INTEGRATING EDUCATION FOR SUSTAINABLE DEVELOPMENT INTO PRE-SERVICE EDUCATION IN SOUTHEAST ASIA
A GUIDE FOR TEACHER EDUCATION INSTITUTIONS
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1 INTRODUCTION TO THIS GUIDEBOOK

1.1 WHAT GAPS ARE WE CONTRIBUTING TO?

Integrating education for sustainable development (ESD) into pre-service teacher education continues to be both an opportunity and a challenge. This Guidebook recognises that if teachers are to effectively contribute to achieving sustainable development, then integrating ESD into pre-service teacher education is necessary. This element contributes to the three areas of action that ESD aims to contribute to, which include re-orienting the entire educational system towards sustainability, improving access to quality basic education, and developing public awareness and understanding of sustainability.

To achieve a holistic and integrated approach towards re-orienting the educational system to address sustainability, capacity building is required across levels (i.e., pre-school, primary, secondary, tertiary, vocational, and adult education) and types (i.e., formal, non-formal, and informal education). Capacity-building efforts need to be supported by policies and resources within and across institutions involved in education and learning, including governments, the civil society, and the private sector, working in partnership at the national, regional, and global levels. To succeed, re-orientation requires strong grounding on the local context guided by policy frameworks at the regional and global levels.

Pre-service teacher education has been identified as a potentially effective and efficient approach to addressing the re-orientation challenge, particularly if the amount of time and resources required to re-train current teachers through in-service training is considered. The end-of-decade ESD global report argued that despite the obvious progress in implementing ESD in schools, there has been an absence of clearly articulated ESD strategies and policies and lack of educator competencies (UNESCO, 2014:11) that enable the effective capacity building of teachers and school leaders who are key actors in re-orienting education to address sustainability.
Earlier attempts at integrating ESD into schools and educational institutions across levels have resulted in what we would describe as “a wealth of resources that approached the re-orientation mainly through curricular integration.” Some of the key curricular integration approaches can be categorised as either one or a combination of:

- Creating a new ESD-specific subject
- Embedding ESD into existing subjects as cross- or multi-disciplinary approaches to curricular integration
- Adopting a problem-based approach on a thematic issue such as climate change, air pollution, or deforestation based on local realities
- Incorporating the use of teaching and learning methodologies consistent with ESD principles using learner-centered and participatory approaches
- Taking a whole-of-school or -institution approach via programmes such as eco- and green schools, which involve the development of school-level policies (e.g., on waste management, energy and water conservation, etc.)
- Engaging the local community often through project-based learning opportunities

Specific to Southeast Asia, a number of ESD programmes and policy initiatives at the national and regional levels can be considered worthwhile successes to build on. Some early attempts of both the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Southeast Asian Ministers of Education Organization (SEAMEO) in the mid-1990s such as *Learning for a Sustainable Environment: Innovations in Teacher Education* are worth revisiting. This project used a localised approach to module development, participatory action research (PAR), and a networking approach for on-going professional development.

The end-of-decade ESD global report also recognised how the previously described proliferation of modules has had limited success because of a huge gap in their ability to address the challenge of institutionalising ESD to ensure strong political support to its implementation at the systemic level (UNESCO, 2014:11).

This Guidebook and the accompanying SEAMEO capacity-building project aim to contribute to addressing issues including:

- Developing a clearly articulated strategy for ESD integration
- Identifying specific ESD competencies for pre-service teachers
- Addressing the need to institutionalise ESD within teacher education institutions (TEIs)
Both this Guidebook and the project are grounded on a proposed conceptual framework for ESD integration and encourage project partners to be locally relevant while keeping in mind the bigger picture—that ESD integration contributes to re-orienting the educational system and raising public awareness to achieve better access to quality basic education. This recognises the importance not just of basic literacy and numeracy, but also of what some have described as “environmental or ecological literacy” as the foundation of educational system re-orientation towards sustainability.

The project is also aligned with the current overarching goal of the Global Action Programme (GAP) on ESD—to generate and scale up action in all levels and areas of education and learning in order to accelerate progress towards sustainable development (UNESCO GAP website: https://en.unesco.org/gap/goals-and-objectives). The GAP adopts a reciprocal two-fold approach to increasing the scale and scope of ESD action through:

- Integrating sustainable development into education
- Integrating education into sustainable development

The GAP identified two objectives, namely:

1. To re-orient education and learning so that everyone has an opportunity to acquire the knowledge, skills, values, and attitudes that can empower them to contribute to sustainable development
2. To strengthen education and learning in all agendas, programmes, and activities that promote sustainable development

The project also contributes to achieving all of the Sustainable Development Goals (SDGs), specifically Goal 4—ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UN SDG website: https://sustainabledevelopment.un.org/sdg4.

More specifically, the project contributes to Target 4.7—ensuring that all learners acquire the knowledge and skills needed to promote sustainable development (i.e., living a sustainable lifestyle, enjoying human rights and gender equality, promoting a culture of peace and non-violence, reaping the benefits of global citizenship, and appreciating cultural diversity and culture’s contribution to sustainable development by 2030.

The project specifically responds to Indicator 4.7.1—the extent to which global citizenship education and ESD, including gender equality and human rights, are mainstreamed into all levels in national education policies, curricula, teacher education, and student assessment.
1.2 WHAT APPROACH DID WE DECIDE TO TAKE?

We acknowledge that we do not lack ESD resources and good-practice stories (see Chapter 8) that can serve as guide to teacher-educators in preparing pre-service teachers. In fact, we recognise that current resources utilise innovative, creative, and participatory teaching and learning approaches that aim to develop knowledge, skills, and values relevant to ESD among pre-service teachers. However, our review did reveal a strong tendency towards a more top-down approach to how modules were developed and disseminated.

Instead of creating new ESD resources, we wanted to use existing ones that continue to be relevant. We also wish to acknowledge as best as we can all of the different authors and practitioners whose strong shoulders we stand on. If we missed citing any of you, please feel free to inform us and we will happily make the necessary acknowledgements.

Although one may argue that most of the ESD resources are linked to the Decade of Education for Sustainable Development (DESD) and the Millennium Development Goals (MDGs), it does not take much effort to align these with the new SDGs. We therefore invite you, the reader, to select from and adapt these resources, depending on your own local and institutional needs and contexts.

We wish to make two contributions through this project that we hope will help advance both the concept and practice of ESD integration into TEIs involved in pre-service teacher training.

1. We hope to develop a conceptual framework for ESD integration that addresses the gaps that have been identified, the need for a clear strategy and a list of educator competencies, and the challenge of institutionalising ESD. We wish to offer this framework not as a top-down prescription, but as a proposal for conversation and adaptation or, better yet, for on-going contextualisation. The challenge is to keep the integrity of the holistic nature of ESD integration while acknowledging the local and institutional contexts that will make this framework relevant.

Contextualisation or simply taking a more bottom-up approach will involve TEI leaders and pre-service teachers who are conducting their own situational analyses of attempts at and the successes and challenges of ESD integration within their own TEIs. This approach ensures that institutions and teacher-educators and pre-service teachers will develop greater ownership of the ESD integration and re-orientation purpose and process. This is consistent with the observation on the limited success of ESD integration and the need for institutionalisation where educators must be more than instruments of message delivery, they must be centrally involved in developing the concepts, contents, pedagogies, evaluations, and research that will support its creation (Hopkins and McKeown, 2002:23).
2. We also wish to propose an approach that involves teaching placements or internships for pre-service teachers to serve as opportunities to learn more about ESD from the local school and community realities that they observe. This will require pre-service teachers to be provided basic ESD concepts and tools to effectively describe and critically reflect on the local school and community contexts. As such, this Guidebook will provide links to ESD resources that TEIs can select from and adapt to provide pre-service teachers knowledge, skills, and attitudes that will guide them as they take part in the real-world context of their future schools and communities. This learning process is based on the principles of action research grounded on reflective teaching practices that we know are embedded (maybe in varying degrees) in current pre-service teacher education curricula.

The hope is that pre-service teaching rounds will provide additional opportunities and experiences that will build on available ESD teaching and learning resources. This Guidebook also hopes to provide TEIs and pre-service teachers the necessary ESD educator competencies that are grounded on a contextual understanding to effectively enable them to employ these competencies while recognising their significant contributions to the larger challenge of re-orienting the educational system towards sustainability.
1.3 WHAT DO WE EXPECT FROM YOU?

This Guidebook will help you develop situational analyses for your respective TEIs and identify currently available and relevant ESD teaching and learning resources that are informed by a conceptual framework of ESD integration specific to pre-service teacher education. It has been structured to address the different elements of the proposed conceptual framework of ESD integration for TEIs.

ESD values active participation and engagement grounded on local contexts. An essential element of this publication, therefore, will be for TEI leaders and teacher-educators to identify what is locally relevant and appropriate to their respective institutions. This will be informed by national development and policy contexts and local community and institutional situations.

As for pre-service teachers, we hope that you will develop an appreciation for the holistic nature of ESD as an integrating framework that can provide relevance to your teaching by continually being grounded on the realities of the students, schools, and communities you will engage with.

This Guidebook can be used by individuals and groups involved in integrating ESD into pre-service teacher education. It is relevant for deans of education and course or curriculum developers within TEIs who work with teacher-trainers and -educators. It also can be adapted for use by not just pre-service teachers, but also by the teacher-trainers and -educators who work directly with them.

The contents of this Guidebook were developed with the aid of 10 TEIs from Southeast Asia who participated in the Sub-Regional Workshop on Education for Sustainable Development for Teacher Education Institutions held on 5–9 June 2017 in Chiang Rai, Thailand.
2.1 HOLISTIC NATURE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION

Hopkins and McKeown (2005:13) in the second UNESCO DESD technical paper (2005) identified the need for a more holistic approach to ESD integration with regard to curricula, recognising that for it to be effective, it will involve efforts in all of the following areas:

- Ministerial and national level involvement
- Community and regional or provincial involvement
- Changes within institutions of higher education
  - Changes across institutions of higher education
  - Changes within faculties of education
  - Changes related to engaging pre- and in-service teachers
  - Changes at the individual faculty member level
- Funding and other resources
- Partnerships
- Research
- Communications
- Information technology (IT) opportunities
This project will focus on the capacity building of TEIs to integrate ESD into pre-service teacher education while recognising the inter-connection between areas as detailed in the proposed conceptual framework in Section 2.2. The authors initially argued that ESD integration needed to be viewed as a cumulative spectrum where each stage encompasses the next one.

A review of available literature confirmed that most ESD integration efforts focus on the areas of knowledge, methods, and curricular change. ESD integration focused more on adding a new ESD subject and developing ESD as a cross-cutting curricular topic, rather than instigating holistic curricular and institutional changes, as expected from contributing to the re-orientation of education towards sustainability.

This observation is supported by an Australian study on mainstreaming ESD into pre-service teacher training, which argued that education for sustainability needs to be mainstreamed into pre-service teacher education and not just added on through the teaching of single units or marginalised content (Commonwealth of Australia, 2010:8). The report defined mainstreaming as the inclusion of the content and practice of a particular idea (e.g., learning for sustainability) within an organisation, institution, or system (e.g., pre-service teacher education) to such an extent that it becomes embedded within its policies and activities (Ferreira and Tilbury, 2006:99).

In this Guidebook, we decided to define ESD integration as “an all-embracing and systemic concept,” as described by Hopkins and McKeown (2005:13) and see mainstreaming as equally holistic but focused on TEIs. These will be discussed in greater detail in Section 2.2.
2.2 FRAMEWORK FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION INTO PRE-SERVICE TEACHER EDUCATION

The proposed ESD integration framework (see Figure 2) recognises that at the core of any attempt is the basic understanding of ESD as a holistic and integrated vision of education that draws on the evolving concept of sustainable development. It acknowledges the inter-relatedness of the social, economic, and environmental dimensions, but also recognises that these three are embedded in culture and influenced by prevailing political contexts. These contextual realities are further informed and advanced by multi- or cross-disciplinary thinking, which recognises that sustainability is, by nature, holistic and inter-connected. The concept of ESD, together with a brief historical overview and a framework from practice, are discussed in Chapter 3.

Figure 2. Proposed ESD integration framework for pre-service teacher education
The six inter-related elements of the ESD integration framework are:

1. **Frameworks**: These include policies at the departmental or ministerial, national, and global levels, including school-based policies and initiatives (e.g., eco-, green, enviro-schools, etc.).

2. **Contexts**: These include the local and community realities and key stakeholders (e.g., students, teachers, parents, community members, the private sector, the civil society, and local governments) that shape and contribute to education and sustainability.

3. **Contents**: These comprise the knowledge element and are often linked to specific issues and themes that identify entry points for learning for sustainable development.

4. **Methods**: These comprise the teaching and learning approach element that is often described as learner centered and participatory.

5. **Curricular mainstreaming**: This identifies teaching and learning approaches (e.g., new subjects, cross-disciplinary teaching, project-based learning, etc.) applied by TEIs to integrate ESD via curricular changes.

6. **Institutional mainstreaming**: This refers to the element of transformative leadership that includes developing policies, identifying and wisely using resources, and nurturing partnerships that support ESD integration within the larger goal of institutional transformation.

As identified in the earlier spectrum (see Figure 1), ESD integration has often focused on including relevant contents using appropriate teaching and learning methods in curricula, also known as “curricular mainstreaming.” This is identified by the three hexagons in the upper half of the framework (see Figure 2)—contents, methods, and curricula.

More recently, as the framework illustrates, we recognise that successful integration requires institutionalisation or institutional mainstreaming informed by relevant policy frameworks and contextual realities. This is identified by the three hexagons in the lower half of the framework (see Figure 2)—institutions, frameworks, and contexts.

The framework also sets the standards that ESD integration aims to achieve, recognising the inherent inter-relatedness of the six identified elements.

ESD integration needs to be effective in that it identifies contents that develop knowledge, skills, and attitudes via teaching and learning approaches that are appropriate for specific stakeholders and their local contexts as well as relevant to current policy frameworks. ESD integration efforts then need to be mainstreamed within institutions committed to transformation and curricula that continue to be adaptable to the dynamic context of change.

This is an evolving framework and we hope that together we can continue to fine-tune it as our practices and institutions change.
2.3 PRE-SERVICE TEACHER EDUCATION FOR SUSTAINABLE DEVELOPMENT COMPETENCIES

The goal is to use the framework as a useful guide for teacher-educators and TEI leaders in developing pre-service teachers’ ESD competencies with sustainable initiatives within their respective TEIs. The following lists the key ESD competencies based on the proposed framework informed by elements from ESD Lens Review Tool 13 (Commonwealth of Australia, 2010).

- **ESD concepts**: Answer the question, “Are teachers developing an understanding of the philosophy, objectives, and characteristics of ESD?”

- **ESD frameworks**: Answer the question, “Are teachers developing an appreciation for the relevance of ESD and an awareness of the current policies and initiatives aligning ESD with national development and educational goals, specifically in terms of quality?”

- **ESD contexts**: Answer the question, “Are teachers developing appropriate strategies for identifying local issues and engaging with communities in relation to global issues?”

- **ESD contents**: Answer the question, “Are teachers developing their knowledge to understand and explain local and global issues that affect the achievement of sustainable development?”

- **ESD methods**: Answer the question, “Are teachers developing the skills to use a variety of effective teaching and learning approaches to achieve a wide range of ESD objectives?”

- **ESD curricular mainstreaming**: Answers the question, “Are teachers developing an understanding of ESD implementation as a cross-curricular theme and how this can enrich subject teaching?”

- **ESD institutional mainstreaming**: Answers the question, “Are teachers developing an awareness of the institutional structures and processes that are crucial for successful ESD integration?”
2.4 EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION INSTITUTIONAL BASELINE SURVEY

The competencies identified can be used as guide to identify and evaluate specific initiatives that TEIs currently conduct to achieve ESD integration. We propose that the first step involve the conduct of a baseline survey for each TEI to establish its starting point for ESD integration. The survey is meant to be a self-assessment tool to help each institution reflect on its current level of ESD integration. A thoughtful response to the self-assessment tool will help each institution identify and design the most appropriate strategies for ESD integration. Feel free to add, delete, and modify the survey to suit your institutional context.

Based on the initial situational analysis completed prior to commencing the workshop, it is critical for the participants to come to an agreement that there is a shared problem—the need to improve ESD integration in TEIs. The survey results hope to acknowledge, however, that we are not starting with a deficit model, but with a more appreciative one that recognises what is already currently available.

More often than not, we have seen a review of survey results that indicate that ESD is not mentioned in any specific university or college policy, even if a deeper evaluation of the institution’s mission statement reveals its inherent commitment to learning that is transformative for students and their communities. What better starting point to have? (Refer to Chapter 4 for the continuation of the discussion with regard to how the survey results informed the action research process.)
Dear participants,

Greetings!

Thank you for your interest in participating in the upcoming [Workshop Title] to be held on [Date] at [Venue]. This workshop will be conducted in conjunction with the Southeast Asian Ministers of Education Organization (SEAMEO) project, *Sustainability Begins with Teachers in Southeast Asia: A Contribution to “Today for Tomorrow: Coordinating and Implementing the Global Action Programme on Education for Sustainable Development,”* supported by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Government of Japan.

Prior to our national workshop, we are requesting each institution to answer the following survey so that together we can learn more about the status of education for sustainable development integration in your college or university. Your responses will also help shape the structure of the national workshop. They will ensure that the workshop will be appropriate for the participants from your institution.

This information will also contribute to the development of a Southeast Asian situational analysis of education for sustainable development integration for pre-service teachers being conducted by SEAMEO.

Kindly send the completed form to [Name of Contact Person] by [Date].

Thank you very much in advance.

Respectfully yours,

[Name]
Please fill in the information required from you as the respondent.

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<th>PARTICIPANT 1</th>
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<td>What is your main role/function in education for sustainable development implementation in your university?</td>
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<td>What previous education for sustainable development workshops have you attended? (Identify the most recent one first.)</td>
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PART 1. EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION POLICIES

Integrating education for sustainable development into pre-service teacher education continues to be an opportunity and a challenge and one of the many priority areas in terms of education policy and curriculum change that will contribute to the re-orientation of the educational system to contribute to sustainable development. As such, please briefly respond to the following questions.

1. Are there education for sustainable development policies in your country?

☐ Yes  ☐ No  ☐ Do not know

1.1. If yes, briefly describe the policy below.


1.2. Does your education ministry or that responsible for education for sustainable development in your country have relevant policies?

☐ Yes  ☐ No  ☐ Do not know

1.2.1. If yes, briefly describe the policy below.


1.3. Are there education for sustainable development policies in your university?

☐ Yes  ☐ No  ☐ Do not know

1.3.1. If yes, briefly describe the policy below.


2. Education for sustainable development aims to develop the capacity of pre-service teachers to understand and respond to problems that they confront on a daily basis. At the global level, climate change has been dominating the headlines. Identify the top 3 community or local issues or problems that are most relevant to your teacher education institution? Have you integrated these issues into your teaching of education for sustainable development? If so, how have you integrated them?

<table>
<thead>
<tr>
<th>TOP 3 COMMUNITY/LOCAL ISSUES MOST RELEVANT TO YOUR TEACHER EDUCATION INSTITUTION</th>
<th>BRIEF DESCRIPTION OF HOW THIS WAS INTEGRATED INTO YOUR EDUCATION FOR SUSTAINABLE DEVELOPMENT CURRICULUM</th>
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2.1. More broadly, what specific approaches has your teacher education institution used in education for sustainable development integration? Please review the list below and feel free to add a few more to the table if you wish to.

<table>
<thead>
<tr>
<th>APPROACH TO EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION</th>
<th>WHEN THIS APPROACH WAS IMPLEMENTED</th>
<th>DESCRIPTION OF EVIDENCE OF SUCCESS</th>
<th>CHALLENGES FACED</th>
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<tr>
<td>New education for sustainable development subject/course was added to the pre-service teacher education curriculum</td>
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<td>Education for sustainable development principles were embedded in different subjects in the pre-service teacher education curriculum</td>
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<td>Professional development of teacher-educators and teacher education institution staff was conducted</td>
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<td>Whole-institution education for sustainable development practices were implemented (e.g., waste management, energy conservation, etc.)</td>
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<td>Education for sustainable development-related field trips or site visits were conducted</td>
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<td>Education for sustainable development-related community projects were implemented</td>
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2.3. The education for sustainable development integration efforts above would have involved people and gone through certain institutional processes. Briefly identify the key individuals, structures, and processes involved in education for sustainable development integration in your teacher education institution.

<table>
<thead>
<tr>
<th>WHO WERE THE THREE KEY INDIVIDUALS (PREVIOUS/CURRENT) MOST INVOLVED IN EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION IN YOUR TEACHER EDUCATION INSTITUTION?</th>
<th>WHAT WERE THEIR ROLES/CONTRIBUTIONS TO EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION?</th>
<th>PROVIDE EVIDENCE OF SUCCESSFUL EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION.</th>
<th>DESCRIBE ON-GOING EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION CHALLENGES YOU ARE FACING.</th>
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<td>WHAT THREE KEY STRUCTURES (E.G., INTERNAL COMMITTEES/EXTERNAL ORGANISATIONS) HAD THE MOST INFLUENCE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION IN YOUR TEACHER EDUCATION INSTITUTION?</td>
<td>WHAT WERE THEIR ROLES/CONTRIBUTIONS TO EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION?</td>
<td>PROVIDE EVIDENCE OF SUCCESSFUL EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION.</td>
<td>DESCRIBE ON-GOING EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION CHALLENGES YOU ARE FACING.</td>
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<tr>
<td>WHAT THREE PROCESSES INFLUENCED HOW CURRICULAR CHANGE WAS IMPLEMENTED?</td>
<td>WHAT WERE THEIR ROLES/ CONTRIBUTIONS TO EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION?</td>
<td>PROVIDE EVIDENCE OF SUCCESSFUL EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION.</td>
<td>DESCRIBE ON-GOING EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION CHALLENGES YOU ARE FACING.</td>
</tr>
</tbody>
</table>
3. There have been a number of education for sustainable development teaching and learning resources prepared by UNESCO and other key practitioners. Have you used any of these resources? Please identify any resource that you used to inform the integration initiatives of your teacher education institution.

<table>
<thead>
<tr>
<th>TITLE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT RESOURCE</th>
<th>CITE SOURCE (E.G., WEB ADDRESS/ BIBLIOGRAPHICAL ENTRY)</th>
<th>BRIEF DESCRIPTION OF MODULE ELEMENTS USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: UNESCO. (2010). Teaching and Learning for a Sustainable Future: A Multi-Media Teacher Education Programme.</td>
<td><a href="http://www.unesco.org/education/tlsf/">www.unesco.org/education/tlsf/</a></td>
<td>Modules on the link between the economy, the environment, the society, and peace</td>
</tr>
</tbody>
</table>

3.1. What specific features of these education for sustainable development resources did you find most useful? Why?
3.2. What specific features of these education for sustainable development resources did you find least useful? Why?


3.3. Have you adapted (i.e., made local modifications for your own use) any of the education for sustainable development resources above?

☐ Yes  ☐ No

3.3.1. Please briefly describe what specific changes you made and why.


3.4. What education for sustainable development resource do you think is needed to improve integration initiatives in your teacher education institution?


PART 4. EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION WORKSHOP
EXPECTATIONS

4. As we prepare for your education for sustainable development integration workshop, do you have any specific needs or suggestions that you want us to take into consideration?

Thank you very much and we look forward to receiving your responses soon.
Several people still comment that ESD is difficult to define and understand and thus implement. We, however, argue that ESD is a framework for learning about our inter-connected world, a process where we identify and act in the world that contributes towards achieving our own vision of a more sustainable future. To do this, ESD requires us to act on three inter-related priority areas (Hopkins and McKeown, 2002), namely:

1. Improve basic education
2. Re-orient education to address sustainability
3. Increase public awareness and understanding of sustainability

This Guidebook presents a number of different approaches to defining ESD or describing its elements. We first present the definition from the UNESCO website as a starting point.

**WHAT IS EDUCATION FOR SUSTAINABLE DEVELOPMENT?**

ESD (UNESCO ESD website: http://en.unesco.org/themes/education-sustainable-development/what-is-esd) empowers learners to make informed decisions and take responsible actions for environmental integrity, economic viability, and a just society for present and future generations while respecting cultural diversity. It is about lifelong learning and is an integral part of quality education. ESD is holistic and transformational education that addresses learning contents and outcomes, pedagogies, and the learning environment. It achieves its purpose by transforming society.

- **Learning contents:** These comprise integrating critical issues such as climate change, biodiversity, disaster risk reduction (DRR), and sustainable consumption and production into curricula.
• **Pedagogies and learning environments**: These comprise designing teaching and learning in an interactive and learner-centered way that enables exploratory, action-oriented, and transformative learning. Re-thinking learning environments should be physical as well as virtual and online in nature to inspire learners to act towards sustainability.

• **Societal transformation**: This refers to empowering learners of any age and in any educational setting to transform themselves and the society they live in by:
  
  » Enabling transition into greener economies and societies via:
    
    ◊ Equipping learners with skills for “green jobs”
    
    ◊ Motivating people to adopt sustainable lifestyles
  
  » Empowering people to become “global citizens” who engage in and assume active roles, both locally and globally, to face and resolve global challenges to ultimately become proactive contributors to creating a more just, peaceful, tolerant, inclusive, secure, and sustainable world.

• **Learning outcomes**: These comprise stimulating learning and promoting core competencies such as critical and systemic thinking, collaborative decision making, and taking responsibility for present and future generations.

In addition, we invite you to read three other publications that attempt to define or describe ESD from a Southeast Asian perspective, a cultural perspective (rather than the usual perspective—environmental), and the perspective of practitioners in Asia-Pacific.
APPRECIATING EDUCATION FOR SUSTAINABLE DEVELOPMENT AS A GLOBAL INITIATIVE

The definition of ESD (see Appendix 1) from a resource that was specifically designed for Southeast Asian educators provides a good introduction to ESD as a global initiative (SEAMEO INNOTECH, 2010).

It is important to emphasise that this needs to be updated to include the more recent policy context of ESD within the framework of the SDGs. We argue, however, that taking a historical perspective to the development of the concept and practice of ESD helps us appreciate its evolving nature. Therefore, as teacher-educators and pre-service teachers, we become more aware that we are not merely communicating pre-determined ESD concepts, but also contributing to the development of its concept informed by our daily realities.
3.2 UNDERSTANDING EDUCATION FOR SUSTAINABLE DEVELOPMENT AS AN EVOLVING CONCEPT

This section provides a more detailed description of ESD that comes from the perspective of inter-cultural understanding (deLeo, 2010) as opposed to the usual introduction from the environmental perspective. Many resources state that ESD is embedded in culture but seldom provide a deeper explanation of what this “embedded” nature implies for teaching and learning. This reading provides a comprehensive explanation. It also acknowledges that ESD is equally influenced by the political dimension, which relates to the issue of policies, more importantly, the issue surrounding power. Different countries and contexts will need to be sensitive about how this dimension is mentioned or recognised. The bottom line is that we need to appreciate the holistic and contextual nature of ESD and adapt an approach to align this with local realities (see Appendix 2).

Social, political, economic and natural (i.e. environmental) dimensions of sustainability occur within CULTURAL contexts

Figure 3. Diagrammatic representation of the various dimensions of ESD (deLeo, 2009:3)
3.3 CONTEXTUALISING EDUCATION FOR SUSTAINABLE DEVELOPMENT AS A TEACHING AND LEARNING PRACTICE

The following reading describes an attempt to develop an ESD framework based on teaching and learning practices within a non-formal and community-based context in Asia-Pacific. The ESD HOPE Framework was initially developed as an ESD evaluation framework, but has since become a useful guide for planning, implementing, and evaluating ESD. While the framework was guided by the UNESCO ESD Decade International Implementation Scheme’s (2005) definition or characterisation of ESD, the result was a product of numerous educational projects conducted across Asia-Pacific during DESD. It is, therefore, a demonstration of how ESD can be effectively contextualised while still having a shared guiding framework (see Appendix 3).

Figure 4. Original HOPE ESD Framework (Asia-Pacific Cultural Centre for UNESCO [ACCU] ESD website: http://www.accu.or.jp/esd/hope/)
4 ACTION RESEARCH APPROACH TO EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION

The specific context for using action research in this Guidebook involves a multi-step process that recognises that lead TEIs in each country are expected to facilitate a change process within their own institutions as well as introduce ESD integration to other TEIs in their own countries.
4.1 WHAT IS PARTICIPATORY ACTION RESEARCH?

This Guidebook proposes the incorporation of PAR as a key principle or methodology for implementing changes in TEIs. It hopes to guide participants through a process, rather than serve as a top-down guide to good practices.

Many PAR models are used to facilitate changes in organisational practices across the private, public, and educational sectors. The action research model utilised in this Guidebook is based on the one described in Steele’s *Mainstreaming Education for Sustainability in Pre-Service Teacher Education: Enablers and Constraints* report, which was prepared by the Australian Research Institute in Education for Sustainability (ARIES) for the Australian Government Department of Environment, Water, Heritage and the Arts. The process is very similar to what is expected from this particular project, hence the adaptation. We encourage you to also explore the different case studies presented in this report, as they may be relevant to your own institutional contexts.

Figure 5. ARIES’s action research cycle

Action research:
- is a social process
- is participatory
- is practical and collaborative
- is emancipatory
- is critical
- is recursive
- aims to transform both theory and practice

*Figure 5. ARIES’s action research cycle*
The action research model is an iterative process. Each cycle is an iterative process as well as a link to the next cycle of action research.

Kemmis and McTaggart (Steele, 2010) described it as “a process where participants define a problem, plan and evaluate action, and then reflect on the action.” A second or third cycle of action may then be initiated that incorporates learnings from previous action or reflection cycles. Action research is collaborative, social, and reflexive in nature.
4.2 PROPOSED STRATEGY FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION

SEAMEO’s project, *Sustainability Begins with Teachers in Southeast Asia*, approaches the ESD integration task guided by the proposed framework and PAR. It comprises three distinct but inter-related cycles as illustrated in Figure 6. All of the cycles are informed by a situational analysis of the individual, the community, and most especially the TEI itself.

As with most regional projects, problem identification was conducted prior to participant engagement. The project aimed to provide Southeast Asian countries the capacity to effectively integrate ESD into pre-service teacher education. The team argued that we needed to allow the participants to identify the problem on their own so they have greater ownership of the processes they will implement in their respective institutions and countries.

4.2.1 FIRST CYCLE OF ACTION RESEARCH: SITUATIONAL ANALYSIS—WHAT IS OUR PROBLEM?

The first cycle involved planning for and designing a survey (see Section 2.3) for the participants to complete so they can act and collect data and establish their starting points, but also to help us identify the specific needs of each TEI with respect to ESD integration for pre-service teachers. At the start of the workshop, all of the participants presented their responses and together observed trends. We reflected on the survey results, which confirmed that each TEI and country had significantly different experiences in terms of ESD integration. In addition, we evaluated the responses using the proposed ESD integration framework to identify the needs of and assist the participants in planning for their respective TEIs, which is part of the second cycle.

While the problem and solutions will be identified and responded to at the institutional level, the first cycle of action research needs to engage the participants in acknowledging the problem based on their understanding of ESD. This, therefore, had an element of individual learning about ESD that involved a mix of literature review, contextual knowledge, and first-hand experience. Thus, a certain level of professional development will be required by the workshop, along with the second and third cycles.

As we concluded the first cycle, the participants identified a specific entry point for ESD integration within their respective institutions. This step aimed to gain clarity about the problem, particularly about possible ways forward. We were trying to ensure that we moved away from a deficit approach, which can be disempowering, and focused instead on a positive starting point that was a more of appreciative approach.
The Appreciative Inquiry activity sheet (see Appendix 4) may be useful at various stages of the action research cycle.

**Figure 6.** ARIES’s action research cycle adapted for the SEAMEO TEI project

### 4.2.2 Second Cycle of Action Research: What Can We Do Within Our Teacher Education Institution?

Applying what we learned from the first cycle of action research to the planning phase of the second cycle was next. Most of the participants identified a level of professional development for their colleagues so they can understand what ESD was before appreciating the need for it and acting on how best to integrate it into the pre-service teacher education curriculum.
This plan should involve developing an awareness of ESD issues that are particularly relevant to your TEI and community. It also involves identifying relevant policy frameworks (i.e., global or national) and current programmes (e.g., eco-, green schools, etc.) within your TEI or immediate community. This follows a pattern similar to that used in the Chiang Rai workshop where participants were first invited to respond to a survey. We shared two options for the survey—a modified version of what we conducted (see Section 2.5) or the one we adapted from *ESD Lens Review Tool 13*, which was featured in Chapter 5. The results of the survey will help the participants develop a sense of ownership for the problem and come up with possible solutions for their respective TEIs. This can, in turn, become the third cycle in each TEI.

### 4.2.3 Third Cycle of Action Research: Mainstreaming Curricular and Institutional Changes within Each Teacher Education Institution

The third cycle of the action research should focus on taking action—plan, act, observe, and reflect on the change process in relation to institutional and curricular mainstreaming of ESD within your TEI. As part of the process, you should establish a detailed action plan based on areas of the ESD integration conceptual framework where gaps were identified. Reflection on or an evaluation of the success of the ESD integration is a key part of this cycle, as are learning and sharing elements.

### 4.2.4 Third Cycle of Action Research: Outreach to Other Teacher Education Institutions

Each of the TEIs was invited to conduct further ESD integration workshops for other TEIs in their countries. This can be a parallel part of the third cycle where what you learn from conducting research and trainings within your TEI can serve as useful lessons for planning, designing, and conducting outreach workshops where you can share your reflections with other TEIs.
We used the proposed framework to conduct a situational analysis of ESD integration into pre-service teacher education in Southeast Asia at present. The framework allowed us to identify strengths and opportunities for action not just at the level of the TEI, but also from a regional perspective.

We propose that a more detailed regional situational analysis be conducted as an outcome of the TEI project by following this process:

1. Development of a preliminary regional situational analysis of ESD integration in Southeast Asia (presented during the first TEI workshop)

2. Collection of institutional situational analyses of ESD integration in TEIs through a pre-training survey (see Section 5.3.1) presented as part of the first TEI workshop

3. Expansion of the Southeast Asian situational analysis of ESD integration as the conclusion of the first TEI workshop (see Section 5.2 and the case studies in Chapter 6)

4. Collection and analysis of national situational data to be conducted as part of the ESD integration national trainings for other TEIs (pending)

5. Consolidation and publication of the revised Southeast Asian situational analysis at the end of the TEI project (pending)

This five-stage approach to developing the situational analysis is supported by the review of literature, which revealed that the success of ESD integration has been limited by the predominantly top-down approach, resulting in weak ownership and local relevance due to the proliferation of short-term trainings with minimal on-going support.
5.1 WHAT DO WE KNOW ABOUT EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION INTO PRE-SERVICE TEACHER EDUCATION IN SOUTHEAST ASIA?

The situational analysis presented in this Guidebook draws from readily accessible national, regional, and global ESD reports. The key reports used are presented in an annotated bibliography (see Chapter 9).

Specific to Southeast Asia, SEAMEO’s recent identification of revitalising teacher education (2015) as one of the seven opportunities and priorities for action recognises the continuing urgency and relevance of this work.

This effort builds on the previous achievements during the Education for All (EFA) period, taking a more integrated approach that recognises the need to link the seven priority areas to the curriculum in order to move towards global citizenship and enhance teachers’ and school leaders’ competency standards in SEAMEO Member Countries (Valenzuela, 2016). This serves as one of the key dimensions identified in the ESD integration framework—the need for policy frameworks at different levels (i.e., school, national, and regional) that does not only provide a clear rationale, but also identifies how different priorities contribute to a broader SEAMEO goal—contributing to excellence in education, science, and culture (2015).
SEAMEO’s recognition of the achievements within the two decades of the global flagship programme for EFA is confirmation that it is essential to learn lessons from the past while being more responsive to the challenges of the present and the future. Apart from EFA, Southeast Asia also exerted a significant amount of effort in relation to environmental education and ESD.

UNESCO’s (2005) situational analysis for Asia-Pacific, meanwhile, observed that while early environmental education in Southeast Asia recognised the value of local culture in protecting community resources, initiatives often focused on nature conservation and were primarily developed by Ministries of Environment or Agriculture. In 2000, the 10 Association of Southeast Asian Nations (ASEAN) Member Countries adopted the ASEAN Environmental Education Plan for 2000–2005, which laid the foundation for DESD.

The earlier tendency to focus on nature conservation is evidence of how important it is to any ESD integration framework and shows a clear appreciation for and understanding of the central concept of sustainable development in relation to the environmental, social, and economic dimensions. Recognising the influence of local culture, on the other hand, supports the argument for a triple-bottom-line approach to embed culture in any attempt at ESD integration.

DESD attempted to raise awareness of the fact that achieving ESD priorities firmly rested not only on embedding culture, but also involved re-orienting the educational system. Public awareness also solidly rested on achieving quality basic education. This recognises the importance not just of basic literacy and numeracy, but also of what some have described as “environmental or ecological literacy” as the foundation of any kind of educational system re-orientation towards sustainability.

Despite advances made during DESD though, the final report still identified that the obstacle to advancing ESD in schools includes lack of clearly articulated strategies and policies and insufficient educator competencies, along with the need to institutionalise ESD. Recognising these gaps pointed out that the proposed ESD integration framework should have two key elements—policy frameworks and institutional strengthening. The ESD integration framework should also serve as the basis for identifying relevant educator competencies for pre-service teachers.

It is worthwhile to revisit an early attempt of UNESCO and SEAMEO in the mid-1990s—Learning for a Sustainable Environment: Innovations in Teacher Education—as it successfully used a localised approach to module development and PAR and the networking approach for on-going professional development (Fien, 2011). The more relevant lesson we drew from this project, however, was how often pre-service teacher education projects can be very top-down in nature. They deny key stakeholders a role in knowledge production and merely position them as passive receptors or adopters of centrally prescribed research and innovation (Singh, 2011:98).
With particular reference to pre-service teachers, Fien (2001:78) cited a 1994 UNESCO-Asian Conference on Education and International Development report that observed how innovations in teacher education were usually externally motivated and not implemented at the point in teachers’ lives when they were dissatisfied with their present practice, and hence were looking for alternatives to solve a problem they personally recognised. This externally motivated approach further reduced the role of teachers to that of “passive receivers” of centrally produced curriculum.

A more recent attempt at ESD integration in Southeast Asia using the curriculum as entry point was conducted by the SEAMEO Regional Center for Educational Innovation and Technology (INNOTECH) in 2010. SEAMEO INNOTECH conducted a regional research workshop in preparation for an ESD for secondary social studies curriculum toolkit. This toolkit recognised that across Southeast Asia, the paradigm of ESD has permeated discourses on enhancing education for national development. Governments, education providers, and education advocates all recognise the potency of education in safeguarding the future and are using it to inculcate the principles of sustainable development into the learning experiences of young people (SEAMEO INNOTECH, 2010:1). The toolkit also identified a number of key issues that remained concerns related to ESD integration in Southeast Asia, which this particular project wishes to acknowledge and address.

We are seeing a persistent lack of ownership and engagement among teachers in relation to the process of integration, which SEAMEO INNOTECH (2010:34) described in the statement, “Social studies teachers and curriculum developers have very little or zero involvement in actual ESD curricular integration initiatives. Involvement is mostly assigned to science experts.”

Greater ownership and engagement will require addressing the identified gaps in terms of their own understanding and knowledge of ESD. The toolkit identified that educators and curriculum developers had minimal or superficial awareness, knowledge, and understanding of ESD. And if they did have some level of understanding, they did not fully imbibe the holistic and inter-disciplinary scope of the ESD framework and often only focused on the environmental aspect of sustainable development (SEAMEO INNOTECH, 2010:34).

The toolkit further identified the need for more teachers who could serve as ESD advocates in their own countries. However, unless the teachers were knowledgeable, engaged, and had a sense of ownership of the value of ESD integration, it was very difficult to expect them to be at the forefront of any advocacy effort.

As such, the project proponents argued that the actual process of developing institutional and national ESD integration situational analyses is potentially one approach to ensure that the participants are solving a problem they personally recognise (Fien, 2001:78), more than just assisting in the situational analysis or problem identification. This TEI project aims to facilitate a process where the participants can also develop a locally relevant ESD integration framework based on the regional one, which can then help them identify, adapt, or develop their own modules based on their specific local and institutional contexts.
The most recent report prepared by the Swedish International Centre for Education for Sustainable Development (SWEDESD) based on a conference on ESD integration into teacher education forwarded three recommendations that are relevant to this TEI initiative. First, TEIs can further push the systemic integration of ESD into teacher education. Second, rather than or in addition to introducing new courses, we should focus on how the relevance, meaningfulness, and quality of existing subjects can be enhanced through the inclusion of ESD. Finally, regional partnerships should be strengthened and used in the professional development of teachers and teacher-educators. ESD should be included in professional development initiatives for leaders in all levels (SWEDESD, 2017).

SWEDESD identified a more systemic approach that recognised that ESD integration will require more than just including topics or creating new subjects, but also that any form of professional development should involve some level of institutional change and partnership. This is also consistent with the findings of the end-of-decade report on ESD by UNESCO that called for not just addressing integration via curricular changes, but also through institutional and, in the more long term, educational system change.

The brief survey of historical situational analyses confirms a number of key trends that this project attempts to recognise, build on, and address. Of primary concern is to move away from telling teachers and curriculum developers to integrate ESD rather than identify why they need to do so. This sense of ownership aims to recognise that for any successful curricular integration to occur, a certain degree of institutional change needs to be facilitated by teachers and curriculum developers in partnership with institutional leaders and policy makers. Finally, it is not sufficient to merely identify that teachers and curriculum developers do not have the necessary understanding and knowledge of ESD unless we exert effort to clearly identify what these capacities are to help us develop them in pre-service teachers.

The proposed ESD integration framework and this current project recognise three priority areas of work—ownership of the process, institutionalisation of the integration as complimentary to curriculum development, and capacity building based on a clearly identified set of competencies.

The following section summarises and presents the results and analysis of the responses to the preliminary survey conducted with nine TEIs in Southeast Asia informed by the ESD integration framework.
5.2 **WHAT IS HAPPENING IN OUR OWN TEACHER EDUCATION INSTITUTIONS?**

Similar to the SEAMEO INNOTECH study (2010:31) that observed how progress in integrating ESD into the secondary-school social studies curriculum varied across Southeast Asia, the current institution-based survey recognised a similar diversity in the level of integration of ESD across five countries (i.e., Cambodia, Lao People’s Democratic Republic [PDR], the Philippines, Thailand, and Vietnam) and nine TEIs. Using the proposed ESD integration framework, however, this diversity can be better understood with more appropriate and relevant responses from each TEI.

### 5.2.1 POLICY FRAMEWORKS (NATIONAL, MINISTERIAL OR DEPARTMENTAL, AND UNIVERSITY LEVEL)

Despite the diversity, strength across the five countries in terms of clear ESD integration policies mandated at the national and ministerial or departmental levels were seen.

SEAMEO INNOTECH (2010:31–33) identified that in the Philippines, ESD integration into the social studies curriculum was mandated by Department of Education, specifically *Memorandum Number 483 Series of 2004, Order 23 Series of 2005*, and *Order 61 Series of 1987*. Similarly, in Thailand, an ESD blueprint was integrated into the *10th Economic and Social Development Plan for 2007–2016*, a key driver of which is the “sufficiency economy” concept of the recently departed King. Finally, in Vietnam, ESD has been integrated between 2006 and 2008 into the national curriculum for upper secondary schools (SEAMEO INNOTECH, 2010:33).

Responses from a 2017 Philippine survey identified that the Commission on Higher Education (CHED)’s *Memorandum Order 37 Series of 2005* entitled “Strengthening State Universities and Colleges and Higher Education Institutions (HEIs) amid Technology Commercialisation for Poverty Alleviation, Employment Generation, Food Production, and Sustainable Development” supported the transformation of HEIs into centres of research and development and extension services to attain sustainable development. These national policies complement university-based policies that embody universities’ tri-focal commitment to instruction, research, and extension.
As an example, the mission statement of the Cebu Normal University (CNU) comprises three reinforcing thrusts of educational transformation to high-impact research that contributes to improving communities and forging strong partnerships that address development gaps (2017). While the three elements of CNU’s mission statement are not explicit about ESD integration, they clearly provide an institution-wide rationale for it.

In Indonesia, the core principles and values of ESD have been embedded in the national educational system since 1984 even if it was only first officially embodied in the strategic plan of the Department of National Education of Indonesia between 2005 and 2009.

The Vietnamese participants identified that in 2016, the Ministry of Education and Training (MoET) issued guidelines for establishing plans for environmental protection in educational institutions. This policy specifically requested educational institutions to integrate environmental protection contents into the national educational system, even in subjects and extra-curricular activities. The Vietnam National University (VNU) in Hanoi, meanwhile, mandated its School of Inter-Disciplinary Studies to design inter-disciplinary master’s programmes that gave graduates a master’s degree in Sustainability Science and Climate Change.

The other TEI participants identified policies that were equally supportive of efforts to integrate ESD based on a broader understanding of the concept as education that contributes to re-orienting the system to address sustainability, which involves improving the country’s quality of basic education.

In Lao PDR, the participants identified the existence of policies from the Ministry of Education and Sports that were aligned with the global educational goals during the EFA period and with the current SDGs that aim to ensure quality education and access across all levels.

Similarly, according to the participants from the National Institute of Education (NIE), Cambodia adopted the Fourth Mandate Rectangular Strategies of the government, which laid down strategies to improve the quality and efficiency of the country’s economy, environment, and society. The Ministry of Education (MoE) incorporated ESD into its Educational Strategic Plan for 2014–2018 with a specific policy that ensures equitable access for all to educational services, enhancing the quality and relevance of learning to the country’s socio-economic goals and local contexts. In addition, the participants identified policies in place that support efforts to integrate ESD into subjects.

On the other hand, the participants from the Royal University of Phnom Penh (RUPP) underscored the country’s commitment to the SDGs as the foundation of any further commitment to ESD. They identified that while there are policies that reflect ESD integration, specific guidelines are not yet in place but are being considered to become part of the university’s 2019–2023 strategic plan.
5.2.2 CURRICULAR MAINSTREAMING

These policy commitments have been mainly manifested in the area of curricular change, especially for the universities involved in ESD integration. SEAMEO INNOTECH (2010:31–33) identified a number of key efforts such as developing modules and teaching exemplars on ESD concepts in the Philippines. In Thailand, ESD concepts have been integrated into subjects, including religion, morality, and ethics; civics, culture, and living; economics; history; and geography. In Vietnam, meanwhile, ESD integration has been carried out since the nationwide introduction of the 2006–2008 national curriculum for upper secondary schools.

The Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP) is in the midst of conducting a study to determine the status and alignment of global citizenship education (GCED) and ESD with policies and curricula in a number of Asia-Pacific countries. As the most recent survey revealed, there is a wide range of integration levels and approaches in terms of both policy and curriculum adapted by each country. Copies of the country reports from Southeast Asian countries were made available to the project team. The quotes featured below are from those country reports.

The statuses varied from “neither stand-alone nor embedded” in Vietnam and “at the fringes of curricula” in Cambodia to being “embedded in every subject but not explicitly mentioned” in Indonesia. In the Philippines, ESD was “mainstreamed into the basic education curriculum” with GCED and ESD concepts articulated in curricular frameworks. These frameworks tended to convey loftier goals that may not have been clearly translated into actual curriculum practice though. Thailand, meanwhile, said that GCED and ESD were embedded into different subjects, particularly science and social studies but, like Indonesia, they were not explicitly mentioned in curricula.

The following excerpts from the country reports submitted to MGIEP were responses to the question, “How is GCED and ESD positioned in curricula? Are they stand-alone or embedded in different subjects? Would you say GCED and ESD are mainstreamed (in terms of time allocation and mandatory and examinable status) or are they at the fringes of curricula?”

Cambodia

“Although GCED- and ESD-related concepts were stated in almost all documents, we can discern that they were neither stand-alone nor fully embedded in different subjects. The analysis did not suggest that GCED and ESD were mainstreamed and so the concepts remained at the fringes of curricula.”
Indonesia

The national curriculum of Indonesia embedded GCED and ESD in different subjects, including science, social studies, and language studies. Learners who studied, for example, social studies, religion, and culture automatically used instructional materials related to GCED and ESD. This applied to all grades in both the primary and secondary levels. GCED and ESD may not have been explicitly mentioned in curricula but they were considered transversal or cross-disciplinary subjects. There was no stand-alone subject on sustainable development, peace, human rights, or gender in primary and secondary education but all subject curricula were developed based on so-called ‘basic competencies or kompetensi dasar,’ each of which always referred to the core competence or kompetensi inti that integrated GCED and ESD.”

Philippines

There is no doubt that GCED and ESD were mainstreamed into the Philippine basic education curriculum. Subject curricular frameworks were quite emphatic about these concepts, as they laid down the goals, principles, and standards upon which curricula were developed. Most of the subject frameworks were quite explicit about making students aware of the wider world beyond their local and national boundaries and their responsibility to assume an active role in resolving both local and global challenges. Many other GCED and ESD concepts were articulated in the frameworks. However, the extent to which specific concepts have been embedded in six subjects in two grade levels (i.e., Grades 4 and 8) tended to differ. There was an impression that, generally, frameworks tended to convey loftier goals that, in some parts, might not have been clearly translated into actual curricula. It needs to be noted though that the current content analysis only covered two grade levels whereas the curricular frameworks covered Kindergarten to Grade 10. Thus, it is understandable that some concepts might not appear in either Grade 4 or 8 but do so in other grade levels.”
Thailand

GCED and ESD concepts were embedded in different subjects, particularly science and social studies. Learners studied the latter as ‘social studies, religion, and culture’ across grades in the primary and secondary levels. GCED and ESD were not explicitly mentioned in curricula as transversal or cross-disciplinary subjects. There was no stand-alone subject on sustainable development, peace, human rights, or gender in primary and secondary education. Each core subject was divided into strands and each strand, into standards. Each standard, in turn, was divided into grade-level indicators, including interval indicators that covered Grades 10–12. GCED and ESD were incorporated into these grade-level indicators.”

Vietnam

“GCED and ESD concepts were neither explicitly stand-alone nor embedded in different subjects. Although GCED and ESD were considered important, they have yet to be reflected in official curricula.”

The survey results showed that we need to develop a more locally relevant approach to training TEIs to provide pre-service training given the wide range of integration levels in terms of both policy and practice in Southeast Asia. A prescriptive ESD integration module would merely repeat previous projects and programmes that have had limited success, but have not sufficiently addressed the need to “institutionalise” ESD. As the Vietnam response indicated, lack of integration was not due to the unimportance of GCED and ESD to the educational system; the system was just slow in reflecting the concept in official curricula.

We need to work with local realities but also invite TEIs to come on board as genuine ESD curricular integration leaders who understand that the holistic approach requires several different stakeholders. Policy makers, TEIs, schools, civil society organisations, and local communities need to work together given the extensive experience and urgency for action to address issues with regard to sustainability. TEIs should also know that the crucial starting point is to work within their own institutions to ensure that future teachers will better understand ESD and the curricular integration approaches they can utilise when they eventually find their own schools and communities to work in.
We should continue to draw on the rich ESD modules and experiences of those who have stand-alone ESD subjects or integrated ESD across their curricula. TEIs should also continue to be “lighthouse institutions” that embed ESD not just in their curricula, but also in their own operational practices, including resource, energy, and water conservation and waste management, based on extensive experiences with whole-school approaches to sustainability like those of eco- and UNESCO-associated schools.

5.2.3 CONCEPTS AND CONTENTS

As in previous studies, SEAMEO INNOTECH (2010:34) also observed that ESD integration contents continued to be dominated by thoughts of “science experts” and often only focused on the environmental aspect of sustainable development. While this is illustrative of the minimal and superficial awareness, knowledge, and understanding of ESD, we should acknowledge and build on this as the foundation for teachers to fully imbibe the holistic and inter-disciplinary scope of the ESD framework.

The study identified the following content areas from the country reports that indicated some understanding of the links across the social, economic, and environmental dimensions of sustainable development.

**Indonesia**

While they identified environmental-specific programmes such as *Environment-Friendly School (Adiwiyata)*, they also identified life skills, entrepreneurship, and culture and national character education as evidence of the link between the environmental, economic, and socio-cultural dimensions of ESD.”

**Philippines**

Demonstrating the ideals of the cross-thematic nature of ESD, one significant observation was that in addition to ESD, human rights, peace education, and gender equality have been mandated in policies.”
Thailand

In addition to the projects, *Plant Genetic Conservation* and *School Ecological Footprint Challenge*, that were clearly linked to science and the environment, SEAMEO INNOTECH also identified good practices in participatory learning that led to community development, a local youth history research project, and a Buddhist-oriented school project.”

Vietnam

Aside from identifying the *Friends, Schools, and Active Students Movement*, SEAMEO INNOTECH also introduced the concepts of ‘interdependence, diversity, citizenship, and stewardship; rights and responsibilities; equity and justice; carrying capacity; and uncertainty and precaution’ to curricula.”

The participants’ responses to the 2017 institutional survey that we conducted re-confirms the observation that environmental issues continued to be the predominant entry points for ESD integration.

The NIE participants from Cambodia displayed a strong commitment to the importance of ensuring a holistic and inter-disciplinary understanding of ESD even if they still identified that the most relevant issues utilised to integrate ESD into curricula were cleanliness, saving water and electricity, and reducing rubbish. On the other hand, their RUPP colleagues said the top 3 local issues were natural resource management; climate change; droughts, flooding, and land conflicts in relation to biodiversity conservation.

The participants from Lao PDR all indicated that unemployment and difficulty finding a job after graduation as important local issues relevant to ESD integration. This was not too far from the main problems they were tackling, specifically in relation to access to quality education and how education matched the needs of the labour market. They also identified the growing student preference to take up higher compared with vocational education.

In Thailand, the participants from the Chulalongkorn University underscored the role that the concept of “sufficiency economy” played to provide a clear locally relevant framework for establishing the link between the society, the environment, the economy, and culture and to balance and cope with the results of globalisation. The participants also stated that ESD was one of the thematic areas under the overall theme of education for international understanding that included human rights, peace, democracy and citizenship, multi-cultural, and conflict resolution education.
In Vietnam, the VNU participants stated that the programme of education for economic development by the MoET in 2010 aimed to satisfy learners’ demand for knowledge updating and skills training in relation to economic problems in order to significantly contribute to their individual and family incomes and develop a sustainable community. This clearly identified how economic issues could be as much an entry point for the study of ESD. The youth camp the VNU held in 2016 also focused on fostering a green environment. This underscored the potential for multiple issues, including economic and environmental, as entry points for ESD integration.

Participants from the Philippine Normal University (PNU) identified waste segregation, climate change, and environmental sustainability as the most relevant local issues to ESD integration across curricula (see the PNU case study in Chapter 6). While the participants from CNU were enthusiastic about their very successful project, Global Worming (see the case study in Chapter 6), they also identified river pollution and energy conservation as relevant local entry points for ESD integration. CNU also identified the emerging importance of DRR as a potential ESD issue.

Clearly, while there are already several ESD integration initiatives, there is still an urgent and on-going need for capacity building and professional development on the part of teachers and administrative leaders. They need to understand the inter-disciplinary nature of ESD and how understanding can be best developed among pre-service teachers. The next two sub-sections on methods and contexts identify approaches that can assist in addressing this conceptual challenge.

5.2.4 METHODS

Methods are most often narrowly viewed as how ESD is taught, often involving active, participatory, and experiential learning. These comprise the easy bit. However, such a narrow view only focused on how often ESD resulted in teaching and learning approaches that were routinely applied rather than understood as essential to successful integration. Thus, it is essential for anyone involved in ESD integration to understand that the rationale behind its pedagogical characteristics is designing teaching and learning in an inter-active, learner-centered way that enables exploratory, action-oriented, and transformative learning. This is because ESD empowers learners to make informed decisions and take responsible actions towards environmental integrity, economic viability, and a just society for present and future generations while respecting cultural diversity. As such, contents and methods are intrinsically inter-connected to the context of transformation. How we teach is intrinsically linked to why and what we teach.

Previous studies never lacked in terms of identifying the good or even the best ESD methods, which were often linked to curricular approaches to integration (see Chapter 6). A number worth highlighting in terms of how good practices link back to the entire ESD integration framework are worth describing.
All of the participants from the Philippines agreed that field trips or community visits to environmentally degraded areas such as polluted rivers or deforested mountains or to environmental regeneration sites such as worm or vermiculture farms or communities being rebuilt after a natural disaster are very powerful ESD learning methods. Recently, however, CHED called for a moratorium on any field trip due to budgetary and security concerns. This is an example of how national policies can equally curtail ESD integration advancement. Innovative and committed teachers who have developed alternative approaches believe that if you cannot take students to the community, you should take the community to them. Guest speakers from the local community have thus been invited to speak to students and, in some cases, vermiculture plots were established within universities.

The VNU participants also identified the importance of conducting student field trips amid similar challenges such as additional expenses.

Participants from the Khon Kaen Univesity (KKU) have had many years of experience in using two innovative approaches that shift teaching and learning practices from a product- to a more product-process-oriented approach that aims to contribute to developing higher-order thinking skills. Known as the “open approach” or “lesson study,” this was developed by the University of Tsukuba in Japan and has been extensively tried by KKU initially for mathematics and, more recently, social science, Teaching English to Speakers of Other Languages (TESOL), computer education, science, and the Thai language. The KKU participants hope that the success of the open approach can help change how pre-service teachers understood their future role from knowledge giver or deliverer to “open-ended problem proposer” while simultaneously observing how students thought while solving problems. They should encourage students to bring their ideas into classroom discussions. In addition, the lesson study approach aimed to assist teachers in developing more collaborative ways of working with others in a three-step cyclic process also known as “collaborative plan, collaborative do, and collaborative see.” The KKU participants aimed to become highly effective tools for facilitating educational reforms and ESD.

5.2.5 CONTEXTS

SEAMEO INNOTECH (2010:35) had a clear message, that is, context is crucial. Guidelines, tools, and strategies that have been developed to aid ESD integration into educational systems are not tailored for a perfect fit. There is no one-size-fits-all solution for all governments, schools, and teachers because countries are defined by different histories, cultures, traditions, values, and governance systems. It is important for contextual realities to feed into the overall plan as to how ESD should be integrated into curricula. ESD may be a global movement but its operationalisation needs to be local.

There has always been a strong emphasis to localise ESD curricular integration efforts in Southeast Asia. The most comprehensive evidence was provided by Learning for a Sustainable Environment: Innovations in Teacher Education, which used a localised approach to module development.
As mentioned in Section 5.2.3, ESD integration contents have all been very localised, ranging from issues within campuses such as classroom cleanliness and waste and energy conservation for NIE in Cambodia to more community-based issues such as river pollution for CNU in the Philippines.

This project not only focused on the local context, but also on the institutional context consistent with the observation made during DESD—that greater effort is needed to institutionalise ESD (UNESCO, 2014b:11). The intimate interaction between the local and institutional contexts was highlighted in the survey response of the KKU participants when they underscored the role of region-based TEIs in responding to the particular needs of their area.

Since the establishment of the KKU Faculty of Education in 1968, its policies and strategies have been focusing on serving the increasing demand for teachers throughout the country, balancing the educational quality between central and regional institutions, and supporting educational and psychological research projects in the northeastern region of Thailand (2017:3).

5.2.6 INSTITUTIONAL MAINSTREAMING

In Vietnam, the School of Inter-Disciplinary Studies has provided a venue for collaboration between two inter-disciplinary master’s programmes—Sustainability Science and Climate Change. The participants from VNU identified how these two programmes helped supply the human resources needed to conduct research on issues related to sustainable development, manage sustainable development, and convey knowledge of sustainable development to the public in Vietnam.

In the Philippines, the development of specialised hubs to work on curricula and programmes that support teacher education in specialised fields such as an environment and green technology hub in PNU Visayas was a very clear example of how institutional ESD mainstreaming can be achieved.

Your responses to the institutional surveys helped us develop a more comprehensive situational analysis of ESD integration across the region. More importantly, however, the survey hopes to help you appreciate your own individual and institutional strengths with regard to ESD integration as well as identify critical and relevant contexts that will shape actual integration. Curricular and institutional mainstreaming processes that you propose to conduct will, meanwhile, build on your strengths. This is the first task.

The second task involves you as lead TEIs or what we call “lighthouse institutions.” You will be expected to facilitate the capacity building of other TEIs in your respective countries to enable them to integrate ESD into their respective curricula and institutions. This will be guided by the principles of action research, appreciative inquiry, and critical reflective practice grounded on the proposed ESD integration framework.
5.3 What education for sustainable development tools are currently available for conducting a situational analysis?

UNESCO’s ESD Lens Review Tool 13 (2014) is one of the tools available to guide you in conducting a situational analysis of your institution and the schools that your pre-service teachers will work at. We adapted the tool in alignment with the proposed ESD integration framework. You are also invited to adapt the tool to fit your own institutional context. Another survey tool is a revised version of what we used at the start of the workshop (see Section 2.4).
5.3.1 PRE-SERVICE TEACHER EDUCATION MAINSTREAMING SURVEY

OBJECTIVE

To review the extent by which ESD has been integrated into teacher education practices within TEIs

WHO SHOULD BE INVOLVED IN THIS REVIEW?

Teacher educators and TEI leaders, administrators, or managers

ORIENTATION

There are approximately over 70 million teachers worldwide and each one of them is a key agent of ESD. For this reason, appropriately focused teacher education is an important part of ESD integration. In relation to the topics tackled in ESD Lens Review Tool 13 (UNESCO, 2014:87–89), ESD in teacher education is essential because:

• Policy development and planning will not be effective if teachers do not know how to carry them out or are not motivated to do so.

• Practitioners are a key source of practical, contextualised knowledge on ESD and often are the source of creative development, which can be more widely shared.

• As ESD does stress the use and relevance of the locality, it is very important that teachers learn strategies for relating learning more fully to the specific opportunities available where a school is situated.

• Teachers need to know the basics of ESD to fulfill various social objectives for education such as peace and social cohesion.

• Teachers need to be informed by ESD to contribute to cultural understanding and environmental sustainability, conservation, and protection.

• Teachers need to understand ESD to help their schools become sustainable.
In relation to pre-service teacher education, UNESCO’s *Guidelines and Recommendations for Re-Orienting Teacher Education to Address Sustainability* argues that TEIs need to fulfill a vital role in the global education community. They have the potential to bring about changes within educational systems that will shape the knowledge and skills of future generations. Often, education is described as the great hope for creating a more sustainable future. TEIs serve as key change agents in transforming education and the society so that such a future is made possible.

Increasingly, many TEIs are responding to the need to ensure that graduating teachers understand ways to plan curricula, select learning materials, and plan learning experiences so their students can acquire knowledge, thinking and decision-making skills, values and attitudes, and citizenship objectives related to ESD. However, many teachers were trained before ESD programmes were developed and thus missed the opportunity to develop the capabilities they need to help their students achieve ESD objectives. For this reason, continuing professional development is very important to ensure that all teachers have the knowledge and skills to plan learning experiences that empower students to develop and evaluate alternative visions of a sustainable future and to work creatively with others to help bring their visions of a better world into effect.

ESD helps improve teacher training programmes in terms of opportunities provided for reflective practice and enriched interactive dimensions in a number of related ways as shown in *ESD Lens Review Tool 13*.

ESD encourages an action research approach to teaching, which involves cycles of innovation and review with reflective practice at the centre. ESD views practitioners as a vital source of creativity in their ability to adapt learning to the local context. Teacher training can help them further develop these skills to benefit all areas of learning. The interactive dimensions of ESD take teachers out of the classroom to liaise with a wide variety of stakeholders in the society where leadership in education is valued as a social resource (refer to the stakeholder analysis activity in Appendix 5). Developing common areas of work between schools and different sectors of the society encouraged by ESD can be a source of enrichment for entire schools. The emphasis of ESD on local knowledge provides opportunities for teachers to interact with their communities and to more fully engage parents in learning. These key elements need to be supported in teacher education programmes, possibly through modules that have specific project-based assessment criteria.
**REVIEW PROCESS**

*ESD Lens Review Tool 13* can be used at the national, institutional, or programmatic levels. Decide which level you are targeting before starting the review. Fill in existing practices related to ESD in teacher education programmes, along with teacher capabilities then identify possible initiatives or changes.

*ESD Lens Review Tool 13* can also be used at a macro-review level (i.e., to start a more in-depth review of a country’s teacher education system and policies). If used at this level, it will need to be complemented with more in-depth research and review processes. For immediate impact, it can best be used at the teacher education programme level (i.e., in a college or university). Learning from this can inform wider macro-review processes.

**FOLLOW-UP STEPS**

Once the review is complete, identify critical changes that are considered necessary elements of the way teacher education programmes are structured for ESD integration both in terms of format and content. Consider what resources and processes need to be followed to implement these changes and develop an action plan to take this work forward.

**ACTION PLANNING**

Identify three or more actions to take the teacher education review forward by filling in the *ESD Lens Action Plan* at the end of this document.


<table>
<thead>
<tr>
<th>PRE-SERVICE TEACHER EDUCATION</th>
<th>EXISTING PRACTICES RELATED TO EACH REVIEW QUESTION</th>
<th>POSSIBLE INITIATIVE OR CHANGE</th>
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</thead>
<tbody>
<tr>
<td>1. Do all teachers know the importance of ESD?</td>
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<td>2. Is ESD seen as a whole-curriculum priority?</td>
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<td>3. Are cross-curricular and thematic possibilities developed at the policy, institutional, and programmatic levels in teacher education?</td>
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<td>4. Is ESD infused into all core courses in pre-service teacher programmes (e.g., studies in education, curricular theory, curriculum planning, and applied curriculum studies for teaching different subjects)?</td>
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<td>5. Is ESD infused into elective courses in pre-service teacher education programmes so teachers can develop an advanced understanding of the aspects of ESD and skills if they wish to?</td>
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<tr>
<td>6. Are continuous professional development programmes in ESD available for teachers to build their commitment and capabilities to implement and develop ESD?</td>
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6.1 CURRICULAR MAINSTREAMING

The following case studies illustrate examples of successful curricular mainstreaming activities. While we categorised them to illustrate a specific approach, it is important to recognise that the most effective ESD integration practice does not use a single approach but a combination of different approaches conducted at different periods and respond to specific needs and contexts.

6.1.1 NEW EDUCATION FOR SUSTAINABLE DEVELOPMENT SUBJECTS

CASE STUDY A
A Synthesis of Knowledge and Skills
Professor Gyula Lakatos, University of Debrecen, Hungary

At the University of Debrecen, the subject of sustainability has been introduced as part of retraining biology teachers in relation to environmental education (UNESCO, 2005:40). Two years ago, the Hungarian government prescribed an elaboration of environmental and health education programmes for schools in which we thought it best to integrate ESD. The educational purposes of ESD include acquiring knowledge in natural and social sciences, along with skills, comprehension, and the general attitude towards our vision for the future and our values.
Although ESD is still a broad and new concept in that it is far from being fully elaborated or introduced, the University of Debrecen already emphasises a multi-band trans-disciplinary study of issues related to the environment, the economy, and the society. The activities of our colleges from the Departments of Pedagogy and Sociology were a great help. Together, we managed to bridge the gap between natural and social sciences.

The ESD course induces certain ecological apprehensions and a way of thinking centered on the living environment, which helps create harmony between the social and natural environments by restructuring environmental awareness.

As an independent subject, ESD provided a synthesis of the knowledge and skills acquired in other courses and promoted critical thinking on environmental issues. The courses seem to have given teachers useful knowledge, which they can readily incorporate into their teaching practices.

For reflection

What are the advantages and disadvantages of having a single ESD course within the pre-service teacher education curriculum? One of the most-often-heard challenges is the issue of the “crowded” curriculum. How will you respond to this situation?

CASE STUDY B

New education for sustainable development subjects offered Chulalongkorn University, Thailand

The reason why ESD became a required course was due to the changes made by the Faculty of Education at the Chulalongkorn University after recognising DESD, which the United Nations General Assembly proclaimed of significant and substantial importance between 2005 and 2014. The course was launched in 2009 and ran until 2013 as part of the pre-service teacher education curriculum. In 2014, the course’s name was changed from “ESD” to “Education and the Sustainable Development Paradigm.” It is equivalent to two credits and usually completed in the third year of undergraduate studies. Each year, 350–450 students register to take this course whose objectives are:

- Allow students to explain social changes in the local and global levels, along with the development crisis
• Enable students to discuss or debate on the need to change the developmental paradigm

• Ensure that students can analyse the conceptual framework of sustainable development in the Thai and global contexts while understanding the knowledge-based society

• Let students link education with community development and project management and development activities

A similar post-graduate course has also been running from 2010 to the present known as “Principles of ESD.” This is equivalent to three credits and is usually taken by first year master’s students. Each year, more than 150 students register to take this course, which has similar objectives to the undergraduate course.

Staff members from the Chulalongkorn University who attended the ESD integration workshop said these courses continued to be aligned with the university’s strategies for 2017–2020, which were devised to fulfill its mission, which include:

• To develop graduates that have academic abilities, in-demand skills, public consciousness, and leadership potential

• To pioneer and integrate knowledge as well as ensure teaching and learning and research innovation

• To produce local and international academic research

• To exploit knowledge for the sustainable development of the country and the society

For reflection

The first challenge for the Chulalongkorn University staff is that while the courses are aligned with the current university mission, ESD was no longer part of the teacher professional standards in Thailand. They fear that such a situation may put pressure on the ESD course, given the reality of the crowded curriculum. The second challenge pertains to student feedback and how best to evaluate the ESD course. Students have said that “ESD is too intangible to understand and difficult to apply in everyday life.” What tools for evaluation can be used, specifically for graduates to ensure that they “still have ESD knowledge, skills, and attitudes when they are already outside the university” and are able to “apply ESD to everyday life”? 
6.1.2  EMBEDDING EDUCATION FOR SUSTAINABLE DEVELOPMENT FROM A CROSS-CURRICULAR PERSPECTIVE

CASE STUDY A

Literature to address the problem of violence:
Infusing education for sustainable development into the curriculum
Dr. Lorna Down, University of the West Indies, Jamaica

This project (UNESCO, 2007:7–10) aimed to infuse ESD into the curriculum at the largest teachers’ college in Jamaica. It began with the re-orientation of the literature programme for student teachers who were preparing to teach English literature and language to secondary-school students.

The programme introduced major issues related to sustainability and focused on violence in the Jamaican society. It explored with students the concept of sustainable development through lectures, discussions, and projects. In doing so, they were able to reflect on a number of issues related to the environment, the economy, and the society and encouraged to pursue further research in the area.

In addressing attitudes towards and behaviours of violence through literature, we taught the set literary texts by focusing on their social or historical, economic, and environmental aspects. We examined the roots of violence in the Caribbean society, the impact of violence, and alternatives to violence or the “path to peace.” This included conflict resolution management.

For reflection

The most common curricular entry point for ESD is related to environmental issues. This case study highlights how violence in the Jamaican society was identified as a relevant entry point for the study of literature in relation to the social or historical, economic, and environmental aspects—the key dimensions of sustainability—towards a vision of peace. Are there issues within your own local community that can be considered entry points for ESD to be embedded across the curriculum?
CASE STUDY B

The Philippine Normal University and the Seven Environmental Principles

At the core of the ESD integration efforts of PNU are the so-called “Seven Environmental Principles” that were popularised in the 1990s by Miriam College. These principles were:

1. **Balance of nature:** Nature knows best.
2. **Diversity and stability:** All forms of life are important.
3. **Interdependence:** Everything is connected to everything else.
4. **Change:** Everything changes.
5. **Material cycles:** Everything must go somewhere.
6. **Finiteness of resources:** Ours is a finite earth.
7. **Stewardship:** Nature is beautiful and we are stewards of God’s creation.

These principles, coupled by the nomination of PNU Visayas to become the Environment and Green Technology Education (EGTE) Hub, made it easy for to integrate ESD into its pre-service teacher education curriculum. As the EGTE Hub, the campus committed to produce:

- Teachers who are excellent, responsive, and empowered
- Educational leaders who are competent and have the knowledge, skills, values, and ethics to lead and manage high-quality educational programmes, specifically on EGTE
- Research scholars who are proficient in groundbreaking and cross-disciplinary inquiries

It was evident in the curriculum documents shared such as the *Course Syllabus for the Foundations of Education* that the course was carefully designed to become internationally responsive, discipline grounded, K-12 responsive, technology laden, outcome focused, and EGTE accentuated.
This goes further, according to the *Programme Specialisation Outcome*, which stated that upon successful completion of this course, students are able to demonstrate the listed objectives. The acquisition and retention of these objectives depends on the students as reflective participants of the course. Appropriate objectives are linked to PNU Visayas’s EGTE Hub status as well as other issues such as gender and development, the *UN Declaration of Human Rights*, sustainable development, and peace education.

**For reflection**

Review the Seven Environmental Principles. How consistent are they with the principles of ESD? How can they be improved, given that they have obviously provided a strong foundation for PNU Visayas to successfully integrate ESD?

### 6.1.3 CONTENT- OR ISSUE-BASED EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION

**CASE STUDY A**

**Environmental protection module**

If the environment is “everything that surrounds us,” then its imminent collapse should be a reason for serious alarm among all members of our species (Steele, 2010:1). As is often said in sustainability circles, when the environment collapses, everything collapses. The truth is that many things on which your future health and prosperity depend are in dire jeopardy—climate stability, the resilience and productivity of natural systems, the beauty of the natural world, and biological diversity. The guidelines in this document have been designed to try and provide teacher-trainers and teachers with some tools, one possible framework, and some processes for bringing the environment into the realm of all subjects, not just those of science, as has traditionally been the case.

**For reflection**

One of the most-often-heard challenges related to ESD integration, aside from complexity, is that too often, it is based on scientific key issues such as climate change or biodiversity. How do you propose to respond to this challenge of linking one specific issue such as climate change to the different dimensions of ESD?
The challenge with issue-based approaches to ESD integration is how to effectively link a specific issue (i.e., often environmental in nature) to the broader and integrated social and economic dimensions of sustainable development. CNU identified that solid waste management was a serious problem and its surrounding communities were confronting. They saw vermiculture as a potentially innovative and sustainable response to solid waste treatment that could be easily integrated into its curriculum.

Implementing the programme initially involved setting up a demonstration vermiculture site within the university that allowed graduate students to not only observe, but also experience. The hope was that the university would sign a memorandum of agreement with schools to establish their own vermiculture facilities through existing science classes and clubs. Once established, these vermiculture facilities can form a network of vermiculture sites where opportunities to learn about solid waste management can happen through syllabus inclusion.

**For reflection**

The motto of the programme is “Global warming degenerates the environment while global worming regenerates the earth.” One concern with problem-focused ESD integration is that we too often become too focused on the local manifestations of the problem. Identify a relevant local issue in your school or community. How will you link this local issue to the global challenges being addressed by the SDGs?
6.1.4 METHOD-BASED EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION

CASE STUDY
Alternative examination in teacher education
Dr. Valdy Lindhe, Uppsala University, Sweden

One new course for student teachers at the Uppsala University employs an alternative form of examination (UNESCO, 2005:47). After lectures, seminars, excursions, and study visits, students must show their understanding of sustainable development by constructing a case. Such case-based learning helps students acquire problem-solving and decision-making skills in complex situations. By reading narratives about individuals facing decisions or dilemmas, learners engage with the characters and circumstances; investigate to understand the facts, values, contexts, and decisions in the story; and connect the meaning of the story to their own lives. The teaching faculty informs the students about the case methodology and demonstrates a few examples. In one lecture, they are informed about a pilot project by using cases to create understanding. They are asked to construct a case that includes an environmental problem in an appropriate context. The students positively reacted to this means of examination. The variety of issues ranged from the problem of a fatten ing population in Western countries to the extinction of the Aral Sea in Asia.

For reflection

How does a method such as using narratives, field visits, or project-based learning improve the chances of integrating ESD into different subject areas?
Our school community feels we have an essential role in contributing to sustainability not only to reduce our environmental impact, but to also ensure that our future leaders understand and take pride in being custodians of our planet (Saint Louis de Montfort website: http://www.stlouisaspendale.catholic.edu.au/). Students, staff, parents, and the broader community work in partnership to deliver sustainability learning to all age levels focusing on our Kitchen to Garden (K2G) Programme; ResourceSmart AuSSI Vic Framework; I Sea, I Care Marine Ambassador Programme, and civics and citizen environmental initiatives within our community. Education is not only an end in itself, it is also a key instrument for bringing about changes in knowledge, values, behaviours, and lifestyles required to achieve sustainability and stability within and among countries, along with democracy, human security, and peace (UNESCO, 2002).

By incorporating sustainability education and actions into all disciplines across year levels, Saint Louis de Montfort embedded sustainability into each student’s learning and leadership journey. Sustainability is also a feature of our civics and citizen initiatives that engage students in environmental projects outside the school grounds and within the community.

Students are hands on when it comes to implementing and achieving environmental improvements within our school (e.g., reducing waste; employing organic recycling with our animals; maintaining compost and worm farms; practicing animal husbandry; measuring and monitoring water, energy, and waste; improving biodiversity; propagating and growing fruits and vegetables; etc.).

Saint Louis de Montfort’s Aspendale is a large Catholic primary school in a bay-side suburb of Melbourne. The school has a student population of 760 with 85 staff. It is a built on reclaimed swampland and lies between the wetlands and the bay.
Being a Catholic school, we look at education for sustainability in a Catholic context. As agents of the mission of the church, Catholic education should encourage and empower students and their communities to take action for the common good. We believe that by being present with and developing deeper relationships with creation, restoring the social balance and learning to live sustainably, we are all enriched. Enough for ever for all is being embedded in each year level and classroom through hands-on learning.

We believe that empowerment through education is a critical tool for achieving sustainability. We trust that stewardship is a call to service—creatures exist only in dependence on each other, to complete each other, and in the service of each other.

To support our beliefs, we have created a one-of-a-kind educational programme and sustainability precinct that supports a whole-school approach to developing active environmental citizens. Students are immersed in hands-on learning directly related to the Australian curriculum through our G2K Programme and in our sustainability precinct, local wetlands, and nearby bay.

**For reflection**

The school effectively used a number of external initiatives such as the ResourceSmart Schools Framework and the K2G Programme to contribute to learning about sustainability. Are there similar initiatives that you can identify available to your institution or school? What are the advantages and disadvantages of external programmes in developing whole-school approaches to sustainability?
6.1.6 COMMUNITY-BASED APPROACH TO EDUCATION FOR SUSTAINABLE DEVELOPMENT INTEGRATION

CASE STUDY A
Participatory learning leading to integrated community development: A case study of the Bansankong School in Chiang Rai

A whole-school development strategy was used by applying the seven-step approach to problem-based learning in every classroom activity (ACCU, 2012:82]. This helped promote the professional development and child-centered learning approach. Moreover, an integrated local curriculum was developed by the school and its students using local community issues as learning resources. (The full story is provided in Appendix 6.)

For reflection

Localising the contents of a curriculum can be one approach to successful contextualisation. ESD, however, is not merely about content. How would you localise teaching and learning methods to fit the local community context?

CASE STUDY B
Indonesian River Restoration and River School Movements for education for sustainable development in Universitas Gadjah Mada

Universitas Gadjah Mada (UGM) has a strong student community services programme where groups of 5–7 students spend two months in a local village and get three university credits for that particular semester. This experience of community service helps them develop skills for research and problem solving using the real needs of the local community while being guided by lecturers. This is also based on actual mainstreaming of local issues into global frameworks such as ESD and the SDGs.
UGM has been recognised for community-based initiatives such as the Indonesian River Restoration (IRRM) and River School Movements (IRSM). These were results of the observed decline in the health of rivers all over Indonesia due to inconvenient ways of disposing both household and industrial wastes. Pollution was aggravated by increased human settlements along the banks of rivers, which resulted in narrowing and flooding due to clogging.

Both the IRRM and the IRSM are grounded on the principle that the spirit of movement is to learn, act, and solve the problem right now. Both movements are committed to restoring the life of the river through an approach that is informed by the SDGs, systemic, involves all stakeholders, embraces all forms of knowledge, built on networking the different river groups across the archipelago, connected through e-communication, takes a knowledge-based approach, and community based.

They also aim to promote community leadership and empowerment. While the movements were initiated and led by UGM teachers and students, the long-term aim is for community leaders to become the teachers as the UGM lecturers become their students.

For reflection

Are there similar examples of successful community-based experiences that your institution may have been involved in that pre-service teachers can visit and learn from? How would you best prepare students for this sort of visit? UGM’s student services programme involved two months of living in a certain community, what are the pros and cons of such?
6.2 INSTITUTIONAL MAINSTREAMING

6.2.1 PROGRAMMES, PRACTICES, AND POLICIES

As has been identified by the proposed ESD integration framework, curricular mainstreaming is merely one dimension of any successful approach and institutional change is often necessary but missed out, resulting in unsustainable efforts. The following case study (UNESCO, 2016:49–56) shows how a university identified and worked on all three areas of institutional mainstreaming—programme, practice, and policy (3 Ps)—to permanently change the nature of the teacher education programme. Each of the 3 Ps played a key role in bringing about permanent change.

CASE STUDY
Re-orienting education involves managing change
Associate Dean Don Dippo, York University, Canada

Re-orienting education can appear as an insurmountable task that requires reform at every level; reform that would require more funding than is currently available in national budgets. However, if the strengths model is applied beyond the curriculum to administration, the efforts of existing ministries, departments, universities, and so on can greatly contribute to re-orienting education to address sustainability.

Donella Meadows in her book, “The Global Citizen,” talks about changing the status quo. She said the most effective way you can intervene in a system is to shift its goals. You do not need to fire everyone, replace all of the machinery, spend more money, or even make new laws if you can just change the goals of the feedback loops. Then all of the old people, machinery, money, and laws will start serving new functions, falling into new configurations, behaving in new ways, and producing new results (Meadows, 1991:250).

Those of us who work in ESD would be wise to ponder Meadows’s words. We can accomplish more by working to shift institutional goals to further sustainability. Shifting goals in isolation is usually insufficient to bring about sustained systemic change.
Studies of management systems show that a number of steps must be taken together for a new idea to go from vision to self-sustaining reality. Although each institution has its own way of bringing about change, three general starting points are common—the three Ps, that is, programme, policy, and practice. For ESD or any other innovation to become an integral part of an institution, these three areas must be simultaneously addressed or addressed in short succession.

Institutions of all kinds tend to resist change; formal education is no exception.

**For reflection**

How are the three Ps aligned with the proposed ESD integration framework? From your own experiences, can you try to develop a framework to help explain your own experiences of successful ESD integration focusing on institutional change?
6.2.2 AGENTS OF CHANGE

The case study above identified areas within each institution that need to be engaged if ESD is to be successfully integrated. However, who can you call on for support as part of this change process? Below is a case study (Commonwealth of Australia, 2010) that identifies the system that contributes to potentially changing or blocking any form of change. Mapping the system as it relates to your TEI will help you identify potential individuals and other institutions that can support your implementation of the change process.

CASE STUDY

**Mainstreaming the education for sustainability model**

Individual agents of change who may engage in action research and exert influence on the wider system that impacts teacher education were identified. A map of the Queensland system that impacted teacher education and showed potential agents of change is shown in Figure 8 (Ferreira, et al., 2009:4).

Teacher education is conceptualised as a self-organising complex system. This type of system exists in the natural world and is inherently difficult to explain or control. An example is an ecosystem where the intervention of removing an insect can affect a food chain that eventually leads to the loss of major predators and a rearrangement of the entire ecosystem. In other circumstances, a new species may enter a habitat, be absorbed relatively easily, and a new equilibrium established without there seeming to be a negative or positive effect.

Self-organising complex systems (Steele, 2009):

- Are derived from simple structures
- Contain feedback loops that modulate emerging structures
- Are nested hierarchies that lead to the need to continually interrelated global and local effects
- Show the remoteness of cause and effect
- Initiate and respond in such a way that small changes can cause large effects
- Operate far from equilibrium
- Are open to the environment
Figure 8. Mainstreaming the EFS model in Queensland, Australia (Commonwealth of Australia, 2010:12)

For reflection

Within your own TEI, who are the key agents of change that you can work with to mainstream ESD into both the curriculum and the institution? Map these key agents of change. What approach would you consider to get these key agents on board? Looking externally, who or what institutions are potential agents of change? How would you get them on board?

ACTIVITY

Context for Change: Stakeholder Analysis (see Appendix 5)

FURTHER READING

Sustainability as a Change Management Process (see Appendix 7)
The proposed ESD integration framework helped us identify current strengths in the practice of TEIs in preparing pre-service teachers through what we call “appreciative inquiry.” However, it also allowed us to identify a potential opportunity to propose an additional approach that acknowledges strengths and explores an innovative approach to ESD integration.
7.1 RATIONALE FOR THIS APPROACH

More specifically, we want to try an approach that considers the practice-teaching rounds of pre-service teachers as an opportunity to observe the contexts of ESD, specifically in terms of local school and community realities as they relate to their initial understanding. This recognises that ESD is best understood through a process that is similar to action research where it is essential for pre-service teachers to recognise its relevance before they can contribute to mainstreaming effective teaching and learning practices.

This approach will build on available modules (see Chapter 6) to provide pre-service teachers the foundation for ESD knowledge, skills, and attitudes. These foundational knowledge, skills, and attitudes will then need to be situated within the context of the school and the community for pre-service teachers who are using the proposed situational analysis tools (see Chapter 5) and guided by the principles of action research grounded in reflective teaching practices.

The hope is that this additional pre-service teaching approach will build on the rich ESD resources and provide both TEIs and pre-service teachers the necessary ESD educator competencies and grounded contextual understanding to be able to effectively employ competencies while recognising their significant contribution to the larger challenge of re-orienting the educational system towards sustainability.

CASE STUDY
Preparing teachers to work in inner-city schools
Professor Harry Smaller, York University, Canada

To address the uniqueness of teaching in inner-city settings, the York University established a specialised teacher-preparation programme (UNESCO, 2005:37–38). Working closely with parents and existing schoolteachers, this programme is based on a community centre in a large, ethnically diverse government-assisted housing community called “Regent Park.”
After years of requests, the city of Toronto recently agreed to re-build the Regent Park community for 12,000 working-class residents and their families. The new design was based on an extensive community consultation process. Student teachers at the site realised that the consultation process was relevant to the lives of the pupils and they could improve classroom work through incorporating it into the curriculum. As part of their practice-teaching assignments in Regent Park schools, the student teachers discussed this project with their pupils and asked them to draw pictures of their dream apartments, playgrounds, and community facilities. The students constructed models and wrote reports on their surveys and interviews then presented their work to an audience of several hundred at the community center. York’s educational endeavour prepared teachers for traditionally hard-to-serve students while contributing to the long-term sustainability of a community.

For reflection

The challenge of using the practice-teaching rounds of pre-service teachers is one that we often do not have control of. How will you best address this challenge?
7.2 EXPLORING CURRENT STRUCTURES, PROCESSES, AND CONTENTS

We decided against prescribing a particular module to be implemented across teaching practicum rounds, recognising that each TEI will have existing structures, processes, and identified learning objectives for their pre-service teachers. We instead propose that the process involve the following steps.

**CURRICULAR MAINSTREAMING**

1. Identify the current structure and learning outcomes of teaching rounds across the TEI curriculum
2. Highlight the potential alignment of current learning outcomes with the concept and practice of ESD integration
3. Identify current teaching and learning processes in practice-teaching rounds that need to be engaged if ESD is to be mainstreamed

**INSTITUTIONAL MAINSTREAMING**

1. Identify the current individuals involved in the practice-teaching rounds who need to be engaged if ESD is to be mainstreamed
2. Identify the necessary institutional processes to formally mainstream ESD into practice-teaching rounds
3. Develop a professional development programme to assist the key individuals with mainstreaming ESD into practice-teaching rounds
4. Identify the key criteria to evaluate if the approach is effective, relevant, and mainstreamed in order to contribute to an additional approach to ESD integration for TEIs
7.3 IDENTIFYING KEY PROCESSES FOR SUCCESSFUL EDUCATION FOR SUSTAINABLE DEVELOPMENT MAINSTREAMING INTO PRE-SERVICE TEACHER EDUCATION PRACTICUM

PREPARING STUDENTS FOR PLACEMENT

The ESD modules in Chapters 2 and 6 can be used to imbue students with basic understanding of ESD prior to being sent out to their respective schools. While the current proposal focuses on initial or early practicum placements, we foresee that each TEI will be able to more effectively mainstream ESD across different practicum-placement periods, which will assist in developing pre-service teaching competencies.

DURING PLACEMENT

The survey featured in this section (UNESCO, 2010:79–86) can be adapted for pre-service teachers to document what they observed during their initial placement in schools.

REVIEW QUESTION

What is the current school and community context that is relevant to my understanding and future practice of ESD?

OBJECTIVE

To review the extent to which a school reflects the principles and practices of ESD and where improvements and changes can be made.

WHO SHOULD BE INVOLVED IN THIS REVIEW?

This has specifically been adapted for use by pre-service teachers going on their initial placement or practicum in a school.
ORIENTATION

This focuses on a review of how school curricula and other practices are reflecting ESD principles and practices. Reviewing the curriculum of a school involves consciously thinking about all of the aspects of the environments and structures that can influence learning and ensuring that these guide and enhance student learning. This has been called the “guided curriculum,” which refers to the influence of elements of schooling such as school objectives, values, policies, and social and environmental practices.

Many educational systems around the world have policy frameworks for promoting sustainable school operations and curricula. These are known by many names, including “sustainable schools,” “schools for a sustainable future,” “green schools,” “eco-schools,” “enviro-schools,” and so on. Whatever term is used, the focus of such policy frameworks is to provide guidance to schools on strategies that they can employ to ensure that both the formal and non-formal curricula provide a model for students to judge what a sustainable society is like, promoting a whole-system approach to sustainability. ESD can support schools to become sustainable.

A whole-system approach to ESD proposes that a “sustainable school” should pay attention to planning activities in five areas:

1. The lessons provided in the formal curriculum should reflect ESD objectives and principles.
2. Policies and procedures should support cultural sustainability.
3. Policies and procedures should support social sustainability.
4. Policies and procedures should support economic sustainability.
5. Policies and procedures should support environmental sustainability (see Sustainable Schools Audit in ESD Lens Review Tool 12).

The first area refers to the formal curriculum while the remaining four refer to the learning system or the non-formal curriculum of school ethos and operational procedures. What is important is that these are seen as inter-related aspects. For example, policies and procedures that support economic sustainability should also strive to support environmental sustainability, along with the social and cultural aspects. These should be based on ESD values and principles.
There may be already-available national policy and curriculum guidance documents to support sustainable school initiatives (e.g., human rights policies that influence social sustainability practices in school). There may also already be comprehensive ESD policy guidance documents in school or a collection of broader documents related to ESD in the curriculum such as school-community engagement; issues related to gender, multiculturalism, and anti-racism; school environmental policies; and policies and guidelines that govern the management of school buildings and grounds. If such policies do not exist, they can be developed using ESD Lens Review Tool 12 and other tools such as Sustainable Schools Audits. School sustainability projects can also be created to demonstrate school-community sustainable development links and partnerships (e.g., in producing local, healthy food for learners to enhance nutrition and healthy eating as well as aid the local sustainability of production and consumption).

It is possible for schools to conduct regular, perhaps annual, audits of their performance in these five areas as a standard part of their evaluation plan. The results of the sustainability audits can then be integrated into the next cycle of strategic planning for school improvement. These ESD audits can also be used as opportunities to involve the school community in debating and making choices about sustainability.

**REVIEW PROCESS**

This has been adapted for pre-service teachers on placement. This tool can be adapted or changed for different socio-economic or school contexts or countries. It merely provides some starting ideas on how a more comprehensive sustainability situational analysis can be done as a way for pre-service teachers to link their understanding of ESD concepts to real school and community contexts.

**SAMPLE SCHOOL AND COMMUNITY SURVEY TOOL**

This tool (adapted from the Sustainable Schools Audits) focuses on a whole-system approach to ESD in school. It has been designed for pre-service teachers to identify key ESD areas that include the school policy, infrastructural, curricular, cultural, environmental, and economic aspects. This can help pre-service teachers gain a better understanding of and appreciation for the role of context in integrating ESD into their future teaching and learning practice.
<table>
<thead>
<tr>
<th>FORMAL CURRICULUM</th>
<th>EXCELLENT (4)</th>
<th>GOOD (3)</th>
<th>FAIR (2)</th>
<th>GETTING STARTED (1)</th>
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</thead>
<tbody>
<tr>
<td>1. There is a written policy that clearly states the aims and objectives of ESD in our school.</td>
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<tr>
<td>2. There is effective coordination of ESD as a cross-curricular theme.</td>
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<tr>
<td>3. We take every opportunity to introduce issues related to sustainable development in all subjects.</td>
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<td>4. We have a good supply of teaching materials on sustainable development issues for all grades.</td>
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<tr>
<td>5. We regularly evaluate the effectiveness of our teaching about sustainable development.</td>
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</table>

Formal curriculum sub-score
<table>
<thead>
<tr>
<th>SOCIO-POLITICAL DIMENSION OF SUSTAINABILITY</th>
<th>EXCELLENT (4)</th>
<th>GOOD (3)</th>
<th>FAIR (2)</th>
<th>GETTING STARTED (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. The prevailing ethos of the school and the curriculum is sensitive to issues related to gender equity.</td>
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<td>7. Students are given the opportunity and taught skills to constructively participate in helping solve local community problems.</td>
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<tr>
<td>8. The prevailing ethos of the school and the curriculum adequately prepares students for life as citizens of a global community.</td>
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<tr>
<td>9. The special needs of all students, especially those with physical or learning disabilities, are catered to.</td>
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<tr>
<td>SOCIO-POLITICAL DIMENSION OF SUSTAINABILITY</td>
<td>EXCELLENT (4)</td>
<td>GOOD (3)</td>
<td>FAIR (2)</td>
<td>GETTING STARTED (1)</td>
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<tr>
<td>10. All staff members are skilled in conflict-resolution strategies to support positive student behaviour.</td>
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<tr>
<td>Social dimension sub-score</td>
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<tr>
<td>ECOLOGICAL DIMENSION OF SUSTAINABILITY</td>
<td>EXCELLENT (4)</td>
<td>GOOD (3)</td>
<td>FAIR (2)</td>
<td>GETTING STARTED (1)</td>
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<tr>
<td>11. The school uses recycled materials whenever possible and has an active and comprehensive recycling policy.</td>
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<td>12. The school actively promotes and practices energy efficiency.</td>
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<tr>
<td>13. The school purchases and uses resources with a view of minimising harm to the planet.</td>
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<tr>
<td>14. School buildings and surroundings provide an aesthetically pleasing environment in which to live and learn.</td>
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<tr>
<td>15. The school actively promotes the attitudes of caring and being responsible for nature.</td>
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Ecological dimension sub-score
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<thead>
<tr>
<th>ECONOMIC DIMENSION OF SUSTAINABILITY</th>
<th>EXCELLENT (4)</th>
<th>GOOD (3)</th>
<th>FAIR (2)</th>
<th>GETTING STARTED (1)</th>
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</thead>
<tbody>
<tr>
<td>16. A spirit of cooperation and sharing, not competition, is modelled in allocating resources in school.</td>
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<td>17. Students learn small-business skills through opportunities to organise school and community projects.</td>
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<tr>
<td>18. Students have the opportunity to participate in making decisions about how resources are allocated in school.</td>
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<tr>
<td>19. A culture of maintenance ensures that all school buildings and equipment are kept in good repair and maintained in good condition.</td>
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<tr>
<td>20. The school's fund-raising activities reflect ethical principles.</td>
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</table>

**Economic dimension sub-score**
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<thead>
<tr>
<th>CULTURAL DIMENSION OF SUSTAINABILITY</th>
<th>EXCELLENT (4)</th>
<th>GOOD (3)</th>
<th>FAIR (2)</th>
<th>GETTING STARTED (1)</th>
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</thead>
<tbody>
<tr>
<td>21. The school ethos fosters self-esteem, mutual regard, and humane social relationships.</td>
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<tr>
<td>22. The prevailing ethos of the school and the curriculum adequately prepares students for life in a multi-cultural society.</td>
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<tr>
<td>23. The school plays an active role in building support for cultural diversity both within it and its wider community.</td>
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<tr>
<td>24. The school plays an active role in the community and vice versa.</td>
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<tr>
<td>25. The prevailing ethos of the school demonstrates that people matter and that everyone contributes to sustainable development.</td>
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</tbody>
</table>

Cultural dimension sub-score
Transfer five sub-scores to the table below and calculate the total score out of 100. The higher the score, the better the school’s orientation towards ESD. A lower score indicates what changes can be made and will inform future action plans and priorities.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Sub-score</th>
<th>Sub-score</th>
<th>Sub-score</th>
<th>Sub-score</th>
<th>Sub-score</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal curriculum</td>
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<tr>
<td>Socio-political dimension</td>
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<tr>
<td>Economic dimension</td>
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<tr>
<td>Ecological dimension</td>
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<tr>
<td>Cultural dimension</td>
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<tr>
<td><strong>Total</strong></td>
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</table>

**POST-PLACEMENT DEBRIEFING**

It is important that pre-service teachers are properly debriefed based on their observations and assessment tasks that link back to ESD and other concepts that may have been identified in the course learning objectives. Debriefing ensures that the practice of critical reflection is highlighted even at the early stages of the teaching rounds.

**For reflection**

How valuable are the scores in evaluating the school’s orientation towards ESD? What other approaches could be used? What other aspects do you think are important to document?
The following design is based on the experience of conducting the ESD integration workshop in Chiang Rai, which was guided by the principles of PAR and the proposed ESD integration framework. It is meant to be a guide and not a prescription. Feel free to adapt it based on the results of your own initial situational analysis. It can be applied to your own TEI and adapted for outreach workshops for other TEIs.

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>ACTIVITY AND TOOL (LINKED TO THE GUIDEBOOK)</th>
<th>EXPECTED OUTCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Invitation to participate in an ESD integration process</td>
<td></td>
<td>Institutional support and formation of a core group of interested staff members</td>
</tr>
<tr>
<td>2. Situational analysis of ESD integration</td>
<td>Sections 2.4 and 5.3.1</td>
<td>Identification of the shared problem related to ESD integration and learning from current efforts</td>
</tr>
<tr>
<td>3. Understanding ESD integration</td>
<td>Chapters 2, 3, and 4</td>
<td>Understanding ESD and the integration framework</td>
</tr>
<tr>
<td>4. Curricular mainstreaming approaches</td>
<td>Section 6.1 and Chapter 7</td>
<td>Awareness of current curricular mainstreaming approaches</td>
</tr>
<tr>
<td>5. Institutional mainstreaming approaches</td>
<td>Section 6.2 and Chapter 7</td>
<td>Awareness of current institutional mainstreaming approaches</td>
</tr>
<tr>
<td>6. ESD integration opportunities and plans</td>
<td>SEAMEO planning outline</td>
<td>Identification of gaps and opportunities within your TEI and how they can be addressed</td>
</tr>
</tbody>
</table>
9 EDUCATION FOR SUSTAINABLE DEVELOPMENT RESOURCES: ANNOTATED BIBLIOGRAPHY

RE-ORIENTING TEACHER EDUCATION TO ADDRESS SUSTAINABLE DEVELOPMENT GUIDELINES AND TOOLS SERIES


EDUCATION FOR SUSTAINABLE DEVELOPMENT IN ACTION: LEARNING AND TRAINING TOOLS SERIES


EDUCATION FOR SUSTAINABLE DEVELOPMENT IN ACTION GOOD PRACTICES SERIES


UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION-ASSOCIATED SCHOOLS GOOD PRACTICES FOR QUALITY EDUCATION SERIES


OTHER EDUCATION FOR SUSTAINABLE DEVELOPMENT MODULES


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RESOURCE PERSONS

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