with two representatives from CED; DSTE; the Department of Facilities, School Equipment and Children's Toys; PED; the Director of PED/DOET and the Director of the DOET of Thua Thien-Hue Province; and Ha Noi Open University.

Interviews took place at the five schools during the school events that brought together beneficiaries and implementing partners to experience the Initiative's achievements.

Direct observations during the school events

Direct participant observation during the school events allowed the monitoring and evaluation team to analyse the implementation process and the Initiative's achievements. This was done in order to determine the sustainability of the Initiative and identify possibilities for further implementation. Data was obtained through direct observations on-site with the participation of the schools, students, teachers, parents, communities, local and national authorities, education experts and UNESCO.

Holding the evaluation during the school events allowed the counterparts implementing the Initiative to meet all together in the same location with beneficiaries. The evaluation team could talk openly with the Initiative's beneficiaries, making the evaluation process transparent. Direct observations and participant and partner interviews were made during each of the following events in order to strengthen the overall evaluation in the following ways:

i. Celebratory event for all pilot schools in Thua Thien-Hue Province to share success stories, challenges, lessons learned and exchange experiences among the pilot schools and target groups, as well as to celebrate the cultural heritage of Hue, which is a main contributor to local livelihoods. Representatives and authorities from the province were invited to gain an

understanding of the project experience and the importance of mainstreaming ESD in school activities.

- ii. Final event in Thua Thien-Hue Province to share reflections on the project experience, materials produced, success stories, lessons learned, challenges and recommendations.
- iii. Final event with expertise providers, implementing partners and other stakeholders in Ha Noi to share reflections on the project experience, materials produced, success stories, lessons learned, challenges and recommendations. Representatives of the DOET of Thua Thien-Hue and of the five pilot schools took part in this event.

Final evaluation workshop with piloting stakeholders in Thua Thien-Hue Province

A joint session to provide data for the final evaluation was conducted. Participants completing the final evaluation questionnaires during this session held before the final school event, included 13 community members, 9 principals and vice-principals, 15 teachers and 4 local media professionals, comprising 41 evaluation questionnaires.

Mr. Danilo Padilla, UNESCO ESD Regional Coordinator and member of the evaluation team, commented in relation to the participatory methodology that he was impressed by the level of engagement of the various stakeholders in the project and was very happy to see everyone working together to implement the activities, since this was a sign of the successful implementation of the Initiative and the engagement of the different stakeholders which represents a possibility for the further continuation of the project.


b. Instruments

Mid-term Review Matrix

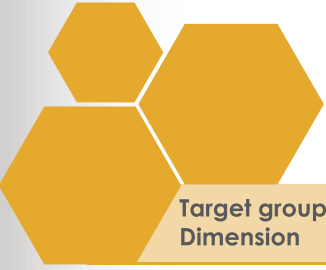
A set of questions was devised with the participation of various stakeholders and distributed among them to gather information during the mid-term school event.

The following matrix was developed for the programme review in order to assess: (i) the

change and satisfaction; (ii) knowledge acquired; and (iii) lessons learned. It contains the different interview questions asked to beneficiaries by the various stakeholders. A summary of the data collected is included in the discussion of the results of the Initiative presented later in this section.



Target group/ Dimension	Change and Satisfaction	Knowledge	Lessons Learned
<i>Teachers taking part in awareness raising</i>	How do you feel about being involved with the community in the awareness raising sessions?	How has the programme allowed you to begin to change the way you see safety in the schools?	What positive results have there been from having the community participate in developing School Preparedness Plans?
<i>Teachers involved in School Preparedness Plan development</i>	What changes have been introduced by the participatory School Preparedness Plans?	What have you learned through your involvement with the community in terms of safety and preparedness?	Do you think these activities should be taken to every school in Viet Nam?
<i>Parents involved in preparedness plans development</i>	How do you feel about the collaboration between you, schools and communities to develop action plans?	What have you learned about safety and environmental protection in the school and your role to contribute on these matters?	From these experiences what do you think should be expanded to every school in Viet Nam? What should be the parents' role to improve safety and environmental protection in schools?
<i>Community Members involved in CAPs development</i>	Do you think the experience of training and working together with different members of the community should be replicated?	How can you contribute and participate in activities related to safety and environmental protection in and around the schools?	Do you feel it is important for members of the community to take responsibility in the safety of their school and surrounding communities? Why?
<i>School Principals (three components)</i>	How have the activities from the Initiative led to a change in the way you understand safety and environmental protection in and around the school?	As a result of the awareness raising session and the development of plans, do you feel more empowered to contribute to the safety of the school?	What actions would you take with the knowledge from the programme's activities? Would you replicate these activities to every school in Viet Nam?



Target group/ Dimension	Change and Satisfaction	Knowledge	Lessons Learned
<i>School Principals (three components)</i>	How have the activities from the Initiative led to a change in the way you understand safety and environmental protection in and around the school?	As a result of the awareness raising session and the development of plans, do you feel more empowered to contribute to the safety of the school?	What actions would you take with the knowledge from the programme's activities? Would you replicate these activities to every school in Viet Nam?
<i>DOET Authorities (overall Initiative)</i>	How has the way you perceive safety and resilience in the schools changed as a result of the trainings and plans development? Do you feel empowered to contribute to safer and more resilient schools?	What are the actions do you want to implement as a result of the programme activities?	What have you learned from the programme that can be extended to every school in the Province and in Viet Nam?
<i>World Heritage Sites Managers</i>	Why do you believe it is important to understand disaster risks for Heritage Site Management? Has your perspective change as a result of the programme?	How does a disaster risk management plan contribute to safeguarding World Heritage and improve the exercise of your responsibilities?	What is the most important message you want to convey about the sustainability of World Heritage Sites? Do you think this programme needs to be expanded to all sites?

Final Evaluation Matrix

A Final Evaluation Matrix was developed to assess the Initiative components on (i) e-learning for teacher training, (ii) awareness raising, and (iii) training of media. The matrix

contains a set of questions that guided the final evaluation exercise and contributed to the preparation of the evaluation report.

Project Component	Project Outputs	Evaluation questions			
		Relevance	Effectiveness	Efficiency	Sustainability
I. E-learning teacher training courses	ESD training needs assessment	Do the teacher training courses represent a coherent response to national priorities? To your knowledge, are the e-learning courses in line with established national action plans and strategies? Have the e-learning courses been enhanced and adapted as a result of the pilot to better respond to the needs of the users?	How do the training courses contribute to enhancing teachers' knowledge and practice in and outside of the classroom? To what extent have the capacities of DOET and HOU been enhanced by the development of e-learning courses? How have the e-learning courses supported the effective implementation of national priorities?	To what extent do the courses contribute to addressing the training needs of the participants? To what extent was the implementation strategy effective in developing and applying the e-learning trainings courses? Have the e-learning courses introduced an innovative mechanism to strengthen teachers' capacities?	To what extent have the capacities of participants been enhanced to contribute to their future practices on climate change mitigation and adaptation, biodiversity conservation and disaster and risk reduction? To what extent do the e-learning courses contribute to integrating climate change, biodiversity conservation and disaster preparedness into school practices?
	ESD content development				
	E-learning methodology				
	Piloting				
	Finalization and dissemination				
II. Creating enabling environment for ESD	ESD awareness raising materials development	Are the awareness raising materials and activities relevant to the national context? Does the awareness raising on ESD and related topics contribute to national strategies?	Are there any concrete changes in the relation between schools, parents and community that have been implemented as a result of the awareness raising?	To what extent have different participants enhanced actions and coordination on environmental awareness and preparedness? How have the awareness raising sessions contributed to the creation of an enabling environment for resilience and preparedness of schools and communities?	To what extent has the awareness raising contributed to ensuring better awareness and preparedness for disasters, climate change and biodiversity loss?
	ESD awareness raising sessions				
III. Media contribution to ESD	ESD training materials for media	Have the activities with the media contributed to their roles and responsibilities in reporting on sustainability related themes? Has the involvement of the media been relevant as part of the Initiative's strategy?	How has the involvement of the media contributed to ensuring the visibility of the Initiative's results and strategy? To what extent has the media participation enhanced the involvement of the communities and other national partners?	To what extent has the media involvement with the Initiative been an added value towards the development of better communication plans?	Have the capacities of the media professionals been enhanced to ensure timely and efficient reporting on sustainability issues after the Initiative's implementation?
	Media training				
	Media outputs				
IV. M & E, documentation and visibility	M & E plan				
	Monitoring reports				

c. Findings from the mid-term review

As presented above, a matrix was developed to guide the interviews during the mid-term review to explore, at that stage of the Initiative, the three following dimensions: (i) change and satisfaction; (ii) knowledge; and (iii) lessons learned. The questions were organized to be aligned with the activities attended by the different target groups.

The participatory approach for the monitoring and evaluation activities of the ESD Initiative involved all stakeholders asking questions at any point of the events, to any participant. A summary of the findings from the mid-term review responding to the questions from the evaluation matrix per target participant can be found below. Additional findings obtained during interviews with students and some final observations from the evaluation team are also included.

Following are the questions that guided the evaluation and the overall responses prepared by the evaluation team.

Teachers

How do you feel about being involved with the community in the awareness raising sessions? How has the programme allowed you to begin to change the way you see safety in the schools? What positive results have there been from having the community participate in developing School Preparedness Plans? What have you learned through your involvement with the community in terms of safety and preparedness? Do you think these activities should be taken to every school in Viet Nam?

Teachers reported feeling empowered to contribute to the safety of the school and satisfied with how the community has learned about respecting nature, the importance of biodiversity and what should be done to protect the atmosphere. Teachers also expressed their excitement regarding the implementation of activities from the developed School Preparedness Plans.

Findings from the interviews with teachers include their impressions on the Initiative allowing the real transmission of knowledge, witnessed by those teachers who have undertaken the trainings and awareness raising sessions being ready to transmit the knowledge to their colleagues and other children. Before, they had only a basic understanding, however, now there has been a big change in terms of awareness on ESD and the need to have a master plan for preparedness in the school.

For example, a teacher at one of the pilot schools reported 80% of implementation of school preparedness activities already in the 4th month of its implementation. Another teacher shared how she was impressed by the number of parents participating in working with the students and teachers to make decorations for the school from recycled materials. Teachers indicated that they were very enthusiastic about the possibility of these activities being implemented in every school in Viet Nam.

Parents

How do you feel about the collaboration between you, schools and communities to develop action plans? What have you learned about safety and environmental protection in the school and your role to contribute on these matters? From these experiences what do you think should be expanded to every school in Viet Nam? What should be the parents' role to improve safety and environmental protection in schools?

Parents were pleased to see their children learning actions that increase the sustainability and preparedness of their school. Parents reported feeling that the school was more prepared for hazards since taking part in the Initiative. Some achievements reported by Initiative beneficiaries include cost-savings when saving electricity at home, a high level of satisfaction on including local communities in trainings and having a clear idea on how to react when a disaster comes. This was exemplified by, among other things, the fixing

of electrical devices and broken windows at the school, enhancing the safety of the learning and teaching environment.

Parents report their families were proud of their involvement in improving their school and community and expressed that the Initiative should be expanded to reach every school in Viet Nam.

Community Members

Do you think the experience of training and working together with different members of the community should be replicated? How can you contribute and participate in activities related to safety and environmental protection in and around the schools? Do you feel it is important for members of the community to take responsibility in the safety of their school and surrounding communities? Community participation is reported to be highly valued by members of the community as they are not usually actively involved in activities related to the school. Interviewed community members expressed satisfaction with their involvement in the training and felt empowered to identify and address local issues. For example, in one school, a 12-person group was assigned to be responsible for waste collection in the school, as was the case with one of the piloting schools.

Interviewed community members also report how significant of a change it is to have a new, holistic methodology to contribute to their school and community's safety. They expressed their satisfaction with seeing teachers acquire new knowledge and become more enthusiastic in enhancing communication between the school and the community.

Participating community members also expressed the need to continue working on community activities and, most importantly, address local issues related to disaster risk reduction, climate change and biodiversity conservation. They further shared that these topics should be a part of the meetings between the school and community.

"I have realized the importance of climate change and environmental protection in our lives. Our countryside is a low-lying area prone to floods that cause deaths and severe damage every year. When being trained, we are aware of the ways to prevent and reduce the risks of natural disasters. Formerly when having not been trained, we did not have skills and knowledge to deal with such issues. I have participated in Community Action Plan development and joined the parent association planting trees and enhancing sanitation solutions around the school. At our locality, we are the key force, imparting and mobilizing the people to join our activities and counselling the People's Committee to organize public awareness events such as trash collection campaigns". – Veteran Phan Van Dien, a representative of the Communal Veteran Association.

School Principals and Vice-principals

How have the activities from the Initiative led to a change in the way you understand safety and environmental protection in and around the school? As a result of the awareness raising session and the development of plans, do you feel more empowered to contribute to the safety of the school? What actions would you take with the knowledge from the programme's activities? Would you replicate these activities to every school in Viet Nam?

In terms of change and satisfaction, all interviewed principals and vice-principals reported an improvement in environmental protection and the safety of their schools and among their teachers. For example, principals and vice-principals report feeling that the community in and around the school better understands the importance of planting the right kind of trees, the importance of biodiversity in general and the school community thinking of biodiversity as more than decoration. Other actions were found to contribute to this enabling environment include community waste management and

working together to maintain a clean and safe learning environment.

Principals reported that activities of the Initiative have resulted in the school taking actions linked to health, disease prevention, recycling, rethinking power consumption, creating a vegetable garden, and raising awareness on pesticide use. Such actions and involvement within the school and community increases the feeling of empowerment among community members and other actors to take actions on sustainability.

Most importantly, they reported that the mobilization shown during the school events was achieved as a result of the strong commitment from teachers, parents and the community. All interviewed school principals and vice-principals agree on feeling more empowered to deal with safety issues with the support of the community and describe the Initiative's activities as a meaningful experience.

In terms of the sustainability of the activities after the end of the Initiative, principals report not being able to turn back from the level of awareness on sustainability and safety they have acquired and being naturally led to carry on with these activities.

Students

Students were active participants during the school events. Students were able to identify actions to contribute to the resilience and safety of the school. Awareness has been transmitted on preparedness and they know actions that can be taken to make the school more prepared and more sustainable.

Students understand the importance of planting trees and protecting biodiversity. They also report being surprised about seeing the parents actively involved in the activities in the school. Students interviewed reported the need to pass on the message to their fellow students and the need for these important messages to be spread to other schools in Viet Nam.

MOET / DOET Authorities

How has the way you perceive safety and resilience in the schools changed as a result of the trainings and plans development? Do you feel empowered to contribute to safer and more resilient schools? What are the actions do you want to implement as a result of the programme activities? What have you learned from the programme that can be extended to every school in the Province and in Viet Nam?

Authorities described the approach as "teaching the schools and communities how to fish instead of giving them fish". They report seeing teachers and schools learning to contribute to the community and seeing a change in the way people and schools think about climate change. Many authorities have been extensively involved and this has contributed to the achieved results.

Authorities expressed that these activities contribute to improving the quality of education in Viet Nam and the importance of infusing disaster risk reduction, climate change and biodiversity conservation into the curriculum. Authorities recognized building awareness on ESD started in schools before the Initiative at a smaller scale, but bringing the community on-board is an enabler of greater change, creating significantly more impact.

World Heritage Sites managers

Why do you believe it is important to understand disaster risks for Heritage Site Management? Has your perspective changed as a result of the programme? How does a disaster risk management plan contribute to safeguarding World Heritage and improve the exercise of your responsibilities? What is the most important message you want to convey about the sustainability of World Heritage Sites? Do you think this programme needs to be expanded to all sites?

The results of the evaluation of the

development of disaster management plans for heritage sites were comprehensively reflected in responses to these questions provided by senior staff at two of the participating sites. The evaluators, therefore, decided to present results through their direct



Ms. Huynh Thi Anh Van from the Hue Monuments Conservation Centre.

Ms. Huynh Thi Anh Van, Director, Hue Museum of Royal Antiquities, Hue Monuments Conservation Centre, expressed:

"Disaster risks are more easily understood by people when they relate to common aspects of their lives, especially their social lives. However, while it is not as natural to understand the necessity and importance of disaster risk reduction for heritage sites, the sites are more vulnerable to these impacts. As a result of the programme, I have a broader understand and a more systematic view on every aspect of heritage site risk mitigation and preparedness. This helps me become more effective in my work and gives me the experience necessary to address such heritage management issues."

"The management of World Heritage Sites includes many aspects such as the security of visitors, the restoration and protection of historic buildings, and the preservation of antique objects. The plan that was established under the guidance and support of UNESCO helps us to develop and implement a general plan and provides us with a more holistic understanding when responding to risks that may affect the heritage site."

"Due to their necessity and usefulness, activities should be implemented and plans should be developed at all sites. In the context of addressing the challenges posed by climate change and negative human impacts, ensuring the sustainability of World Heritage Sites relies on how much we, heritage conservators and site managers, understand the risks affecting heritage sites and what we can do to protect them. The more we can share what we have learned with the next generation through heritage sites, the richer future generations will be in all aspects of life."



Ms. Bui Thi Hai Yen, International Cooperation Officer of the Thang Long - Hanoi Heritage Conservation Centre

Ms. Bui Thi Hai Yen, International Cooperation Officer of the Thang Long - Hanoi Heritage Conservation Centre, commented:

"Every year, we have been carrying out activities to be prepared for disasters such as the flooding of the archaeological excavation holes but through our participation in the ESD Initiative we realized how important is that these activities are adequately structured in a longer term plan."

"We are responsible of safeguarding the heritage site and therefore need to be prepared to reduce the damage caused by a disaster. Careful planning with a focus on disasters prevention and mitigation can ensure much better analysis and preparation. The planning process helped us identify the need to create five emergency teams of which all 60 guards; some professional staff and the leaders of the Centre are part of. We have also installed fire alarms and acquired a pump."

"All sites should check to recognize what their main threats and risks are and prepare as a team to ensure prevention and joint efforts to mitigate possible damage. All sites should check this situation and have their plan."

Other observations

The mobilization of the Youth Union to support the activities was seen as a component contributing to the success of the school events and is a perfect example of how children, who are beneficiaries of the Initiative's activities today, will continue to build upon and share this awareness, later becoming agents of action within their own schools and communities.

All participants in the mid-term review agreed that the need for replication and scaling up should be considered and mobilization from the community around this is now quite easy to achieve because of the understanding of the importance of the Initiative and also because in Viet Nam the school is at the centre of the community. All participants interviewed are aware of the importance of their actions contributing to the overall safety and sustainability of the school.

During the programme review, the evaluation team concluded that the school events were the perfect opportunity to gather together teachers, parents, students, community members national and local authorities, the media and all the partners linked to the implementation of the ESD Initiative and to witness the enabling environment which has been created as joint work from all the participants.

In that sense, the programme review was conducted in a timely manner. The involvement of the media and the youth as drivers for the implementation and spreading the message of the activities was found to be fundamental for the perceived achievements. The involvement of national and local authorities at every level was found to contribute to the positive results achieved and laid the foundation for building upon

Initiative successes and pursuing further national implementation.

The creation of an enabling environment and increase in the resilience and safety of schools and communities through School Preparedness Plans and Community Action Plans has contributed to the conditions needed to implement teacher training courses on ESD and related themes.

d. Findings from the final evaluation



When asked to describe the Initiative in three words, participants provided a diversity of responses, summarized in the word cloud developed by the evaluators.

In the following pages are the questions and responses, prepared by the evaluation team, based on interviews carried out with various programme stakeholders during the final evaluation process. The questions have been extracted from the Evaluation Matrix presented in the previous section.

Component 1: Teacher capacity building for integrating ESD into daily teaching practices

Relevance


Do the teacher training courses represent a coherent response to national priorities?

Yes, the teacher training courses represent a coherent response to national priorities. As stated by Ms. Bui Phuong Nga, one participating expert of the ESD Initiative, "(...) the courses' targets and results are directly in

line with the country's development strategy, which both the Party and the Government want to advance, towards building a prosperous Viet Nam with a sustainable and developed economy. And so, these courses will be fully in line with the content of the new curriculum we are moving toward. As it compliments this strategic task of schools and of the Ministry of Education and Training, I think this programme will be well received."

In the context of the curriculum reform currently undertaken by the Ministry of Education and Training, teacher training on the new curriculum is an essential priority of the Ministry. The e-learning or distance education courses and methodologies are relevant tools to reach teachers easily all over the country.

In addition, the three courses that have been developed are relevant themes of interest of the overall society as they represent on-going challenges for the country's sustainable development.




"MOET was involved from the very beginning and the design of the Initiative, which allowed for all activities and results to be fully in line with and relevant for national priorities." – Mr. Trong Le Hung, Deputy Director of DSTE/MOET.

To your knowledge, are the e-learning courses in line with established national action plans and strategies?

Yes. The e-learning courses developed under the ESD Initiative are in line with national action plans and strategies, as they respond to:

- Decision 404 by the Prime Minister on Approval of Project on Renovation of Curriculum and Textbooks for General Education
- Decision on Promulgating Action Plan for Response to Climate Change of Education Sector in the period of 2011-2015

- Action Plan on Implementation of national strategy on natural disaster prevention, control and mitigation in the education sector in the 2011 – 2020 period
- Vietnam National Biodiversity Strategy To 2020, Vision To 2030 and the Vietnam Biodiversity Law, No. 20/2008/QH12, 2009



"The contributions of the Initiative are in line with our strategy to obtain larger impact on policy and decision makers and respond to the needs and strategy of the Ministry to further advance Disaster Risk Reduction" – Mr. Pham Hung Anh, Deputy Director of DESFACT/MOET

Have the e-learning courses been enhanced and adapted as a result of the pilot to better respond to the needs of the users?

Yes. During the piloting process, and following an initial introduction to the e-learning training course, teachers provided content-specific feedback indicating, for example, that some definitions were too technical or that some examples were not detailed enough. They also pointed out technical issues such as "the time limit should be set for each exercise and the time should be displayed while the learner is completing the exercise" (Mr. Nguyen Huu Bon, School Principal of Thanh Toan Primary School) or "some narration is repeated, or the audio does not work" (Ms. Che Thi Hoa, a teacher at Thanh Toan Primary School).

In addition to responding to the list of statements in the evaluation questionnaire, teachers used the Monitoring Matrix, excerpted below, to provide detailed feedback on each of the course modules. The template was divided by module and lesson to allow the monitoring team to better identify and address possible problems.

Climate Change E-learning Course Monitoring Matrix for Piloting

First, evaluate each completed lesson Second, evaluate the module as a whole		Please circle YES or NO in every cell										Please provide comments for every NO
Section to evaluate	Objectives are clear	Content and concepts are clear	Content is sufficient	Language is clear	Examples are clear	Examples are pertinent	Visual supports are clear	Learning is relevant	Learning can be applied	Quizzed are clear	Comments:	
0	Module 0. Introduction	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO		
MODULE 1	First, evaluate each completed lesson Second, evaluate the module as a whole	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO	YES ----- NO		

All changes requested by the pilot participants were taken into account in the adjustment of the e-learning courses and production of the final versions, thereby enhancing the final results.

Effectiveness

How do the training courses contribute to enhancing teachers' knowledge and practice in and outside of the classroom?

Each of the e-learning courses included a section with examples of activities that teachers could carry out with the students within the classroom or as outdoor activities in the school and with their parents.

As part of the piloting programme, teachers developed their own lesson plans using the examples they studied, as references. The lessons included practical examples such as group exercises, games and outdoor activities.



Mr. Vo Binh, vice principal at Phu Mau Primary School.

One of the highlights of the lesson demonstrations was that teachers from different schools successfully delivered lessons to previously unknown classes of students at a school different to their own. Not only did this show that teachers can adapt to any environment, but also that they were comfortable being observed by the team as a result of being empowered by the training workshops.

The monitoring team observed that teachers were fully committed to teaching innovative lesson plans and that students engaged with

the activities enthusiastically. Teachers and students were eager to answer questions about what they learned and shared their impressions of the lessons.

Lastly, the evaluation showed that the capacity building had an additional value since after the courses the teachers are empowered to support each other and to transmit their knowledge not only to their students but also to their colleagues, training them and recommending others to take the courses as well, as declared by Vo Binh, vice principal at Phu Mau School: *"I myself have instructed the teachers at my school to incorporate some of the activities included in the course into their lessons."*

"Through this e-learning course, the participating teachers' capacities have been immensely enhanced in terms of pedagogy, as they are imparting what they have learned to their students who then bring this knowledge to parents as well as to their communities in order to apply all of their newly obtained knowledge and skills to real life situations in fulfilling the set goal of learning – that is, learning not only for the sake of knowledge (learn to know), but also for enhancing performance (learn to do), co-existence (learn to live together) and asserting one's being (learn to be). The unique advantage of this e-learning course lies in the fact that it can turn global issues that seem very complicated and far-off into those particularly specific and familiar to the very environments surrounding schools, and communities students and teachers are living in, and to the very localities that the present-day students, who are to become owners of the country in the future, will contribute to transforming." - Ms. Bui Phuong Nga

To what extent have the capacities of DOET and HOU been enhanced by the development of e-learning courses?

DOET is responsible for in-service teacher training at the provincial level. Their participation in the management of the implementation of the e-learning courses

has made DOET aware that e-learning and distance education is an interesting and effective tool to reach a wide number of teachers.

In addition, DOET took the lead in ensuring that the implementation of the e-learning courses ran smoothly during the piloting process. DOET has been involved in following-up with participating teachers, school principals and vice-principals on their progress, results and the challenges they encountered during the implementation. This close follow-up allowed DOET to ensure that the tight deadlines were respected through encouraging the participants and collecting all inputs from the piloting process to be shared with the national experts, HOU and UNESCO.

"Since the Initiative has allowed for the training of and enhanced capacities for our human resources, we are ready to take the required steps to continue with further implementation. We feel empowered by these experiences, methods and available materials because they have been produced with direct hands-on experience" – Mr. Pham Van Hung, Director of DOET

HOU gained access to a new software for e-learning production, offering the University more possibilities and alternatives in e-learning production. One of the benefits recognized by Mr. Tran Duc Vuong, Director of the Learning Resource Centre of HOU (as detailed in the section on Component 1 activities), is that the HOU has now the capacity of developing courses that would be available both online and offline, allowing more beneficiaries to be reached, such as teachers in remote areas throughout the country. Ten technical staff from HOU enhanced their capacities on the use of the new software and e-learning production, following formal and ad hoc training.

How have the e-learning courses supported the effective implementation of national priorities?

The e-learning courses developed under the ESD Initiative fully support the implementation of national priorities, such as the Viet Nam New School Model (VNEN) and the National Framework on Building a Learning Society, as expressed by Vice-Minister of Education and Training, Dr. Nguyen Vinh Hien:

“Each project is carried out on a small scale so that lessons of success and limitation can be drawn. In this way, we can replicate the programme in other areas more successfully. This programme especially, when combined with the New School model, will enhance the model’s effectiveness. I was particularly impressed by this project, especially the idea of mobilizing the communities to participate with the school, parents, students and local organizations in their common activities. This is the foundation for building a learning society in which everyone is able to learn and care for the environment of the community and the school. The school organizes activities to involve parents in local education and environmental protection.”

Furthermore, the e-learning courses and other material produced have been used by MOET as a basis to develop several tools and strategies to be implemented. These include:

- MOET’s Information System for Disaster Risk Management in the Education Sector, which incorporated the criteria used in the Assessment and Preparedness Toolkit
- MOET’s framework on knowledge, skills and attitudes for education on climate change adaptation and natural disasters prevention and control in pre-school, general education and continuing education facilities

MOET also showed an interest in merging issues related to disaster risk reduction, climate change and biodiversity conservation in these tools and strategies instead of presenting them as subjects to be treated separately.

Efficiency

To what extent do the courses contribute to addressing the training needs of the participants?

At the beginning of the implementation of the Initiative, participants’ needs were assessed both through questionnaires and through a specific workshop. The inputs received, which were described in component 1 of this report, were used as a reference throughout the Initiative. The development of the course content considered all inputs and revisions provided by the various departments of the MOET that established minimum requirements at the national level and by the DOET, that is responsible for defining requirements at the local level.

In addition, an end-of-course evaluation questionnaire was one of the most important tools for assessing the success of the piloted e-learning courses in satisfying participants’ needs. Participants were asked to reflect upon the following statements:

- The course has provided me with valuable knowledge
- The course objectives were met
- The examples and explanations increased my interest in the subject
- The course is an innovative tool for learning
- The course assessments allow me to track my learning by myself
- The quizzes and assessment questions are adequate and sufficient
- This course has been a worthwhile education experience
- I will incorporate my knowledge from this course into the classrooms
- The course should be used by every teacher in Viet Nam
- I would be happy to participate again in this type of course

As shown in the results of the monitoring of e-learning courses section above, the evaluation of the climate change e-learning course showed that 98% (24 out of 25) of respondents indicated positive answers

for all questions and only one participant required further examples. The evaluation questionnaires on the disaster risk reduction and biodiversity conservation e-learning courses showed that 100% of the participants agreed in full with the statements.

To what extent was the implementation strategy effective in developing and applying the e-learning trainings courses?

The development of the e-learning courses was characterized by a highly participatory process, where different experts provided inputs for content development and appropriateness, including senior experts from universities, NGOs, the Government and specialized institutes. This enriched the quality of the courses.

The overall implementation strategy not only foresaw that teachers complete the e-learning courses, but that they also develop lesson plans as a means to put in practice what they have actually learned.

Have the e-learning courses introduced an innovative mechanism to strengthen teachers' capacities?

A relevant feature of the e-learning materials developed is that they can be studied online or offline which is highly attractive for participants.

Also, before the implementation of the Initiative, e-learning was not considered as a tool for teacher training in Viet Nam and some of the teachers were not very keen about the idea of taking e-learning courses, especially the older ones who did not regularly use computers. However, the overall results of the e-learning training revealed a high level of acceptance and knowledge acquired.

Teachers now understand the basic functions of the e-learning course and platform, and the potential of its application or how to use the materials available. Younger teachers were eager to help their colleagues and provide them support with the use of the

online platform. The Initiative has set up the conditions to continue developing e-learning in Viet Nam.

"The e-learning courses developed under the ESD Initiative have been a relevant contribution for Education in Viet Nam. The process was highly appropriate because of the links between awareness raising and teacher training" – Mr. Tran Duc Vuong, Director of the Learning Resource Center of HOU.

Sustainability

To what extent have the capacities of participants been enhanced to contribute to their future practices on climate change mitigation and adaptation, biodiversity conservation and disaster and risk reduction? / To what extent do the e-learning courses contribute to integrating climate change, biodiversity conservation and disaster preparedness into school practices?

Participants completing the Climate Change Mitigation and Adaptation course showed an increase of 36 percentage points between pre- and post-test results with 100% of participants showing an improvement in their score.

After completing the Disaster Risk Reduction course, participants increased their average score from 47% to 89% between the pre- and post-test: a change of 42 percentage points. Moreover, 30% of participants had the highest attainable score in both pre- and post-tests as a result of their participation in Community Action and School Preparedness Plan training prior to the piloting of the e-learning courses.

The analysis of the Biodiversity Conservation and Restoration course shows that 76% of participants increased their test score following the training. The analysis does show a smaller range of improvement in the participating teachers' knowledge as a result

of these teachers attending the awareness raising session on biodiversity conservation before participating in the testing of the e-learning course. However, this constitutes evidence of the effectiveness of Component 2 activities in increasing stakeholders' awareness and understanding of ESD issues.

Pre- and post- tests results were considered one of the inputs for evaluating the quality of learning. Some results of the pre- and post-tests were affected when participants had previously taken part in awareness raising sessions covering the same themes as the e-learning courses or had taken part in the development of Community Action and School Preparedness Plans. This resulted in higher scores on the pre-test and reduced the degree of change between pre- and post-test results.

When completing the pre- and post-test, teachers were awarded points for correct responses and were graded using a percentage scale. The pre- and post-test consists of the same questions applied before and after taking the course to measure the learning that took place. A comparison between the pre- and post-test scores indicates how much new knowledge the learners acquired.



Ms. Bui Thanh Hai, during the piloting of the climate change course.

Ms. Tran Thi Giang, Vice-Principal at Huong Vinh Primary School, made the following comment: *"Thanks to these courses, I acquired a lot of new knowledge that I can use in my teaching as well as in my personal life. I firmly believe that we have to extend this*

knowledge to all members of the community and to our students' families in order to be better prepared for fighting disasters and climate change. The three e-learning courses helped us acquire knowledge and develop life skills, boosting our qualifications and confidence to teach students how to lead a responsible and more sustainable life, for themselves and their communities. I enjoyed it a lot."

"The course is very interesting and enables the development and engagement of students in a variety of competences and creative capabilities", Bui Thanh Hai, a teacher at Phu Mau Primary School, responded when asked about the e-learning courses. *"These activities allow for the development and training of competences for students",* Duong Thi Thu Hoa, another participating teacher, said.

"After the programme has been put in place, I found that the students in our school have had changes in their perception: they have obtained broader knowledge about the environment. Up until now, they had simply perceived safeguarding the environment as collecting waste and almost limited their actions to such practices. However, after they have participated in this programme, their understanding of the environment has become wider to the extent of learning how to protect the environment and what should be done to preserve the environment. So, based on what they have learned, students will take more concrete actions within their homes, schools and communities. For example, when washing their hands, students now know they should turn off the tap while applying soap. I have clearly noticed such a new practice. And during break time, instead of leaving the lights on, students turn them off when going out of the classroom. Not only do they take such actions themselves, the students can now impart their newly gained knowledge and practices upon their parents and their families as well as to all people around in order to encourage others to adopt what they have been instructed by their teachers through this project." Tran Thi Quy Vien, Teacher, Huong Long Primary School.

Component 2: Awareness raising on ESD for school principals, parents and national and local authorities

Relevance

Are the awareness raising materials and activities relevant to the national context?

Yes. All awareness raising materials developed as part of the ESD Initiative has been produced with local experts from the Hue University of Science, MAB, Live & Learn and other national experts who provided local examples to ensure that the content was relevant and appropriate to the national context. International and national experts collaborated to produce materials that are in line with international practices but respond to Viet Nam's specificities and needs.

Following the awareness raising sessions, schools, parents, community members and local authorities developed their own plans, including local hazard maps and historical calendars. The beneficiaries were able to develop their own local tools, relevant not only to the national context, but also to their own community.

Does the awareness raising on ESD and related topics contribute to national strategies?

Yes. Senior officials of MOET increased their understanding of disaster risk reduction and clarified the roles, responsibilities and coordination mechanisms of the Central Government to support district and provincial-level ESD and disaster risk community efforts and to create favourable conditions for mainstreaming ESD into the national policy framework.

MOET senior officials also increased their understanding of the importance of integrating climate change adaptation and mitigation and biodiversity conservation into curriculum and school practices. Representatives of the different departments of MOET discussed the implementation of the Education Sector Action Plan for Response

to Climate Change and the Sector's roles in biodiversity conservation and climate change mitigation and adaptation.

"The activities have provided a great benefit to the communities and showed that a connection is possible between communities, parents and schools... The nature of these activities allowed us to overcome the natural challenges linked to motivating and involving the communities in the Province." – Mr. Nguyen Luong Nhat, Officer of CED

Effectiveness

Are there any concrete changes in the relation between schools, parents and community that have been implemented as a result of the awareness raising?

As seen in the interviews and stories shared by the participants during the evaluation, the learning process transcended the school, since students and teachers applied what they learned at home, reaching out to parents and community members and involving them in the activities. Mr Phan Van Hai of the Thua Thien-Hue Province PED said "one of the most striking achievements observed by the Primary Education Department was the increased collaboration with parents. The school community's enhanced knowledge on ESD has made our work in ensuring safer and resilient schools easier."

Some parents said that they now felt more involved in school activities. Previously, they only went to school to collect their children's report cards, while now they participate in a number of events, with some of them are going to the school regularly to help plant trees or repair broken windows.

At Phu Mau 1 Primary School, one of the students' parent, an electrician, volunteered to provide a free consultation of the school's electrical installations. As a result, a number of necessary repairs and purchases were made, making the school safer for students

and reducing hazards. A local construction material supplier also offered a free consultation to identify any necessary repairs to the school's iron sheet roofs on classrooms, parking lots, the temporary kitchen and corridors. The parking lot roof was replaced with the support of the Parents Association.

"During the implementation of the Initiative, I observed something unique: parents coming to the schools to take care of the gardens, do repairs and paint the school grounds. This Initiative has generated concrete action towards safer, greener and more beautiful schools." (Mr. Phan Van Hai, PED/DOET).

"The programme was highly participatory with the involvement of teachers, students and communities due to the programme's effectiveness." – Ms. Nguyen Thi Kim Hue, Principal of Phu Mau Primary School

Efficiency

To what extent have different participants enhanced actions and coordination on environmental awareness and preparedness? / How have the awareness raising sessions contributed to the creation of an enabling environment for resilience and preparedness of schools and communities?

Through a participatory process, school community members developed School Preparedness Plans and Community Action Plans. All five School Preparedness Plans were officially approved by each school's district-level BOET. The CAPs were shared with the wider community and local authorities during presentations in the local Community Learning Centres.

The approved plans were implemented at the schools with the active participation of parents and community members. For example, during the assessment of risks and

threats in the school, the need to teach students how to swim in schools located in risk areas was identified. DOET managed to obtain private sector funding in order to offer swimming lessons to more than 5,000 students in the province in 2014, including more than 300 from the three pilot schools of the Initiative. At Quang Loi Primary School, the team that developed the School Preparedness Plan identified deep holes that presented a hazard during seasonal flooding. The holes are to be filled in over a two-year timeframe, and thanks to the enthusiastic support of local authorities and the community, the first holes were filled in only a few months after they were identified as hazards, just in time for the flood season.

Several holes behind Quang Loi Primary School, which represented an important danger for students during the flood season (on the top), have been filled in by parents and community members (on the bottom) to ensure the safety of the students and the school community.



Ms. Phan Thi Diep, a parent from Phu Mau Primary School said, *"the training session to develop community plans has helped me acquire important knowledge on issues that affect my country and to mobilize that knowledge to help people and raise the awareness of residents. I have learned very useful lessons, for example: (i) for a clean, green environment, we must not litter, cut down trees, waste energy and cause pollution; and (ii) we must spread this knowledge to the wider community"*.

"This programme is very concrete and practical for students since they are the future generations of this country. That we have integrated this content and programmes into students' studies is essential to our children learning how to protect and preserve the environment and, in turn, their livelihoods. The local authorities are very happy, welcome and supportive of this programme. Therefore, the local authorities have taken initiative in actively participating together with schools in accomplishing the plan and objectives of the programme."

The local agencies include various organizations such as the Women's Union, Youth Union, Farmers' Union, among other institutions and associations. We have actively encouraged the local government to take part in activities carried out by Thanh Toan Primary School. This is the first thing we have done. And the second is that, based on the school plans carried out under the project, we have instructed the local Youth Union and the local Women's Union to plant trees along river banks as the first step. Next, we worked together with the school to advocate for electricity and water saving. We now also have a plan to work together with the school in other projects related to public sensitization of energy and water saving." Mr. Nguyen Mau Hoa, Vice Chairman of the People's Committee of Thuy Thanh Commune.

Community members were touched by the projects undertaken by the students and teachers, and enjoyed experiencing ESD in action. Parents expressed a feeling of pride,

and vowed to return to their communities motivated to continue to build an enabling environment for students to apply their newly acquired knowledge in the field of ESD.

Mr. Ho Tan, father of Ho Trong Tu (Grade 1) said: *"We are aware of climate change and know that global warming is mainly caused by human activities, such as deforestation, forest fires, etc. The project proved its effectiveness in our locality. The first thing I noticed is that the awareness of the community members, especially of children and residents, has been enhanced. They are more aware of environmental protection and climate change mitigation and adaptation. They have adopted green behaviours and plant more trees."*

"Today, I can see how the Initiative enhanced the preparedness of schools and surrounding communities. Through the school events we could observe how people learn and share their newly-acquired knowledge. This should be replicated in other places, if not in the whole country." – Mr. Nguyen Luong Nhat, CED

Sustainability

To what extent has the awareness raising contributed to ensuring better awareness and preparedness for disasters, climate change and biodiversity loss?

Assessing participants' knowledge before and after the awareness raising session showed the following results:

- 67% of participants improved their understanding of the causes of climate change
- By the end of the training, 51% of participants were able to identify more proactive roles for themselves in managing and conserving biodiversity
- 93% of participants identified biodiversity conservation and climate change

adaptation and mitigation actions they pledged to take in future. The most common actions listed included tree planting, energy saving, raising others' awareness and waste management

The awareness raising session on climate change and biodiversity conservation provided participants with the knowledge and motivation to mobilize their communities to take action to combat climate change and increase community capacity to live in harmony with nature. This session complemented the disaster risk reduction awareness raising session attended by the same participants.

Both sessions directly supported preparedness planning sessions, which took place as a next step, in order to ensure that disaster risk reduction actions are built into the School Preparedness Plans developed for the five schools.

Participants' practical understanding of these key areas was reflected in the draft of the Community Actions Plans that were jointly developed and consulted with the wider community. They identified local threats and risks, developing hazard maps and concrete actions that the community can tackle together.

Component 3: Media training

Relevance

Have the activities with the media contributed to their roles and responsibilities in reporting on sustainability related themes?

As a result of the training programme, media professionals learned to develop media Communication Plans. The Communication Plans were presented to the directors and editors-in-chief of their media institutions for approval and implementation. Twenty (20) media Communication Plans have been approved and implemented.

Reflecting on the Initiative, Ms. Nguyen Thi Thuong, media professional from Thua Thien – Hue Province, said the following: “*Thua Thien-Hue is severely impacted by climate change. The project carried out by UNESCO, Samsung and MOET has contributed to the many ways we have to propagate knowledge and call the community to action. Through these activities, the media also hopes to explore the reality on the ground faced by communities and improve their awareness. Previously, my reporting was not engaging enough, but now it has become much more practical thanks to the training course. I am better prepared to serve as a communicator on ESD-related issues within the community.*”



The public's awareness of the Initiative's activities and ESD themes was enhanced by the trained media experts developing and broadcasting quality media outputs for the radio, television and newspapers with support from VOV, MIC and UNESCO. This contributed further to the creation of an enabling environment for ESD in the province.

The evaluation revealed the degree to which media professionals taking part in the Initiative were able to increase the scope of the dissemination of ESD messages to the broader society. During the Initiative's implementation, more than 80 quality media outputs on ESD issues were produced, shared with VOV, MIC and UNESCO, and broadcasted on national, provincial and district radio and television programmes, as well as published in print and online newspapers. More than 40 articles were written about the school events and the

Initiative's achievements, proving the media's high level of motivation and involvement in the process.

The most significant example of the improved quality of reporting is the fact that, for the first time, all stages of a storm cycle received media coverage. Over the course of the eight weeks that spanned October and November 2013, Viet Nam was hit by five storms. As a result of the awareness raising training course, media professionals at the Voice of Vietnam Central Region Bureau published the following media reports covering all stages of the disaster cycle:

- Early warning for Storm 11
- Report on disaster preparedness in Da Nang City on the eve of Storm 11
- Early responses to Storm 11
- Report during Storm 11 landfall
- Report on overcoming the consequences of Storm 11

This clearly demonstrated the media's improved knowledge and capacity to report on ESD topics contributing to community safety and disaster response.

Participants spoke of the training course and its impact on their role as a communicator. Ms. Tran Thi Hong Khuyen of Phu Vang District Radio expressed this sentiment saying she *"had a wonderful experience and acquired valuable knowledge from consultants, trainers and colleagues concerning disaster risk reduction, climate change and biodiversity conservation."* She said she felt able to use what she has learned from the training workshop to report on the local risks posed by disasters, climate change and biodiversity loss and to raise public awareness on these issues. Ms. Nguyen Thi Ai Huu, a communicator for the Science and Technology Review, of Hue University said: *"Trainers and trainees are working with a sense of responsibility. Group work is very effective for experience sharing. I find the training workshop to be very useful: what I have gained from the workshop will surely be used in my professional duties."*



"Vietnamese media partners said that after the six-day training, which included diversified activities such as presentations, discussions, brainstorming, exchanges, group work, and the production of media outputs and Communication Plans focussing on "dry" but "hot" issues of disaster risk reduction, climate change and biodiversity conservation, the workshop achieved its objectives. Awareness of participants on these ESD themes was raised. Professional skills on coverage of these ESD-related issues, which are not new but difficult to attract audience and readers, improved. Participants are able to develop Communication Plans on specialised ESD themes and recognize the importance of the development and implementation of Communication Plans. Participants more clearly understood the concepts of gender, sex and gender equality and were able to produce gender-sensitive media outputs on ESD consciously, not spontaneously as before, and thus contribute to implementing gender equality. Although the training workshop came to an end, it established a network of local reporters and journalists who committed to join forces to inform and educate the wider public on these matters of common concern and utilize the power of the media to protect the environment, reduce disaster risks and conserve biodiversity in Thua Thien-Hue Province in particular and in Viet Nam in general." Ministry of Information and Communication and Radio Voice of Viet Nam as stated in their final report to UNESCO.

Has the involvement of the media been relevant as part of the Initiative's strategy?

In Viet Nam, media plays an important role as communicators and educators in lifelong learning and sustainable development. Education for Sustainable Development cannot be achieved by the Education Sector alone without the participation of different stakeholders, especially the media, due to its broad coverage. The ESD initiative's strategy was to involve as many media institutions as possible to transmit ESD messages to the broader public and to help build an enabling environment for ESD. Through this project, more than 40 media agencies were motivated and raised awareness to become more interested in covering ESD-related activities in a professional manner and to become a useful means for ESD e-learning.

Most noticeable was that the Initiative benefited from the active involvement of leading media institutions in Viet Nam, namely the Ministry of Information and Communications and Radio Voice of Viet Nam, the sole national radio broadcaster. With their convening power and professional expertise, they brought together representatives from central and local media to join the project as both beneficiaries and drivers of ESD.

Effectiveness

How has the involvement of the media contributed to ensuring the visibility of the Initiative's results and strategy?

Approximately 40 central and local media professionals were involved in reporting on the Initiative. Each step of the project was reported by the media. As a result of dozens of interviews with partners, stakeholders and beneficiaries of the project to determine the challenges, results and lessons learned of the Initiative.

More than 153 media outputs on the Initiative and ESD-related themes were produced and made accessible to the public on different central and local media outlets. Press releases were distributed to the media for their news items and stories on the Initiative. Press releases

and news items were also shared on the UN website and the UNESCO Viet Nam websites.

To what extent has the media participation enhanced the involvement of the communities and other national partners?

The media supported and motivated community participation by sharing their stories and their experiences with the wider community and by evidencing that the activities are highly relevant for the society, thus becoming the object of media attention. The media provided information for the community which in turn reinforced what they learned in the awareness raising sessions.

In relation to the involvement of national partners, Mr. Ngo Minh Hien, the Director of the International Cooperation Department of VOV, said that *"the ESD Initiative has created opportunities for VOV to train local media professionals and promote coordination between UNESCO, MIC, VOV and local media institutions. More importantly, participants were supported by UNESCO, MIC and VOV to develop Communication Plans. Through the working visits of UNESCO, MIC and VOV, media institutions in Thua Thien-Hue supported and approved the plans developed by their staff for implementation. This approach is very scientific and practical, and helps raise awareness of not only media professionals but also of leaders of local media institutions on ESD-related topics and gender equality. Throughout the training, local media professionals enhanced their understanding of information flows and coordination in disaster risk reduction, climate change and biodiversity conservation."*

Efficiency

To what extent has the media involvement with the Initiative been an added value towards the development of better communication plans?

Local media professionals brought in their knowledge and understanding of local DR, CC and BC issues, experience of planning,

and practices of their media institutions such as time schedule, programme duration, resources, and target audience, among others to develop communications plans exclusive for their institution. Leaders of the media trainees' intuitions were also involved in the planning process by reviewing and approving the communications plans. The editorial Boards of Thua Thien-Hue newspaper highly appreciated the workshop organized by MIC, VOV and UNESCO which trained their staff in developing communication plans on ESD-related issues. They commented that these issues are becoming hot themes of high public concern and that the communication plans were practical and feasible as they embraced local matters of concern in DRR, CC and BC while integrating new topics and approaches that fit well in the media organization's overall communication plans.

In Phu Van district radio, the radio leadership informed that, so far, these themes had been integrated in daily news bulletins and had not been reported as part of a specialized program, meaning that the focus was more on a crosscutting approach. Thus, they considered that the communication plan developed by the radio's staff was a bold and encouraging long-term communication plan on ESD-related issue they should strive hard to accomplish.

Sustainability

Have the capacities of the media professionals been enhanced to ensure timely and efficient reporting on sustainability issues after the Initiative's implementation?

Journalists and media experts strengthened their capacities in reporting on disaster risk reduction, climate change and biodiversity issues, with a gender-sensitive approach, as a result of their participation in the six-day training course on ESD.

Mr. Tran Ngoc Minh, from Phong Dien District Radio, said: *"I have become more aware of ESD issues, ways to access information on them, how to make listener-friendly*

media products and how to identify locally-relevant topics in these areas. I now know how to develop a Communication Plan and gained knowledge on gender and gender-sensitive reporting. The training workshop was highly effective and practical as it is closely associated with the local context."

Mr. Nguyen Dinh Dinh from Thua Thien-Hue Radio and Television shared: *"After attending the training workshop, my knowledge on reporting on ESD-related topics increased. I now know formats, such as documentaries, investigative reports, news pieces and others, that can be best used for informing the public about these issues. I enjoyed working in a group as it fostered creativity and a team spirit. As devoted consultants, trainers and facilitators, we can learn and share this experience easily."*

Building upon these ideas, many participants shared similar opinions, stating:

- *"Through the training, I gained a lot of practical knowledge on how to write news items and report on the challenges associated with climate change."* Nguyen Viet Binh, Quang Dien District Radio, Thua Thien-Hue
- *"The training was very useful and improved my knowledge on the ESD-related issues of disaster risk reduction, climate change and biodiversity conservation as well as skills to identify local issues and effective media approaches to address these themes."* Nguyen Phuoc Buu, VOV
- *"My awareness and knowledge on climate change, disaster risk reduction and biodiversity conservation were raised. I feel better equipped to disseminate information and educate the public on these subjects."* Hoang Hai Trieu, Thua Thien-Hue Newspaper
- *"I learned ways to approach these subjects and to present them in more appealing and easy-to-understand ways to attract readers."* Nguyen Thi Thuong, Thua Thien-Hue Newspaper

In addition, participants made the following commitments:

- *"I will use the knowledge and skills learned from the training to identify suitable topics and media contents on ESD for our newspaper's target readers, children, and the wider public, including parents, grandparents and teachers."* Doan Thi Dieu, Young Pioneer Newspaper
- *"I can use the knowledge and skills gained from the workshop in my daily work."* Mai Din Toan, Youth Newspaper
- *"I will apply what I learned from the workshop to effectively enhance my media outputs on ESD-related themes."* Hoang Hai Trieu, Thua Thien-Hue Newspaper

Participants also learned about gender and gender-sensitive reporting in sessions facilitated by Mr. Vu Tuyet Mai, a journalist from VOV, who has been conducting specialized programmes on women's issues at VOV for nearly twenty years. The guidelines on gender-sensitive reporting, Broadcasting for All: Focus on Gender, developed as a regional guideline by the Friedrich-Ebert Foundation (FES) and the Asia-Pacific Institute for Broadcasting Development (AIBD) and contextualized to Viet Nam by UNESCO, were used by the facilitator to produce the gender training programme for media professionals to mainstream gender into ESD-related issue reporting.

Gender-sensitive media reports on disaster risk reduction, climate change and biodiversity conservation were produced by the participating media professionals to practice mainstreaming gender. Examples of these media reports are "Female boat racing - improving skills to respond to natural disasters" and "Man and wife in self-management for disaster prevention". A general observation from the participants was that they had never thought about gender-sensitive reporting before and did not know what it meant, but provided feedback showing that, following the training, they understood the concept and were committed to applying it consciously and regularly.

e. Additional contributions of the ESD Initiative

Presentation in the World Conference on ESD

The Ministry of Education and Training presented the ESD Initiative and its results at the World Conference on Education for Sustainable Development in Aichi-Nagoya, Japan. The focal point for the Initiative from MOET, Mr. Le Trong Hung, Director General of the Department of Science, Technology and Environment, introduced the World Conference participants to Viet Nam's efforts in ESD and to the Initiative's results as an example of policy implementation and an innovative strategic approach to link the schools, communities, and the media. His presentation was praised by different participants and was included in the World Conference as an example of a successful country-level intervention on ESD and a success story for a public-private partnership.

Presentation in the Kominkan-CLC International Conference on ESD

The Initiative was also presented during the "Kominkan-CLC International Conference on ESD" in Japan by Ms. Tong Lien Anh, Officer from the Continuing Education Department of the Ministry of Education and training. Her presentation focussed on disaster risk reduction and the results of the Initiative linked to resilience and preparedness.

These two presentations had a very positive reception and brought high recognition for the ESD Initiative in the international arena.

ESD Forum

After the World Conference on ESD marking the end of the United Nations Decade on Education for Sustainable Development, and by the end of Initiative's implementation, the Viet Nam National Commission for UNESCO, with support from the UNESCO Viet Nam Office, was one of the first countries to organize an ESD Forum to reflect on the Decade for Education for Sustainable Development, as well as on the outcome of the ESD World

Conference. It also initiated discussions on ways forward for the implementation of the Global Action Programme on ESD in Viet Nam. Participants included members of the National Taskforce for the DESD, other ESD national experts and school principals from schools pioneering ESD.

Mr. Le Trong Hung presented MOET's achievements during the Decade on ESD in Viet Nam, both in policy and practice, including the successful results of the ESD initiative. A discussion on the development and implementation of an Action Plan for the ESD Global Action Programme in Viet Nam resulted in the following roadmap for the development of the plan:

1. Defining roles and responsibilities and updating the task force members;
2. Tailoring the response to current needs based on concrete successes of the DESD;
3. Enhancing the sharing of experiences towards achieving a comprehensive overview of the state of ESD policy and practice;
4. Building capacities of relevant stakeholders, from policymakers to teachers, to ensure the feasibility and efficiency of the Action Plan.

The National Commission nominated Live and Learn to develop a first draft of the national action plan for the implementation of the GAP on ESD.

Participants recognized the importance of using the momentum created by the ongoing educational reform and curriculum renovation to foster ESD implementation. Furthermore, the wish was expressed to devise a comprehensive approach and foster the necessary competences required for Viet Nam's sustainable future, in line with medium- and long-term national strategies and priorities.

Research and workshop on Transversal Competences in Viet Nam

Transversal skills are transferable, non-cognitive skills that are learned in one context and can be applied to many others, enhancing an individual's ability to master new and unfamiliar situations and solve problems creatively and logically. They can be acquired through education and training, including formal, non-formal and informal education, or through leisure activities.

The development of transversal skills is a crucial part of ESD since it promotes critical and creative thinking, inter- and intrapersonal skills, global citizenship, and media and information literacy, as well as physical and psychosocial health. Particularly in the face of today's globalized world and increasingly complex challenges, such as climate change, migration, poverty and the need for green technologies, transversal skills are especially valuable as they drive innovation, interdisciplinary policy approaches and civic engagement. The future labour market will need to be able to respond to these challenges through the application of transversal skills, placing the responsibility to transmit these skills to future employees. The Government of Viet Nam acknowledges this responsibility in its ongoing reform of the Education Sector and recognizes the importance of developing students' full potential, competences and skills, with a focus on skills that are practical and applicable in everyday life.

The Network of Educational Institutes in the Asia Pacific Region (ERI-NET), managed by the UNESCO Regional Bureau for Education in Asia and the Pacific, has been conducting research on "Integrating Non-cognitive/ Transversal Competences in Education Policy and Practice" since 2013. The results of the research will contribute to educational innovation at the national level and enhance educational policy and practice towards improving learning and developing learners' holistic competences. The Vietnam National Institute for Educational Science (VNIES) led a team in conducting research on transversal

skills in education policy and practice in Viet Nam, linking the research to the ESD Initiative, as one of its goals is to develop students' comprehensive competences towards education inclusion, sustainability and resilience.

The research aimed to collect and analyse best practices for nurturing transversal competences in schools and identifying emerging trends, current practices and challenges to integrating transversal competences in teaching and learning practices. It also facilitates experience-sharing and builds a knowledge-base on the integration of transversal competences in education to support evidence-based policy making and implementation.

Within the framework of the regional research, VNIES, in consultation with MOET and UNESCO, focused on three specific transversal competences, closely linked to ESD and with a focus on primary education: critical thinking, creative thinking and global citizenship. The research followed a methodology including (i) a desk review on policy documents and reports with a focus on curriculum, (ii) field data collection in two primary schools in Ha Noi and two pilot schools under the ESD Initiative in Thua Thien-Hue Province, (iii) data analysis and consultation, and (iv) a seminar with experts, education researchers, managers and teachers. The research aimed to answer the following questions:

- How are transversal competences integrated in related educational policy and strategies?
- How are transversal competences integrated in the national primary curriculum in Viet Nam?
- How are transversal competences applied in practice at primary schools?

The leader of the research team, Dr. Nguyen Thi Hoang Yen, Deputy Director General of VNIES, attended the Regional ERI-Net Annual Meeting in China and shared the initial research report.

Following a seminar for education managers and experts on "Teaching and learning transversal skill: An education response in the 21st century", was organized by VNIES, with technical and logistical support from UNESCO, to present the initial research findings, introduce the role of transversal skills in ESD, and understand how the competences are reflected in education policy and curriculum frameworks in Viet Nam.

During the seminar, the research team shared findings and presented existing policies and practices in the domains of transversal competences at the regional and global level, with a focus on critical and innovative thinking and global citizenship. Participants explored the current situation and trends of integrating these transversal competences into educational policies and practices in Viet Nam, and highlighted the importance of facilitating discussions and consultations with education policy makers, experts, donors, teachers and managers on the relevance and integration of the three selected transversal competences in the general education curriculum of Viet Nam.

Mr. Phan Van Hai, Director of the Department of Primary Education of the Thua Thien-Hue DOET, took part in the seminar and reported that the integration of transversal skills into education on environmental protection and disaster preparedness was the most effective and feasible means of teaching young children, as lessons and extra-curricular activities strengthened communication, problem-solving and team working skills as well as modelled environmentally-friendly behaviours and values.

UNESCO provided technical support on the revision and finalization of the research report. The initial results showed that, while the Government was embracing the promotion of interdisciplinary topics and subjects as well as innovative teaching methods and activities, in-depth policy on transversal skills still needs to be strengthened. The research project found that in primary education, initial steps have already been taken to create

positive learning and teaching environments, develop resources on transversal skills, promote foreign languages and apply innovative teaching methods. While creative thinking was mentioned in various education policy documents, the concepts of critical thinking and global citizenship were not clearly defined. However, some components of these competences are featured in a number of legal and policy documents.

The field visits to schools showed that school authorities and teachers are aware of the importance of promoting critical and creative thinking and global citizenship education in order to enhance learners' competences. Teachers integrated transversal competences into specific lessons and extracurricular activities, but they still faced difficulties in fully understanding these competences and in applying teaching methods that systematically integrate them into teaching practices.

Recommendations were put forward in the research report to integrate transversal competences effectively:

- The integration process needs to follow a systematic and holistic approach, from the policy level and the development of curriculum to the level of the community, including schools, students and teachers through extracurricular activities and specific subjects and lessons
- Education managers, teachers, students and parents need to enhance their understanding of transversal competences
- The cooperation between schools, families and the wider society should be reinforced to ensure that the integration of transversal competences is implemented effectively
- Teachers should be trained to understand the meaning of transversal competences and to identify subject contents and methodologies for integration, as well as the supervision and assessment of these competences
- In the general curriculum to be implemented after 2015 (currently still under development), transversal competences

should be more concrete and precise, to be easily integrated in subject areas as well as in extra-curriculum activities. The integration process of these competences should be emphasized from the initial steps of the general curriculum design and development to avoid putting transversal competences into separate subjects, leading to duplication

- Emphasis should be also put on the assessment of life skills education, environmental education, emphasizing biodiversity conservation, climate change and disaster risk reduction, which is currently being implemented by the Ministry of Education and Training

f. Summary of participants

The overall evaluation of the awareness raising and training events determined the following:

i) A total of 308 participants (113 female, 195 male) took part in the Initiative's events.

ii) Local attendance in Hue consisted of a total of 195 participants (68 female, 127 male), distributed as follows:

- 68 attended 1 event (22 female, 46 male)
- 23 attended 2 events (8 female, 15 male)
- 13 attended 3 events (5 female, 8 male)
- 21 attended 4 events (11 female, 10 male)
- 26 attended 5 events (7 female, 19 male)
- 23 attended 6 events (9 female, 14 male)
- 15 attended 7 events (3 female, 12 male)
- 08 attended 8 events (3 female, 5 male)

iii) Local attendance in Ha Noi consisted of a total of 111 participants (45 female, 66 male), distributed as follows:

- 76 attended 1 event (26 female, 50 male)
- 22 attended 2 events (11 female, 11 male)
- 9 attended 3 events (6 female, 3 male)
- 3 attended 4 events (2 female, 1 male)
- 1 attended 5 events (1 male)


iv) Attendance per component is identified as follows:

- Component 1 – Teacher training: 25 participants (14 female, 11 male)
- Component 2 – teacher training: 191 participants (74 female, 117 male)
- Component 3 – teacher training: 20 participants (6 female, 14 male)
- Component 5 – teacher training: 90 participants (34 female, 56 male)
- Component 6 – teacher training: 133 participants (53 female, 80 male)
- Component 7 – teacher training: 68 participants (16 female, 52 male)


Following are three summary charts describing (i) total event participation, (ii) frequency of participants to events, and (iii) attendance per components. All three charts present data disaggregated by sex:



Events	Total	Male	Female
01. Introductory meeting in Hue province	120	8	39
02. E-learning training	25	11	14
03. Awareness raising on BC and CC for local community	95	53	42
04. Awareness raising on DRR for local community	90	58	32
05. Awareness raising on BC and CC for national authorities	26	16	10
06. Awareness raising on DRR for national authorities	24	12	12
07. Awareness raising on BC and CC for NIEM	16	6	10
08. Awareness raising on DRR for NIEM	13	5	8
09. Remote sensing for local authorities	31	23	8
10. Remote sensing for local community	49	29	20
11. Remote sensing for national authorities	29	18	11
12. Remote sensing for NIEM	24	10	14
13. Training for local media	20	14	6
14. Training on development of Community Action Plan	68	52	16
15. Training on development of School Preparedness Plans	90	56	34
16. Presentations in CLCs	54	37	17
17. Awareness raising on ESD for local partners	50	36	14
18. Training for local media	20	14	6



	Participants in Hue			Participants in Hue			Total participants		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
# of participants attended 1 event	68	46	22	76	50	26	144	96	48
# of participants attended 2 events	23	15	8	22	11	11	45	26	19
# of participants attended 3 events	13	8	5	9	3	6	22	11	11
# of participants attended 4 events	21	10	11	3	1	2	24	11	13
# of participants attended 5 events	26	19	7	1	1	0	27	20	7
# of participants attended 6 events	23	14	9				23	14	9
# of participants attended 7 events	15	12	3				15	12	3
# of participants attended 8 events	8	5	3				8	5	3
TOTAL participants	195	127	68	111	66	45	308	195	113



	Participants in Hue			Participants in Hue			Total participants		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Teacher training - component 1	25	11	14				25	11	14
Awareness raising - component 2	131	84	47	60	33	27	191	117	74
Media - component 3	20	14	6				20	14	6
SPP - component 5	90	56	34				90	56	34
Remote sensing - component 6	80	52	28	53	28	25	133	80	53
CAP - component 7	68	52	16				68	52	16

Implementation and achievements (additional UNESCO-funded components)

4.1. Component 5: Tools for school risk assessment and preparedness plan preparation

4.1.1. Assessment and Preparedness Toolkit for schools in Viet Nam

Expected results: An Assessment and Preparedness Toolkit has been developed, piloted and made available in order to contribute to school communities' understanding of the importance of disaster risk assessment, planning and preparedness.

Achievements: The Toolkit was developed in a participatory manner. It was tested by the five pilot schools who mobilized their school communities to conduct the assessment and develop School Preparedness Plans. The school communities were empowered to obtain funding and implement their School Preparedness Plans with support from parents and community members. The Toolkit is now available for nation-wide distribution in a printed edition and as an e-learning course.

Key activities towards achievements:

- The Assessment and Preparedness Toolkit was developed based on international standards and national experiences
- School communities were trained on how to use the assessment tools
- School communities were taught how to develop: (i) a seasonal calendar, (ii) a hazard and threat map, (iii) a list of risks and threats identified on a school walk, and (iv) a School Preparedness Plan
- Following a participatory approach, the School Preparedness Plans were finalized and implemented after being approved by local authorities and the school community



The Assessment and Preparedness Toolkit helps school principals, teachers, and education authorities at the central, provincial, and local levels, to ensure quality education in the face of climate change and disaster-related challenges.

Since 25 per cent of the Vietnamese population are students or teachers, MOET places a major emphasis on ensuring their safety while they are learning and working at school. For this reason, MOET is dedicated to the development and implementation of disaster risk assessment mechanisms for overall school planning, management and reporting.

In order to support the Government in ensuring that Viet Nam's schools comply with international standards and best practices, UNESCO and MOET jointly developed an Assessment and Preparedness Toolkit. The

Toolkit is based on the implementation of the *International Network for Education in Emergencies (INEE) Minimum Standards for Education: Preparedness, Response, Recovery*, which was translated and adapted to the Vietnamese context.

The Assessment and Preparedness Toolkit is organized as follows:

- i) **Chapter I: School Assessment Tool** contains the instrument which allows schools to identify and collect information, in a systematic way, on the hazards, vulnerabilities, and capacities of their school community.
- ii) **Chapter II: School Preparedness Plan Guidelines** provides step-by-step instructions for the analysis of the data collected during the School Assessment in order to assess risks based on hazards, vulnerabilities, and capacities. It also provides guidance on the development, implementation, and monitoring of annual plans that contain risk reduction actions.
- iii) **Chapter III: Protocols** provides guidance on establishing specific, officially-approved procedures that are agreed upon and rehearsed in advance, supporting school safety.
- iv) **Chapter IV: Family Preparedness led by Students** contains examples and exercises for school authorities and teachers to reinforce practical skills that students require for disaster preparedness and response, guiding them to become leaders for their families in carrying out safety measures at home and in the community.

The toolkit was refined through an extensive consultation process between MOET, UNESCO, the Primary Education Department under the National University of Education, various experts and the five piloting schools in Thua Thien-Hue Province.

The development process, led by MOET's Department of Facilities, School Equipment, and Children's Toys and UNESCO, involved over 50 collaborating national and international institutions and experts including Plan International, Save the Children, Live & Learn Viet Nam, UNICEF, and the German Red Cross.

Partners worked together to synthesize a number of pre-disaster assessment tools that were already under development by various actors with the aim of producing a comprehensive tool and avoiding duplication. This tool is complemented by the post-disaster school assessment tool developed by MOET and UNICEF.

This toolkit assists education authorities at the central, provincial, and local level, school principals, and teachers to ensure quality

education in the face of climate change and disaster-related challenges and to enhance the capacities of the Education Sector, local communities and schools to prepare for and respond to environmental and other threats and disasters. It was designed to help teachers and school authorities identify hazards, risks and vulnerabilities in and around the school. It also provides guidance on developing a plan to improve the school's capacity to manage these factors while effectively coordinating and communicating with parents, community members and authorities.

The toolkit should be applied using a participatory methodology that involves parents, the local community, local authorities, and other stakeholders. This methodology enhances ownership, builds school support networks among parents, the community, the private sector, and others, and facilitates speedy and efficient implementation.

The tool will be officially endorsed by MOET and disseminated nationwide. It will also be integrated into the International Network for Education in Emergencies (INEE) DRR toolkit.

The Toolkit contains the following chapters:

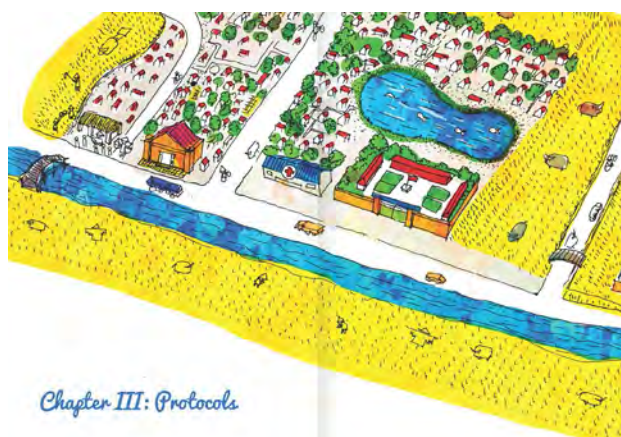
Chapter One on the **School Assessment Tool**, a set of templates for the collection of the most relevant data required to help assess the school's situation and capacity and the types of risks posed, not only by disasters, but also by the spectrum of other threats to school safety, including pollution, the use of chemicals near the school, fire, road traffic, HIV prevalence, and the impacts of biodiversity loss and climate change. The three steps of the School Assessment tool are: (i) preparation, (ii) data collection and (iii) synthesis.



Chapter Two on the **School Preparedness Plan (SPP) Guidelines**, which provides orientation to schools and communities for analysing the school's risks and needs based on the information collected through the School Assessment Tool. These Guidelines help formulate a plan for schools to prioritize actions, allocate resources, and determine timeframes for action. The Guidelines help schools monitor and evaluate the implementation of the plan. The four main steps for developing the School Preparedness Plan are: (i) preparation, (ii) design of the plan, (iii) implementation of the plan and (iv) monitoring and evaluation.



Chapter Three on **Protocols** provides discussion questions and guidance on developing, writing, implementing, rehearsing and communicating safety protocols in the school and the community. Once established, protocols allow the school and the wider community to act swiftly and decisively in response to disasters and other safety threats. Well-communicated protocols provide all actors with a framework for response, ensuring that every time a situation arises, schools and communities have an automatic, coordinated, and timely response.



Chapter Four on **Family Preparedness Led by Students** provides guidance and inputs for teachers to coach students to share what they learned at school with their family and neighbors, leading them to prepare a household disaster plan and to reduce risks and threats within their homes, among other activities.



MOET is currently implementing an on-line Information System for Disaster Risk Management in the Education Sector to collect information as a direct contribution to the implementation of the Law on Natural Disaster Preparedness and Response (No. 33/2013/QH13), which entered into force in schools nationwide on May 1, 2014. MOET's tool is composed of online forms for: 1) pre-disaster preparedness, 2) post-emergency assessment, and 3) post-disaster recovery.

UNESCO supported the development of the assessment tool content for pre-disaster preparedness (Form 1), which covers general school information, the current state of DRR education and knowledge, school DRR management structure, safety assessment of school facilities, as well as a survey of local hazards in and around the school. UNICEF provided support for the post-emergency (Form 2) and post-disaster school recovery (Form 3) surveys.

The MOET and UNESCO Toolkit complements the online information tool by assisting in the collection of required information and

providing a framework for the development, implementation, and monitoring of actions to improve school disaster preparedness and resilience.



Sixty representatives (parents, local community members and principals) of five schools were trained to participate in risk assessment, disaster risk reduction and preparedness plans. School preparedness plans were developed and implemented at all five schools.

4.1.2. Implementation of school assessment tool in five target schools in Hue

The assessment tool was applied in the five target schools in Thua Thien-Hue Province.

Representatives from the DOET of Thua Thien-Hue, the Hue University of Science, MAB Viet Nam and UNESCO spent one day at each of the five target schools to work with school principals, students, parents, teachers, local authorities and mass organizations on implementing the school assessment tool.

It was deemed that a full day was an appropriate amount of time to conduct the assessment and provide feedback on the tool. However, the duration of the assessment depends on each school and location. Throughout the implementation process, participants gained ownership of the tool and provided feedback and recommendations for further improvement.



Community members and teachers from Thanh Toan commune apply the school assessment tool.

Differences were observed in how the school principals facilitated the assessment, with some taking the lead more confidently than others. Some school principals needed more support from MOET and UNESCO in guiding the process, facilitated either directly by the principal or by a designated facilitator. Clear guidance on the implementation of the assessment tool was developed and included in the final assessment tool.

Assessment participants were divided into four groups of fifteen individuals each and tasked with conducting the school walk. Each group comprised ten students with the remainder of the group consisting of parents, teachers, local authorities and mass organization members. The students' confidence in conducting the activities improved throughout the day.



Students from Thanh Toan primary school complete the school walk exercise at their school to identify risks and threats.

The piloting of the assessment tool started during a field visit to the schools, with the briefing of each school principal on the tool. Following this activity, teachers, students and representatives from People's Committees, local Flood and Storm Control Committees, Women's Unions, Youth Unions and parent associations in each location were invited to participate in the assessment and received an orientation session so they could take on the role of piloting the tool and provide feedback for its adjustment.

As part of this process, each school developed the following: (i) a seasonal calendar, which indicates the hazards that affect the school throughout the year; (ii) a hazard and threat map; (iii) a list of risks and threats in and around the school, identified during the school walk, and a list of solutions to reduce risks; and (iv) a School Preparedness Plan.

Common issues identified during the application of the questionnaires and school walks were used as examples in future training sessions and integrated into the Toolkit, including the following:

- Lack of availability of up-to-date fire extinguishers
- Dangerous safety practices, such as leaving school gates open, allowing students to leave the school unnoticed and be vulnerable to passing traffic
- Open man holes or open waste burning heaps
- Close proximity of rivers and lakes to the school, with no warning signs or clear demarcation
- A lack of solid waste collection services and waste being burned on schools premises
- Lack of energy saving practices, such as poorly maintained and leaky taps, damaged fans and lights that are not switched off when not in use



A student draws a map of her school and surrounding community with the help of a Google map projected onto the wall.

In a next step, participants mapped out the hazards surrounding the community. For this purpose, satellite images of the schools, accessed through Google Maps, were projected onto walls, enabling participants to draw in the schools' hazards.

This method for analyzing a school's surrounding environment through the use of real time satellite data can also generate students' interest in learning about ICTs.

As part of the assessment, participants also completed a questionnaire to assess the risks and challenges faced by the schools and identify activities currently or previously implemented at the schools related to climate change, biodiversity conservation and environmental education. Participants later observed that the questionnaire was clear and easy to use.

The questionnaire results were used as a basis for the schools and community members to identify activities to implement at school, with the support of the local community, as well as to identify possibilities for community collaboration. These activities were further elaborated upon as part of the School Preparedness Plan developed by each of the five target schools later on in the implementation of the Initiative.



Students from Thanh Toan (top) and Quang Loi (bottom) Primary Schools actively take part in the implementation of the assessment tool at their school.

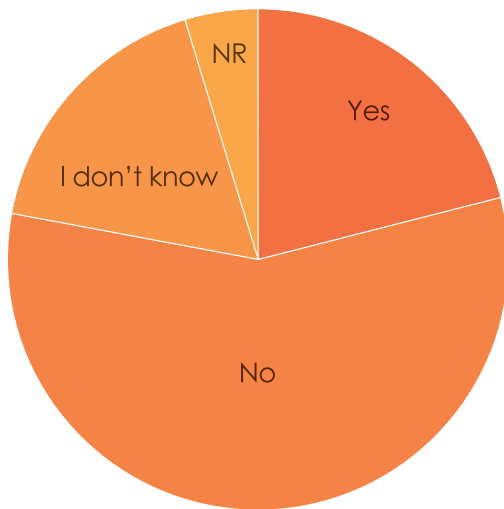


Parents and teachers from Huong Vinh Primary School complete different tools following the school walk.

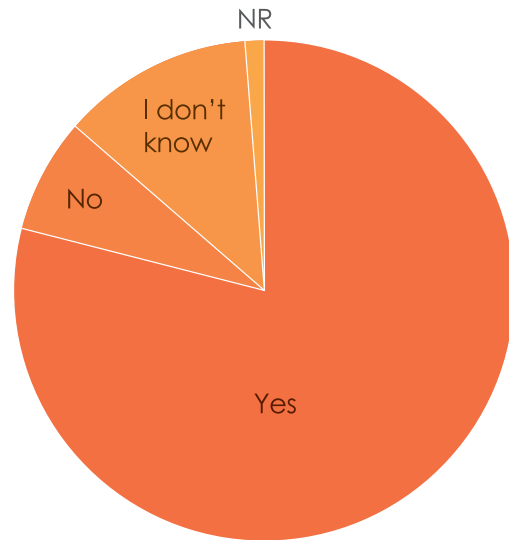


The following charts show the consolidated results of the questionnaires conducted at the five schools. (NR denotes no response)

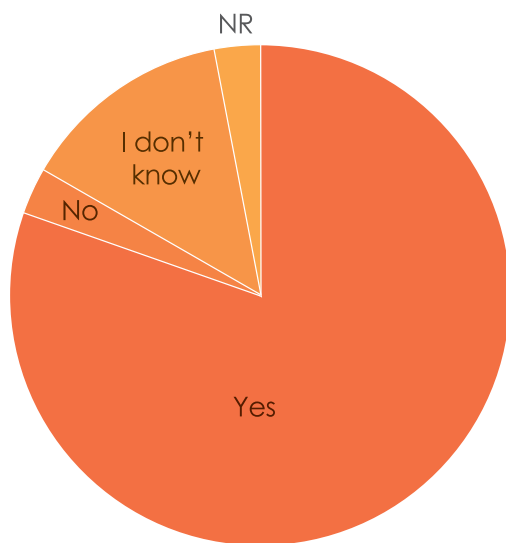
Does your community protect any areas special to it?



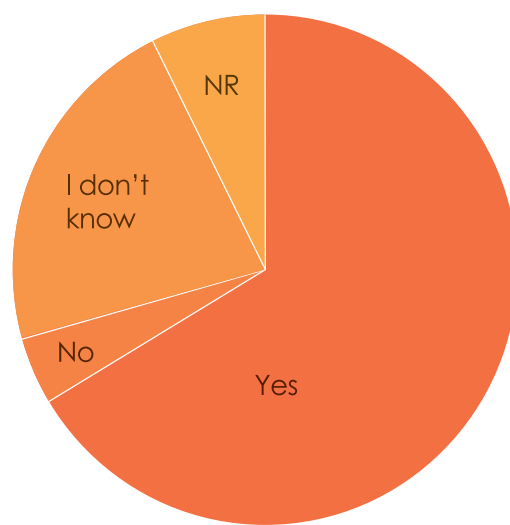
Is the use of agricultural chemicals (fertilizers, pesticides, etc.) widespread in the community?



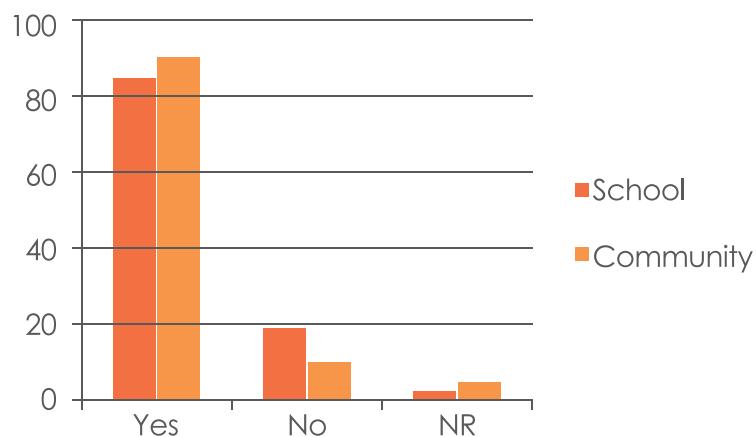
Does your community come together for any collective purposes or action (e.g. festivals, working parties, events)?



Is the school currently involved in any activities with the wider community?



Is littering a problem in your school/ community?



Findings from the questionnaires show that all five schools are located in close proximity to and/or are affected by agricultural chemicals. All schools use potable water to water plants and clean the buildings' facilities. None of the schools, including Phu Mau Primary School, which is affected by drought most years, considered using rainwater to water plants or flush toilets. Lastly, in all five communes, community members meet regularly to discuss and implement activities throughout the year: a positive sign for the later development of Community Action Plans.

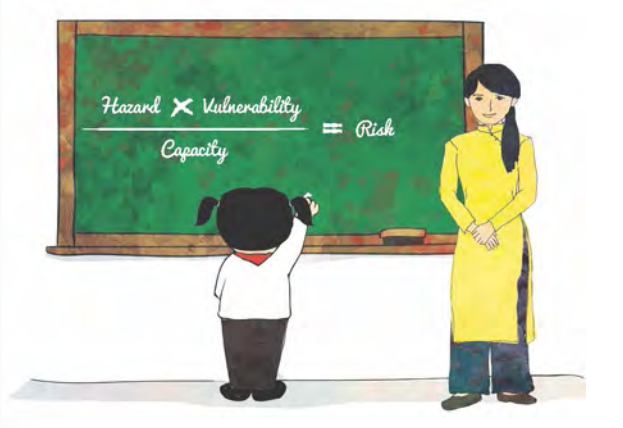
4.1.3. Development of the School Preparedness Plans

a. School preparedness plan initial workshop

As a first step to develop School Preparedness Plans, a series of workshops were organized in Hue City, with three schools attending on the first day and two on the second day. International expert Moustafa Osman facilitated the workshops, supported by the Thua Thien-Hue DOET, the Hue University of Science, MOET, NIEM, the Viet Nam Man and Biosphere Committee, and UNESCO. Participants included:

- 5 school principals and 5 vice-principals (one from each of the five schools)
- 15 teachers (3 from each school)
- 10 members of the School Steering Committee of Flood and Storm Prevention and Control and Natural Disaster Mitigation (2 from each school)
- 50 parents and community members (10 from each school)
- 5 representatives of BOET (1 from each district/school)
- 10 representatives of local institutions (Provincial Steering Committee for Flood and Storm Prevention and Control, Red Cross or other institutions relevant to the school; 2 from each district/school community)
- 5 media professionals (1 from each district/school community)

The various concepts that can be used to identify how to prioritize action in the face of disasters, including hazards, vulnerability and capacity, were introduced. Participants then discussed the responsibility of schools and communities to reduce people's vulnerabilities to risks and improve their capacities to manage disasters.



Practical example of the risk equation

A storm and resulting flooding is a major hazard. A school is more susceptible to the negative effects of this hazard if it has vulnerabilities, such as a lack of protective barriers, physical obstacles that make it difficult for students to evacuate during the disaster, or trees and objects in and around the school that could pose a threat in the event of high winds. These vulnerabilities greatly increase the possible danger and

damage caused by the hazard. Therefore, the product of the hazard and vulnerability increases the overall risk associated with the storm.

However, maximizing or enhancing the school's capacity to mitigate or address these vulnerabilities can diminish this risk. If the school, for example, increases its capacity by practicing evacuation drills, removing potentially dangerous objects or pruning unsafe tree branches, the overall risk presented by the hazard will be reduced as a result of this

enhanced capacity and reduced vulnerability.

Using the example above, it becomes clear how addressing vulnerability and capacity can have an exponential effect on the degree of risk. As schools develop their preparedness plan, they will be exposed to more examples of the key terms of hazard, vulnerability, capacity and risk. This equation should be kept in mind. Changes in one of these areas can affect the others.



Mustafa Osman shares his experiences in disaster preparedness and response with community members in Thua Thien-Hue Province

Participants were also exposed to a number of case studies from Southeast Asia through a video produced by the International Federation of Red Cross and Red Crescent Societies. In addition to outlining the devastating effect disasters can have when coupled with badly prepared communities, the video reinforced the notion that issues of climate change and biodiversity should be part of disaster preparedness and emphasized that disasters can be manmade. They are, therefore, often preventable through long-term planning and environmental protection.

To support the message conveyed in the video, the trainers drew on numerous examples from disaster-stricken countries to highlight the importance of acknowledging the clear overlap between disasters, climate change and biodiversity in order to build comprehensive School Preparedness Plans that consider long-term action, such as climate change mitigation, and shorter term action for preparation of disasters.

During a plenary discussion, groups of participants analysed the content of the video and identified lessons they could return to their communities with, thus providing them with initial ideas for the preparedness planning session later on. Some of the key comments from this plenary session were as follows:

- **Group One:** "We learned from the video that disasters can hit at any time. We therefore need to ensure that people are ready and aware of the threats. We should develop a seasonal calendar to show how often and how likely a disaster is to hit in any given month. We should also measure local water levels using flood mark posts. We need to train teachers and students in first aid."
- **Group Two:** "It is important to create rescue teams before a disaster hits. We need to acquire more fire extinguishers and life rafts for when floods occur at school."
- **Group Three:** "The video shows that the Red Cross has helped people to work together to overcome challenges posed by disasters - we must ensure that we join hands to improve our safety. We need to build the capacity of teachers, students and parents to reduce their vulnerability to disasters. We need to teach students how to grow trees to prevent salt water intrusion in low lying areas."
- **Group Four:** "To reduce the risk of landslides near the schools, we need to grow trees and mangroves to minimize soil erosion. We should build more dams to protect the coastline. We should trim big branches that are situated near buildings to ensure that they do not cause damage during high winds. We should have an early warning system, such as through the local radio, to notify people of incoming threats. If we have an effective action plan we can reduce disaster risks. We need to build



A community member presents his group's results to the rest of the participants.

multi-storey houses so we can evacuate to upper levels during a flood. We need to grow mangroves."

Once participants had a good understanding of the meaning, purpose and necessity of disaster preparedness, they were ready to begin the development of their School Preparedness Plans.

Participants were divided into groups, each of which was responsible for practicing one of the four key school assessment tasks necessary to develop a School Preparedness Plan. The four assessments tasks consisted of a seasonal calendar, a historical hazard calendar, a hazard risk map and an environmental assessment.

Each group was supported by the two international experts (with Robert Wild focusing his attention on the environmental assessment), the MAB team, Hue University and UNESCO. The results of this exercise played a vital role in demonstrating the processes and steps involved in conducting a comprehensive school assessment from which a School Preparedness Plan can be developed.

Groups presented their work and highlighted a number of lessons learned that should be considered when conducting assessments and producing preparedness plans in the future, including the need to use bright colours

to illustrate safe and hazardous zones on the hazard risk map, using indigenous knowledge when preparing for disasters and the need to include as many local stakeholders as possible to mobilize community-wide support and funding.

Applying the skills and lessons learned during this assessment exercise, participants began the process of developing a first draft of the main components of a School Preparedness Plan. According to the following groupings, participants identified and presented practices they could apply in their schools, homes and community to be better prepared for disasters:



Moustafa Osman (top) and Robert Wild (bottom) provide valuable feedback to the participants on methodology and content of the school preparedness plans.

Group 1: Pre-disaster

- We should establish a Disaster Preparedness Committee, composed of participating parents, at the beginning of each year
- We need to provide training on disaster preparedness every year to principals, teachers, parents and students at each school
- The Disaster Preparedness Committee should conduct regular safety checks at the school (such as power and gas supply, among others)
- We should collate a list of contact details for students and parents to ensure the safe release of children after a disaster
- We must regularly check information on weather forecasts
- We should have first aid kits prepared (with the support of Red Cross teams, if possible)
- Preparedness activities should be done in August, at the beginning of the academic year

Groups 2 and 3: Emergency response and early recovery

- After a disaster, we must conduct a headcount of students and teachers and identify how many people are missing
- We need to report the number of injured individuals to local authorities
- We have to check the status and level of safety of school facilities
- We should seek weather updates
- We should clear the immediate environment of dangerous objects such as broken glass, fallen branches and others

Group 4: Roles and responsibilities

- The principal should be the head of the School Disaster Committee
- The principal should provide training on disaster preparedness to school staff



Participants discuss practices and activities they could apply in their schools, homes and communities in order to be better prepared for disasters.



Participants updated existing maps of their communities.

Group 5: School evacuation

- Teachers should ask students to stay calm and listen carefully when evacuating a building
- During a fire, the power supply must be switched off
- Safe evacuation points need to be identified
- Teachers must check the number of students before, during and after an evacuation

Group 6: Communications and networking

- We should distribute pamphlets in the community to make people aware of disaster preparedness efforts
- We should establish a committee for disaster preparedness that is linked to the local Red Cross network
- We need to maintain contact with local authorities and other relevant agencies before, during and after a disaster. The principal should be responsible for this. UNESCO suggested each school have a list of telephone numbers of the most important local actors (e.g. fire service, civil defence, aid agencies). The principal should establish contact with these local actors: inviting them to school events is a good way of doing this
- During a disaster, a portable loudspeaker should be used to give instructions

Group 7: Biodiversity and climate change

- We need to raise awareness among local communities on the importance of protecting the environment
- Students should not litter and should collect waste as part of their extra-curricular activities

b. School preparedness plan finalization

The five target schools in Thua Thien-Hue Province now each have a School Preparedness Plan. The plans developed by the target schools were used for reference in the Toolkit.

After the initial planning exercise conducted in the workshop, each school team worked for a few weeks to develop their preparedness plans. These were then shared with parents and community members and funds were raised for their implementation.

The development of the plans followed a highly participatory approach with the direct involvement of teachers, school principals, parents and other community members, ensuring the empowerment of local stakeholders in the management of risks and threats.

Each plan is developed with: (i) an in-depth analysis of the results of the application of the assessment tool, identifying threats and risks in the schools and their surroundings, and (ii) detailed actions to be undertaken by the schools and the community to mitigate and address the risks and threats, depending on the schools' own assessment of their needs.

The plans developed by the five schools were officially validated by the local authorities of each district, ensuring valuable support for the schools from the authorities and reinforcing the relationship between the two entities.



The Preparedness Plan from Thanh Toan Primary School, officially approved by the local authorities: one booklet for each plan component.

As per MOET's requirement, each school has a School Disaster Management Committee (SDMC) or disaster working group that includes all actors who are key to the assessment of risks and hazards and the planning and implementation of activities: the school principal or vice-principal, teachers, parents, students, representatives of the Division of Storm and Flood Control, and representatives of local community organizations, such as the local Red Cross Chapter, Farmers Union and Women's Union.

A network was created involving the Thua Thien-Hue DOET and the five schools in order to enhance the coordination and efficiency of the development process. By doing so, any issues arising in any one school were shared with the network and the solutions implemented could benefit all schools. This shared approach led to the production of comprehensive draft plans, taking into account a wide range of issues and challenges.

On a follow-up field mission, UNESCO and Live & Learn Viet Nam worked with the SDMCs directly to finalise the preparedness plans and clarify the actions to be supported by the community. SDMC members enhanced the quality of their plans by bringing local expertise and traditional knowledge into the different components of the plans. By the end of the sessions, schools and community members understood each step of the development process for the School Preparedness Plan and were able to replicate it in order to develop a new plan, including detailed activities, budget and timeline.

Examples of actions developed by the schools in their plans are as follows:

Enhanced collection and classification of waste at Huong Vinh 1 Primary School

Description of Risk/Problem to be solved:

- Limited awareness of pupils about maintaining general hygiene - many children still litter. At school, this not only

affects the school's physical environment, but also students and teachers' learning environment

- Inappropriate waste classification and disposal, which does not take advantage of recyclable waste such as old newspapers, glass bottles, plastic and organic waste products



Dustbin and the rubbish heap at one of the schools.

Solutions implemented:

- To raise school teachers' and students' awareness of the negative effects of waste on their environment and encourage waste classification and recycling, this topic has now been integrated into different subjects, such as Vietnamese language and Moral and Social Sciences, as well as classroom activities. As a result, students started collecting paper in the classroom and reduced littering
- To ensure that bins are available to classify rubbish and dispose of it in accordance

with national regulations, students and teachers developed a system in which each class collects paper waste at the end of each day and brings it to the correct bin



Students developed a system for collecting waste in school at the end of each class period.

Other activities implemented by Huong Vinh 1 Primary School:

- Planting more than 220 trees that are indigenous to the region. The trees were graciously provided by the District People's Committee, at the school's request. Parents, the Youth Union and community members helped take care of trees during a school event organized to showcase the progress made towards the implementation of the School Preparedness Plan



Parents and members of the Youth Union joined the school event organized in Huong Vinh primary school to apply insecticide to the school's trees.

- Repairing broken windows in the school after several storms with the support of the Parents Association



The Parents Association of the school supported the repairs to broken classroom windows represented a danger for students.

- Fixing the school's drainage system with the support of the Parents Association and community members. Many parents and neighbours volunteered their time and effort to undertake the necessary work, with some parents, who are construction workers, providing expertise and leading the construction. The overall cost of the repairs to the school was only 35 USD as a consequence of the parents' valuable contribution



25m of drainage system was built in front of the school with the support of the Parents Association and contributions from community members.



- Youth Union Day, held on the 25th and 26th of March, brought together school and university students, parents, and local organizations. Activities included:

- A student competition on knowledge and understanding on biodiversity and climate change, organized by parents
- A performance of songs related to the environment and nature to reinforce awareness
- An art exhibition in which students explain their drawings to other students
- A fashion show using environmentally friendly and recycled materials to raise awareness
- A video clip on the impact of climate change, disaster risk reduction and biodiversity conservation

Fire safety at Huong Long Primary School

Description of Risk/Problem to be solved:

- Gas tanks used for cooking are located close to dormitories
- There are not enough fire extinguishers in the school
- The electric system of the school does not comply with regulations and represents a fire hazard

Solutions implemented:

- Purchasing of new gas tanks to be placed outside the cooking areas, far from the students' sleeping room
- Purchasing of new fire extinguishers and training on fire fighting to teachers and students
- Parents were involved in building exit doors for students' sleeping rooms so that the doors are fully functioning in case of emergency
- The electrical system of the school was checked and updated, with the purchase and installation of distribution boards and fuses throughout the school. Furthermore, the electrical system was reorganized to separate each room's system, reducing fire hazards and allowing for the easy identification of the problem in case of a breakdown in the school



Gas tanks were moved away from the dorms and installed outside of the kitchen.



The students' dorm for resting after lunch was made safer.



Electrical systems were renewed, according to standards.

Other activities implemented by Huong Long Primary School:

- The environment surrounding the school was improved by the planting of trees, flowers and installation of benches. Parents contributed to the improvement of their local school by donating trees and supporting the planting process. Some parents continued to visit the school to help with the maintenance of the garden, to take care of the trees and to give advice on how to take care of seedlings. Students were involved in the maintenance of the trees and flowers: they were divided into different groups by age, with each group in charge of a specific flower patch;



Students now take care of the trees at school (top, left) and ensure that the school environment is clean to prevent waste from blocking the new water drainage system (bottom-left and right).

- Teachers conducted communication campaigns to raise awareness among community members and students on environmental protection, focusing on waste management and energy saving. Students now automatically turn off the lights when leaving a room
- The drainage system inside and around the school was improved with the construction of new pipes to facilitate water flow

Preparedness for flooding at Thanh Toan Primary School

Description of Risk/Problem to be solved:

- The assessment identified that 90% of students and 80% teachers did not know how to swim. In addition, storms and floods occur very frequently, causing injuries to students and teachers. Many teachers and students must travel through frequently-flooded roads to reach school
- There is no demarcation between the road in front of the school and the river. This posed a risk during flooding and in the event of other disasters



The lack of demarcation between the road and the river created a dangerous situation for students and community members during the flooding season.

Solutions implemented:

- In 2014, swimming lessons were provided for more than 100 students who have to travel through frequently-flooded areas and whose houses are located near rivers, making them a high-risk group
- The District People's Committee, parents, Youth Union, Women's Union and farming groups donated trees to the school and helped to plant them along the road to ensure a clear separation between the river and the road during the flood season. The school successfully involved the school community in this activity, resulting

in a substantial decrease in the cost of implementation: the final cost was only of one-tenth of what had been budgeted.



Trees were planted on school grounds and along the river bank to reduce the risk of drowning during floods, thanks to the kind donations of the District People's Committee, parents, Youth Union, Women's Union and farming groups.

Other activities implemented by Thanh Toan Primary School:

- Officers from the Fire Department of the District People's Committee visited the school to monitor fire safety regulations and precautions and provided training to teachers and students. Following the recommendations of the experts from the Department, the school's electrical system was restructured in order to simplify its management and reduce risks and fire hazards
- A waste reduction plan was implemented at the school level with contributions from local authorities and other members of the community. Teachers and school authorities conducted awareness raising sessions with students on the dangers of littering inside and outside of school grounds. Local authorities are now supporting the school by facilitating the disposal of the school's waste to the communal waste disposal facilities, at no cost

- The school implemented an energy saving plan, with the support of local authorities. Teachers encouraged students to adopt behaviours in favour of energy saving. Based on the recommendations of the local Fire Fighting Department, the school changed all its light bulbs to ensure energy saving and reduce fire hazards

Levelling dangerous ponds and lakes in Quang Loi Primary School

Description of Risk/Problem to be solved:

- In the event of flooding, deep water holes that form on school grounds become a risk that could cause students to drown



These dangerously deep holes on school grounds were identified during the application of the assessment tool as a major risk for students and school staff.

Solutions implemented:

- Fill in the deep holes behind the school. This activity was completed during the mid-term school event, with the active

contribution and participation of parents and community members. This activity was originally scheduled over a two-year timeframe, but with the support of local authorities and the community, the holes were filled in only a few months after the assessment of threats and risks, just in time for the flood season



The deep holes in the schoolyard were filled in as part of the implementation of the plan for the 2013-2014 academic year, with the active support of parents and community members.

Other activities implemented by Quang Loi Primary School:

- Teachers and students, with the help of community members and the Youth Union, planted more than 100 trees inside and outside of the school. The trees were carefully selected with the help of local experts and community members to ensure

they were endemic to the region and have the best chance to grow properly, without negatively impacting other species and local ecosystems

- Awareness raising sessions are now regularly organized for teachers and students: every week during the flag ceremony, as well as during lessons, messages on biodiversity conservation and climate change mitigation and adaptation are shared with the students. Following these efforts, simple rules on energy saving have been set up in the school, resulting in students changing their attitudes and turning off the lights when they leave their classrooms, for example

Repairing School Facilities and Equipment at Phu Mau 1 Primary School

Description of Risk/Problem to be solved

- Six glass doors were broken due to strong winds, affecting the safety of students
- The electrical system in the classrooms is unreliable and prone to circuit shortages
- Iron sheet roofs over the parking lot, sanitation areas, temporary kitchen and corridors are in poor condition



The school parking lot is covered by iron sheets that pose a hazard during storms.





The kitchen area for semi-board students has the same iron roofing (both outside and inside).

Solutions implemented:

- The six broken glass doors/windows were replaced
- The school obtained funding to replace the electrical equipment with two new high-capacity voltage stabilizers. In order to organize this activity, the school benefited from the support of an electrician from the community, who volunteered to carry out a complete consultation of the school installation
- A supplier from the local community offered a free consultation to the school to identify any necessary repairs and reinforce the iron sheet roofs atop classrooms, parking lots, the kitchen and corridors. The roof of the parking lot was replaced with the support of the Parents Association

Other activities implemented by Phu Mau Primary School:

- Parents and students supported the planting of trees in the school yard, and the repairing of the school flag pole, which

was damaged and posed a safety risk for students and school staff. During the mid-term school event, community members and parents joined the teachers and students to clean up the schoolyard



The roof of the parking lot was replaced with the support of the Parent Association.



- Awareness raising sessions on fire safety were delivered to teachers and students by the Police Department of the local People's Committee. The experts from the department also supported the school in identifying its needs and planning actions to be taken in order to ensure safety for all students and school staff
- Swimming lessons were provided to third and fourth grade students since the school is located in a flood-prone area
- A medicinal herb garden was set up by students and teachers, with the support of local experts from the community, on a bare patch of land in the schoolyard. The garden is now used by teachers in their lessons to teach students about the benefits of biodiversity



New trees were planted in the schoolyard. Parents and community members joined in to ensure that the school stays clean and risk-free.

The school events provided an opportunity for the schools to share their progress towards implementing the Assessment and Preparedness Toolkit. It also enabled schools to boost the participation of local and national authorities and community members in order to garner further support for implementation in the future.





4.2. Component 6: Use of satellite imagery as a tool for evidence-based decision making

Expected results: Stakeholders' understanding of the different possible applications of space technology in decision-making in the Education Sector is increased, contributing to its integration into the classroom in order to promote the habit of utilizing accurate scientific evidence in students.

Achievements: Training on the use of satellite data and imagery in disaster preparedness, climate change adaptation and biodiversity conservation was provided for national authorities, local authorities, NIEM trainers and local community members in Thua Thien-Hue Province. Local and national authorities understand the value of applying space technologies to improve the overall management of schools.

Key activities towards achievements:

- Design and implement training courses on the use of satellite data and imagery as a tool for evidence-based decision making and planning with regard to climate change adaptation and disaster preparedness, as well as visualizing the impacts of biodiversity loss
- Introduce a series of satellite illustrations of planet Earth and its ecosystems, oceans and solar system that can be used to enrich the current Vietnamese educational curricula and be integrated into the classroom

4.2.1. Preparation of training materials

Throughout the preparation and implementation of this activity, the Initiative collaborated with the National Remote Sensing Centre and the Viet Nam National University of Science. The international expert Dr. Mario Hernandez worked closely with the National Remote Sensing Centre (NRSC), Viet Nam National University of Science and the Hue University of Science to develop the awareness raising sessions for: (i) national authorities in Ha Noi, (ii) local authorities in Thua Thien-Hue Province, (iii) teachers, parents, community members, journalists and other stakeholders in Thua Thien-Hue Province, and (iv) NIEM trainers and managers.



Mr. Nguyen Xuan Lam, Director of the National Remote Sensing Centre



Mr. Bui Duy Cam, President, Viet Nam National University - University of Science

Mr. Nguyen Tien Giang, Head of the Administrative and External Relations Department, Viet Nam National University - University of Science



UNESCO's lead expert, Dr. Mario Hernandez, obtained a Ph.D. from the Purdue University Laboratory of Applications of Remote Sensing (LARS). He worked as UNEP Chief of the Global Resource Information Database (UNEP/GRID) where he led a team that used satellite image processing to assist in the State of the Environment for Developing Countries. In 2000, he joined UNESCO in order to develop the "Space for Heritage" programme and established partnerships with over sixty space agencies, space universities and the space private sector. Currently, he is the Latin American Regional Coordinator of the International Society on Photogrammetry and Remote Sensing (ISPRS) and an honorary member of the European Association of Remote Sensing Laboratories (EARSeL).

In a consultation workshop, experts from the Institute of Geography; the Institute of Meteorology, Hydrology and Environment; the Viet Nam Institute of Geosciences and Mineral Resources; the Disaster Management Centre; and the Viet Nam Earthquake and Tsunami Warning Centre of the Viet Nam Institute of Geophysics provided technical advice on content development. Their input on earthquake and tsunami models, satellite images and corresponding information from different Vietnamese regions was used to illustrate case studies that were identified for use in the trainings, such as urban growth, deforestation, landslides, forest fires, coastal changes, floods and typhoons.



Dr. Hernandez presents the benefits of incorporating remote sensing into education sector decision making and planning to senior NIEM officials.

The training materials, comprising case studies, exercises, questions, instructions, brochures and posters, were developed by the international expert and national partners. With support from the NRSC, high resolution satellite images and detailed explanations of the data were included in the case studies, as well as recommendations for education authorities on how to make relevant decisions on issues connected to climate change, biodiversity loss and disasters.

4.2.2. Development of content for a satellite related e-learning course

As a contribution to the e-learning courses on ESD (Component 1), Dr. Hernandez, with support from the National Remote Sensing

Centre, the Hue University of Science and Viet Nam National University of Science, developed content on remote sensing and satellites. Inputs included a series of presentations and illustrative videos, satellite illustrations and user-friendly texts on the following topics:

- Introduction to satellites
- The Vietnamese VNRED Sat-1 satellite
- Satellite use in measuring global climate change
- Satellite use in natural disaster preparedness and mitigation
- Classroom activities using satellite images

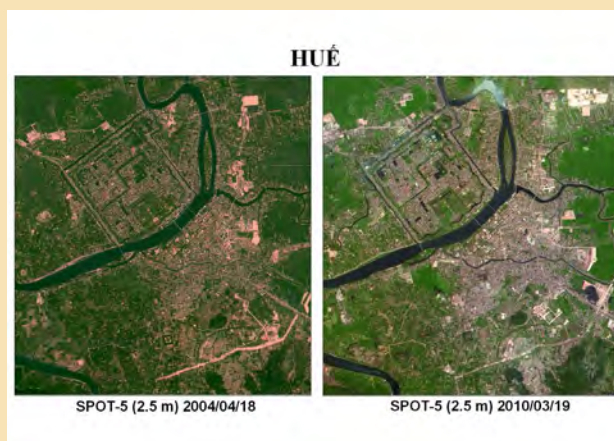
This material was used in the training courses organized in Hue City and Ha Noi for local and national authorities, NIEM trainers and local community members. It received positive feedback from the participants and experts, who found that the information was presented in a way that it could be easily understood, following a pedagogical approach. Its contribution to improving decision making and curricula in the Education Sector was understood by participants.

4.2.3. Awareness raising sessions

In total, four different awareness raising sessions were organized for the different stakeholder groups, including (i) national authorities, (ii) local authorities in Thua Thien-Hue Province, (iii) local communities, and (iv) NIEM managers and trainers.

Practical exercises were used to teach participants how to analyze satellite images taken before and after major events, such as landslides, earthquakes, tsunamis, floods and urban growth. The before and after images often represented extreme changes, such as the following example of the urban expansion of Hue City from 2004 to 2010.

To highlight the use of satellite images for disaster management, participants received satellite images that showed urban growth in Ha Noi (1975-2000) and Hue City (2004-2010). In the example of Hue City, participants identified several differences, highlighting potential risks and threats. The different groups found that between 2004 and 2010 construction increased and residential and industrial areas appeared, especially along the river. The risk of damages linked to flooding also increased, as most of these construction sites were located along the river, which floods regularly during the rainy season.



A set of satellite images of Hue City was used as a reference during an exercise to illustrate how satellite imagery can be used as a tool for decision making and awareness raising.

Dr. Hernandez emphasized that satellite images could be a useful tool for motivating people to take action on preventing future disasters. The images also highlight risk factors that should be considered in decision-making processes, such as flood plains, deforested areas and overexploited natural resources.

The training sessions focussed on how satellite images of schools and their surroundings can help school communities assess their locality's risks, vulnerabilities and capacities, and therefore identify areas that require action to prevent future disasters. The main insight was that satellite images can be used to focus on areas that are at risk and help establish appropriate and safe construction plans.

Dr. Hernandez explained how satellites can be used to predict some disasters three to four days in advance and therefore provide the opportunity to increase resilience and preparedness. For example, by observing the trajectory of a typhoon, vulnerable populations can be alerted and evacuations can be organized .



MOET officials discussed how to enrich the current Vietnamese educational curriculum by introducing a series of satellite illustrations into the classroom.

The participating educational experts, including MOET officials, local education authorities and NIEM trainers, discussed how to enhance the current Vietnamese educational curriculum by introducing a series of satellite illustrations. Space science imagery was considered a useful tool for promoting the use of scientific evidence and innovative tools in decision-making.

All the participants agreed that the future generation of leaders in Viet Nam must know how to utilize technology and scientific evidence in order to effectively address the challenges they will inherit.

The teaching materials developed by the Initiative, including pedagogical materials and videos that can be used in geography, science and a variety of other subjects, were designed to familiarize students and community members with scientific evidence and fact-based decision-making. The materials were considered a vital contribution to ESD in Viet Nam and their integration into the

curriculum in a cross-cutting way was thought to be an effective approach.

a. National authorities

Senior MOET officials increased their knowledge on how space technologies can assist in improving the overall management of schools in Viet Nam. In a simple and user-friendly way, Dr. Hernandez demonstrated how to use satellites to create a map of all the schools in Viet Nam, emphasizing the simplicity of the tool and its use.

During the training session, senior MOET officials identified ways in which satellite data could benefit the Education Sector and agreed upon steps that needed to be taken in order for MOET to be able to apply space technologies to school management. For example, satellite data was found to be extremely useful for the identification of locations that are unsafe for the construction of new schools, avoiding the potentially devastating impacts of natural disasters.

Success story: school mapping

During the training courses, UNESCO and Dr. Hernandez, in cooperation with Ghent University in Belgium, introduced a simple web-based tool that maps schools by entering the geographical coordinates and the name of each school. Other information, such as data collected during the school assessment and preparedness plan process, can be used to add detail to the existing map. Geographical coordinates can be recorded by a smartphone or with a very simple and inexpensive GPS device. This mapping tool can be used to assist education authorities in strengthening preparedness in schools in regard to climate change and disasters.

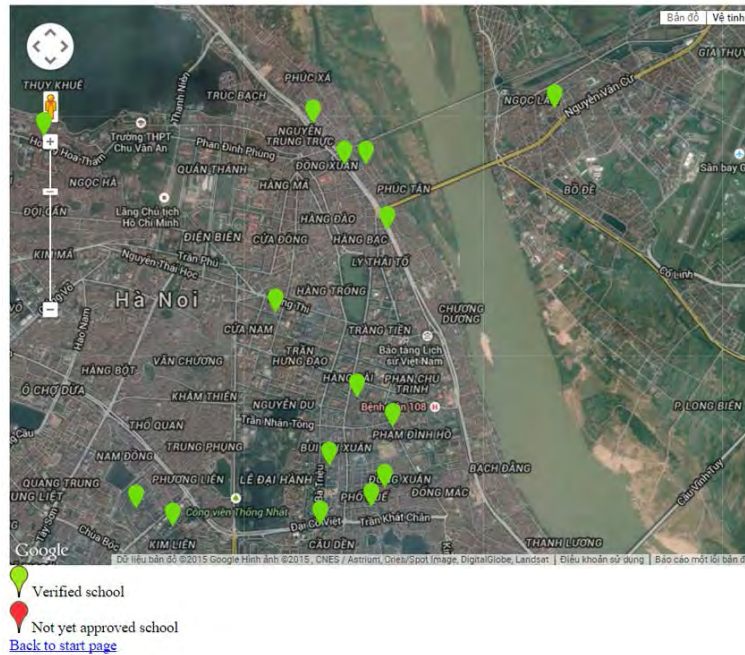
School mapping can be used to:

- Manage schools' administrative tasks (such as recording and monitoring which schools have submitted periodic reports or received training, etc.)
- Identify schools located in flood- and risk-prone areas and prepare the necessary measures
- Observe the growth of urban areas and identify safe locations for the construction of new schools

Educational authorities (MOET, DOET and BOET), teachers and local community members considered this approach unique and understood the advantages of having a digital map of schools' locations.

Visualize schools on a map / HIỂN THỊ CÁC TRƯỜNG HỌC TRÊN BẢN ĐỒ

[Download all schools on a file for use on a Geographical Information System](#)
 Tài về thông tin tất cả các trường học trong một tệp tin để sử dụng trong Hệ thống Thông tin Địa lý



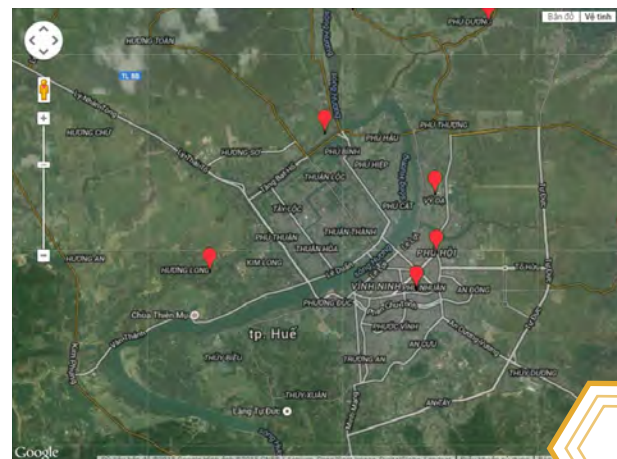
MOET officials' understanding of the use of satellites in the Education Sector was enhanced as follows:

- Initially, 73% of participants believed that satellite imagery could be used to assist teachers in making the current school curricula more attractive. At the end of the training session, 91% of participants supported this idea
- Before the training session, 68% of participants thought satellite imagery could play a role in assessing changes in the areas surrounding schools, while they unanimously (100%) recognized its usefulness at the end of the training
- 100% of participants highlighted the role of remote sensing in early disaster warning and preparedness, compared to 84% at the beginning of the session

b. Local authorities

At the provincial level, education authorities from the Department of Education and Training (DOET) and Bureaux of Education and Training (BOET) of Thua Thien-Hue Province enhanced their knowledge on how space technologies, when presented in a simple and user friendly way, can assist them in improving the overall management of schools in their localities. In an interactive

exercise, participants learned how to use the mapping tool by locating the five pilot schools in Thua Thien-Hue Province and the training course venue in Hue City. The plenary discussion on the mapping tool revealed that authorities understood the value of using remote sensing to view schools and their surroundings.



Example of mapping tool to indicate the location of the schools in Thua Thien-Hue Province

c. Local communities

Community members increased their knowledge on how space technologies, when explained using easy-to-understand examples, can assist teachers, students, the

media and the local community in improving natural resources conservation, enriching the current educational curricula and raising awareness on issues related to sustainable development.

For example, during a simulation exercise based on the analysis of images of the 2004 Indian Ocean tsunami, participants were able to identify areas where significant damage occurred due to the removal of vegetation, such as mangroves. In another exercise, they were able to observe the occurrence of landslides in areas experiencing deforestation. They concluded that satellite imagery could play a central role in raising awareness among the wider community on issues related to disasters and climate change.



A participant uses geo-positioning to locate schools on a map of Hue City.

Participants organized themselves into groups to further develop remote sensing activities. They expressed their commitment to the use of space technology for community awareness raising on issues related to sustainable development, including climate change, biodiversity conservation and disaster preparedness.

Participants' ideas were to:

- Create a website on remote sensing allowing them to upload and download training materials for community members and pedagogical materials for teachers and students
- Create an online platform and forum where teachers and community members

can share their experience in teaching and learning using remote sensing

- Work with students to familiarize them with the use of satellite imagery as scientific evidence
- Support local authorities in establishing a complete mapping of schools in the province by collecting schools' coordinates
- Use remote sensing in the overall management of the community, in particular land use management
- Show the community how its surroundings have evolved
- Assess risk zones in the community
- Encourage community members to use scientific evidence

d. NIEM managers and trainers

This training course was organized as part of the long-term cooperation between NIEM and UNESCO to build the Institute's capacity to design and deliver quality training for education managers on climate change mitigation and adaptation, disaster risk reduction and biodiversity conservation at the national and local level.

NIEM trainers were introduced to a set of pedagogical materials produced by NASA, the International Space Agency and the European Space Agency that use satellite images to present the stark and rapid changes occurring on our planet. This exposure to interactive and highly scientific teaching tools helped NIEM gain an overview of the international standards in this field, showing them how to align their own teaching resources.



Mr. Hernandez highlights the changes to Viet Nam's landscape over time using satellite images.

The participating trainers were enthusiastic about the use of satellite images in classrooms. One participant noted that "this training course has shown that satellites can be used to not only enhance our courses, but also help schools and relevant authorities manage infrastructure in a more intelligent way."

A number of presentations, group exercises and question and answer sessions led participants to understand that education managers need to be able to utilize technology and scientific evidence if they are to effectively engage with the challenges Viet Nam is currently facing. NIEM trainers were empowered to begin the process of instilling a culture of evidence-based decision making in the Education Sector through the integration of satellite images and data into their training courses.

Mr. Le Phuoc Minh, Deputy Director of NIEM, highlighted the interest of the Government to encourage the Education Sector to enhance its preparedness for disasters and its adaptation to climate change. He stated that using satellite images was an important means to do so and elaborated further on key issues regarding the use of satellite imagery in disaster preparedness education.



Findings of Mr. Le Phuoc Minh, Deputy Director of NIEM:

- *The Education Sector needs to think how it can enhance the national curriculum with the use of satellite images. Remote sensing and satellite images are very useful but they need to be integrated into the curriculum in an efficient way that is adapted to students' needs*
- *The geo-location of schools is a useful tool for MOET. The satellite images provide information from the past which can be compared to current data. This process is especially important for decision makers in school communities and rural development*
- *This training course demonstrated that scientific information, such as satellite images, can be presented in a way that is accessible and practical for ordinary people*



Participants from NIEM reflect on ways to use satellite images to enhance their teaching curriculum.



Mr. Le Huu Dinh Thuan, from the Faculty of Geology at the University of Hue, actively participated in all trainings implemented in Thua Thien-Hue Province and took part in the training course in China.

Two local staff trained in the application of remote sensing in DRR

As an additional awareness raising measure, the international expert Mario Hernandez, who supported the Initiative in promoting remote sensing, identified two select candidates for participation in a fully-funded training course sponsored by the Chinese Academy of Sciences (CAS) CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation (SDIM), which was hosted by the Institute of Remote Sensing and Digital Earth (RADI) in Beijing, China. The Institute hosts the International Centre on Space Technologies for Natural and Cultural Heritage (HIST), a category-II centre under the auspices of UNESCO.

The two selected candidates included a professor at the Faculty of Geology of the University of Hue and a researcher at the Vietnamese National Remote Sensing Centre. The course provided crucial training on the practical and scientific application of remote sensing technology in Disaster

Risk Management in developing countries. The two Vietnamese participants were able to learn from experts in geospatial information science and natural disaster response, and returned with new knowledge, fully motivated to apply what they learned in their institutions.

4.3. Component 7: Community Action Plans

Expected results: Community stakeholders and local authorities strengthened their capacities to address climate change issues through participatory approaches and the coordinated development of Community Action Plans.

Achievements: School community members and local authorities increased their capacities to develop Community Action Plans following a participatory methodology to reinforce the resilience, preparedness and safety of their communities. Following this participatory approach, five draft Community Action Plans were produced and shared with their communities to raise awareness on necessary actions to be taken.

Key activities towards achievements:

- Community members from different backgrounds were trained on the use of participatory methodology to develop CAPs and raised their capacities to contribute to more resilient, prepared and safe communities
- Five draft CAPs were developed, one for each pilot community, focusing on activities to reduce risks and threats and enhance biodiversity in the communities surrounding the schools, and were presented to the wider community to raise awareness on the challenges of and potential actions for implementation

The five communities surrounding the pilot schools in Thua Thien-Hue Province benefitted from training sessions and support from several experts in developing draft Community Action Plans (CAPs) to address the main risks, threats and challenges they face. This process was led by CED, DOET and UNESCO, with support from international and national experts, MAB, the Hue University of Science and Live & Learn Viet Nam, among others. Local experts provided expertise on environmental and climate change related

issues and challenges, as well as regionally appropriate responses. Their support was instrumental in producing plans that benefit the community, with a special focus on the areas surrounding the pilot schools.



Robert Wild, international expert on climate change and biodiversity conservation with years of experience in participatory methodology, provided guidance on CAP development. Robert Wild holds an M.Phil. in Botany from the University of Cape Town, South Africa. As a natural resource management and environmental change expert, he has extensive experience in climate change mitigation and adaptation and environmental change, management, and planning.

Mr. Wild specializes in socio-ecological efforts to build community resilience and livelihoods through managing biodiversity and ecosystems linked to climate change mitigation and adaptation, including forests, mountains, mangroves, drylands, coral reefs and islands. He has experience in the financial management of a large conservation fund, the establishment of community-based microfinance programmes, financial planning and budget management. A member of the UK Institute of Ecology and Environmental Management; the Commission on Environmental, Economic, and Social Policy; and the International Union for Conservation of Nature, he is an experienced facilitator of participatory planning, organizational development and capacity building.



Dr. Nguyen Hoang Tri, Director of the Centre for Environmental Research and Education at the Ha Noi National University of Education and the Secretary General of the Viet Nam MAB National Committee, supported project implementation. Dr. Tri holds a Ph.D. in Ecology from Viet Nam National University in Ha Noi. He has worked as project manager, researcher and technical advisor for an array of projects related to mangrove rehabilitation, natural resource use, Biosphere Reserves, sustainable livelihoods and coastal communities, and has cooperated with diverse partners, such as Oxfam UK, the European Union and UNESCO. Dr. Tri has contributed to more than 60 publications.

The MAB Viet Nam National Committee is a coordinating agency for the national and international exchange of research results, management methods and experiences regarding Biosphere Reserves and sister-systems of natural reserves. It facilitates cooperation on scientific research, monitoring, environmental education and training. Through these activities, MAB provides advice and recommendations to the Government of Viet Nam on important issues concerning nature conservation and sustainable development, especially the use of Biosphere Reserves as learning sites for Education for Sustainable Development. The National Committee is under the Sub-Committee of Natural Science of the Viet Nam National Commission for UNESCO and is part of the global network of the Man and the Biosphere (MAB) Programme, an intergovernmental scientific programme aiming to set a scientific basis for the improvement of the relationships between humans and their environment.

The Hue University of Science provided its regional expertise and knowledge of environmental issues and climate change. The Hue University of Science worked with MAB on CAP-related activities in the province, undertaking field missions and providing expert assistance to local stakeholders.

Mr. Nguyen Ngoc Tung from the Hue University of Science guides a group on the development of their CAP.



4.3.1. Participatory methodology

The CAP development teams included representatives from each commune, primary school principals, vice-principals, teachers, parents, representatives of mass organizations (e.g. Women's Union, Farmers Union and Youth Union), the chairmen of various associations (communal Veteran Association, Red Cross Association), the Deputy Head of the Communal Flood Prevention and Control Department, members of the Central Committee for Flood and Storm Control, representatives of local media and local authorities, as well as representatives of MOET, DOET, MAB and UNESCO.

The method applied to the development of the community plan is as important as the plan itself. Active participation is key to ensuring ownership. During the process of community planning, stakeholders had the opportunity to support the identification of relevant issues that require solutions. Process facilitators were essential for ensuring that all stakeholders

could speak up, share their opinions, ask questions and receive adequate responses. Plans resulting from this methodology are more resilient, even though they may require the investment of more time and effort during the planning process.



The CAP development teams include community members from a variety of backgrounds.

Receiving support from experts is also relevant to the participatory method, with experts providing technical guidance and support on the issues identified by the community in order to develop plans that are technically accurate and at the same time feasible, realistic, easily financed and community driven.

An enabling environment was created for parents, school neighbours, local authorities, community members and committees to support and reinforce the integration of Education for Sustainable Development into schools, since the CAP development process brought all the relevant stakeholders together. It also included guidance on how to communicate and engage with other community members to share the plan with others and motivate them to provide inputs, as well as highlighting how communities can be involved in securing funding or monitoring the implementation of the plan.



Participants, with support from experts, identify potential activities to include in their Community Action Plan during a training workshop.

Disaster planning starts at the household level. Each individual household needs to be prepared, and consider local realities, such as floods, landslides and storm surges. Basic equipment and supplies need to be at hand and protocols need to be in place in order to keep families safe. To this end, there should be an effective household disaster plan in place and agreed upon, although not necessarily in writing.

CAPs are designed to be community plans, not commune plans, which are centrally organized and based on official Government plans. However, it is important that the CAPs are endorsed and recognized by the commune. While the emphasis rests on developing plans that are within the capacity of local communities to implement them, support is likely to be needed, and this should be linked to or included in the Commune Plans. To assure consistency between the plans, national and local authorities should take part in the development of the CAPs.

of 30 to 40 local residents from a wide range of community groups, including the local media, Elders' Union, Women's Union, Farmers Union, Veterans' Union, Youth Union, religious leaders, the Viet Nam Association for Learning Promotion, the Red Cross Association and the private sector. The meetings were led by DOET and CED and supported by MAB, UNESCO and Live & Learn.

During the meetings, the planning team facilitated a discussion on: i) the most concerning issues for the community related to climate change, biodiversity loss and disasters; ii) actions that could be taken in response and iii) ways to source the necessary funds and materials.

Some of the key issues raised by the community were:

- Improving solid waste management
- Developing a fire prevention system
- Providing swimming lessons to reduce drowning
- Planting trees and mangroves
- Saving energy



Mr. Phung Quang Anh, from the Police and Fire Department of the Province, provided useful advice on fire safety and current regulations to the Huong Long commune development team in order to ensure that their plan was achievable and in line with local regulations.

Following these community meetings, a full-day session was organized by the planning teams to develop their CAP using the skills and knowledge gained during the training sessions and incorporate the input provided by the wider community. Some community members who were particularly energized by the evening meeting joined the planning team and contributed to the development of the first draft of the action plan. UNESCO and MAB were in regular contact with the five planning teams to provide support during this vital phase and to review the draft CAPs prepared during the training sessions.

In a final workshop, the groups verified the information contained in the draft templates once again and added detail for the finalized CAP.

Professionals from Hue University of Science and local organizations supported the groups in the finalization of each community's priority action by providing input and comments based on their practical experience in the respective communities for the finalization of each plan's priority action:

- Quang Dien Commune worked on mangrove forestation with an expert on biodiversity from the Hue University of Science
- Huong Vinh Commune received support from the Hue University of Science to develop an activity on drainage systems and solid waste management
- Phu Mau Commune worked with an expert from the local DOET to develop a swimming course for students
- Huong Long Commune developed a fire safety plan with the support of a representative of the Police and Fire Department of Thua Thien-Hue Province
- Thuy Thanh Commune received support from the Hue University of Agriculture and Forestry to work on an Energy Saving Plan

By the end of the process, participants had:

- Identified threats and risks, capacity and potential activities to develop a detailed action plan, including resource allocation and fund raising strategies
- A vision of what their community would be like if they were resilient to climate change, disasters and biodiversity loss
- Draft CAPs for each commune to be validated by community members

4.3.3. Presentation of the CAP to the community for wider awareness raising

Two meetings to present the CAPs to the wider community for further commenting and validation of the activities developed by the core team were held in the CLCs of Phu Mau Commune (morning session) and Huong Vinh Commune (afternoon session). Community members from Phu Mau and Huong Vinh communes attended these presentations, as well as representatives from CED, DOET, the Viet Nam Man and Biosphere National Committee and UNESCO.



A member of the Huong Vinh community presents the plan to the wider community and invites community members to take part in discussions on the future implementation of the CAP.

These sessions were divided into two parts:

- First, the core groups that developed the CAPs presented their plans, provided background information, shared community visions and introduced the proposed activities. During this part of the meeting, participants discussed the role of the community in planning, implementing, monitoring and evaluating the CAPs.
- The second part of the meeting contained a discussion on the priority activities proposed by the development team. The projects were agreed upon and supported by all community members. These discussions turned out to be a good opportunity for enhancing the quality of the plans by collecting valuable information and identifying new resources and assets.

For example, several older community members from Phu Mau Commune mentioned using traditional knowledge to support the selection of trees to be planted in the community. The oldest members of the community offered their expertise in identifying the trees to be planted in the community, being familiar with the endemic species of the region and ensuring that the natural balance of the ecosystems would be respected.



A member from the community gives advice on implementing activities in his locality.

4.3.4. CAPs and activities with the schools: complementing the needs of the school preparedness plans

Community Action Plans were developed with the objective of being harmonized with the School Preparedness Plans, since they can influence each other and jointly contribute to reducing the impact of disasters and climate change by improving the resilience of both the school and the surrounding community. Each school is a part of the surrounding community and affected not only by the actions of the teachers and students, but also by those of parents and community members.



"Our CAP focuses on making the environment of Huong Vinh school clean and waste free, planting green trees and improving the drainage system to protect the school from floods. The CAP was designed with input from the entire community, led by the Parents Association and supported by the Government, ensuring that the CAP could be implemented effectively."

Mr. Ton That Truong Thanh, a resident of Huong Vinh Commune, member of the Parents Association of Huong Vinh Secondary School and member of the CAP development team.

For example, if the School Preparedness Plan improves water filtration or water storage, the risk of floods at the school will be reduced. However, this may not reduce the risk of a nearby river overflowing. In this case, a well-designed community plan would take into account the school's entire surrounding environment, including the

possibility of the river overflowing. The plan would include actions to reduce the risk of flooding in the community, and therefore include the reduction of the risk of flooding at school.

In this sense, the teams developing the CAPs and the School Preparedness Plans took into account the need for mutual support and coherence between School Preparedness Plans and Community Action Plans. These plans set out a range of response actions, including fire prevention, waste management and collection, improving the drainage system, mangrove and tree planting, conducting swimming lessons, energy saving and the creation of clean, safe and green schools.

4.4. Component 8: Disaster Risk Management Plans in World Heritage Sites

Expected results: The capacity of managers and technical staff to identify disaster risks and threats and develop and implement disaster risk management plans at Thang Long Citadel, Hoi An Ancient Town and the Hue Imperial Monuments Complex is increased.

Achievements: Disaster risk management plans were developed for the World Heritage Sites of Thang Long Citadel, Hoi An Ancient Town and the Hue Imperial Monuments Complex. They are currently being implemented at these sites.

Key activities towards achievements:

- Translate and contextualize the UNESCO World Heritage Manual on Disaster Risk Management
- Develop and implement a training course on disaster risk management at World Heritage Sites for the management board of the three pilot World Heritage Sites
- Provide support for the development and implementation of disaster risk management plans at each of the World Heritage Sites

In order to conserve and promote Viet Nam's unique cultural heritage in the face of climate change, disasters and biodiversity loss, World Heritage Sites need to be made resilient to these impacts. To ensure that efforts to increase the sites' resilience are appropriate and effective, each World Heritage Site should identify the most pressing risks and threats and prioritize targeted actions.

For this purpose, the ESD Initiative provided guidance and support to the Management Boards of Thang Long Citadel, Hoi An Ancient Town and the Hue Imperial Monuments Complex World Heritage Sites to develop disaster risk management plans.

As part of the Initiative, the UNESCO World Heritage Manual on Disaster Risk Management was translated and contextualized to Viet Nam. Based on this manual, a training course was prepared by the Department of Cultural Heritage under the Ministry of Culture, Sports and Tourism, the International Centre for Study of the Preservation and Restoration of Cultural Property (ICCROM), and UNESCO.

The first training session, led by ICCROM, introduced key concepts and principles in disaster risk management and familiarized participants with the process of drafting disaster risk management plans for heritage sites. The workshop covered the various components of a disaster risk management plan: principles and concepts, risk assessment, prevention and mitigation, emergency preparedness, and response and recovery. As a result, frameworks for disaster risk management plans were developed, including a concrete annual work plan structured in two terms of six months.



Dr. Le Dien Minh, an expert from the Flood and Storm Prevention Committee, gives a lecture on the local disaster context.

Innovative Methodology for World Heritage Site Disaster Risk Management

The training course included case studies to illustrate the principles and techniques used in disaster risk management planning. Each session of the workshop was followed by a brief discussion on the application of the concepts and methodology to the participants' respective sites. A number of exercises were also conducted to test participants' understanding and initiate a dialogue on relevant disaster risk management issues.

Participants collected information on natural disasters at their sites; analyzed the impacts on the sites, their heritage values and attributes; and developed draft plans. The plans contain analytical information on disaster risks in the region, with a special focus on those that directly affect the Outstanding Universal Values of the World Heritage Sites, such as floods, typhoons, fires, landslides and lightning strikes. The management board of Hoi An Ancient Town, for example, identified fire, floods and storms as risks to the site after in-depth consultations with relevant stakeholders, including local officials and community members.

Once the risks were identified, action plans were developed for a variety of heritage categories, such as architecture, antiques or landscape, in consultation with residents, experts, local authorities (representatives of the Departments of Culture, Sports and Tourism; Natural Resources and Environment; Construction; Planning and Investment; Agriculture and Rural Development; Science and Technology; and Finance), the Steering Committee for Storm and Flood Prevention and Control,

the Military Command Committee and law enforcement officers, Viet Nam Electricity (EVN) and the Management Board of Hydroelectricity under EVN. Identified actions included some that require a high level of investment and technical expertise, such as reinforcing the foundation of damaged buildings to prevent erosion or repairing and upgrading a system of lakes and rivers, while others only require little investment, such as a signage system for monuments at heritage sites.

The draft plans were presented during a final workshop. With technical support from an international expert, Dr. Rohit Jigyasu, a conservation architect and risk management expert at the International Council on Monuments and Sites (ICOMOS), as well as UNESCO staff, the heritage site managers improved their final version of each site's disaster risk management plan and added a matrix of actions that clarified responsibilities and the schedule for each action. Once the plans were finalized, the site managers consulted with relevant partners to discuss the future implementation of the disaster risk management plans at their respective sites.



Dr. Phan Thanh Hai, Director of Hue Monuments Conservation Centre, addresses the workshop participants at the closing ceremony.

The disaster risk management plans for Thang Long Citadel, Hoi An Ancient Town and the Hue Imperial Monuments Complex World Heritage Sites are currently being implemented.

The disaster risk management plan for the Hoi An Ancient Town World Heritage Site identifies the following risks and corresponding prevention and mitigation efforts:

Innovative Methodology for World Heritage Site Disaster Risk Management

Fires:

- Regularly inspect fire safety measures
- Increase awareness on fire prevention
- Install fire alarm systems

Floods:

- Increase awareness on flood protection measures
- Reinforce foundations of buildings
- Move collections to higher locations, if necessary
- Maintain monuments regularly

Storms:

- Increase awareness on storm damage prevention
- Devise evacuation plans for local residents
- Prune trees regularly during the rainy season

Termites:

- Inspect and maintain relics regularly
- Support weak structures



The disaster risk management plan for the Thang Long Citadel World Heritage Site identifies the following risks and corresponding prevention and mitigation efforts:

Heavy rain:

- Store and exhibit artifacts in a way that protects them from rain
- Improve and maintain drainage systems
- Maintain monuments regularly

Storms:

- Construct resilient shelter and storage facilities
- Maintain monuments regularly
- Improve and maintain drainage systems
- Assess the impact of climate change on the site

Floods:

- Improve and maintain drainage systems

Termites:

- Develop a fire prevention plan
- Set up a fire prevention team
- Install fire alarm systems

Earthquakes:

- Install an earthquake early warning system
- Construct safe and resilient shelter and storage facilities
- Maintain monuments regularly



The disaster risk management plan for the Hue Imperial Monuments Complex World Heritage Site identified the following risks and corresponding prevention and mitigation efforts:

Floods and typhoons:

- Secure buildings, trees and embankments

Storms:

- Develop, implement and regularly practice fire safety procedures
- Clearly demarcate evacuation routes
- Install fire alarm systems

Landslides:

- Strengthen embankments

Lightning strikes:

- Install lightning protection system



The disaster risk management plan development process provided practical input for the finalization of the Vietnamese version of the Managing Disaster Risks for World Heritage Sites Manual, which is now available for further utilization at heritage sites throughout Viet Nam.

In order to ensure the continued preservation and protection of World Heritage Sites in Viet Nam, disaster risk management plans need to be developed for all of the country's cultural, natural and mixed World Heritage Sites. The development and implementation of these plans will require further financial and technical support in order to ensure the plans are appropriate, realistic and sustainable, thus contributing to the future safeguarding of Viet Nam's valuable heritage.

Lessons learned

5.1. Challenges and mitigation measures implemented

Following are the main challenges that were identified throughout the project implementation, with the corresponding mitigation measures that were implemented and that increased the opportunities for success.

Challenge 1: Education materials developed within the scope of the project should be aligned with national curriculum

Mitigation measure: The Department of Science, Technology and Environment (DSTE) within the Ministry of Education and Training (MOET), which has been tasked with the development of curriculum related to ESD areas for inclusion in newly developed curriculum by 2015, was identified as the primary counterpart of the project.

Mitigation measure: Three national consultants working on the reform of Viet Nam's curriculum have been involved in content development within the scope of the project to ensure agreement of the content with national law and curriculum requirements.

Mitigation measure: During a needs assessment workshop with teachers from various provinces of Viet Nam to assess teacher training needs in the three ESD areas, teachers provided recommendations on how to include ESD in their daily teaching practices and extra-curricular activities. These recommendations were then shared as a reference with experts within MOET responsible for conducting the curriculum renovation.

Challenge 2: Education materials developed should consider international standards, but should be adequately contextualized for use in Viet Nam

Mitigation measure: Each international consultant responsible for developing content has worked with a team composed

of national experts and institutions (such as the National Remote Sensing Centre, Viet Nam National University – University of Science, Hue University of Science, the Viet Nam Man and Biosphere Committee and Live & Learn).

Mitigation measure: Needs assessment was conducted with teachers from various provinces of Viet Nam to assess their teacher training needs in the three ESD areas, the inputs of which have been used for development of the teacher training content.

Mitigation measure: A final round of refinement of education content was undertaken following implementation of the e-learning courses in Hue to make adjustments based on the results of the piloting exercises.

Challenge 3: As the project has a large number of partners for its various components, coordination and understanding among all partners should be very efficient

Mitigation measure: An overall strategy was developed as well as specific Terms of Reference for all partners, which were shared with all implementing partners so that they are aware of each other's roles and responsibilities. Additionally, coordination meetings between different partners took place throughout the duration of the Initiative.

Mitigation measure: A specific joint work plan and timeline were developed with MOET and joint meetings among stakeholders were organized to ensure counterparts are fully aware of activities.

Challenge 4: Content developed should be easily transferrable to e-learning teacher training methodologies

Mitigation measure: Ha Noi Open University

drafted a guideline for content developers to ensure content developed would be easily transferrable to e-learning teacher training methodologies. The University has participated in all stages of the e-learning development process.

Challenge 5: The activities of the Initiative should be easily replicated or scaled up

Mitigation measure: The various activities and processes in the Initiative are being regularly documented, which can serve as inputs when developing overall guidelines and recommendations for replication of the activities.

Mitigation measure: National authorities with relevant responsibilities related to the different project components are the main implementing partners in the Initiative and are participating throughout implementation so they have full understanding of the component activities and are ready to guide further replication when activities are scaled up on a national level. A MOET Committee has reviewed and endorsed the content developed under the Initiative.

Challenge 6: Projects or activities identified within the scope of CAPs should be feasible to implement

Mitigation measure: The CAP Development Teams are composed of representatives from various sectors within the community, including school directors, local authorities, School Steering Committee of Flood and Storm Prevention and Control and Natural Disaster Mitigation, local mass organizations, parents, community members and the media, ensuring that the diverse expertise and knowledge of the local situation from different sectors can contribute to the development of achievable and inclusive projects.

Mitigation measure: Local stakeholders with expertise in areas relevant to projects or activities within CAPs have supported the development process and provided

technical advice as to the feasibility and sustainability of the projects.

Mitigation measure: Members from the CAP Development Teams have been trained throughout the implementation of the ESD Initiative. They learned the basic concepts in the three key areas, were trained in remote sensing, know about preparedness planning and worked on CAPs. They have a wider range of knowledge and skills they can use for the development and implementation of CAPs.

Challenge 7: Communication Plans developed by media practitioners in the training workshop should be implemented by their media institutions

Mitigation measure: As the organizers of the training workshop, the Ministry of Information and Communication and Radio Voice of Viet Nam sent official letters to the media institutions whose staff participated in developing the Communication Plans requesting that the plans be adopted, approved and implemented.

5.2. Success factors

The achievements of the Initiative are a result of extensive consultation, collaboration and joint work between MOET, UNESCO and all of the Initiative's implementing partners and participants. The following specific aspects of the Initiative played a significant role in ensuring these achievements:

- The longstanding collaborative relationship between MOET and UNESCO has resulted in a high degree of trust in UNESCO's technical assistance and has enhanced the capacity of both partners to develop joint reforms and programmes. This trust has also been the basis for MOET's confidence in UNESCO's fundraising with the private sector, to the extent of using joint logos between MOET, UNESCO and the private sector donor.
- The overarching strength of the implementation of the Initiative is the comprehensive strategy that links

schools, parents, communities, authorities and the media ensuring that concrete results are achieved as evidence of the capacity building process, including the development of school preparedness plans, community action plans and media communication plans.

- The Initiative was highly enriched by the contributions of a diverse range of participants which included governmental entities, NGOs, institutes, universities, the media, communities and individual experts. While this can pose challenges as far as coordination and implementation, it greatly enhanced the quality of overall programme activities as partners were able to contribute extensively in their respective areas of expertise within a more holistic and comprehensive approach
- Community involvement in programme activities generated a high degree of ownership within the homes, schools and communities engaged through the Initiative. The openness of the local authorities to work with and support the communities was a key factor for the Initiative's success
- The close relationship between UNESCO and all of the different partners involved in the implementation of the ESD Initiative was another success factor in the sense that all participants recognize UNESCO's value, quality of work, dedication and leadership. As stated by several partners, the UNESCO team was always recognized as hard working, efficient and a source of learning for all involved participants.
- The broad participation of all stakeholders involved in the monitoring of Initiative activities and results provided a unique opportunity to directly observe how the overall strategy fell into place and how relevant changes were achieved, not only in the schools and communities but also among participating partners.
- The fact that challenges were identified and carefully studied from the beginning of the Initiative, and that mitigation measures put into place were effective, enhanced the quality of the results of the Initiative.
- One final success factor is that Samsung Global not only provided the funding for the implementation of the Initiative but also contributed with materials for children's education. Moreover, Samsung Global never imposed any specific conditions for the implementation of the Initiative and trusted the capacity of UNESCO and MOET to achieve the envisioned results.

5.3. Recommendations for further implementation and replication

The Initiative experience has produced concrete results and the documentation of the achievements and lessons learned allows better understanding of the strategy that can serve as a model or reference to be adapted and contextualized for the integration of ESD and related competences into policies, curriculum, and school and community practices. This report describes the implementation process of the ESD Initiative and is complemented by the recommendations that provide guidance on the different steps necessary to further implement or replicate the experience.

The recommendations have been produced based on the experiences of monitoring, evaluation and documentation, and are contained in the full-length final report.

The ESD Initiative serves as a successful example of a major ESD intervention within the framework of a public-private partnership, ensuring ownership and engagement among stakeholders involved and serving as the base for the implementation of the recently-launched Global Action Programme (GAP) on ESD.



Vice Minister Nguyen Vinh Hien questions students on their new knowledge on ESD-related themes and issues during the school event organized in Quang Loi Primary School.

"I am happy to see that so many primary school students are aware of common issues such as environmental protection and climate change. Projects were carried out at a small scale so that lessons of success could be drawn. In this way, we can replicate the programme in other areas more successfully, especially with the New School model."

Vice Minister Nguyen Vinh Hien

"We will be using and replicating the assessment and preparedness tools and process, adapted to the needs of every school in Viet Nam".

Mr. Pham Hung Anh, Deputy Director General of the Department of Facilities, School Equipment and Children's Toys

In Viet Nam, the Initiative experience should continue to expand throughout all provinces as a direct contribution to the comprehensive renovation of education and training, balancing international practices with a national norms and regulations. Vietnamese textbook and curriculum developers, education managers and other relevant authorities should receive training on the Initiative's strategy to convey how ESD should be mainstreamed within the

curriculum as it facilitates the development of competences around which various sustainable development issues or themes can be learned.



5.3.1. Overall strategy

The comprehensive strategy for ESD developed under this Initiative, and described in the introduction of this report, can be reviewed in order to be adapted and contextualized, if necessary, to the specificities of each country. What is important to keep in mind is the concept of linking schools with homes, communities and the broader society focusing on the teaching and learning of sustainable development issues. Training to understand the strategy is relevant for all stakeholders involved, including beneficiaries.

ESD should be promoted as a strategy, adopted at all levels within the Education Sector, as it does not refer to specific content or a programme, but rather a strategy approach to develop competences in students and adults that allow them to contribute to society's sustainable development.

The first four components presented in this report are the minimum components to be developed as part of the Initiative. These components refer to: (i) the use of e-learning as an innovative tool for teacher training, (ii) awareness raising of parents, community members and authorities to ensure they understand what teachers and students are learning, and (iii) the training of the media to educate the broader society. The additional components described in this report can be modified or replaced by different activities as local circumstances and resources require.

A strong network to support the implementation of the strategy needs to be created with the participation of a variety of stakeholders, including representatives of the Government, NGOs, research institutes, universities, mass organizations and beneficiaries, among others. Strong leadership is required to mobilize this network and coordinate all participating entities: something which can be enhanced if all stakeholders are aware of each other's roles and responsibilities from the beginning of implementation. In addition, a launching event should be organized with

the participation of all stakeholders to ensure that they all understand the expected results of the project, the timeline and other relevant issues to be taken into consideration for successful programme implementation.

The implementation of activities requires a flexible timeline that respects locally-specific commitments (for example, school holidays and examinations, the availability of teachers and local partners, community celebrations and seasonal changes such as harvests or rainy seasons). The timeline of activities should also consider the amount of time required to reach a consensus among content and methodology experts and to approve or validate developed materials and products.

5.3.2. Component 1: Teacher capacity building for integrating ESD into daily teaching practices.

Develop a guideline to promote self-study

To ensure the successful nationwide implementation of e-learning courses, it is necessary to change the learning style of the adult learner to a learner-centred approach in which learners are responsible for their own motivation to study and for applying what they have learned in a responsible manner. Learners need to develop persistence and skills in time management and self-direction. In order to transition to this learner-centred approach, without permanent facilitation by a trainer, guidelines on self-study should be developed for teachers and education managers and authorities who will take the e-learning courses. These guidelines should also include an introduction to the strategy of the Initiative so that teachers and education managers understand the overall purpose of linking the content they teach to their students with the needs and specificities of their community and school.

Develop a blended-learning system

There are a variety of techniques and technologies through which distance learning can be delivered. The ESD experience

combines face-to-face learning sessions with independent study through the e-learning courses, which can be completed online or offline. When participants begin to use these new methods, it is recommended to create opportunities for face-to-face learning with a facilitator or among peers until they learn how to effectively use e-learning methods. This learning process can be complemented through the development of platforms in which a facilitator can virtually reach learners that have internet connectivity. The overall goal is that the training is able to reach participants in remote areas where facilitation may need to be designed in a way that it does not hinder the possibility of their participation due to difficulties arising from distance or accessibility.

Develop a needs assessment

A need assessment should be organized as one of the first activities of the Initiative, with the participation of teachers from various provinces and regions of the country to ensure that the Initiative addresses major challenges and needs. It will allow the team and relevant stakeholders to have an updated vision and better understanding of the situation and of teachers' needs in terms of training. For a better assessment of teachers' training needs, make sure to collect recommendations from teachers from both urban and rural areas since the challenges they face may be different. The training needs assessment may also need to include the use of ICTs and the Internet and the determination of the capacity and availability of technological infrastructure to which beneficiaries have access.

Ensure content development responds to national and international requirements

The team in charge of content development should comprise international experts to ensure consideration of international standards and practices, and national experts for adequate contextualization and use of national norms and regulations, as well as cultural appropriateness. Relevant

specialized institutions should also be included to support the identification and use of existing local experiences and materials that can be used or adapted as part as the course. Furthermore, institutions mandated by national strategies and plans should be consulted. The development team should also include experts on teaching and learning methodologies to provide necessary guidance and advice for content development.

Obtain permission rights from copyright holders

Establish a mechanism to obtain the rights for all materials used and for closely monitoring the copyright attainment process. The permit authorization process should be aligned to national legal frameworks and regulations and those of the organizations directly involved in implementation.

Ensure use of adequate software, testing and piloting

For the production of the e-learning courses, select the most suitable software: one that is easily usable. The production team may need some training if unfamiliar with the selected software. During the production process, ensure that there is enough time for the testing of the courses to debug (identify and resolve all technical issues) the materials before the piloting begins. This process will also reduce the amount of time required to fix eventual bugs and issues following the piloting. Be sure to allow for a final round of adjustments and refinements based on the feedback collected during the piloting.

5.3.3. Component 2: Awareness raising on ESD for school principals, parents and national and local authorities.

Develop a guideline to engage schools and communities for ESD

A core element of the ESD Initiative strategy is the engagement of schools, families, communities and the media to establish and

encourage an enabling environment for ESD. A guideline for replication of activities in the community should be developed to be shared at the school and community level. The guideline can provide orientation and examples on how the community can work together with schools to create an enabling environment for ESD through the development and implementation of joint activities that benefit both the school and the community. This guideline should be shared through community learning centres or other institutions that support parent education and the systematic awareness raising of the community on issues relevant to sustainable development.

Integrate schools and communities in joint awareness raising sessions

Integrate teachers and school principals in the community teams. While they are used to operating as two separate entities, joint training will reinforce the relationship between schools and the community and facilitate the exchange of information and ensure that joint activities to be implemented will be more effective and benefit both the schools and the community. Make sure to take into account the challenges parents and community members might be facing when taking part in the implementation of the Initiative (working hours, availability etc.). Involve them in the development of the timeline and calendar of activities. Ensure that the wider community is also aware of what the core group is working on. Do not forget that all members of the community can contribute resources and knowledge towards the development of plans and the identification of community strengths, weaknesses and needs.

5.3.4. Component 3: Raising awareness of the media on ESD and supporting project visibility.

Ensure the media understands their role in communicating ESD to the society

An integral component of the Initiative's enabling environment, at the national level and in the context of local community

engagement, is the training and participation of the media. The media assumes an important and unique role as a communicator to the wider society and therefore becomes an enabler of change. Participation of local and national media institutions and professionals is instrumental in communicating ESD concepts and competences to the wider society as well as for sharing further programme successes and ensuring visibility for donors and stakeholders alike. By ensuring that media professionals nationwide have the capacity to thoughtfully and effectively engage the public on local and national issues related to climate change, disaster risk reduction, biodiversity conservation and other ESD themes, the national enabling environment for ESD within the broader society is strengthened.

Involve the media in community and school trainings and events

Be sure to involve the local media and journalists not only into media trainings, but also in other activities of the Initiative, such as awareness raising. They will be more aware of the overall strategy and activities implemented, as well as the relationship between the different components, and will provide valuable support to promoting the visibility of the Initiative. Linking the local media to schools and community members allows for a better dissemination of the messages developed by teachers, students and community members. The local media are an essential link in reaching to the wider community and present ESD-related issues as a necessary concern of the whole community.

Involve media in ensuring visibility of Initiative results

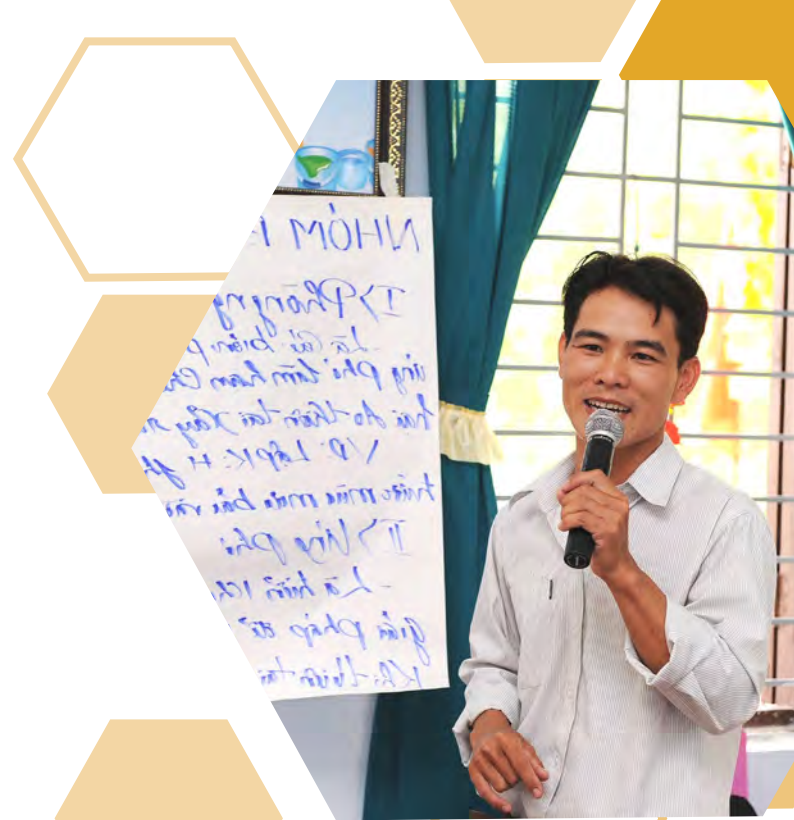
Utilize project visibility to raise interest from other donors and inspire the spontaneous provision of expertise from different stakeholders. This can be done by regularly updating websites, closely collaborating with national and local media, and publishing regular reports and final products. Ensure the visibility of the public-private partnership itself, as well as the visibility of the donor. This can be done through a

joint logo and regular media coverage of the project.

5.3.5. Component 4: Project monitoring, evaluation and documentation for further replication.

Document, share and report

An effective reporting mechanism needs to be in place in order to show the Initiative's impact. Think about planning several monitoring missions into the budget. Regular monitoring missions need to be foreseen to ensure adequate documentation of the activities and steps towards implementation. This recommendation is also valid for evaluation activities, which should include the participation of an external evaluator(s). Ensure regular documentation of all project activities. Before-and-after pictures and success stories are particularly useful in illustrating the impact of the project on people's lives and work. Regular documentation of the process entails taking notes, photographs and collecting quotes and experiences from stakeholders and beneficiaries.



Ways forward

6.1. Concluding remarks

The ESD Initiative has not come to an end. The advancement of Education for Sustainable Development in Viet Nam remains a priority as climate change education, disaster risk reduction, biodiversity conservation and bioliteracy are key components in building a sustainable and resilient learning society, in line with national strategies and priorities.

As evidenced by the achievements presented in this final report, the implementation of these activities has been an enabler for substantial progress on ESD both in policy and practice. The integration of the Samsung-funded components with UNESCO's actions on ESD provided the opportunity to strengthen ESD through a holistic approach involving national and local authorities, school principals, vice-principals, teachers, students, community members, the media, scientific communities, development partners and the management boards of World Heritage Sites in an innovative and sustainable way.

All of those involved in the implementation of the ESD Initiative are empowered to continue supporting relevant actions to reorient Viet Nam's education towards sustainability. The results provided significant visibility for the donor, implementation partners, the Ministry of Education and Training, and UNESCO throughout the Initiative. The midterm and final school events served as evidence of the collaborative efforts taken towards achieving beautiful, safe, clean and green communities and schools. The Initiative has allowed for ESD to acquire a new meaning in Viet Nam and to foster new behaviours through an intersectoral, strategic approach.

The tools, courses, materials and other outputs produced have been made available for further national implementation and to provide an example for international replication. The ESD Initiative represents a great opportunity to scale up efforts, build upon success factors identified and continue

to capitalize on the leadership capacity that has been developed.

UNESCO continues to develop partnerships and ensure collaboration to make further strides to use the Initiative strategy to serve as a model on how to successfully integrate ESD into education policy and practice in schools and communities. In a new phase of the Initiative, UNESCO will now proceed to expand the courses, including training for education managers and mainstreaming gender equality.



Mr. Ha Chan Ho, Samsung's Senior Advisor and former Ambassador of the Republic of Korea to Viet Nam, on the Initiative's final event

Samsung's partnership with the Ministry of Education and Training and UNESCO has been a successful venture for our company. We strive in many countries to ensure our contribution to education is a milestone towards sustainable development and that it creates opportunities for children and youth to have better futures.

In Viet Nam, we have seen our support enhance the training of teachers in areas that are extremely relevant to this country in terms of sustainability and the well-being of its people. We have seen the awareness of parents and community members increased. We have followed the process by which schools have assessed their vulnerabilities and have developed preparedness plans.

Disaster risk reduction and preparedness, climate change mitigation and adaptation, and biodiversity conservation are three key areas of development. We are pleased to see our support helping schools and communities come together to find solutions to challenges in a way that allows students to contribute to their community and to care for the environment.

We will always be proud to know that we were part of a process that promoted bioliteracy as a behavior that everyone in Viet Nam should adopt to live in harmony with their valuable nature, threatened by modernization in the same way as in other countries. We also recognize the important role of the media in spreading these messages to the wider public.

Mr. Trong Le Hung, Deputy Director of MOET's Department of Science, Technology and Environment, and focal point for the ESD Initiative, on the Initiative's final event

The Initiative's outcomes have supported consolidating knowledge of climate change adaptation and measures to reduce biodiversity loss for communities, parents, the media and other stakeholders while at the same time helping them attain a better understanding of the relationship between nature biodiversity, climate change and disaster risk reduction. It was in this way that coordination could be achieved in initiating activities to adapt to climate change and conserve biodiversity.

For Viet Nam, promoting education on climate change response, disaster preparedness and biodiversity conservation is a strategic mission of the whole Education Sector. The Sector is currently renovating the curriculum and textbook system to integrate sustainable development into teaching and learning nationwide. With teachers and students accounting for over one-fourth of the population, the teaching and learning of climate change response, natural disaster preparedness and biodiversity conservation at schools will help spread these important skills to the wider community and the society as a whole.

The Education for Sustainable Development Initiative jointly implemented by MOET, UNESCO and Samsung strengthened and promoted the Education Sector's response to the current challenges of sustainable development and the integration of ESD content, including disaster preparedness education, into the curricula. The Initiative involved various actors and organizations from both within and outside of the Ministry of Education and Training, guaranteeing the success, effectiveness, scope and sustainability of the Initiative. This has enabled the outcomes of the Initiative to directly serve the activities within MOET's Action Plan on Climate Change Response and Natural Disaster Preparedness that has been approved by the Minister of Education and Training.



6.2. UNESCO and the ESD Initiative in the global arena: moving forward towards the future we want

Achievements of the Initiative come at a crucial time. The United Nations Decade for Sustainable Development came to an end in 2014. The World Conference on ESD in Aichi-Nagoya, Japan brought together ESD stakeholders and authorities to celebrate achievements, recall the international commitment and relevance of ESD in the light of the Rio+20 outcome document and the development of the Sustainable Development Goals, and reaffirmed ESD as a vital means of implementing sustainable development. The launching of the Global Action Programme (GAP) on ESD represents the opportunity to recognize ESD as an integral and transformative element of inclusive quality education and lifelong learning, and an enabler for sustainable development.

The achievements of the ESD Initiative in Viet Nam, shared by MOET officials within the framework of the ESD World Conference and the DRR World Conference in Sendai, Japan, represent a unique example of a successful public-private partnership working together at the national level.

The achievements and successes of the Initiative not only represent a great leap forward for the nation of Viet Nam but also directly align and contribute to the priorities set by the GAP. These priorities are:

- (i) **advancing policy** through the integration of key priority areas of sustainability into relevant frameworks and into the curriculum;
- (ii) **transforming learning and training environments** through the creation of an enabling environment through authorities, school teachers and staff and the media, empowering communities to be more resilient and to implement joint actions;

(iii) **building capacities of educators and trainers** through the development of innovative e-learning courses, lesson plans and other practical materials;

(iv) **empowering and mobilizing youth** as the strategic approach allows for students to bring back into their homes and communities the knowledge acquired in their schools; and

(v) **accelerating sustainable solutions at the local level** through the development of School Preparedness Plans, Community Actions Plans, media Communication Plans oriented towards ESD, and disaster management plans for World Heritage Sites.

The Initiative generated significant momentum for ESD both globally and nationwide. The Viet Nam National Commission for UNESCO, as the Secretariat of the National ESD Forum, organized a session to discuss the achievements and outcomes from the ESD World Conference and to set the starting point for the Global Action Programme in Viet Nam.

The National Commission is taking the lead in producing a national action plan for the implementation of the GAP in order to continue to pave the way to a more resilient and sustainable learning society in Viet Nam, building upon the concrete successes of the Decade and promoting the further replication of the ESD Initiative developed jointly with the Ministry of Education and Training and UNESCO in Viet Nam, especially in the use of the e-learning courses, the awareness raising of parents and the community to create enabling environments for learning and for ESD, and the training of the media to deliver the message to the broader society



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S.R. Viet Nam



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Tổ chức Giáo dục,
Khoa học và Văn hóa
của Liên Hợp Quốc

