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Astrolabe

A Guide to Education for Sustainable Development Coordination in Asia and the Pacific

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A Guide to Education for Sustainable Development Coordination in Asia and the Pacific

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The Mariner's Astrolabe

An astrolabe is an ancient instrument used to measure the position of the sun and stars. In the past it was used for a number of purposes, such as determining the time of day or night and measuring one's current position in relation to the north and south poles. A mariner's astrolabe was used to determine the latitude of a ship at sea and guide its direction.

Similar to the mariner's astrolabe, the Asia-Pacific Education for Sustainable Development (ESD) Astrolabe aims to assist UNESCO Member States in determining the current position of ESD in their country and guiding education and learning in a desired direction, so as to support the advancement of sustainable development in the national context. The ESD Astrolabe is also intended to complement ongoing efforts to enhance the quality of education throughout the Asia-Pacific region.

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Acronyms

ACCU	Asia-Pacific Cultural Centre for UNESCO
ADB	Asian Development Bank
APCEIU	Asia-Pacific Centre of Education for International Understanding
APNIEVE	Asia-Pacific Network of International Education and Values Education
ASPnet	Associated Schools Project Network
COE	Centre of Excellence of ACCU
CR	Corporate Responsibility
CSR	Corporate Social Responsibility
DESD	Decade of Education for Sustainable Development
ECCE	Early Childhood Care and Education
EE	Environmental Education
EFA	Education for All
EIU	Education for International Understanding
ESC	Education for Sustainable Consumption
ESD	Education for Sustainable Development
ESD-J	Japan Council on the UN Decade of Education for Sustainable Development
ESD-Net	Asia-Pacific Regional Network of Teacher Education Institutes for ESD
FAO	Food and Agricultural Organization
HRE	Human Rights Education
IGES	Institute for Global Environmental Strategies
IE	Inclusive Education
IP	Innovation Programme for ESD of the ACCU
MDGs	Millennium Development Goals
MOE	Ministry of Education
MOL	Ministry of Labour
NGO	Non-governmental Organization
NSDS	National Sustainable Development Strategy
OHCHR	Office of the High Commissioner for Human Rights
ProSPER.Net	Promotion of Sustainability in Postgraduate Education and Research Network
RCE	Regional Centre of Expertise of the UNU
SD	Sustainable Development
TOR	Terms of Reference
TVET	Technical and Vocational Education and Training
UNCED	United Nations Conference on Environment and Development
UNCRD	United Nations Centre for Regional Development
UN DESD	United Nations Decade of Education for Sustainable Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEVOC	UNESCO International Centre for Technical and Vocational Education and Training
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
UNLD	United Nations Literacy Decade
UNU-IAS	United Nations University – Institute of Advanced Studies
WCED	World Commission on Environment and Development
WHE	World Heritage Education
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

Foreword

This guide booklet is a resource for using the Asia-Pacific Education for Sustainable Development (ESD) Astrolabe and to assist UNESCO Member States and stakeholders in adapting its contents at the national or sub-regional level.

The guide is the product of an Asia-Pacific collaborative effort, sponsored by Japanese Funds-in-Trust. It provides a tool for bringing together partners in education from across sectors to share experiences and move ESD forward in a coordinated manner.

This booklet strives to incorporate, as much as possible, the lessons learned and valuable feedback from participants of the six sub-regional ESD Coordination and Capacity Development consultation workshops that were convened, with funding from Japanese Funds-in-Trust, in the Asia-Pacific region in 2008 and 2009. Based on these stakeholder consultations, the guide booklet suggests processes for using the Astrolabe tool, key stakeholders to engage in discussions, practical examples to build on and recommendations for adapting the tool in practice.

This booklet draws on strategies from Asia-Pacific regional case studies on national ESD mobilization, the Asia-Pacific ESD Monitoring Project and the development of the ESD Lens document. Lessons learned stretch from strategies outlined in the United Nations DESD International Implementation Scheme in 2005 to the global "Call for Action" laid out in the Bonn Declaration by the World Conference on ESD in 2009.

To supplement stakeholders' knowledge on ESD, this booklet also provides background information on the concept of ESD and the UN Decade of Education for Sustainable Development (DESD), and discusses the progress of ESD in the first half of the Decade.

Examples of sustainable development priorities in the Asia-Pacific region as well as examples of ESD-related knowledge, skills, values and attitudes are provided. In addition, a list of key ESD partnerships, networks and stakeholders in the region, and a description of conceptual linkages between ESD and other education initiatives, are provided as additional resources to encourage ongoing collaboration and further sharing of lessons learned for ESD.

Gwang-Jo Kim

Director
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Much is also owed to work undertaken in the past. In particular, the multimedia package Teaching and Learning for a Sustainable Future, developed by UNESCO Paris, and Rosalyn McKeown's Education for Sustainable Development Toolkit.

UNESCO is grateful to Japanese Funds-in-Trust for their generous support of the series of ESD workshops held throughout the Asia-Pacific region in 2008 and 2009, which provided valuable input into the development of the Astrolabe. Thanks are also due to the exhaustive efforts of many collaborators in assuring the broadest possible ownership in the buildup to the World Conference on ESD held in Bonn in 2009.

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Finally, gratitude is owed to Derek Elias as the Chief of the ESD Unit until December 2010. His leadership and coordination secured the successful implementation of the entire project.

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1 Background

Sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

What is Sustainable Development?

Prior to discussing the concept of Education for Sustainable Development (ESD), it is important to share a common understanding of what "sustainable development" means.

The notion of sustainable development gained wide recognition following the publication of *Our Common Future* (also known as the Brundtland Report) in 1987 by the United Nations World Commission on Environment and Development (WCED).The report defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[1] This approach recognizes that development is about making improvements in society and in the quality of lives of people, and it recognizes that development cannot be unlimited, but must respect the limits of the environment (e.g. resources, ecosystem services) and must be appropriate to the local culture.

The Brundtland Report introduced key concepts that were discussed and developed at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. 172 countries, 108 at the level of Heads of State of government were represented at the Conference and a key outcome was the Rio Declaration, which sets out 27 principles for achieving sustainable development. The participants also adopted *the Statement of Principles for the Sustainable Management of Forests and* Agenda 21*, a guiding document for sustainable development.*[2]

1 WCED. 1987. Our Common Future. Oxford, Oxford University Press.

2 Rio Declaration http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm; Agenda 21 http://www.un.org/esa/dsd/agenda21/res_agenda21_00.shtml ; Statement of Principles for the Sustainable Management of Forests http://www.un.org/documents/ga/conf151/aconf15126-3annex3.htm

What is Education for Sustainable Development?

Education is widely considered a cornerstone of human development but our education systems currently do not always enable us to address challenges such as climate change, escalating food prices, global financial crises, growing inequality and rapid technological advances. In order to be in a position to address such challenges and bring about improvements in human well-being requires changes in what we know and do. We must envision a new kind of education. The education we receive must give us an understanding of the global system and must empower individuals to make informed, appropriate decisions for "environmental integrity, economic viability and a just society for present and future generations".[3]

Table 1: ESD in a Nutshell

The four thrusts of DESD:

- Improve basic education
- Reorient existing education programmes
- Build public understanding and awareness of sustainability
- Provide practical training

ESD rests on various competencies and forms of collaboration:

- Envisioning
- Critical-reflective thinking
- Systemic thinking
- Cooperative learning
- Learning by doing
- Building partnerships
- Participation in decision making

ESD stakeholders:

- Academic institutions & educators
- Civil society, UN agencies & NGOs
- Communities, youth groups & individuals
- Governments
- Media
- Private sector
- Donors

ESD aims to contribute to sustainable development by empowering people, through education, to assume responsibility for creating a sustainable future. It seeks to engage people from all walks of life, worldwide, in bringing about changes for a better world. Stakeholders

ESD operational definition for the Asia-Pacific region

Education for Sustainable Development (ESD) facilitates the degree to which an education system is prepared for, and is responsive to, existing and emerging challenges (e.g. disasters).

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3 UNESCO. 2005a. United Nations Decade of Education for Sustainable Development (2004-2015): International Implementation Scheme. Paris, p. 6

"Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues."

Agenda 21, Article 36.3

from across sectors have a role to play in changing the way we deliver education and ensuring we make appropriate decisions for a better future.

The concept of ESD challenges the way most people think about the world today. ESD confronts conventional aspirations and encourages us to imagine a more sustainable future and reflect on how our values, beliefs and behaviour can promote change to realize such a future. ESD is about learning for change and learning to change.

Bringing about development that is sustainable requires that we change our view of education. But moving from that alternative view to a system of education that brings about sustainable development requires planning, good communication strategies, and a willingness to be open to new ideas and engage those who may not be seen as traditional partners in education.

ESD has direct implications for what is taught (content) and how it is taught (delivery). ESD goes beyond providing the knowledge and skills associated with understanding the environment, society and economics; it nurtures the values and perspectives necessary for cultivating sustainable livelihoods, as well as building human capacity to be able to act upon these values and perspectives.[4]

UNESCO's approach to ESD originated from Chapter 36 of Agenda 21, which aimed to reorient education, increase public awareness and promote training. UNESCO thus characterizes ESD as striving to promote sustainable development through four thrusts, as outlined below.[5]

1. **Improve basic education** to ensure everyone has access to education and the opportunity to gain the knowledge, skills, values, and perspectives that encourage and support public participation and community decision making.

---

4 See Annex 3 for a discussion on the kinds of knowledge, values and perspectives needed for sustainable development.

5 McKeown, R. 2002. *Education for sustainable development toolkit.* Knoxville, TN, University of Tennessee, Energy, Environment and Resources Center; and UNESCO. 2005a. United Nations Decade of Education for Sustainable Development (2004-2015): International Implementation Scheme. Paris, UNESCO.

2. **Reorient existing education programmes** to ensure curricular content and pedagogy (from pre-school to university) encourage the knowledge, skills, values and perspectives associated with changes for a sustainable future. Emphasis lies on reorienting curricula, as opposed to developing new curricula, and on improving the quality of programmes.

3. **Develop public understanding and awareness** of sustainable development through community education, including informal education through responsible media committed to encouraging an informed and active citizenry.

4. **Provide practical training** to businesses, institutions and civil society to build the capacity necessary to make decisions and perform work in a sustainable manner and to implement sustainable practices at the local, provincial and national levels.

There can be no "one size fits all" approach to ESD. Each country must address ESD in the context of their particular needs and aspirations. How a small island developing state addresses ESD, for example, differs from the activities of a large urban community. Likewise, the challenges in reorienting formal education are quite different to the challenges of engaging the private sector in ESD.

In the Asia-Pacific region, many ESD initiatives and programmes have been implemented by civil society groups, government bodies, organizations and businesses. Some examples include:

Informal education in the community

Informal education approaches using drama and comedy, are being used to engage communities in decision making about their lives and to empower them to take action and interact with government bodies and NGOs to elicit change in areas such as wellbeing, health and environmental protection. In Vanuatu, for example, villages are visited periodically by a travelling theatre group known as Wan Smolbag. This group puts on plays that simultaneously entertain and inform villagers about issues such as HIV and AIDS and malaria reduction.

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Public awareness campaigns

Orissa, on the east coast of India, is a breeding site for vulnerable Olive Ridley turtles and hosts hundreds of thousands of turtles each year. Over the last ten years, however, more than 100,000 turtle carcasses have been found washed ashore, most of them victims of unsustainable fishing practices. In an effort to spread awareness about the need to protect the turtles, the Dhamra Port Company Limited, a private company, under the advice of the International Union for Conservation of Nature (IUCN), launched a mass public awareness campaign. One of the key planks of this campaign was called "Catch 'em young", which involved training local youth to spread the message of turtle conservation to school students in the area.

Government strategies for ESD

Many local authorities in Australia and New Zealand have developed formal ESD strategies, which assist in engaging and supporting local communities in change for sustainable development. Principles of critical reflection, systemic thinking, community participation in local decision making and partnerships for change have underpinned the strategies. On another level, the Australian Federal Government has developed an initiative which engages champions from across the government's portfolio (including environment, heritage, immigration and customs, social care, finance, procurement and defence) in driving learning and change for sustainability.

Reorientation of formal education

Across the Asia-Pacific region, programmes in peace education, human rights education, environmental and entrepreneurship education are being implemented by many schools. "Whole-school" approaches to such initiatives, such as those implemented by the Participatory Development Training Centre in Lao PDR, engage students, teachers, parents and the public in community-based projects in which students develop the knowledge and skills set out in the national curriculum through locally relevant activities. Projects are organized such as student visits to forests or ponds to identify plants and animals and their relationship in the natural environment; recycle banks at schools where students are responsible for weighing and organizing recyclables, calculating revenues and dividing up earnings; and earthworm farms,

involving the observation of diets and calculation of the weight of food necessary, adjusting feeding habits and eventually selling earthworms to fish, chicken and frog farms.

Private sector corporate responsibility initiatives

The need to promote learning and education for sustainable development is now being recognized by the private sector and underpins many corporate responsibility initiatives. For example, MAS Holdings, a Sri Lankan apparel manufacturer, engages youth in addressing sustainable development issues in their local communities. MAS Holdings initiates engagement through school workshops for upper secondary students. Students then carry out a six month experiential learning process to design and implement sustainability projects in their community. Such projects include building home gardens or addressing societal issues such as alcoholism.

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Training and Research

The Intergovernmental Panel on Climate Change (IPCC) report urged many toward education and action for sustainable development. Universities and technical colleges are training students of science and economics, as well as planners, architects, teachers and engineers, in skills needed to address development challenges sustainably. Within the context of the UN DESD, the United Nations University Institute of Advanced Studies (UNU-IAS) launched the Promotion of Sustainability in Postgraduate Education and Research Network (ProSPER.Net), a network of higher education institutions in the

Education for Sustainable Development

The four ESD thrusts:
1. Improve basic education
2. Reorient existing education programmes
3. Build public understanding and awareness
4. Provide practical training

Learning for change
- Knowledge
- Skills
- Values and attitudes
- An enabling learning environment

Empowering individuals and communities to make informed, appropriate decisions for a just, peaceful and sustainable world

Contributions to Society and Sustainable

Asia-Pacific region that are committed to working together to integrate sustainable development issues into postgraduate courses and curricula. The network focuses on three main activities: 1) integrating sustainable development issues into business school curricula; 2) faculty training on sustainable development; and 3) a postgraduate programme on public policy and sustainable development.

What is the Decade of Education for Sustainable Development?

"The overall goal of the DESD is to integrate the principles, values and practices of sustainable development into all aspects of education and learning"

UN DESD International Implementation Scheme

In recognition of the need to support efforts to improve and reorient education towards sustainable development, the United Nations General Assembly declared the UN Decade of Education for Sustainable Development (DESD) during its 57th Session, on 20 December 2002, and tasked UNESCO with the role of lead agency. The UN DESD responds to the recommendation for a Decade of ESD that was raised at the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg, and is seen as an effective way to increase awareness and understanding about sustainability and highlight education's role in fostering sustainable practices.[6]

Spanning the years 2005 to 2014, the DESD aims to encourage educational efforts that will promote changes in behaviour to create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations.

The outcome of the DESD is envisioned as a world where everyone has the opportunity to benefit from education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation.

Recognizing that sustainable development and supporting educational processes will vary from context to context, four broad objectives were developed to guide UNESCO Member States in implementation during the Decade:

6 Adapted from UNESCO. 2005b. Promotion of a global partnership for the UN Decade of Education for Sustainable Development (2005-2014): The International Implementation Scheme for the Decade in brief. Paris, UNESCO.

1. Facilitate networking, linkages, exchange and interaction among stakeholders in ESD.

2. Foster an increased quality of teaching and learning in education.

3. Help countries make progress towards and attain the Millennium Development Goals through ESD efforts.

4. Provide countries with new opportunities to incorporate ESD into education reform efforts.

In particular, governments are asked to "consider the inclusion … of measures to implement the Decade in their respective education systems and strategies and … national development plans", and to "promote public awareness of and wider participation in the Decade, inter alia, through cooperation with and initiatives engaging civil society and other relevant stakeholders".[7]

Implementation requires a wide range of activities – from preparing media releases and funding proposals, to hosting meetings, producing detailed action frameworks and staging events to adapting existing curricula.

The DESD identifies seven essential strategies for moving ESD forward through regional, sub-regional, national and local implementation strategies and plans.

1. Vision-building and advocacy
2. Consultation and ownership
3. Partnership and networks
4. Capacity-development and training
5. Research and innovation
6. Use of information and communication technologies (ICT)
7. Monitoring and evaluation

One possible representation of how these strategies can link to national ESD activities and complement the vision, goals and objectives of the DESD, is portrayed in Figure 1.

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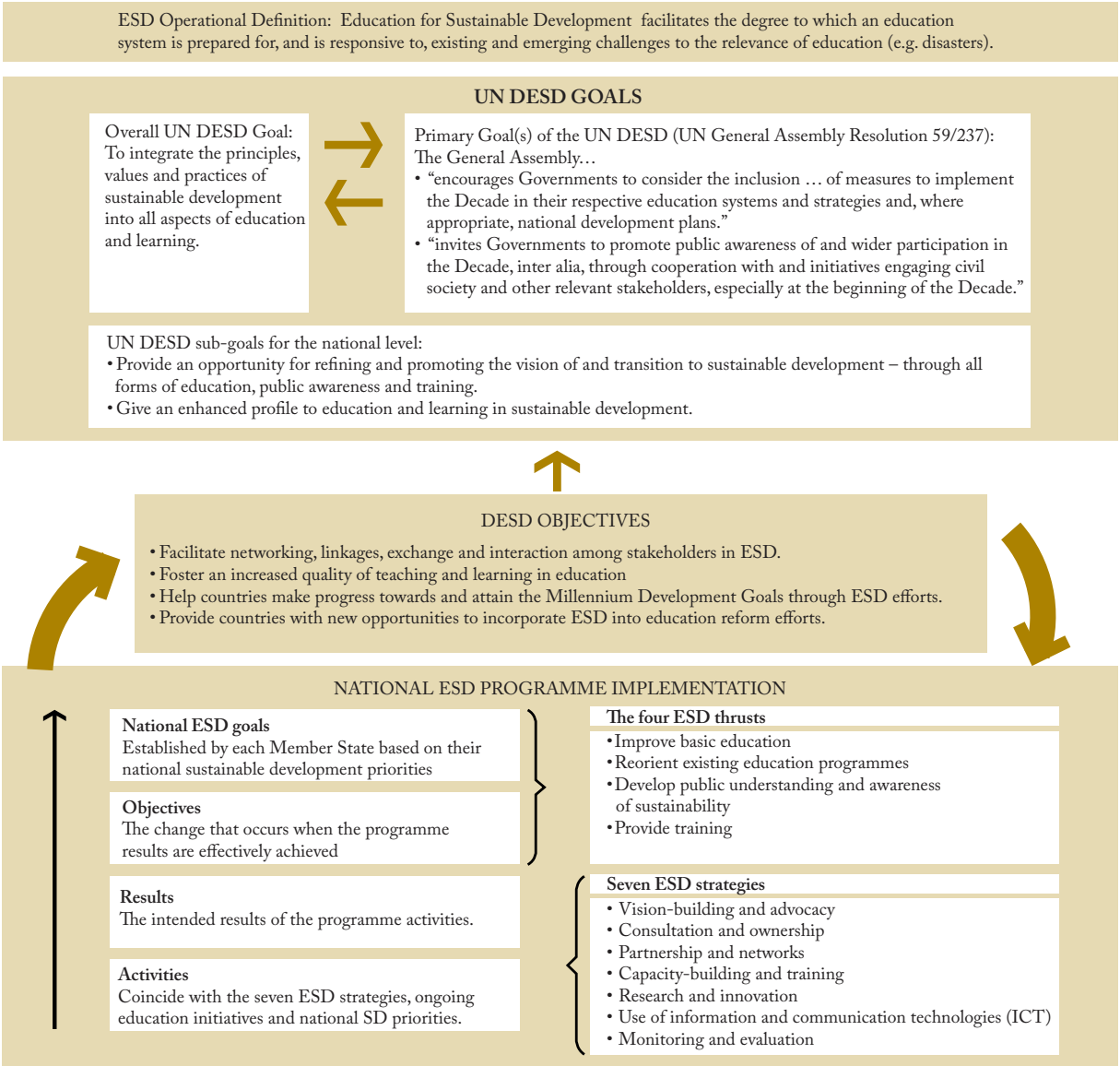
7 UN General Assembly Resolution 59/237.

Figure 1: The UN Decade of Education for Sustainable Development and National ESD Implementation

Possible relationships between the vision, goals and objectives outlined in the UN DESD International Implementation Scheme and national ESD implementation.



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2 Learning for Change: ESD in the Asia-Pacific Region

Following the global launch of the Decade of ESD in March 2005, countries in the Asia-Pacific region established national ESD committees with shared innovative approaches about initiating ESD and held discussions about processes for developing national ESD monitoring systems through workshops, seminars and online forums.

A major challenge in monitoring Education for Sustainable Development (ESD) efforts during the first half of the Decade of ESD was the difficulty in identifying common ground between the various actors conducting ESD-related work across different sectors. It is necessary to redefine what good quality education means, and to set up effective coordination mechanisms among national stakeholders. Without proper coordination, it is very difficult for countries to guide and monitor relevant ESD efforts.

But addressing diverse issues systematically presents challenges. How do Member States coordinate an education initiative that engages a wide range of sectors, from the environment and culture sectors to those of health and business? How is it best to coordinate actors for a learning initiative that aims to ensure that the necessary values and perspectives are gained as well as knowledge about climate change, biodiversity, peace, illiteracy, food security, fresh water, HIV and AIDS and other challenges to human development? Many potential partners struggle to move beyond the scope of environmental education to fully engage in ESD, but at the same time there are concerns about the depth and substance of activities being branded as "ESD" but which may not actually fit that description.

Practical challenges also exist for ESD programming in the Asia-Pacific region. National ESD-related activities require more effective coordination among key stakeholders and sectors, but such collaboration can prove difficult in terms of logistics and time. In addition, financing is becoming a barrier to moving ESD forward, and, most importantly, national development priorities still need to be acknowledged to guide ESD programmes towards concrete objectives. Ultimately ESD activities should respond to the national or sub-regional development challenges. Furthermore, evidence from the first years of implementation suggests that ESD needs to be integrated into national development strategies to promote further change.

Table 2: Development Challenges in the Asia-Pacific Region[8]

Social	Cultural	Environmental	Economic
• Access to education • Access to health care • Gender equality • Good governance • Human rights • Improving the quality of education • Peace and human security • Preventing the spread of HIV and AIDS	• Safeguarding cultural and linguistic diversity • Valuing indigenous knowledge • Preserving tangible and intangible heritage • Promoting intercultural and interfaith understanding	• Loss of habitats and biodiversity • Climate change • Depletion of natural resources • Deforestation • Desertification • Disaster preparedness • Water shortages • Overfishing • Pollution • Unsustainable farming practices	• Corporate responsibility and accountability • Food security • Poverty • Rural development • Urbanization • Disaster preparedness

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8 Challenges acknowledged by representatives of UNESCO Member States as development priorities during 2008-2009 Asia-Pacific sub-regional ESD consultations.

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3 Asia-Pacific ESD Coordination

To assist Member States in the Asia-Pacific region to address the challenges they face in implementing effective ESD, UNESCO, with the generous support of Japanese Funds-in-Trust, conducted a series of coordination and capacity development workshops in 2008 and 2009. The workshops aimed to build additional capacity for ESD leadership, coordination and monitoring at the national level.

More than 55 senior-level ministerial representatives from 28 countries, along with members of civil society, academia and the private sector, participated in the sub-regional workshops, which were held in Bishkek, Kyrgyzstan; Ha Long Bay, Viet Nam; Manila, Philippines; Hangzhou, China; Colombo, Sri Lanka; and Tehran, Iran (see Table 3). Representatives of Member States engaging in ESD for the first time worked with colleagues more familiar with a wide range of ESD challenges to provide practical insights and recommendations for carrying ESD forward into the second half of the DESD. See Table 4 for lessons learned from the sub-regional ESD consultations.

Table 3: Participating Countries

2008-2009 Asia-Pacific ESD Coordination and Capacity Development Workshops

Central Asia	South Asia	East Asia	South East Asia
Afghanistan	Bangladesh	China	Brunei Darussalam
Iran	Bhutan	Japan	Cambodia
Kazakhstan	India	Mongolia	Indonesia
Kyrgyzstan	Maldives	Republic of Korea	Lao PDR
Pakistan	Nepal		Malaysia
Tajikistan	Sri Lanka		Philippines
Turkmenistan			Singapore
Uzbekistan			Timor Leste
			Thailand
			Viet Nam

Table 4: Lessons Learned

2008-2009 Asia-Pacific ESD coordination and capacity development workshops

- **Sharpen focus to reorient education systems towards national development priorities**
  Countries should identify three or four key national development priorities (e.g. food security, literacy, health, etc.) to develop a practical foundation for ESD and then foster the values, attitudes, knowledge and skills required to address those priorities sustainably.

- **Incorporate ESD into national development and education plans**
  To build support for ESD among stakeholders and development partners across sectors, ESD not only needs to be included on the national agenda, but must also be incorporated into national development and poverty reduction strategies, education sector development plans, etc.

- **Establish support for capacity development**
  Policy makers and educators need capacity development in ESD to support the integration of thematic content into curricula, to ensure relevant pedagogy and learning, and to develop appropriate ESD indicators and monitoring.

- **Internalize ESD within national budget structures**
  To maintain political will and momentum for ESD, budget ownership needs to be advocated for ESD within relevant ministries, starting with the education ministry.

- **Establish inter-ministerial support for ESD**
  Inter-sectoral collaboration is seen as essential for linking ESD to Education for All (EFA), the Millennium Development Goals (MDGs) and other programmes[9] in order to steer education and learning towards addressing national sustainable development priorities.

One of the key achievements of the sub-regional workshops was the collective work on developing the Asia-Pacific ESD Astrolabe.[9]

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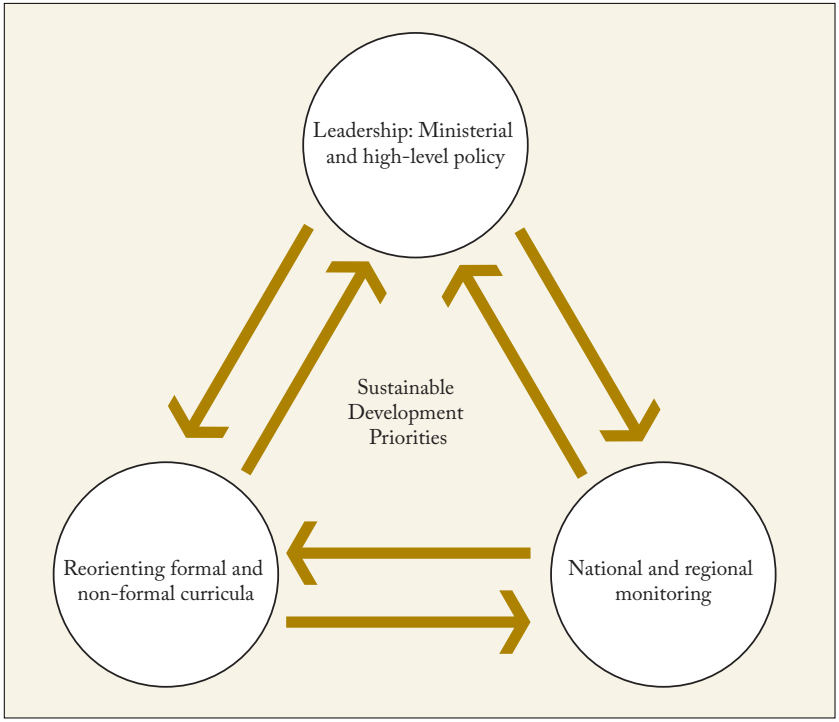
9 See Annex 2 for details of the synergies between ESD and other education initiatives and programmes

Figure 2: A Vision for ESD Coordination in the Asia-Pacific Region



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The ESD Astrolabe is a tool for developing ESD capacity and is designed to assist countries in coordinating ESD-related activities.

The Astrolabe assists countries with identifying thematic and programmatic priorities to guide ESD, engaging stakeholders from across sectors, and linking ESD initiatives to ongoing education projects, activities and funding mechanisms.

The Asia-Pacific ESD Astrolabe is part of an ongoing collaborative effort that stems from the Asia-Pacific ESD Monitoring project, implemented between 2006 and 2008, with the aim of developing national ESD monitoring systems.

The Monitoring project identified specific challenges that needed to be overcome in order to move the development of national ESD indicators

further. Two of the most prominent challenges included: 1) the need to coordinate the wide range and scope of ESD activities and actors at the national level; and 2) the need to raise awareness among potential key partners that ESD is a cross-cutting platform that goes beyond education and the environment to engage sectors such as business, culture and communications.

As a result of these findings, more emphasis was placed on building capacity for ESD coordination in order to provide a stronger foundation for developing national monitoring systems and furthering ESD implementation.

In June 2008 UNESCO Bangkok convened a group of experts comprised of regional consultants and representatives from UN Agencies and NGOs to develop a coordination tool. The draft tool built on the work of the global ESD lens toolkit for reorienting existing education programmes for ESD, led by the UNESCO Paris DESD Secretariat.[10]

The draft tool, named the ESD Astrolabe, was tested during the sub-regional ESD consultations that were held in 2008 and 2009. The feedback and input on the structure and use of the tool were incorporated into a revised version of the Astrolabe and the Asia-Pacific ESD Astrolabe was finalized in collaboration with Member States and the expert group.

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10 UNESCO. 2010. Education for Sustainable Development Lens: A Policy and Practice Review Tool, Education and Sustainable Development in Action Learning and Training Tools no. 2. UNESCO, Paris.

Figure 3: Lessons Learned in the Asia-Pacific from the First Half of the UN Decade of Education for Sustainable Development

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4 The Asia-Pacific ESD Astrolabe

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An astrolabe is an ancient instrument used to measure the position of the sun and stars. A mariner's astrolabe was used to determine the latitude of a ship at sea and guide its direction. In the fifteenth and sixteenth centuries, for example, navigators used the mariner's astrolabe to identify their position at sea, sail to a desired latitude then sail east or west along that latitude until they reached their destination.[11]

Similar to the mariner's astrolabe, the Asia-Pacific ESD Astrolabe aims to assist UNESCO Member States in determining the current position of ESD in their country and guiding education and learning in a desired direction so as to support sustainable development in the national context. The ESD Astrolabe is also intended to complement ongoing efforts to enhance the quality of education throughout the Asia-Pacific region.

To determine the position of ESD in a country, Member States use the Astrolabe to take stock of existing ESD linkages in national policy, map current ESD-related activities and identify key actors and their scale and scope of involvement in ESD.

To guide the direction of ESD (steer education content and learning), the Astrolabe is used to acknowledge key national priorities and to facilitate the development of national ESD working plans. The Astrolabe is also useful in identifying national ESD gaps, such as who else needs to be engaged and what else needs to be done to move ESD forward.

Objectives of the ESD Astrolabe

The Asia-Pacific ESD Astrolabe is intended to complement ongoing efforts to enhance the quality of education and learning in the Asia-Pacific region. On a fundamental level, the Astrolabe strives to bring together partners in education, including ministry officials from various sectors, local authorities, schools, higher education and research institutions, the private sector, communities and youth, to promote discussion on improving the quality learning from the perspective of sustainable development.

More specifically, the Astrolabe provides a basis for guiding discussions toward a set of concrete objectives, as outlined below.

11 Morrison, J. E. 2009. The astrolabe: An instrument with a past and a future. Tallmadge, OH, S.D. Meyers Publishing Services.

- Clarify development priorities in order to provide a basis for ESD coordination and monitoring.
- Solidify a common understanding of ESD in the national context in terms of concrete learning objectives (i.e. ESD-related knowledge, skills, values, attitudes and learning characteristics).
- Link ESD to education and learning objectives in national policies, strategies and plans.
- Map ongoing ESD-related programmes, resources, key actors and their scale and scope of involvement in ESD.
- Identify gaps, needs and next steps to better support learning for sustainable development in the national context (i.e. creating an enabling environment for ESD).

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1. Background | 2. Learning for Change: ESD in the Asia-Pacific Region | 3. Asia-Pacific ESD Coordination | 4. The Asia-Pacific ESD Astrolabe | 5. Using the ESD Astrolabe | 6. The Astrolabe Exercises | Annex | Glossary | References

5 Using the ESD Astrolabe

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The Astrolabe consists of eight exercises, each with a specific purpose, from guiding discussions among policy makers on ESD linkages in policy to facilitating dialogue among educators' ESD learning objectives.

The Astrolabe is not intended to be completed by one individual. Rather, it is meant to act as a platform for engaging a wide range of stakeholders in ESD discussions, such as establishing a vision for ESD, taking stock of national ESD-related activities, identifying gaps in implementation and formulating a work plan to move ESD forward.

Adapting the Astrolabe for local use

In order for the Astrolabe to be most meaningful and effective, the tool should be adapted for a user's specific purposes. Depending on the use and stage of ESD coordination in a country, it may be appropriate to only use certain sections of the Astrolabe, rather than completing all of the exercises at once. A group of policy makers, for example, may wish to start off with Exercise 1 (establishing a vision for ESD) and Exercise 3 (linking ESD to policy), whereas a group of educators may wish to initially focus on Exercise 2 (clarifying ESD learning objectives). How the Astrolabe is used and adapted will ultimately depend on factors such as the background and context of ESD in a country and the type of stakeholders being engaged.

Just as there is no "one size fits all" approach to ESD, no single tool can be structured to fit the context of all Member States in the Asia-Pacific region. Recognizing that national policies, governance structures and capacities to engage in ESD differ from country to country, the Astrolabe can be used in various ways, so as to be appropriate to specific contexts. For example, while some Member States may have clear ESD action plans and up-to-date National Sustainable Development Strategies (NSDS) and may not need all the exercises of the Astrolabe, other countries may be at the stage of revising current policies or developing initial strategies for ESD, so may need to start with the first exercise.

The Astrolabe exercises were prepared in English, so that the tool can be shared by countries across the Asia-Pacific region, but it is recommended that each Member State translate the Astrolabe into their national language to meet the local needs of all potential users in their country.

Potential users

Depending on how and where the Asia-Pacific ESD Astrolabe is used, the tool has the potential to engage a wide range of stakeholders from across sectors and levels. Possible stakeholders include:

- Ministry officials, such as those in the Ministry of Education, Ministry of Environment, Ministry of Culture, Ministry of Finance and Ministry of Planning.
- Development partners, including UNESCO and other UN agencies providing ESD support to Member States, in addition to INGOs, NGOs and the private sector.
- Academic institutions, including teacher education institutions, higher education and research institutions, district offices and, in some cases, individual schools.
- As relevant, people who have a key interest and knowledge in the following areas within the country or sub-region:
  - Sustainable Development
  - Poverty Reduction
  - Health
  - Culture
  - Economy
  - Disaster Risk Reduction
  - Environment
  - Community Development
  - Education
  - Population
  - Employment and Vocational Training
  - Climate Change

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Practical situations for using the Astrolabe

Stakeholders may choose to use the ESD Astrolabe through modes such as workshops, training sessions and meetings.

The participants of the sub-regional ESD consultations held in 2008 and 2009 and of ESD mapping experiences in the Pacific have identified various situations for using the tool. Stakeholders may wish to try these options, listed below, when using the tool for their purposes.

- Multi-day workshops: Convene facilitated discussions in a workshop format with some preparatory work by participants (e.g. synthesizing goals and priorities in NSDS, researching national stakeholder involvement in ESD). A designated resource person should compile the completed exercises and findings into a report and these findings should be used to guide ESD activities.

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- Meetings and focus groups: Hold an initial meeting with key stakeholders to identify a strategy for using and adapting the Astrolabe; identify a key resource person (government official, UNESCO staff, consultant) to adapt and lead the exercises in a collaborative and transparent manner (e.g. through periodic meetings, focus groups, one-on-one interviews) and compile the findings so that stakeholders can use them as a basis for follow-up action.
- Task force: Establish a task force of four to five individuals who represent key interest areas (e.g. governments, NGOs, religious institutions) to work together and complete the Astrolabe exercises. Compile the findings in a report and use this report as a basis for follow-up action.

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6 The Astrolabe Exercises

This chapter explains the purpose of the eight Astrolabe exercises, and then presents them, along with examples by Member States.[12]

Purpose of the Astrolabe exercises

Each of the eight Astrolabe exercises has a specific purpose. The objectives of each exercise are as follows:

- **Exercise 1 – Mapping the priorities**

  A key step, this exercise is designed to identify the national development priorities education will support.

- **Exercise 2 – The objectives of education**

  In this exercise, users identify the values, skills, and knowledge needed to address the development priorities.

- **Exercise 3 – Policies and strategies**

  This exercise identifies and maps current initiatives that support the development priorities.

- **Exercise 4 – Mapping ESD**

  This exercise aims to align current work with the four ESD thrusts.

- **Exercise 5 – Identifying the gaps**

  This exercise is in four parts, and enables users to look critically at the data assembled to identify gaps and challenges which need to be addressed for education to deliver the knowledge, skills, and values (from Exercise 2) needed to address development priorities sustainably.

- **Exercise 6 – Consolidating the challenges**

  This exercise aims to consolidate the challenges identified in Exercise 5 to form a "challenge matrix". In particular, this exercise identifies who else needs to be engaged and what else needs to be done.

- **Exercise 7 – Drafting a work plan**

  This exercise aims to assist in filling the gaps identified in Exercise 5 and consolidated in Exercise 6 by developing a draft work plan to

12 Examples and suggested adaptations were provided by UNESCO Member States during the 2008 and 2009 sub-regional ESD consultations funded by the Japanese Funds-In-Trust and through follow-up correspondence.

carry ESD forward and ensuring that new activities can complement and coexist with existing efforts.

- **Exercise 8 – Integrating education into the national development agenda**

  This exercise identifies the education sector's commitments and formulates them for policy change.

In general, the exercises are aligned to enable progressive discussion from establishing a shared vision for sustainable development to processes for developing a national ESD working plan and integrating ESD in the national development agenda.

Guide for completing the exercises

As preparation for conducting the Astrolabe exercises, stakeholders might consider the following key questions to guide the use of the tool:

- What do you want to achieve by using the Astrolabe?
- Which exercises will you carry out?
- Who should be involved in the Astrolabe discussions? Please bear in mind that a sense of ownership is often created best by early engagement.
- How will each of the exercises be conducted (e.g. in a workshop format, by an expert-led process, through a task force)?
- Who will facilitate the process?
- How much time will be allocated to each exercise (e.g. one hour, two days)?
- What resources are needed to carry out the exercises?
- Where can exercise materials, such as key national policy documents, be obtained?

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Exercise 1: Mapping the priorities[13]

This exercise is designed to identify the national development priorities that education will support.

1. Characteristics of a sustainable society Scenario: When the global population reaches 9 billion people, imagine that the world has become relatively sustainable. What are the characteristics of society in your country that have helped contribute to reach this era of relative sustainability?	**2. Sustainable development challenges** List here the most important development challenges in your country that need to be addressed in order to achieve sustainability in the national context.

3. Sustainable development priorities In this column, list the most urgent challenges from #2 above that need to be addressed in your country.	**4. Context, scale and scope of the issue** In this column, explain why this issue is a priority in your national context. This exercise enables users to map the economic, social, environmental, and cultural impacts of the challenge, as well as the scale and scope of these impacts. (Remember to consider different stakeholder perspectives.)	**5. Desired change** In this column, explain what changes need to take place in the national context to help address this priority. Context, scale and scope of the issue. In this column, explain why this issue is a priority in your national context. This exercise enables users to map the economic, social, environmental, and cultural impacts of the challenge, as well as the scale and scope of these impacts. (Remember to consider different stakeholder perspectives.)

13 It is important to engage expertise and views from a wide variety of fields – it is not productive at this stage to look inward at the education system's challenges. Rather, the focus should be on national challenges which are likely to be voiced in key development documents such as the Common Country Analysis (CCA), United Nations Development Assistance Framework (UNDAF) and National Sustainable Development Strategy.

Example: Exercise 1

A. Characteristics of a sustainable society Scenario: When the global population reaches 9 billion people, imagine that the world has become relatively sustainable. What are the characteristics of society in your country that have helped contribute to reach this era of relative sustainability?	**B. Sustainable development challenges** List here the most important sustainable development challenges in your country that need to be addressed in order to achieve sustainability in the national context.
• A society with a robust economy, peace and good quality of life for all, including respect for diversity and intercultural understanding • An educated society where each citizen has access to a minimum of nine years of compulsory schooling • All families are able to achieve an acceptable standard of living socially and economically (house, health, employment, etc.) • A democratic society based on the rule of law with decentralization and high participation in development processes • A society with sustainable patterns of food production and consumption and staple food diversification	• ECONOMIC: Human Resource development gaps, Unemployment, Food insecurity, Overpopulation, High energy costs • SOCIAL: Political instability, Good governance, Peace, Gender inequality, Illiteracy, Conflict, HIV and AIDS and other communicable diseases • ENVIRONMENTAL: Climate Change Impacts, Water and air pollution, Deforestation, Loss of land due to unsustainable agricultural practices, CO_2 emissions due to consumption of fossil fuels, Loss of habitats and biodiversity, Loss of ecosystem services • CULTURAL: Loss of indigenous knowledge and language, Ethnic conflict, Lack of respect for diversity

C. Sustainable development priorities In this column, list the most urgent challenges from #2 above that need to be addressed in your country.	**D. Context, scale and scope of the issue** In this column, explain why this issue is a priority in your national context. This exercise enables users to map the economic, social, environmental, and cultural impacts of the challenge, as well as the scale and scope of these impacts	**E. Desired change** In this column, explain what changes need to take place in the national context to help address this priority.
Literacy	• 43% literacy rate, leading to lack of employment opportunities and limited skills for the job market and further marginalizing vulnerable groups	• Qualified human resources in all areas of profession • Educated, skilled and highly competitive pool of human resources
Reproductive Health	• Increase in the HIV/AIDS prevalence rate, Gender inequality, socio-economic problems due to youth pregnancies	• Gender responsiveness • Spread of disease is contained
Climate Change and Deforestation	• Urban expansion at the cost of agricultural land • Low-cost for agricultural land clearance by forest burning leading to air pollution and uncontrolled fires • Loss of biodiversity	• Urban development that maximizes existing land (without use of extra land) • Agricultural land preserved • Nature reserves established to preserve biodiversity • Minimum level of deforestation, sustainable timber industry combined with reforestation

Exercise 2: The objectives for education

In this exercise, users will identify the values, skills, and knowledge needed to address the development priorities identified in Exercise 1.[14]

Desired change In this column, list the changes needed to address sustainable development priorities from Exercise 1.	**Knowledge** What knowledge is needed to achieve the desired change?	**Skills**		**Values and Attitudes** What values and attitudes are needed to achieve the desired change?
		(cognitive/technical) What cognitive and technical skills are needed to achieve the desired change? (literacy, ICT, critical thinking…)	**(social/emotional)** What social and emotional skills are needed to achieve the desired change? (interpersonal, compassion,…)	
Learning Characteristics What learning characteristics can help foster the above knowledge, skills, values and attitudes? (interdisciplinary, experiential, etc.)				
Learning that is…				
Learning Environment What kind of a learning environment supports the message being delivered (e.g. carbon neutral for climate change education)				
An environment that is…				

14 Refer to Annex 3 for information about the required knowledge, skills values and attitudes, and for information about learning characteristics and environments.

Example: Exercise 2

Desired change In this column, list the changes needed to address sustainable development priorities from Exercise 1.	**Knowledge** What knowledge is needed to achieve the desired change?	**Skills**		**Values and Attitudes** What values and attitudes are needed to achieve the desired change?
		(Cognitive/technical) What cognitive and technical skills are needed to achieve the desired change? (literacy, ICT, critical thinking…)	**(Social/emotional)** What social and emotional skills are needed to achieve the desired change? (interpersonal, compassion,…)	
Literacy	• Why are literacy rates low? • Who are the illiterate people … minority groups, women? • What are the literacy needs of illiterate, marginalized groups? • How can those needs be met? • What languages should the literacy materials be in?	• Reading and writing • Symbolism (associating text with meaning) • Understanding context • Basic ICT skills • Methods for finding and sharing information	• Independence • Self confidence • Persistence • Understanding one's own learning style	• Desire to complete tasks • Commitment to lifelong learning • Willingness to develop oneself • Openness to learning
Reproductive Health	• Awareness of the causes and effects of STIs • Prevention and care for communicable STIs • Information on HIV and AIDS	• The capacity to identify problems and processes for addressing them • Promoting education about HIV and AIDS and sex education • Technical skills for personal health care and disease prevention • Communication skills: information dissemination and persuading others to seek treatment.	• Self-esteem • Assertiveness – the ability to say "no" and protect oneself. • Compassion for those affected by communicable diseases • Ability to establish a support system • Advocacy skills (to change community's attitude on HIV/AIDS as being taboo)	• Being responsible for one's health and self • Self-discipline • Respect for others • Openness to adapt and change
Climate Change (Deforestation)	• Understanding the economic, social and environmental values of forests and why we need to protect forests. • Understanding the importance of biodiversity for human survival. • Understanding the causes and effects of climate change • Understanding how to mitigate the effects of climate change • Understanding how to prepare for disasters (e.g. landslides caused by deforestation) • Knowledge of policy and legal frameworks (Kyoto Protocol and Biodiversity Convention)	• Critical thinking skills • Information management skills • Decision making skills • Ability to conduct impact assessments • Policy and legal skills • Training skills for retooling policy makers, officials, decision makers • Ability to make use of existing local indigenous knowledge	• Communication skills (for conducting environmental education and public awareness campaigns) • Negotiation skills: ability to engage others • Team-work skills (cooperation) • Resilience and coping mechanisms	• Openness to adapt and change • Respect for life and nature • Awareness of interconnectedness between nature and society • Self-discipline • Future orientation (intergenerational equity) • Responsible citizenship • Respect for democratic good governance • Proactivity • Willingness to cooperate • Political activeness

Example: Exercise 2 (continued)

Learning characteristics

What learning characteristics can help foster the above knowledge, skills, values and attitudes? (interdisciplinary, value-driven, etc.)

Learning that is:

- Cooperative and promotes learning and sharing together
- Participatory and collaborative
- Community based (involving parents and the community)
- Student centred
- Group oriented
- Experiential
- Evidence based/research based
- Promoting positive values (principles, values, practices of SD)
- Integrated
- Relevant for the development of the human personality and the sense of dignity
- Interdisciplinary
- Borderless (encourages learning that can take place regardless of time and location)
- Lifelong
- Inter-generational
- Multi-cultural
- Relevant and practical to one's life and lifestyle
- Project-based and activity based
- Respectful to nature and one's community

Learning environment

What kind of learning environment supports the message being delivered (e.g. carbon neutral for climate change education)

An environment that has/is compatible with/fosters

- Adequate levels of health and sanitation facilities
- Accommodates diverse needs, enables various projects
- Connected to community
- With links to nature
- As "green" as possible
- Strictly non-discriminatory, inclusive
- Enables interaction between age and other groups
- Ensures minimum levels of privacy
- Compatible with Child Friendly Schools concept (UNICEF)
- Takes girls' needs into account
- Accommodates cultural and religious needs

Exercise 3A: Policies and strategies

This exercise maps current initiatives which support existing priorities, and to which education and learning will be oriented.

Sustainable Development Priorities	**Policies relevant to education and learning**			
Key sustainable development priorities (Related to policies, action plans, national strategies, etc.)	**Supporting Policies, Strategies, Action Plans and Frameworks**		**Policy excerpts** **Engaging people in education and learning** (Aims and objectives from relevant policies, strategies, plans and frameworks)	**Lead Ministry, institution or department**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1.	In this column, list the policy document(s) which support each priority		In this column, write down what the document says about engaging people in education or learning to address each priority, including formal, non-formal and informal learning.	In this column, list the key government actor whose mandate or activities directly support each policy excerpt.
	National	Ed Sector		
	National	Ed Sector		

Example: Exercise 3A

Sustainable Development Priorities	**Policies relevant to education and learning**			
Key sustainable development priorities (Related to policies, action plans, national strategies, etc.)	**Supporting Policies, Strategies, Action Plans and Frameworks**		**Policy excerpts Engaging people in education and learning** (Aims and objectives from relevant policies, strategies, plans and frameworks)	**Lead Ministry, institution or department**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1.	In this column, list the policy document(s) which support each priority		In this column, write down what the document says about engaging people in education or learning to address each priority, including formal, non-formal and informal learning.	In this column, list the key government actor whose mandate or activities directly support each policy excerpt.
Literacy Promotion	**National** National Employment/ Skills Development Strategy	**Education Sector** Presidential Decree on compulsory basic education and national illiteracy eradication Education For All 2015 Plan of Action	"50% reduction of illiteracy rate will be achieved by the end of 2009"	Ministry of Education
			"Ensure every person has the basic competencies to bring about functional literacy for all"	Ministry of Education
Reproductive Health	National Youth Strategy 2002 National Growth and Poverty Eradication Strategy (2004)	National Health Education Standards	"Integrate into the national Literacy Programme a focus on mother's health education"	Department of Public Health
			"School Health Programme"	Ministry of Education
Deforestation	National Socio-economic Development Plan (2001-2005) National Environmental Strategy (2005)	National Education Strategy; relevant chapters on biodiversity and sustainable development	"Conduct awareness programmes for local communities about the importance of preserving forests"	Ministry of Environment and Natural Resources
			"Advocacy campaign for communities about protecting forests"	Ministry of Agriculture
			"Establish awareness programmes for students on the issues of deforestation"	Ministry of Education

Exercise 3B: Ongoing initiatives

Sustainable Development Priority:					
Policy excerpt In this column, carry over the policy excerpts from Part A, Column 3	**Lead ministry, institution or department** In this column, carry over the responsible ministry, institute or department from Part A, Column 4	**Supporting actors** In this column, brainstorm other key partners, agencies, ministries and institutions who are supporting work in this area	**Current programmes, initiatives and activities** In this column, brainstorm supporting programmes, initiatives and activities in this area	**Target groups** In this column, brainstorm all groups and/or communities who are being served	**Resources being applied** In this column, brainstorm which resources are being utilized (financial, technical, human/local knowledge, etc.)

Example: Exercise 3B

Sustainable Development Priority: Literacy Promotion					
Policy excerpt Carry over policy excerpts from Part A, Column 3	**Lead ministry, institution or department** Carry over the responsible ministry, institute or department from Part A, Column 4	**Supporting actors** List other key partners, agencies, ministries and institutions who are supporting work in this area	**Current programmes, initiatives and activities** List supporting programmes, initiatives and activities in this area	**Target groups** List all groups and/or communities who are being served	**Resources being applied** List which resources are being utilized (financial, technical, human/local knowledge, etc.)
"50% reduction of illiteracy rate will be achieved by the end of 2009"	Ministry of Education	• Ministry of Religious Affairs • State/district governments • National Universities • Social and Religious Organizations and other NGOs • Village Councils	1) National Illiteracy Programme through Functional Literacy 2) Literacy education conducted by non-traditional actors: • University students through Student Community Services • Social & religious organizations • Other NGOs, e.g. Rotary Club, Summer Institute of Languages	• Illiterate group aged 15 - 44 years old • Main focuses: 9 provinces (account for 81% of the illiterate) and 108 sub-divisions within those provinces (accounts for 76% of the illiterate population)	• 2008, National Budget US$ 87 m • 2008, Local Gov. Budget US$ 20 m
"Ensure every person has the basic competencies to bring about functional literacy for all"	Ministry of Education	• State and District Education Offices • Ministry of Rural Development • Ministry of Women Development, Unity and Community	Modular curriculum, Access centres for ICT Preschool programme	• Local communities • Parents • Students	Development and dissemination of materials Human resources and technical expertise and capacity development through regional best practices (NDP Fund)

Example: Exercise 3B (continued)

Sustainable Development Priority: Reproductive Health Promotion					
Policy excerpt In this column, carry over the policy excerpts from Part A, Column 3	**Lead ministry, institution or department** In this column, carry over the responsible ministry, institute or department from Part A, Column 4	**Supporting actors** In this column, brainstorm other key partners, agencies, ministries and institutions who are supporting work in this area	**Current programmes, initiatives and activities** In this column, brainstorm supporting programmes, initiatives and activities in this area	**Target groups** In this column, brainstorm all groups and/or communities who are being served	**Resources being applied** In this column, brainstorm which resources are being utilized (financial, technical, human/ local knowledge, etc.)
"Integrate into the national Literacy Programme a focus on mother's health education"	Department of Public Health	• National Women's Union • State and District Education Office • Ministry of Human Resources • Development partners • NGOs	• Monitoring school-going children • Intervention programmes for school-leavers/school drop-outs • Rakan Muda (Youth Programme)	• Girls between the ages of 11 and 16 • Parents • Young mothers	• Development and dissemination of materials
"School Health Programme"	Ministry of Education	• Ministry of Youth and Sports • Local authorities and communities (e.g. PTAs) • University students and professors	• Curriculum development • Teacher training • Non-formal education programmes • National lectures • Provincial briefings and workshops	• Teachers and students • Disadvantaged individuals • Educational institutions and Universities	• National Education Budget

Example: Exercise 3B (continued)

Sustainable Development Priority: Forest Preservation					
Policy excerpt In this column, carry over the policy excerpts from Part A, Column 3	**Lead ministry, institution or department** In this column, carry over the responsible ministry, institute or department from Part A, Column 4	**Supporting actors** In this column, brainstorm other key partners, agencies, ministries and institutions who are supporting work in this area	**Current programmes, initiatives and activities** In this column, brainstorm supporting programmes, initiatives and activities in this area	**Target groups** In this column, brainstorm all groups and/or communities who are being served	**Resources being applied** In this column, brainstorm which resources are being utilized (financial, technical, human/local knowledge, etc.)
"Conduct awareness programmes for local communities about the importance of preserving forests"	Ministry of Environment and Natural Resources	• Ministry of Agriculture • Local NGOs • State Department of Environment • Department of Forestry and Wildlife	• Capacity development and collaboration with local NGOs • Awareness programmes for local communities	• Rural communities	• Development and dissemination of training material • Human resources and technical expertise and capacity development
"Advocacy campaign for communities about protecting forests"	Ministry of Agriculture	• Ministry of Labour and Social Welfare • National Universities • State Department of Environment • Department of Forestry and Wildlife	• Development and dissemination of information materials	• Local communities	• Development and dissemination of material • Human resources and technical expertise
"Establish awareness programmes for students on the issues of deforestation"	Ministry of Education	• Ministry of Environment • State and District Education Offices • National Universities	• Seminars and Talks • School greening projects • Social forestry day • Curriculum formulation • Incorporation of information about deforestation into teacher education programmes • Capacity development of district education offices	• Students (primary and secondary age) • Teachers and school administrators • Parents	• Materials development • Lessons learned from partners and neighbouring countries • Human resources and technical expertise and capacity development

Exercise 4A: Mapping ESD (basic education)

Exercise 4 aims to align current work with the four ESD thrusts. Exercise 4A focuses on the ESD thrust associated with improving access to and the quality of basic education. It examines the actors and their scale/scope of involvement in ESD – Who is doing what and where?

- **Improve basic education** so as to ensure everyone has access to education and the opportunity to gain the knowledge, skills, values, and perspectives that encourage and support public participation and community decision making.

ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses…	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses…	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses…
	Ministry of Education	Ministry of Human Resource Development, District Education Offices	UN Agencies (e.g. UNICEF and partner agencies)	Resource Centres and CLCs	NGOs

Example: Exercise 4A

ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses…	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses…	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses…
	Ministry of Education	Ministry of Human Resource Development, District Education Offices	UN Agencies (e.g. UNICEF and partner agencies)	Resource Centres and Community Learning Centres	NGOs
Improve Basic Education	**Programme(s)/ Activities:** • Policy formulation and monitoring • Curriculum development and capacity development • Target group identification **Core objective(s):** • Free, good quality basic education for all by 2015 **Target group(s):** • District offices, schools, teacher training institutions, marginalized communities **Resources:** • National education budget, FTI funding	**Programme(s)/ Activities:** • Mid-day Meals Scheme • Total Sanitation Campaign • Programme monitoring • Coordination with different actors • Resource management **Core objective(s):** • Reach out to school youth, improve school health **Target group(s):** • Schools and students in marginalized communities **Resources:** • National development fund, MOE budget	**Programme(s)/ Activities:** • School construction • Curriculum and materials development • Teacher education **Core objective(s):** • Provision of infrastructure and capacity development for quality education **Target group(s):** • Teacher educators, teachers, out of school youth, marginalized communities **Resources:** • Joint funding	**Programme(s)/ Activities:** • Adult literacy training • Technical support for teachers, schools and family **Core objective(s):** • Adult literacy through non-formal education **Target group(s):** • Illiterate women, parents, marginalized communities, out-of-school children and youth	**Programme(s)/ Activities:** • Bridge programmes for out-of-school children, especially girls • Awareness raising, demand creation **Core objective(s):** • Promote an approach to education that is conducive to learning about and assuming the values of sustainable development **Target group(s):** • General public, parents, children, media

Exercise 4B: Mapping ESD (education and training)

Exercise 4B aims to align current work with the ESD thrusts associated with education and training. It examines the actors and their scale/scope of involvement in ESD – Who is doing what and where? This exercise focuses specifically on the following thrusts:

- **Reorient existing education programmes** to ensure curricular content and pedagogy (from pre-school to university) encourage the knowledge, skills, values and perspectives associated with change for a sustainable future. Emphasis lies on reorienting curricula, as opposed to developing new curricula, and on improving the quality of programmes.
- **Build public understanding and awareness** of sustainable development through widespread community education, including informal education through responsible media committed to encouraging an informed and active citizenry.
- **Provide practical training** to and within businesses, institutions and civil society to build the capacity necessary to make decisions and perform work in a sustainable manner and to implement sustainable practices at the local, provincial and national levels.

Sustainable Development Priority:					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses
	Ministry of Education	Ministry of Religious Affairs, Provincial/ District Governments	National Universities	Social and Religious Organizations, and other NGOs	Community, Village councils

Example: Exercise 4B

Sustainable Development Priority: Literacy Promotion					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses,
	Ministry of Education	Ministry of Religious Affairs, Provincial/ District Governments	National Universities	Social and Religious Organizations, and other NGOs	Community, Village councils
Reorient existing education programmes	**Programme(s)/ Activities:** • Literacy Programme • Awareness raising for and provincial/district office personnel • Development of learner-centred literacy strategies and learning modules **Core objective(s):** • Literacy eradication **Target group(s):** • Provincial/district offices, village councils **Resources:** • National education budget	**Programme(s)/ Activities:** • Literacy and life skills training • Develop and mainstream "new" literacy pedagogy (student-centred, experiential, etc) **Core objectives:** • Increase employment **Target group(s):** • Unemployed youth, provincial and district office personnel **Resources:** • National development fund	**Programme(s)/ Activities:** • Research on education planning • Research on and integration of the knowledge, skills and attitudes required for sustainable development into education • Subject-related research • Teacher education/ training programmes **Core objectives:** • Conduct good quality research, build knowledge base **Target group(s):** • Decision makers, society at large **Resources:** • Various	**Programme(s)/ Activities:** • Revised learning materials produced; non-formal education; collaboration with schools, etc. **Core objectives:** • Develop society in field of competence • Advocate for social change, speak out for vulnerable groups **Target groups:** • Vulnerable groups • Religious communities **Resources:** • Varies by organization	**Programme(s)/ Activities:** • Identifying and maintaining linkages between spaces of learning and the community • Build safe, resilient and prosperous communities with sustainable livelihoods

Example: Exercise 4B (continued)

Sustainable Development Priority: Literacy Promotion					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses,
	Ministry of Education	Ministry of Religious Affairs, Provincial/ District Governments	National Universities	Social and Religious Organizations, and other NGOs	Community, Village councils
Build public understanding and awareness	**Programme(s)/ Activities:** • Awareness raising through electronic and printed mass-media **Core objective(s):** • Raise awareness of literacy as a national issue and present community solutions **Target group(s):** • Citizens at large, village councils	**Programme(s)/ Activities:** • Workshops and seminars (PPP) • Television/radio programmes • Village events **Core objective(s):** • Mobilize social capital and required resources to promote literacy **Target group(s):** • NGOs, local communities	**Programme(s)/ Activities:** • Workshops and seminars (PPP) • Television/radio programmes • Village events **Core objective(s):** • Provide solid evidence base for argumentation **Target group(s):** • Society at large	**Programme(s)/ Activities:** • Advocacy programmes **Core objective(s):** • Outreach, policy change **Target group(s):** • Own constituency, society at large, policy makers, beneficiaries	**Programme(s)/ Activities:** • Peer-to-Peer Learning for Functional Literacy **Core objective(s):** • Implement peer-to-peer learning strategies to raise awareness of and promote illiteracy **Target group(s):** • Marginalized communities **Resources:** • Local facilities, including seating facilities
Provide practical training	**Programme(s)/ Activities:** • Literacy training • Tutor and competency examination training **Core objective(s):** • Provide training on "new" literacy materials and pedagogy **Target group(s):** • Tutors in 10 provinces and 100 districts	**Programme(s)/ Activities:** • Literacy training • Tutor and competency examination training **Core objective(s):** • Provide training on "new" literacy materials and pedagogy **Target group(s):** • Tutors in religious institutions in 10 provinces and 100 districts	**Programme(s)/ Activities:** • Teacher competency examination training • Teaching and learning implementation **Core objective(s):** • Provide training on "new" literacy materials and pedagogy **Target group(s):** • Pre-service teachers in 10 universities	**Programme(s)/ Activities:** • Literacy training • Tutor and competency examination training **Core objective(s):** • Provide training on "new" literacy materials and pedagogy **Target group(s):** • Tutors in religious institutions in 10 provinces and 100 districts	**Programme(s)/ Activities:** • Literacy training • Community development projects (e.g. DRR) **Core objective(s):** • Building resilience, increasing community capacity **Target group(s):** • Community members

Example: Exercise 4B (continued)

Sustainable Development Priority: Reproductive Health Promotion					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses,…	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses,…	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses,…
	Ministry of Education, Department of Teacher Training (should typically include curriculum and planning departments)	Department of Public Health	National Women's Union	Development partners and NGOs	Local authorities and communities (e.g. PTAs)
Reorient existing education programmes	**Programme(s)/ Activities:** • Review education policy framework, set targets • Revised teacher training curriculum and new materials development • Coordinate activities with other actors **Core objective(s):** • Integrate reproductive health content across the curriculum **Target group(s):** • Communities (mothers, fathers, male and female youth, out of school children in remote areas) **Resources:** • National education budget	**Programme(s)/ Activities:** • Provide technical support to Ministry of Education • Develop revised manuals on reproductive health **Core objective(s):** • Integrate reproductive health content across formal and non-formal curricula **Target group(s):** • Communities (mothers, fathers, male and female youth, out of school children in remote areas) **Resources:** • National health budget, World Bank funding	**Programme(s)/ Activities:** • Support key actors 1 and 2 in terms of policy and legal frameworks relating to literacy, mothers' health and child care **Core objective(s):** • Mother and child health **Target group:** • Mothers and children under 5 years in urban, rural and remote ethnic areas	**Programme(s)/ Activities:** • Provide technical and financial support to activities carried out by actors 1, 2 and 3 • Coordinate planning, project formulation and implementation **Core objective(s):** • School health • Prenatal health • Infant and child mortality **Target group(s):** • Communities (mothers, fathers, male and female youth, out of school children)	**Programme(s)/ Activities:** • Form an implementing task force; • Monitoring and report on progress of activities

Example: Exercise 4B (continued)

Sustainable Development Priority: Reproductive Health Promotion					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses,…	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses,…	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses,…
	Ministry of Education, Department of Teacher Training (should typically include curriculum and planning departments)	Department of Public Health	National Women's Union	Development partners and NGOs	Local authorities and communities (e.g. PTAs)
Build public understanding and awareness		**Programme(s)/ Activities:** • Develop manuals and materials such as posters, films, pamphlets, brochures, etc. **Core objective(s):** • Raise awareness of general health issues and prevention	**Programme(s)/ Activities:** • Disseminate information on reproductive health through local media **Core objective(s):** • Build local awareness and skills on reproductive health issues and prevention		**Programme(s)/ Activities:** • Mobilize schools and communities to promote reproductive health awareness at school and public events; • Carry out awareness activities
Provide practical training	**Programme(s)/ Activities:** • Training programmes for teachers and curriculum developers on public health • Conduct in-service training **Core objective(s):** • Integrate reproductive health content across the curriculum **Target group(s):** • In-service teachers and curriculum developers • Resources: • National education budget			**Programme(s)/ Activities:** • Provide technical and financial support to integrate reproductive health into formal (in-service) and non-formal training programmes **Core objective(s):** • School health • Prenatal health • Infant and child mortality **Target group(s):** • Communities (mothers, fathers, male and female youth, out of school children)	

Example: Exercise 4B (continued)

Sustainable Development Priority: Forest Preservation					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses,
	Ministry of Environment and Natural Resources	Ministry of Education	Ministry of Agriculture, Department of Forestry and Wildlife	State Department of Environment	National Universities
Reorient existing education programmes	**Programme(s)/ Activities:** • Introduce information about the economic, social and environmental value of forests into schools **Core objective(s):** • Establish a basis for environment concepts **Target group(s):** • Primary and secondary school students Resources: • Ministry budget	**Programme(s)/ Activities:** • Integrate environmental education into early childhood education • Strengthen curriculum content on the value of forests and the problems associated with deforestation **Core objective(s):** • Integrate subject of forestry across the curriculum **Target group(s):** • Formal education	**Programme(s)/ Activities:** • Support actors 1 and 2 by organising school visits to national forests and on-site information sessions about the value of forests	**Programme(s)/ Activities:** • Provide public awareness campaign materials on environmental sustainability, and value of biodiversity conservation	**Programme(s)/ Activities:** • Bachelor and Master's programmes on Forestry and Environmental Management • National ESD higher education workshop **Core objective(s):** • Forest and Environmental preservation **Target group(s):** • Faculty and students

Example: Exercise 4B (continued)

Sustainable Development Priority: Forest Preservation					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses,
	Ministry of Environment and Natural Resources	Ministry of Education	Ministry of Agriculture, Department of Forestry and Wildlife	State Department of Environment	National Universities
Build public understanding and awareness	**Programme(s)/ Activities:** • Environmental awareness programmes through local media (i.e. television, radio, pamphlets, newspapers, billboards, public service announcements) **Core objective(s):** • Promote environmental awareness and steps for individual action **Target group(s):** • Communities (community leaders, parents, male and female youth and students, out of school children in remote areas, marginalized populations) **Resources:** • Ministry budget	**Programme(s)/ Activities:** • Support for school environment societies, clubs and co-curricular activities **Core objective(s):** • Raise awareness of the problems associated with deforestation, the links with climate change, and how to take local action to stop deforestation. **Target group(s):** • Formal education **Resources:** • National education budget	**Programme(s)/ Activities:** • Awareness raising for local communities on the issues of deforestation and over-grazing **Core objective(s):** • Raise awareness of the problems associated with deforestation, the links with climate change, and how to take local action to stop deforestation. **Target group(s):** • Communities near primary forests	**Programme(s)/ Activities:** • Develop and disseminate information on climate change **Core objective(s):** • Raise awareness of the problems associated with deforestation, the links with climate change, and how to take local action to stop deforestation and climate change. **Target group(s):** • Communities (community leaders, parents, male and female youth and students, out of school children in remote areas, marginalized populations)	**Programme(s)/ Activities:** • Seminars, workshops and talks for youth on ESD **Core objective(s):** • Raise awareness of the importance of sustainable development among youth and how to take local action **Target group(s):** • School and university students

Example: Exercise 4B (continued)

Sustainable Development Priority: Forest Preservation					
ESD Thrusts	**Key Actor 1** Lead Ministry, Institution or Department	**Key Actor 2** Second responsible Ministry, Institution or Department	**Supporting Actor 1** Key agencies, NGOs, institutions, businesses	**Supporting Actor 2** Key agencies, NGOs, institutions, businesses	**Supporting Actor 3** Key agencies, NGOs, institutions, businesses,
	Ministry of Environment and Natural Resources	Ministry of Education	Ministry of Agriculture, Department of Forestry and Wildlife	State Department of Environment	National Universities
Provide practical training	• Provide training about the importance of forests to all staff.	• Provide training for school management about forest and environment protection • Change the learning environment to be in line with learning content	• Provide training about the importance of forests to all staff.	**Programme(s)/ Activities:** • Support for environmentally sound research practices **Core objective(s):** • Promote environmental consciousness in professional development **Target group(s):** • Students	• Provide training about the importance of forests to all staff.

Exercise 5A: Identifying the gaps (actors involved)

This exercise is in four parts, and enables users to look critically at the data assembled in previous exercises in order to identify gaps and challenges which need to be addressed for education to more effectively deliver the knowledge, skills, and values needed to address sustainable development priorities.

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Actors involved**	**Actors involved – capacity gaps**	**Actors involved – expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from exercise 1, Part E.		In this column, brainstorm supporting programmes, initiatives and activities in this area	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened

Example: Exercise 5A

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Actors involved**	**Actors involved – capacity gaps**	**Actors involved – expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from exercise 1, Part E.		In this column, brainstorm supporting programmes, initiatives and activities in this area	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened
Literacy	• Qualified human resources in all areas of profession • Educated, skilled and highly competitive pool of human resources	• Education 2020 Strategy • National Literacy Strategy • Non-formal education plan of action	• NGOs working on literacy (NFE) • Ministry of Labour – Human Resource Development Strategy • Ministry of Finance/ Planning – poverty reduction and economic growth • Prime Minister's office – national development plan	• Access to Education • Quality and availability of teachers • Absorption capacity of education levels beyond primary	• Initiate work with MOL and NGOs to strengthen access to education • Teacher education institutions supported

Example: Exercise 5A (continued)

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Actors involved**	**Actors involved – capacity gaps**	**Actors involved – expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from exercise 1, Part E.		In this column, brainstorm supporting programmes, initiatives and activities in this area	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened
Reproductive Health	• Gender responsiveness • Spread of disease is contained	• Gender equality in education policy, MOE policy brief • Decentralization plan • Eradication of disease awareness campaign initiative	• Ministry of Social Affairs • NGOs • Municipal authorities • National Women's League • WHO, UNIFEM, UNFPA	• Awareness • Certain cultural traditions • Education's unresponsiveness to cultural needs • Scattered interventions	• Culturally appropriate awareness campaigns • Local responsiveness of education supported
Climate change (deforestation)	Urban development that maximizes existing land (without use of extra land) Agricultural land preserved • Nature reserves established to preserve biodiversity • Minimum level of deforestation, sustainable timber industry combined with reforestation	• Secondary Education development strategy • Environmental Education Guidelines • Livelihood education for rural poor	• UNEP • ILO • Ministry of the Environment • NGOs • FAO • Ministry of Forestry • Private Sector	• Livelihood needs • Poverty • Awareness • Profitability • Lack of rule of law	• Strengthen profitability of sustainable practices with major development partners • Focus on relevant skills in areas related to deforestation

Exercise 5B: Identifying the gaps (target groups)

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Target groups**	**Target groups - challenges**	**Target groups - expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, brainstorm all groups and/or communities who are being served	In this column, list the challenges which have been encountered in reaching this particular target group	In this column, list other key partners, agencies, ministries and institutions which could be involved in reaching this target group and/or other groups that could be included.

Example: Exercise 5B

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Target groups**	**Target groups - challenges**	**Target groups - expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, brainstorm all groups and/or communities who are being served	In this column, list the challenges which have been encountered in reaching this particular target group	In this column, list other key partners, agencies, ministries and institutions which could be involved in reaching this target group and/or other groups that could be included.
Literacy	• Qualified human resources in all areas of profession • Educated, skilled and highly competitive pool of human resources	• Education 2020 Strategy • National Literacy Strategy • Non-formal education plan of action	• Private sector companies • Teacher Education Institutions • General Public • Community decision makers	• Competing priorities • In Teacher Education institutions • Limited education budget • Low awareness of challenges and responses at community level	• Ministry of Labour • Ministry of Finance • Provincial authorities • Religious leaders • ILO, UNICEF, UNFPA • NGOs in communities
Reproductive Health	• Gender responsiveness • Spread of disease is contained	• Gender equality in education policy, MOE policy brief • Decentralization plan • Eradication of disease awareness campaign initiative	• Affected communities • General population • Government • Local authorities • School staff	• Low level of priority • Lack of earmarked funding • Low awareness levels • Lack of clarity in policy and political commitments	• Ministry of Health • Ministry of Social Affairs • WHO, UNIFEM, UNFPA

Example: Exercise 5B (continued)

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Target groups**	**Target groups - challenges**	**Target groups - expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, brainstorm all groups and/or communities who are being served	In this column, list the challenges which have been encountered in reaching this particular target group	In this column, list other key partners, agencies, ministries and institutions which could be involved in reaching this target group and/or other groups that could be included.
Climate change (deforestation)	• Urban development that maximizes existing land (without use of extra land) • Agricultural land preserved • Nature reserves established to preserve biodiversity • Minimum level of deforestation, sustainable timber industry combined with reforestation	• Secondary Education development strategy • Environmental Education Guidelines • Livelihood education for rural poor	• Indigenous communities • Local authorities • Curriculum development staff • School staff	• Private sector objectives (when limited in scope and timeframe) versus sustainable development • Marginalization of communities from decision making processes • Unclear communication channels with schools from central authorities and vice versa	• Ministry of the Environment • Environmental Centres • UNEP, FAO, ILO, ADB, UNIDO

Exercise 5C: Identifying the gaps (current programmes)

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Current programmes, initiatives and activities**	**Current programmes, initiatives and activities - challenges**	**Current programmes, initiatives and activities – capacity gaps**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, list supporting programmes, initiatives and activities in this area	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened

Example: Exercise 5C

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Current programmes, initiatives and activities**	**Current programmes, initiatives and activities – challenges**	**Current programmes, initiatives and activities – capacity gaps**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, list supporting programmes, initiatives and activities in this area	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened
Literacy	• Qualified human resources in all areas of profession • Educated, skilled and highly competitive pool of human resources	• Education 2020 Strategy • National Literacy Strategy • Non-formal education plan of action	• Capacity development and collaboration with local NGOs • Awareness programmes for local communities	• Geographic disparities • Lack of cultural understanding	• Local authorities' awareness and resources
Reproductive Health	• Gender responsiveness • Spread of disease is contained	• Gender equality in education policy, MOE policy brief • Decentralization plan • Eradication of disease awareness campaign initiative	• Development and dissemination of informational materials	• Lack of funding for teacher education • Curriculum development department overloaded with low capacity	• Curriculum development: external capacity development assistance needed

Example: Exercise 5C (continued)

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Current programmes, initiatives and activities**	**Current programmes, initiatives and activities - challenges**	**Current programmes, initiatives and activities – capacity gaps**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, list supporting programmes, initiatives and activities in this area	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened
Climate change (deforestation)	• Urban development that maximizes existing land (without use of extra land) • Agricultural land preserved • Nature reserves established to preserve biodiversity • Minimum level of deforestation, sustainable timber industry combined with reforestation	• Secondary Education development strategy • Environmental Education Guidelines • Livelihood education for rural poor	• Seminars and Talks • School greening projects • Social forestry day • Curriculum formulation • Incorporation of information about deforestation into teacher education programmes • Capacity development of district education offices	• NGO reach limited • Low quality of materials	• Materials improved in 2012

Exercise 5D: Identifying the gaps (resources applied)

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Resources being applied**	**Resources being applied - challenges**	**Resources being applied – capacity gaps**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, list the resources (material, human, budgetary) being applied.	In this column, list the challenges encountered as these resources have been employed/ dispersed, (e.g. institutional, logistical, financial)	In this column, list areas where the capacity of current resources to address this priority and achieve the desired change could be strengthened

Example: Exercise 5D

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Resources being applied**	**Resources being applied - challenges**	**Resources being applied – capacity gaps**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, list the resources (material, human, budgetary) being applied.	In this column, list the challenges encountered as these resources have been employed/ dispersed, (e.g. institutional, logistical, financial)	In this column, list areas where the capacity of current resources to address this priority and achieve the desired change could be strengthened
Literacy	• Qualified human resources in all areas of profession • Educated, skilled and highly competitive pool of human resources	• Education 2020 Strategy • National Literacy Strategy • Non-formal education plan of action	• 2008, National Budget US$ 87 m • 2008, Local Gov. Budget US$ 20 m • Development and dissemination of materials • Human resources and technical expertise and capacity development through regional best practices (NDP Fund)	• Lack of Monitoring and Evaluation • Corruption • Use of funds for basic functions	• UIS/UNESCO assistance
Reproductive Health	• Gender responsiveness • Spread of disease is contained	• Gender equality in education policy, MOE policy brief • Decentralization plan • Eradication of disease awareness campaign initiative	• Development and dissemination of materials • National Education Budget	• Existing Materials underused	• Immediate training of key staff on materials in implementation

Example: Exercise 5D (Continued)

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Desired change**	**Education policy/ framework/initiative**	**Resources being applied**	**Resources being applied – challenges**	**Resources being applied – capacity gaps**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the changes needed from Exercise 1.		In this column, list the resources (material, human, budgetary) being applied.	In this column, list the challenges encountered as these resources have been employed/ dispersed, (e.g. institutional, logistical, financial)	In this column, list areas where the capacity of current resources to address this priority and achieve the desired change could be strengthened
Climate change (deforestation)	• Urban development that maximizes existing land (without use of extra land) • Agricultural land preserved • Nature reserves established to preserve biodiversity • Minimum level of deforestation, sustainable timber industry combined with reforestation	• Secondary Education development strategy • Environmental Education Guidelines • Livelihood education for rural poor	• Development and dissemination of material, training • Human resources and technical expertise and capacity development • Development and dissemination of material • Human resources and technical expertise • Materials development • Lessons learned from partners and neighbouring countries • Human resources and technical expertise and capacity development	• Staff turnover	• Staff incentives • Certification of professional skills developed

Exercise 6A: Consolidating the challenges (challenge matrix)

Exercise 6A aims to consolidate the challenges identified in Exercise 5 to form a 'challenge matrix'.

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Actors involved – capacity gaps**	**Actors involved – expanding involvement**	**Target groups – expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened	In this column, list other key partners, agencies, ministries and institutions who could be involved in reaching this target group and/or other groups which could be included.

	Target groups – challenges	Current programmes, initiatives and activities – challenges	Current programmes, initiatives and activities – capacity gaps	Resources being applied – challenges	Resources being applied – capacity gaps
	In this column, list the challenges encountered in reaching this particular target group	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened	In this column, list the challenges which have been encountered as these resources have been employed/dispersed, (e.g. institutional, logistical, financial)	In this column, list areas where the capacity of current resources to address this priority and achieve the desired change could be strengthened

Example: Exercise 6A

Sustainable development priorities (Related to national policies, strategies, plans, frameworks, etc.)	**Actors involved – capacity gaps**	**Actors involved – expanding involvement**	**Target groups – expanding involvement**
In this column, list the key sustainable development priorities for your country. Use the sustainable development priorities identified in Exercise 1, Part C.	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened	In this column, list other key partners, agencies, ministries and institutions who could be involved in reaching this target group and/or other groups which could be included.
Literacy	• Access to Education • Quality and availability of teachers • Absorption capacity of education levels beyond primary	• Initiate work with MOL and NGOs to strengthen access to education • Teacher education institutions supported	• Ministry of Labour • Ministry of Finance • Provincial authorities • Religious leaders • ILO, UNICEF, UNFPA • NGOs in communities
Reproductive Health	• Awareness • Certain cultural traditions • Education's unresponsiveness to cultural needs • Scattered interventions	• Culturally appropriate awareness campaigns • Local responsiveness of education supported	• Ministry of Health • Ministry of Social Affairs • WHO, UNIFEM, UNFPA
Climate change (deforestation)	• Livelihood needs • Poverty • Awareness • Profitability • Lack of rule of law	• Strengthen profitability of sustainable practices with major development partners • Focus on relevant skills in areas related to deforestation	• Ministry of the Environment • Environmental Centres • UNEP, FAO, ILO, ADB, UNIDO

	Target groups – challenges	Current programmes, initiatives and activities - challenges	Current programmes, initiatives and activities – capacity gaps	Resources being applied – challenges	Resources being applied – capacity gaps
	In this column, list the challenges encountered in reaching this particular target group	In this column, list the challenges encountered which have inhibited the achievement of progress towards the sustainable development priority.	In this column, list areas where the capacity of current programmes to address this priority and achieve the desired change could be strengthened	In this column, list the challenges which have been encountered as these resources have been employed/ dispersed, (e.g. institutional, logistical, financial)	In this column, list areas where the capacity of current resources to address this priority and achieve the desired change could be strengthened
	• Competing priorities in Teacher Education Institutions • Limited Education Budget • Low awareness of challenges and responses at community level	• Geographic disparities • Lack of cultural understanding	• Local authorities' awareness and resources	• Lack of Monitoring and Evaluation • Corruption • Use of funds for basic functions	• UIS/UNESCO assistance
	• Low level of priority • Lack of earmarked funding • Low awareness levels • Lack of clarity in policy and political commitments	• Lack of funding for teacher education • Curriculum development department overloaded with low capacity	• Curriculum development: external capacity development assistance needed	• Existing materials underused	• Immediate training of key staff on materials in implementation
	• Private sector objectives (when limited in scope and timeframe) versus sustainable development • Marginalization of communities from decision making processes • Unclear communication channels with schools from central authorities and vice versa	• NGO reach limited • Low quality of materials	• Materials improved in 2012	• Staff turnover	• Staff incentives • Certification of professional skills developed

Exercise 6B: Consolidating the challenges (who and what else?)

Exercise 6B identifies who else needs to be engaged and what else needs to be done to move ESD forward.

Who else needs to be engaged? Which groups still need to be engaged to address each priority through formal, non-formal and informal education (e.g. which stakeholders, institutions, communities, businesses)? Compile data from actors and target groups in 4A and 4B	**What else needs to be done?** What else needs to be done to address each priority through formal, non-formal and informal education (e.g. what steps, policies, programmes, activities, resources)? Compile data from 4C and 4D
Sustainable Development Priority:	
Sustainable Development Priority:	
Sustainable Development Priority:	

Example: Exercise 6B

Who else needs to be engaged? Which groups still need to be engaged to help address each priority through education and learning (e.g. which stakeholders, institutions, communities, businesses)?	**What else needs to be done?** What else needs to be done to help address each priority through education and learning (e.g. what steps, policies, programmes, activities, resources)?
Sustainable Development Priority: Literacy Promotion	
• National Statistics Office • Ministry of Home Affairs • National mass media leaders • National Chamber of Commerce • National associations of business & industries • National religious and social organizations • Parents • Youth leaders in marginalized communities • Private sector	• Engage national statistics offices to identify additional target audiences and needs for literacy programmes. • Develop strategies of literacy awareness-raising. • Develop a manual showing ESD links to literacy and techniques for incorporating ESD-related pedagogy into school literacy activities. • Develop ESD literacy training content and material. • Conduct training sessions. • Raise awareness among the public of the importance, goals, and targets of literacy for personal, community and national development. • Follow-up monitoring and subsequent implementation. • Fund raising to support literacy advocacy and training.
Sustainable Development Priority: Reproductive Health Promotion	
• Department of Planning and Cooperation • Technical staff of MOE departments an line ministries • Poor and ethnic communities • Unreached children • Disadvantaged people • Teachers, students and student-parent associations • Educational institutions and research institutions • Universities students and professors • Private sector • Development partners • Health Experts • Local authorities and agencies • Mass media	• Organise consultation workshops on the establishment of a coordinating mechanism for ESD and health. • Strengthen the coordinating mechanism by identifying its linkages with the existing programmes. • Encourage broad thinking on reproductive health – e.g. raise awareness in school and public health programmes of the linkages between reproductive health and personal, social and economic development. • Develop training programmes for educators on linking ESD-related pedagogy and new reproductive health content. • Training for education institutions, including schools, teacher education institutions, vocational training centres and universities, on personal and institutional health, including issues and prevention.

Example: Exercise 6B (continued)

Sustainable Development Priority: ***Forest Preservation***	
• Ministry of Education • Educational Planning and Research Division • School Division • Curriculum Development Division • Special Education Division • Educational Technology Division • Ministry of Higher Education • Ministry of Environment and Natural Resources • Ministry of Women Development, Unity and Community • Ministry of Culture, Tourism and National Heritage • Ministry of Youth and Sports • Ministry of Rural Development • Ministry of Human Resources • Private/Corporate Sectors • NGOs • School Division • Teacher Education Institutes • National Universities • National Administrative Training Centre	• Develop training materials and provide practical training at all levels and sectors of government (including school management and administration) on the benefits of forests and the problems of deforestation, the links with climate change, and how to take action in daily work and in personal life. • Incorporate forestry training into pre-service and in-service teacher education • Incorporate environmental education into preschool and ECCE programmes • Hold seminars, conferences and workshops on the importance of forest preservation at businesses and universities • Prepare and broadcast public service announcements • Provide practical forest protection training for local communities, including marginalized groups. • Support forest protection education programmes for students and youth.

Exercise 7A: Drafting a work plan (planning the activities)

Exercise 7A aims to assist in filling the gaps identified in Exercise 5 and consolidated in Exercise 6 by developing a draft work plan to carry ESD forward and ensuring new activities integrate with existing efforts.

Sustainable development priorities	**Desired change** List from Example 1E	**Knowledge/skills/ values supported** Do the planned initiatives support the knowledge/skills and values identified as critical in Example 2?	**Existing policy initiative (from Example 3A) which new initiatives will connect** Alignment here enables the planned activities to be positioned as part of a larger framework for action	**Education policy/ framework/initiative (from Example 3B)** How do the planned activities integrate and strengthen existing policies?	**Steps/Activities** Compile from Example 5

Example: Exercise 7A

Sustainable development priorities	Desired change List from Example 1E	Knowledge/skills/values supported Do the planned initiatives support the knowledge/skills and values identified as critical in Example 2?	Existing policy initiative (from Example 3A) which new initiatives will connect Alignment here enables the planned activities to be positioned as part of a larger framework for action	Education policy/framework/ initiative (from Example 3B) How do the planned activities integrate and strengthen existing policies?	Steps/Activities Compile from Example 5
Literacy	• Qualified human resources in all areas of profession • Educated, skilled and highly competitive pool of human resources	• Yes, especially in marginalized groups	• National skills development strategy and EFA plan of action	• Literacy programmes conducted by non-traditional actors adds reach; involvement of religious organizations brings increased visibility in communities which have been hard to convince to participate	• Initiate work with MOL and NGOs to strengthen access to education • Support teacher education institutions support
Reproductive Health	• Gender responsiveness • Spread of disease is contained	• Interdisciplinary nature should be better incorporated.	• National health education standards and National Youth Strategy 2002	• Youth perspective brings dividends in intervention needs in later stages	• Initiate culturally appropriate awareness campaigns • Support local responsiveness of education
Climate change (deforestation)	Urban development that maximizes existing land (without use of extra land) Agricultural land preserved Nature reserves established to preserve biodiversity Minimum level of deforestation, sustainable timber industry combined with reforestation	More attention needed in critical thinking and communication skills.	National Environmental Strategy and National Education Strategy on biodiversity and sustainable development	Further incorporation of the issue of climate change into education helps in making education more relevant to learners; local communities and state and district level engagement adds local adaptive power.	Strengthen profitability of sustainable practices with major development partners Focus on relevant skills in areas related to deforestation

Exercise 7B: Drafting a work plan (mapping the actors and timeframe)

This exercise continues from Exercise 7 Part A, and enables users to map the actors who will lead the proposed activities, as well as a timeframe for implementation.

Sustainable development priorities	Steps/Activities Compile from Example 5	Lead ministry/ government department	Supporting actor(s)	Timeframe	Expected output

Example: Exercise 7B

Sustainable development priorities	Steps/Activities Compile from Example 5	Lead ministry/ government department	Supporting actor(s)	Timeframe	Expected output
Literacy Reproductive Health Climate Change (Deforestation)	• Report on DESD concept and process to Minister of Education • Organise a workshop on ESD understanding and awareness among senior staff in the MOE and related line ministries and concerned stakeholders • Organise consultation workshops on the establishment of an Interim and permanent coordinating mechanism for ESD • Formulate TOR for ESD National Committee and National Coordinator • Formulate TORs for various stakeholders • Strengthen the coordinating mechanism by identifying its linkages with the existing ones • Consultation workshops on priorities and setting approaches • Conduct preliminary data survey on ESD related activities carried by different line ministries and agencies • Identify priorities and indicators • Formulate ESD policy framework for comments and endorsement by the education sector working group • ESD work continues on policy and curriculum integration and training, engaging partners in education and learning in ESD and coordinating and monitoring of national ESD activities	• UNESCO National Commission • MOE • National ESD Committee	• MOE, Dept. of Planning • Dept. of Planning, development partners • Dept. of Planning, National Statistics Office • Development partners, National Statistics Office • MOE, key line ministries, education institutions, development partners	• 2011 - 2013	• Political will for ESD established within the MOE • Political will for ESD established among key line ministries and stakeholders • National ESD coordinating body with representation from key line ministries and stakeholders established • National ESD committee launched led by the national ESD coordinator • National ESD sub-committees initiated • Links between the national ESD committee and existing coordinating mechanisms (e.g. national EFA forum) clarified • National SD priorities identified to guide ESD in the national context • ESD policy and activity analysis conducted using ESD Astrolabe Exercises • National SD priorities identified and indicator framework developed to guide ESD in the national context • National ESD Action Plan updated and approved, including steps for integrating ESD into the National Development Strategy 2011-2015

Exercise 7C: Drafting a work plan (managing risk and assessing progress)

Steps/Activities (from Example 7B)	Expected output (from Example 7B)	Assumptions/risks/potential resistance factors	How will these risks be managed?	Indicators – how will progress towards these objectives be measured?

Example: Exercise 7C

Steps/Activities (from Example 7B)	Expected output (from Example 7B)
• Report on DESD concept and process to Minister of Education • Organise a workshop on ESD understanding and awareness among senior staff in the MOE and related line ministries and concerned stakeholders • Organise consultation workshops on the establishment of an Interim and permanent coordinating mechanism for ESD • Formulate TOR for ESD National Committee and National Coordinator • Formulate TORs for various stakeholders • Strengthen the coordinating mechanism by identifying its linkages with the existing ones • Consultation workshops on priorities and setting approaches • Conduct preliminary data survey on ESD related activities carried by different line ministries and agencies • Identify priorities and indicators • Formulate ESD policy framework for comments and endorsement by the education sector working group • ESD work continued on policy and curriculum integration and training, engaging partners in education and learning in ESD and coordinating and monitoring of national ESD activities	• Political will for ESD established within the MOE • Political will for ESD established among key line ministries and stakeholders • National ESD coordinating body with representation from key line ministries and stakeholders established • National ESD committee launched led by the national ESD coordinator • National ESD sub-committees initiated • Links between the national ESD committee and existing coordinating mechanisms (e.g. national EFA forum) clarified • National SD priorities identified to guide ESD in the national context • ESD policy and activity analysis conducted using ESD Astrolabe Exercises • National SD priorities identified and indicator framework developed to guide ESD in the national context • National ESD Action Plan updated and approved, including steps for integrating ESD into the National Development Strategy 2011-2015

	Assumptions/risks/potential resistance factors	How will these risks be managed?	Indicators – how will progress towards these objectives be measured?
	Assumptions: • Relative political and economic stability • Political will for ESD can be achieved in current political climate • Line ministries appoint specialists to be involved in ESD coordination Risks: • Continued staff turnover affects institutional memory and commitment • Donors are attracted by novel trends and fail to support ESD interventions Potential resistance factors: • Vested interests and rigid mandates in line ministries inhibit collaboration • Staff involved in existing programmes (e.g. Environmental Education, EFA) feel threatened by introduction of ESD	Risks: • Careful documentation of coordination efforts to ensure steady progress regardless of changes in personnel • Advocacy work through clear messages stepped up Political resistance factors: • Communication undertaken strategically to show benefits of interministerial collaboration • Evidence collected and shared regarding the benefits of ESD to the realization of existing programmes (quality of education, environmental education seen as an entry point to debating sustainable development which ESD helps to broaden)	• Number of ESD reports • Number of mentions of ESD in policy papers/strategies • Number of stakeholder groups on ESD committee (from membership records) • Number of advocacy materials produced and disseminated • National Action Plan adopted y/n • Annual report available y/n

Exercise 8: Integrating education into the national development agenda

Sustainable Development priority	National (Sustainable) Development Document (e.g. UNDAF, Poverty Reduction Strategies, MDG Country Reports)	Education Sector's Policy Commitments	Education Sector's Commitment formulated for policy change

Example: Exercise 8

Sustainable Development priority	National (Sustainable) Development Document (e.g. UNDAF, Poverty Reduction Strategies, MDG Country Reports)	Education Sector's Policy Commitments	Education Sector's Commitment formulated for policy change
Literacy	UNDAF Outcome: Societal changes are realized to reduce discriminatory practices and to pursue equity and empowerment for women and girls	Literacy rate differential improved	All primary aged children are provided on equitable basis basic education that leads to basic life skills including literacy and numeracy
Reproductive health	UNDAF Outcome: Survival and Development rights of vulnerable groups are safeguarded	Awareness of reproductive health and related rights increased, especially among minority populations	The Education system will at all levels work to ensure increasing demand for newly established reproductive health services
Climate change (deforestation)	UNDAF Outcome: Human security situation is strengthened in the framework of environmentally sustainable growth	Communities throughout the country are made aware of the devastating impacts of deforestation	Using formal and non-formal education, the Ministry of Education in collaboration with the Ministries of Environment, Forestry and Labour will launch a pervasive public information campaign on biodiversity and sustainable forestry

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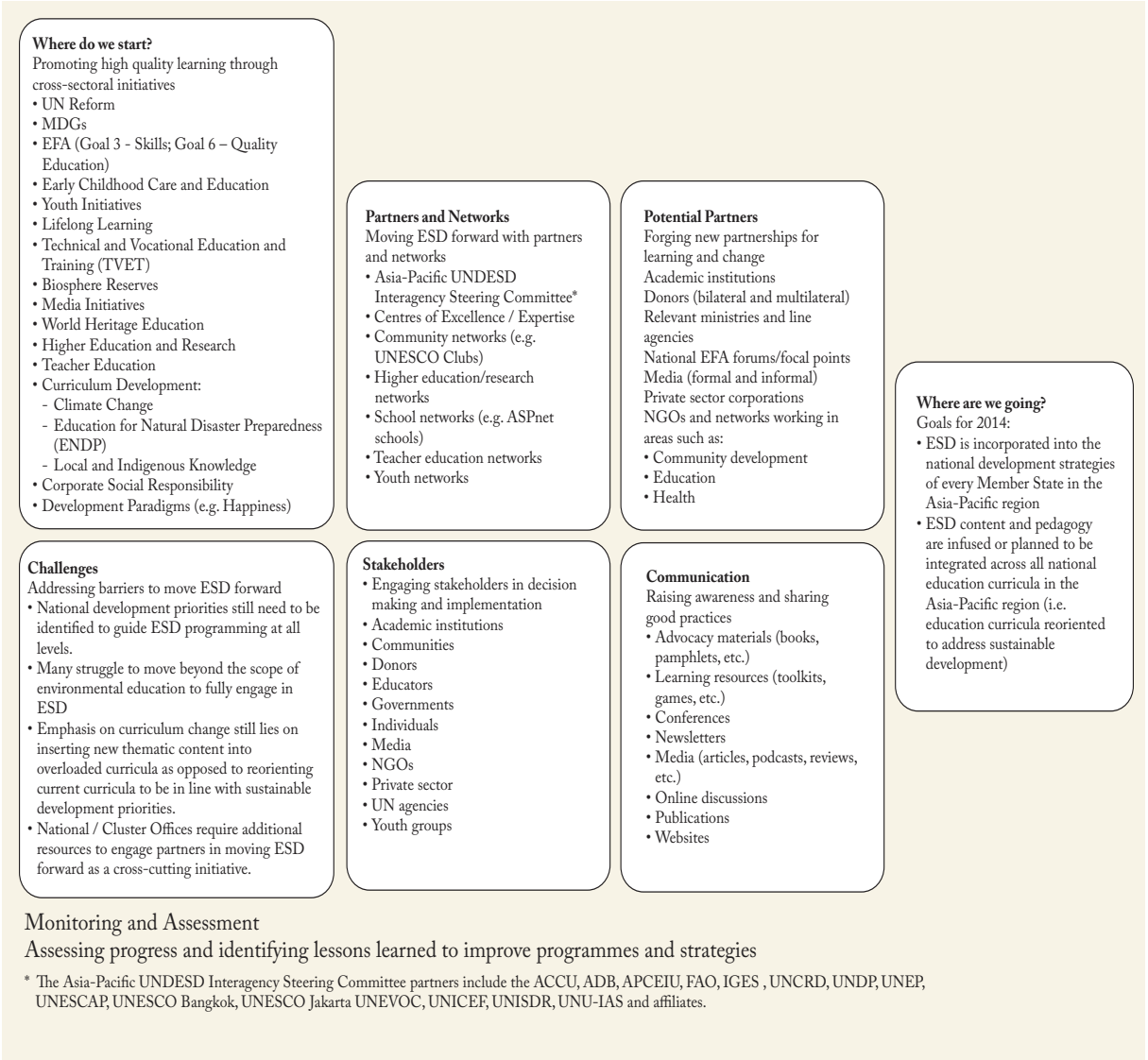
Annex 1: Sharing Learning for Change Experiences in the Asia-Pacific Region

Figure 4: Sharing Learning for Change Experiences in the Asia-Pacific Region



* The Asia-Pacific UNDESD Interagency Steering Committee partners include the ACCU, ADB, APCEIU, FAO, IGES , UNCRD, UNDP, UNEP, UNESCAP, UNESCO Bangkok, UNESCO Jakarta UNEVOC, UNICEF, UNISDR, UNU-IAS and affiliates.

Annex 2: ESD Synergies with Other Initiatives and Programmes

Education for Sustainable Development is in line with a number of international initiatives and thematic education programmes that are currently being implemented in countries in the Asia-Pacific region.[15] ESD should not, therefore, be pushed forward as a new initiative, but should build on the existing structures and programmes that are relevant to addressing national development priorities sustainably. This section outlines some of the synergies and linkages between ESD and ongoing initiatives and programmes.

I. Synergies with international initiatives

The vision that "education is the key to sustainable development" is not only the vision of the DESD, but also of the Millennium Development Goals (MDGs) initiative, the Education for All (EFA) programme and the United Nations Literacy Decade (UNLD).

Millennium Development Goals

The MDGs are an important focus of development of many countries in the Asia-Pacific region. Participants at the Asia-Pacific Regional Workshop for the Development of National DESD Monitoring Systems, held in Bangkok in 2007, felt that ESD was a strong tool for achieving the MDGs as ESD raises awareness of global issues and empowers people through education to make change.

ESD has clear and obvious links to MDG Goals 2 (Achieve Universal Primary Education) and 7 (Ensure Environmental Sustainability) and has the potential to support all of the MDGs by raising people's awareness of related issues and empowering individuals to act on them (e.g. learning to act locally to help eradicate global poverty and hunger; learning to make conscious choices to promote gender equality; learning about nutrition to improve one's health).[16]

Education for All

Several linkages between EFA and ESD can be identified, especially as regards EFA Goal 3 (Life skills) and EFA Goal 6 (Quality). It is increasingly clear that the two initiatives have a number

15 UNESCO Member States during the 2008-2009 sub-regional ESD consultations acknowledged that the push to implement several education programmes and initiatives at the same time can be overwhelming for government ministries and educators and make it difficult to focus on core issues. It is, therefore, important for ESD to build on existing structures and programmes.

16 UNESCO. 2007b. Workshop for the Development of Asia-Pacific National DESD Monitoring Systems, Bangkok, 2-4 April. Workshop Report, 30 April, Bangkok, UNESCO.

of synergies that can be built on, resources that can be pooled and knowledge that can be shared, to ensure the provision of life skills in education systems and to improve the quality of education.

The relationship between ESD and EFA are a subject of debate but regardless of how one views the linkages between EFA and ESD, one thing is certain: EFA and ESD strive to achieve a set of education goals that contribute to achieving a just, peaceful and sustainable society. These include education goals such as those listed below.

- Good relationships with others
- Competence and self-confidence
- An appreciation for the environment
- Spiritual, moral, social and cultural values.

These universal goals, along with other ideas associated with national identity, physical health, vocational skills and promoting a learning society are emphasized time and time again in education circles.[17] To achieve them, EFA and ESD can and should complement each other.

EFA maintains primary focus on promoting access to education, but as the world moves closer to the "deadline" of 2015 more attention is being turned to questions about the quality of teaching and learning. What content is being delivered? What teaching methods are being used? What skills and values are being fostered? ESD can help respond to these questions, especially with regards to education content, by integrating thematic issues into curricula, localizing curriculum content, encouraging values-driven teaching and learning, promoting project-based learning opportunities and engaging students in decision making processes. Together, EFA and ESD can complement each other in fostering the skills and competencies for good citizenship, good interpersonal relationships and independent learning.[18]

United Nations Literacy Decade

The vision of the UNLD (2003-2012) is "literacy for all". The Decade aims to enable all people, both women and men, of all ages, everywhere, to develop literacy skills. This vision is founded on the belief that literacy is an empowering force that serves to increase self-esteem, confidence, a sense of personal competence and independence and awareness of one's rights and as a means to encourage active participation in society, including active participation in voting and expressing views and opinions. The UNLD recognizes the importance of both formal and non-formal learning and views literacy as a fundamental tool for lifelong learning.

17 "Universal" education goals are common goals throughout the Asia-Pacific region. Several universal goals were presented by UNICEF at the 8th National EFA Coordinators' Meeting: Mid-Decade Assessment Progress Review held between 26 February and 2 March 2007, in Bangkok, Thailand.

18 For more information about global EFA-ESD discussions, see Bird, E., Lutz, R. and Warwick, C. 2008. Media as partners in Education for Sustainable Development: A training and resource kit. Paris, UNESCO.

From an ESD perspective, literacy is essential for achieving sustainable development. ESD can enhance literacy programmes by incorporating into literacy education materials the set of basic values, principles and attitudes that foster sustainable development, and which should be part of learning at all levels (See Annex 3 for the values, principles and attitudes). ESD can also contribute to literacy education by ensuring the inclusion of locally relevant content, such as environmentally sound agriculture practices for farming, or of content related to development priorities such as climate change, as well as content related to how to take local action for change.

II. Synergies with education initiatives and programmes

The DESD also has synergies with other widespread education initiatives and programmes, as discussed below.

Early Childhood Care and Education

The Early Childhood Care and Education (ECCE) programme is based on the knowledge that an early childhood is a time in human life when the foundations of cognitive development are laid and children who attend early childhood programmes are better prepared for school and learning throughout life.

ECCE establishes the groundwork for lifelong learning and responsible citizenship, and thus provides the starting point for learning for sustainable development. The content and pedagogy associated with good ECCE programmes and ESD are deeply connected. For example, ECCE activities relating to improving health and nutrition; activities providing opportunities for play, exploration and active learning; and gender-responsive activities that raise awareness of equality among boys and girls, are crucial for developing the sense of belonging, self-confidence and responsibility in the population, which is characteristic of a sustainable society.

ECCE activities also provide a basis for fostering ESD-related skills and values. Group games, nature walks, growing plants, taking care of animals, puzzles, make believe, play, artwork, singing songs, playing musical instruments and other ECCE activities present an opportunity for children to develop empathy, compassion, good communication skills, holistic and systemic thinking, an appreciation for aesthetics and the environment and respect for others, skills and values which are vital for achieving development that is sustainable.

Inclusive Education

Inclusive Education (IE) programmes and ESD complement each other in terms of their goals to increase access to education and improve the quality of education. In particular, IE and ESD share links and traits relevant to the first ESD path, "improving basic education". IE aims to improve the availability, accessibility, acceptability and adaptability of education. IE respects and promotes understanding of the diversity and differences in learners' needs, abilities, and characteristics. Both

approaches emphasize gender equality and view education from a human rights-based perspective. IE and ESD also overlap in the types of pedagogy they advocate for, that which encourages interactive learning and critical thinking. For example, IE advocates the use of various types of pedagogy to cater to differing learning styles, supports special education for children with disabilities, promotes instruction in the mother tongue for children of ethnic and linguistic minorities,[19] and encourages a positive learning environment both for girls and women and boys and men.

Technical and Vocational Education and Training

There are a number of synergies between Technical and Vocational Education and Training (TVET) and ESD.[20] These synergies link also to EFA Goal 3: Life skills and lifelong learning and also relate to research on social and emotional learning.[21] In recognition of changing markets, increased competition, supply chain pressure, customer service requirements and evolving regulations, many companies and small businesses now recognize that TVET graduates should have a strong set of "soft skills". Such skills include the ability to work well as a team member, good communication abilities, interpersonal skills, responsible risk taking abilities, personal awareness and the ability to manage stress effectively. These soft skills have strong overlap with social and emotional competencies fostered through ESD (see Annex 3). For employers, soft skills contribute to a positive company image, result in improved leadership and management and also enable the transition to more sustainable practices and corporate responsibility (CR) initiatives.[22]

19 UNESCO. 2007c. Advocacy Kit for Promoting Multilingual Education: Including the Excluded, Bangkok, UNESCO. http://www2.unescobkk.org/elib/publications/110/

20 Synergies between TVET and ESD in the area of soft skills were discussed in depth at the International Experts Meeting - Corporate Social Responsibility and Education for Sustainable Development: Advancing the Partnership held in Bonn, Germany in November 2007. Soft skills are also a topic of international discussion and may also be referred to as "social and emotional skills" or grouped together with the broad range of "life skills."

21 E. Abrioux, UNICEF, personal communication, 20 March 2008.

22 UNESCO - International Centre for Technical and Vocational Education and Training (UNEVOC). 2007. International Experts Meeting - Corporate Social Responsibility and Education for Sustainable Development: Advancing the Partnership, Bonn, Germany, 6-7 November. Workshop Report.

III. Synergies with thematic education programmes

Over 80 types of thematic education programmes are being implemented throughout the Asia-Pacific region. ESD should not be treated as an additional theme, but should be linked to the programmes that already exist and are most relevant to addressing national development priorities. This section provides information on the linkages between ESD and the following common thematic education programmes:

- Arts Education
- Climate Change Education
- Education for International Understanding
- Education for Sustainable Consumption
- Entrepreneurship Education
- Environmental Education
- Gender Equality Education
- HIV and AIDS Education
- Human Rights Education
- Peace Education
- Science Education
- World Heritage Education

Arts Education

In order to create peaceful, prosperous and sustainable societies, our education systems need to produce motivated and productive members of society who value tolerance and social cohesion and are able to ensure that their countries' development plans and actions are sustainable. Recognizing this, ESD calls for a reorientation in education and promotes changes in education systems. Arts Education has strong synergies with ESD as it plays a significant role in increasing the quality of education and encourages the development of the skills required for SD (See Annex 3). Learning about the arts and gaining skills in art forms, ranging from drama and music to crafts, endows students with the ability to engage in the creative process, and gives them a sense of community and an appreciation for aesthetics, culture and cultural diversity. Through this process, students gain self-esteem and confidence in their abilities, therefore becoming more motivated and productive. Furthermore, the Arts-in-Education (AiE) approach is a means of bringing the knowledge that creates sustainable societies into education systems, as it uses the arts as tools to educate students about other subjects, from history to environmental science, while also stimulating cognitive development and developing creative thinking skills.[23]

23 Engelhardt, R. 2005. "The role of the Arts in improving the quality of education", in UNESCO. 2005d. Educating for Creativity: Bringing the Arts and Culture into Asian Education, Bangkok, UNESCO; and UNESCO. 2006a. Road Map for Arts Education, outcome of the World Conference on Arts Education: Building Creative Capacities for the 21st Century, Lisbon, Portugal, 6-9 March.

Climate Change Education

Climate change is a sustainable development priority in the Asia-Pacific region and has been acknowledged by several UNESCO Member States as a key focus for ESD. Climate change education provides political momentum for education reform; it also provides multiple interdisciplinary entry points to teaching and learning, through mathematics, chemistry, physics, the arts and various other subjects. Climate Change Education aims to foster ESD-related knowledge, skills and values (see Annex 3) and can be guided by the four thrusts of ESD.[24] From an ESD perspective, because climate change also impacts the economic, environmental and social dimensions of sustainable development, climate change education provides a key opportunity to foster skills for holistic and systemic thinking. For example, by promoting understanding of how individual actions can impact a broad range of sustainable development issues (e.g. how driving cars can be connected to flooding in Bangladesh through CO_2 emissions), climate change content can provide a platform for learning to make informed, appropriate decisions.

Education for International Understanding

A number of synergies exist between Education for International Understanding (EIU) and the broad scope of ESD. In concept, ESD and EIU focus on several common issues, such as those related to globalization, social justice, cultural diversity, respect and solidarity, sustainability, human rights, equity and peace. ESD and EIU overlap through the perspective, *Learning to Live Together*, which focuses on learning for peace.[25] Similar to ESD, EIU is values-driven and contributes to social learning and transformation. In terms of promoting sustainable development through education, both initiatives aim to engage learners through similar pedagogy such as interactive and participatory learning, collaborative learning (for example, online exchanges with schools in other countries), and methodologies that encourage critical thinking.

Education for Sustainable Consumption

Education for Sustainable Consumption (ESC) is recognized as a strong component of ESD as it increases one's capacity to make appropriate decisions in one's own life and respond to global challenges. At one end of the spectrum, ESC helps individuals understand the impacts of their consumption choices and increases their ability to make informed consumer decisions. At the other end, ESC helps develop capacity among producers and suppliers to increase the availability of sustainable products. Similar to ESD, ESC contributes to global citizenship by fostering social and ethical responsibility.[26]

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24 Refer to the discussion on the four thrusts of DESD in Table 1, p. 2.

25 APCEIU and UNESCO. 2006. Designing training programmes for EIU and ESD: A trainer's guide. Bangkok, UNESCO.

26 Linkages between ESD and ESC were discussed in depth at the session on "Education for Sustainable Consumption through the DESD" at the 4th International Conference on Environmental Education held in Ahmedabad, India on 24-28 November 2007.

ESD provides a comprehensive lens to guide ESC-related policies, programmes and activities. For example, the four thrusts of ESD provide a framework for incorporating ESC into all levels of education and for targeting appropriate actors and communities such as schools, academic institutions, government, businesses, media and youth. As a sustainable development priority, ESC, in turn, offers a prism for learning about broader ESD processes. For instance, ESC can act as a vehicle for learning about processes for developing the capacity for ESD leadership, for incorporating ESD into national development plans, for developing national ESD monitoring systems and for linking ESD to ongoing education initiatives.

Entrepreneurship education

Entrepreneurship education links to ESD through the skills and attitudes it aims to foster.[27] For instance, entrepreneurship education helps empower learners to respond to their own life needs, including how to operate a business and become a productive citizen. Entrepreneurship education, however, goes beyond business creation to foster an ability to anticipate and respond to societal change. It provides learners with an opportunity to expand on their creativity, to build responsibility and to take initiative and risks, and to develop skills and attitudes that are in line with sustainable development. Entrepreneurship education and ESD also share similarities in terms of pedagogy. For example, they both generally advocate for developing knowledge, skills and attitudes through experience, such as project-based learning. Similarly to ESD, the focus of entrepreneurship education also varies from context to context. In more economically developed countries, for example, the educational focus may lean more toward fostering creativity, innovation and thinking outside the box; whereas in developing countries emphasis may centre around ways to develop positive attitudes and basic skills towards entrepreneurship and self-employment. Regardless of the focus of entrepreneurship education, it helps, like ESD, to develop the skills and attitudes and promote understanding of innovative ways one can contribute to the sustainable development of one's community. Entrepreneurship education can also be seen as a tool through which behaviours and attitudes change as entrepreneurs challenge norms inhibiting entrepreneurship.

Environmental Education

Much discussion has taken place about the relationship between ESD and Environmental Education (EE). Some perceive ESD and EE to be very similar, others see ESD as part of a bigger agenda that encompasses EE, while others yet view ESD and EE as separate but overlapping initiatives.[28] Countries that have a strong background in EE tend to build their ESD programmes on EE policies and initiatives, but depending on the background and tradition of EE in a country or organization, all of these perspectives could be valid.[29]

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27 The emerging concept of Entrepreneurship Education, including links with ESD, was discussed in depth during the February 2008 Inter-regional Seminar on Promoting Entrepreneurship Education in Secondary Schools held in Bangkok, Thailand.

28 UNESCO. 2009b. Review of Contexts and Structure for Education for Sustainable Development 2009. Paris, UNESCO.

29 *Ibid.*

One reason for such diverse viewpoints is that, in many respects, ESD evolved through EE – from the 1972 UN Conference on Human Environment in Stockholm in which EE was promoted, to the 1992 World Conference on Environment and Development in Rio de Janeiro in which ESD was discussed, to the 2002 World Summit on Sustainable Development in Johannesburg where the DESD was proposed. It is generally accepted that "Environmental Education processes support and champion ESD".[30] The important point to emphasize about ESD is its scope: ESD programmes and initiatives aim to go beyond the environment and strive for educational reform to foster all of the various kinds of knowledge, skills and values that support sustainable development.

Gender equality education

Gender strategies that enable women to participate in bringing about social change contribute to ensuring that development actions are sustainable.[31] Education initiatives to promote gender equality are in line with MDG Goal 3 (Promote gender equality and empower women), and EFA Goal 5 (Gender parity and equality in education). ESD approaches complement and overlap with these gender equality education programmes in various ways. For example, the use of gender-neutral teaching and learning materials; training teachers and educators to use a "gender lens" when making decisions in the classroom and evaluating education programmes and activities; and disaggregating education data and statistics by sex to identify and address gender inequality.

Initiatives that promote public awareness about how gender equality leads to sustainable development can help people make informed decisions and take appropriate action for the benefit of gender equality. For example, understanding how the empowerment of women can benefit economic development and improve nutrition and health among family members; knowing that men's involvement in gender mainstreaming initiatives can help reduce violence and build peace; and understanding the importance of encouraging both girls and boys to complete their education can ensure that the entire population has the education required to meet development challenges.

ESD also has overlaps with activities that aim to understand the influences of global issues on gender and raise awareness of gender-responsive solutions. For example, how do freshwater issues affect young girls who may be tasked with collecting drinking water? How does climate change impact men and women who may carry out different agricultural roles? How do governance issues influence the representation of men and women in politics? Then, what solutions can be identified to promote gender equality when addressing these issues?

30 Centre for Environment Education. 2007. The Ahmedabad Declaration 2007: A Call to Action. Adopted by the 4th International Conference on Environmental Education, Ahmedabad, India, 24-28 November 2007.

31 UNESCO. 2009a. The Bonn Declaration, adopted by the UNESCO World Conference on Education for Sustainable Development, Bonn, Germany, 31 March – 2 April.

HIV and AIDS education, sexuality education and school health

There are several synergies between education on HIV and AIDS, sexuality education and school health programmes and ESD. Due to the importance of public health in achieving development that is sustainable, education on HIV and AIDS and sexuality and school health efforts are linked to ESD as they foster knowledge and skills for adopting healthy lifestyles and protective behaviour and reducing vulnerability. More specifically, such programmes focus on providing knowledge, promoting positive attitudes and developing skills to enable young people to take charge of their own health. These include skills for making informed decisions, communicating effectively and assertiveness. These education initiatives support MDG Goal 6 (Combat HIV/AIDS, malaria and other diseases) and also link to EFA Goal 3 (Life skills and lifelong learning) and complement EFA Goal 6 (Quality education).

The pedagogy of education on HIV and AIDS, sexuality and health is also in line with ESD. A whole-school approach, for example, is fundamental to education on HIV and AIDS and sexuality education. Effective education on HIV and AIDS, sexuality education and school health programmes are "developed and implemented with the involvement of young people, teachers, community leaders and other community members, including those who are affected or infected by HIV, to ensure ownership, relevance and support" for learning.[32]

Whereas HIV and AIDS, sexuality education and school health programmes are an essential component of ESD, ESD also helps place education on HIV and AIDS within the bigger picture. For instance, ESD can help to build understanding of the linkages between HIV and AIDS and other economic, social, environmental and cultural issues, through asking questions such as: How is poverty influencing HIV vulnerability? What is the role of stigma and discrimination in sustaining the HIV epidemic? How is drug addiction linked to HIV and AIDS? How does wide-spread HIV infection and death from AIDS affect families and local culture? What are factors that cause people to engage in behaviours that increase risk for HIV? Through ESD, understanding the bigger picture can help people at all levels make more appropriate decisions in the effort to combat HIV and AIDS, to promote the sexual health of adolescents and to invigorate efforts to promote healthy schools.

Education on HIV and AIDS and sexuality education has much to share with ESD about processes for integrating educational content into policy, formal education curricula, schools, teacher education and non-formal and informal education programmes. Some of these lessons include:

- Promoting education about HIV and AIDS and sexuality education requires leadership at all levels. Each level requires people who have clearly defined mandates, roles and responsibilities to address these types of subjects in order to harness the education system to respond to it.

32 UNESCO. 2008b. EDUCAIDS framework for action. Paris, UNESCO. p. 10

- Some teachers can deliver education on HIV/AIDS and sexuality education more effectively than others. Effective teaching requires not only knowledge about HIV and AIDS and issues around sexuality, but the confidence and motivation to carry the message forward.
- Education on HIV/AIDS and sexuality education can engage real-life examples, such as inviting people living with HIV, girls who dropped out of school due to pregnancy or representatives from sexual minorities to contribute to the learning process and humanize the issues involved.
- Once teachers are able to carry out education on HIV and AIDS and sexuality education, they can often identify changes in their own lives and professional development, and also identify changes among their students.[33]

Human Rights Education

Human Rights is one of many cross-cutting themes associated with ESD. Achieving sustainable development requires an approach to learning that strengthens values such as justice and fairness and promotes awareness that people share a common destiny. In this respect, human rights education (HRE) aims to develop "an understanding of our common responsibility to make human rights a reality in every community and in society at large".[34] Similarly to ESD, HRE promotes values such as peace, non-discrimination, equality, non-violence, tolerance and respect for human dignity. It fosters knowledge about human rights and skills to apply human rights in daily life and to take action for promoting and defending human rights. In terms of sustainable development, the knowledge, skills and values acquired through HRE can help prevent human-rights abuses and conflict, promote equality and enhance individual participation in decision making processes.

HRE is also an important aspect of the right to education. A rights-based approach to good quality education and ESD encourages processes for addressing is sues such as rural development, health, community participation, HIV and AIDS, climate change, traditional and indigenous knowledge, and human rights.[35] In terms of practical implementation, ESD and HRE also both promote human rights principles through content and pedagogy, such as classroom simulations that help learners gain different perspectives on human rights issues and think critically about how to act on them.[36]

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33 Lessons learned about processes for integrating HIV and AIDS content into education emerged during discussions at the Expert Meeting on Thematic Issues in Education for Sustainable Development (ESD) under the Mobile Training Team (MTT) Project held in Bangkok, Thailand on 10-12 November 2008.

34 Office of the High Commissioner for Human Rights (OHCHR) and UNESCO. 2006. Plan of action: World programme on human rights education, First phase. Paris: UNESCO. p. 11.

35 *Ibid.*

36 The Special Event on "Human Rights Education – Key to Sustainable Development" at the 2009 World Conference on Education for Sustainable Development, introduced a simulation of the International Criminal Court in which learners assume the roles of judges, prosecutors and defendants and simulate historic human rights cases brought before international tribunals.

Peace Education

Peace Education links most clearly to ESD through the fourth pillar of learning, *Learning to Live Together*. Peace Education emphasizes values and behaviours that encourage respect for human rights and developing peaceful relationships, including peace with others, peace with nature and peace with oneself.[37] Peace Education also appreciates that the values and principles associated with peace in different cultures and contexts may be viewed in different ways. Similar to ESD, therefore, peace education encourages dialogue among different cultures, ethnic groups, religions and persons in an effort to explore and promote an understanding of different perspectives, develop appreciation and respect for diversity and build skills related to empathy, inter-cultural communication and consensus building. Programmes related to Peace Education and ESD include activities that aim to, for example:

- Bring together learners from different backgrounds to foster a joint sense of purpose.
- Facilitate interaction among learners from different ethnic groups to promote mutual appreciation and rapport.
- Minimise communication gaps and misunderstandings.
- Promote understanding and appreciation for diversity.[38]

Science Education

Science education is essential for sustainable development and is an important component of ESD. Science helps us understand physical, ecological, economic and socio-cultural systems which cut across, influence and react to development challenges. Science provides us with understanding of issues such as climate change, disease, production and consumption patterns and the ethical, cultural, cognitive and affective aspects of development.[39] Such understanding allows learners to use scientific evidence to make informed decisions and form new hypotheses to address sustainable development challenges.

In practical terms, science education cuts across a number of ESD themes, such as climate change, food security, disaster preparedness, water management, HIV and AIDS, clean energy and issues faced by small island developing states. These issues can be integrated into formal education through sciences such as ecology, mathematics, physics and biotechnology. In addition to the natural sciences, science education encourages learning through the social and human sciences such as bioethics and political science, which have the potential to foster values that support development that is sustainable. ESD also advocates for teaching science through interactive pedagogy, such as project-based learning, experiential

37 Brenes-Castro, A. 2004. An integral model of peace education. In A.L. Wenden (Ed.), Education for a culture of social and ecological peace, pp. 77-98, Albany, NY, SUNY Press.

38 Ministry of Education - Sri Lanka. 2008. National policy and a comprehensive framework of actions on education for social cohesion and peace, Colombo, National Education Commission.

39 UNESCO. 2009a. The Bonn Declaration, adopted by the UNESCO World Conference on Education for Sustainable Development, Bonn, Germany, 31 March – 2 April.

learning and cooperative learning. Science education can also be linked to learning for change through biosphere reserves, youth science camps and other experience-based learning styles.

World Heritage Education[40]

World Heritage Education (WHE), including educational visits and activities surrounding World Heritage sites, gives young people a chance to become involved in the protection of our common cultural and natural heritage. WHE links to ESD by fostering understanding of one's own and other cultures, and, therefore, fostering understanding of one's own and other people's beliefs and worldviews. WHE and ESD foster similar skills and values, including those related to a culture of peace, human rights, responsible citizenship, respect for cultural diversity, and aesthetic appreciation.[41] WHE also presents learners with an opportunity to reflect on different values, assumptions and perspectives related to sustainable development. For example, WHE can be used as a vehicle to help learners observe their own culture from different perspectives; link cultural heritage to present values; reflect on their own identities and develop appreciation for actions that contribute to sustainable development and understand the benefits of sustainable tourism. Learning about World Heritage can be integrated across the curriculum in subjects such as history, science, geography, art and music, using experiential learning and active participation modes of learning to encourage creative and systemic thinking and envisioning.[42]

40 In the Asia-Pacific region, activities linking World Heritage, culture and ESD have taken place since the beginning of the Decade, from curriculum development on Indigenous Knowledge in the Pacific (www.adbi.org/3rdpartycdrom/2005/10/01/1695.canoe.is.the.people/), to teacher education workshops on WHE in East Asia and on WHE and Arts education in Southeast Asia.

41 UNESCO. 2004. Introducing the Arts for Teaching on the Historic Environment: Second sub-regional South-east Asian Workshop on using Art to teach about World Heritage, Bangkok, UNESCO; and UNESCO. 2008c. Seeing with young eyes: Third sub-regional South-east Asian teacher training workshop on using Art to teach about World Heritage, Bangkok, UNESCO.

42 Examples for integrating WHE across the curriculum can be found in UNESCO. 2002. WHE toolkit for teachers: World Heritage in Young Hands.

Annex 3: ESD Knowledge, Skills, Attitudes, Values and Learning Characteristics

Annex 3 provides examples of the knowledge, skills, values, attitudes and learning characteristics associated with ESD. Information was adapted from literature and supplemented with input received from UNESCO Member States during Asia-Pacific sub-regional ESD consultations in 2008 and 2009. This section serves as a reference for completing Exercise 2 of the ESD Astrolabe.

Knowledge

The type of "knowledge" required for sustainable development is an understanding of the key social, cultural, environmental and economic concepts and issues that affect our lives and the development of our societies (see Table 2 for a list of key issues in the Asia-Pacific region). Thus, ESD involves gaining knowledge about issues such as human rights, gender equality, the value of cultural and linguistic diversity, intercultural understanding, climate change, loss of biodiversity, food security and rural development. Learning can be through various means, including thematic programmes such as Arts Education, Climate Change Education, Education for International Understanding, Education for Sustainable Consumption, Entrepreneurship Education, Environmental Education, Gender Equality Education, HIV and AIDS Education, Human Rights Education, Peace Education, Science Education and World Heritage Education (see Annex 2 for details). ESD advocates for the mainstreaming of these thematic programmes into curricula (reorienting curricula) and promotes dissemination of the subject matter to the general public through awareness-raising campaigns (building awareness).

When incorporating ESD-related issues into curricula, attention should be paid to:

- The background and current status of an issue, including trends and statistics (locally, nationally and globally)
- Good practices for addressing an issue (solutions and innovations)
- Relevant legal instruments and frameworks
- Traditional knowledge and customs relating to an issue
- Technical and scientific knowledge relating to an issue.

ESD goes beyond learning information and also encompasses understanding the "how". This enables learners to gain a deep understanding of the interconnected nature of issues, the cause and effect relationships and the impacts of taking action.

For example, ESD encourages learning how to:

- Recognize real-life problems (e.g. overpopulation, food security, etc.)
- Use information to make informed, appropriate decisions

- Build capacity for continuing one's own learning
- Access information and expertise
- Apply learning to real-life situations, including tasks in daily life
- Learn from one's own surroundings
- Prevent or minimize the threats of an issue
- Recognize the causes and effects of an issue

Table 5: Further Reading on Skills

The following resources were used as a basis for information in Annex 3 and can be accessed to help develop and supplement learning objectives for education plans and curricula.

- McKeown, R. 2002. *Education for sustainable development toolkit.* http://www.esdtoolkit.org/esd_toolkit_v2.pdf
- UNESCO-APNIEVE. 2005. *Learning to do: Values for learning and working together in a globalized world*. Bonn, UNESCO.
- UNESCO-APNIEVE. 2008. *Learning to know for a peaceful and sustainable future*. Paranaque City, Lithwerke Company.
- UNESCO-UNEVOC. 2007. Corporate Social Responsibility and Education for Sustainable Development: Advancing the Partnership, Bonn, Germany, 6-7 November. Workshop Report.
- UNICEF. 2008. Life skills: Which skills are life skills? http://www.unicef.org/lifeskills/index_whichskills.html

Cognitive/Technical Skills

ESD promotes the types of teaching and learning that enable people to gain practical skills. These skills provide a foundation for knowing, inquiring, acting, judging, connecting and making informed decisions, and for lifelong learning and the capacity to lead sustainable lives.

Technical and cognitive skills for ESD include competencies such as those listed below.[43]

Literacy skills

- Reading and writing (basic literacy)
- Arithmetic (mathematical literacy)
- Carrying out tasks relevant to one's work environment (vocational literacy)
- Use of modern technology (technical literacy) and proficiency with ICT (computer literacy)

Critical thinking skills – holistic and systemic thinking

- Identifying relevant information and information sources
- Researching, analyzing and interpreting findings

43 Adapted from UNICEF. 2008. Life skills: Which skills are life skills?

- Analyzing external influences (peer, media, etc.)
- Analyzing attitudes, values, social norms and beliefs
- Analyzing linkages between economic, social and environmental issues
- Thinking in time – the ability to forecast, think ahead, plan and predict outcomes

Decision making and problem solving skills – research, reflection and adaptation

- Gathering information (e.g. data collection, observation, etc.)
- Developing the capacity to move from awareness to knowledge to action
- Evaluating the future consequences of present actions
- Analyzing the influence of values and attitudes on actions
- Determining alternative solutions to problems
- Evaluating quality outcomes and making adaptations for improvement

Social and Emotional Skills

Social and emotional skills are considered essential for utilizing general knowledge and technical skills to respond effectively to a variety of situations in both the world of work and society at large. Such skills have an important impact in terms of good citizenship, positive social behaviour and sustainable development.

Social and emotional skills include competencies such as those listed below.[44]

Interpersonal skills

- Effective communication (both oral and in writing)
- Active listening
- Expressing feelings, giving feedback and receiving feedback
- Counselling and emotional support

Empathy and compassion

- Listening to and understanding another's needs and circumstances and expressing that understanding
- Considering an issue from the perspective of different people
- A willingness to help others

Aesthetic appreciation

- The ability to recognize and appreciate beauty and excellence, and therefore find greater meaning in life.

44 *Ibid.*

- Maintaining an aesthetic response to the environment and one's surroundings

Cooperation, teamwork and leadership

- Expressing respect for others' contributions and different styles
- Assessing one's own abilities and contributing to the group
- Establishing a shared vision and goals
- Effective facilitation of tasks (personal and teamwork)

Negotiation and conflict management

- Assertiveness
  - Responding and counter reacting
  - Mediation

Advocacy

- Influencing, convincing and persuading
- Promoting
- Motivating and building support
- Networking and information sharing

Responsible risk taking

- Proactive
- Initiative and readiness to innovate
- Cost-effective action
- Making plausible predictions based on facts
- Learning from one's surroundings, including past experiences

Personal awareness

- Self esteem/confidence
- Self awareness – awareness of rights, influences, values, attitudes, rights, strengths and weaknesses
- Self evaluation/self assessment/self-monitoring

Stress management

- Time management
- Positive thinking
- Relaxation techniques

Values and Attitudes

ESD seeks to promote the principles that support sustainable living and human well-being and that lead to the creation of just and peaceful societies, including respect, tolerance, sufficiency, responsibility, gender equality, equity, compassion, integrity, honesty and participation. Furthermore, ESD emphasizes care, protection of ecosystems, sustainable use and conservation of natural resources, sustainable production and consumption.[45]

The way in which sustainable development is approached is closely linked to the values and attitudes held in their society, for it is these values and attitudes that define how individuals, communities and governments take action.

The values associated with ESD include those listed below.[46] Research shows that choosing four to six of the most important, or "core", values for a particular context (e.g. compassion, tolerance and responsibility) and focusing to foster these can encourage additional values and attitudes associated with sustainable development to emerge.[47]

Health and harmony with nature

- Holistic health and well-being (physical, emotional, mental and spiritual)
- Basic human needs
- Self-discipline
- Respect for life and nature
- Recognition of the interconnectedness between the environment and human survival
- Resource conservation (reduce, reuse, recycle)
- Concern for safety and security
- Inner peace
- A balanced lifestyle

Truth and wisdom

- Integrity
- Systemic/holistic thinking
- Insight and understanding

45 UNESCO. 2009a. The Bonn Declaration, adopted by the UNESCO World Conference on Education for Sustainable Development, Bonn, 31 March – 2 April.

46 Adapted from UNESCO-APNIEVE. 2005. Learning to do: Values for learning and working together in a globalized world. Bonn, UNESCO; and UNESCO-APNIEVE. 2008. Learning to know for a peaceful and sustainable future. Paranaque City, Lithwerke Company.

47 De Leo, J. APNIEVE, personal communication, 4 June 2009.

- Knowing right from wrong
- Honesty
- Positive/optimistic attitude

Respect and compassion

- Ethical and moral sense
- Empathy, caring and sharing
- Gratitude
- Self worth and personal independence
- Respect for life in all its diversity
- Willingness to use personal talent for the good of others

Creativity

- Imagination, innovation and flexibility[48]
- Initiative and entrepreneurship
- Productivity and effectiveness
- Quality consciousness
- Openness to adapt and change

Peace and non-violence

- Respect for human rights
- Gender equality (equal opportunities for boys and girls)
- Justice
- Human dignity
- Equity (equal opportunity)
- Good governance (accountability, transparency, participation, openness)
- Empowerment
- Equal access to education
- Harmony, cooperation and teamwork
- Tolerance and diversity[49]

48 Engelhardt, R. 2005. "The role of the Arts in improving the quality of education", in UNESCO. 2005d. Educating for Creativity: Bringing the Arts and Culture into Asian Education, Bangkok, UNESCO. http://www2.unescobkk.org/elib/publications/065/ArtInEducation.pdf (Accessed January 2011).

49 UNESCO. 2005d. Educating for Creativity: Bringing the Arts and Culture into Asian Education, Bangkok, UNESCO.

Future orientation

- Just stewardship of resources
- Intergenerational equity
- Industry and work ethics
- Responsible corporate citizenship
- Taking responsibility for actions

Global solidarity

- Responsible citizenship (personal and corporate)
- Responsible leadership
- Respect for diversity
- Intercultural and inter-faith understanding
- Respect for tradition and traditional knowledge and beliefs
- Appreciation for indigenous knowledge and beliefs and different world views
- Participation, inclusiveness
- Respect for family and others

Values and attitudes influence our awareness of local and global issues and vice versa. The willingness to examine issues from different angles allows us to predict trends and make informed decisions to address issues in our everyday lives.

Thus, ESD also fosters an understanding of different perspectives, such as understanding that:[50]

- Global issues have a history and a future and change over time.
- Contemporary global issues are often linked and interrelated.
- Humans have universal attributes (e.g. they love their children).
- Looking at one's community and beyond local and national borders is necessary to understand local issues in the global context.
- Considering differing views before reaching a decision or judgment is necessary.
- Economic values, religious values, and societal values can compete for importance as people of different interests and backgrounds interact.
- Individuals are global citizens in addition to citizens of the local community.

50 McKeown, R. 2002. Education for sustainable development toolkit, Knoxville, TN, University of Tennessee, Energy, Environment and Resources Center. p. 21.

- Individual consumer decisions affect resource use and pollution levels.
- Taking responsible action is necessary for the long-term well-being of one's community and the planet.

ESD values correspond with those of the Earth Charter. The Earth Charter provides a standard set of basic values that establish an ethical foundation for the "emerging world community". The values act as tool for guiding and evaluating the conduct of individuals, organizations, businesses, governments and institutions of change.[51]

Learning Characteristics

The characteristics of learning associated with ESD are often affiliated with the concept of *Learning to Change*.[52]

For example, learning that is:

- Cooperative and collaborative
- Participatory
- Student-centred
- Experiential
- Evidence based or research based
- Project-based and activity based
- Interdisciplinary
- Borderless (can take place regardless of time and location, and regardless of age)
- Inter-generational

Learning Environment

Learning characteristics associated with ESD coincide with a learning environment that fosters the knowledge, skills, values and perspectives associated with sustainable development, such as critical thinking and creative ways to solve problems; it is a learning environment that empowers individuals to make informed appropriate decisions for action and change.

For example, a learning environment that (is):

- Inclusive and non-discriminatory with regard to gender, religion, etc.
- Values-driven

51 Earth Charter Secretariat. 2000. The Earth Charter.

52 UNESCO. 2006b. Report: Expert Meeting on ESD: Reorienting Education to Address Sustainability, Bangkok, UNESCO.

- Conducted in a positive manner
- Enables one to learn from mistakes
- Supportive of peer to peer learning
- Supportive of multiple intelligences
- Community-based
- Intergenerational
- Multi-cultural
- Conducive to lifelong learning
- Supportive of learners' self-esteem
- Preserves the dignity of the learner at all times
- Avoids embarrassment
- Provides adequate levels of health and sanitation facilities
- Accommodates diverse needs
- Safe

Table 6: The Earth Charter

Shared Values for Sustainable Development

I. Respect and care for the community of life

1. Respect Earth and life in all its diversity.
2. Care for the community of life with understanding, compassion, and love.
3. Build democratic societies that are just, participatory, sustainable, and peaceful.
4. Secure Earth's bounty and beauty for present and future generations.

II. Ecological Integrity

5. Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life.
6. Prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach.
7. Adopt patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being.
8. Advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired

III. Social and Economic Justice

9. Eradicate poverty as an ethical, social, and environmental imperative.
10. Ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner.
11. Affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, health care, and economic opportunity
12. Uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual well-being, with special attention to the rights of indigenous peoples and minorities

IV. Democracy, Nonviolence, and Peace

13. Strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision making, and access to justice.
14. Integrate into formal education and lifelong learning the knowledge, values, and skills needed for a sustainable way of life.
15. Treat all living beings with respect and consideration
16. Promote a culture of tolerance, nonviolence, and peace

Annex 4: Bonn Declaration

Bonn Declaration[53]

We, the participants gathered at the UNESCO World Conference on Education for Sustainable Development held in Bonn, Germany on 31 March to 2 April 2009 issue the following statement and call for action:

1. Despite unprecedented economic growth in the 20th century, persistent poverty and inequality still affect too many people, especially those who are most vulnerable. Conflicts continue to draw attention to the need for building a culture of peace. The global financial and economic crises highlights the risks of unsustainable economic development models and practices based on short-term gains. The food crisis and world hunger are an increasingly serious issue. Unsustainable production and consumption patterns are creating ecological impacts that compromise the options of current and future generations and the sustainability of life on Earth, as climate change is showing.

2. A decade into the 21st century, the world faces substantial, complex and interlinked development and lifestyle challenges and problems. The challenges arise from values that have created unsustainable societies. The challenges are interlinked, and their resolution requires stronger political commitment and decisive action. We have the knowledge, technology and skills available to turn the situation around. We now need to mobilise our potential to make use of all opportunities for improving action and change.

3. The impacts of unsustainable development, priorities, responsibilities and capacity differ between regions and between developing and developed countries. All countries will need to work collaboratively to ensure sustainable development now and in the future. Investment in education for sustainable development (ESD) is an investment in the future, and can be a life-saving measure, especially in post-conflict and least developed countries.

4. Building on the Jomtien, Dakar and Johannesburg promises, we need a shared commitment to education that empowers people for change. Such education should be of a quality that provides the values, knowledge, skills and competencies for sustainable living and participation in society and decent work. The Education for All agenda underlines that the availability of basic education is critical for sustainable development. It similarly emphasises pre-school learning, education for rural people and adult literacy. Achievements in literacy and numeracy contribute to educational quality, and will also be critical to the success of ESD.

5. Through education and lifelong learning we can achieve lifestyles based on economic and social

53 UNESCO. 2009a. *The Bonn Declaration*, adopted by the UNESCO World Conference on Education for Sustainable Development, Bonn, Germany, 31 March – 2 April.

justice, food security, ecological integrity, sustainable livelihoods, respect for all life forms and strong values that foster social cohesion, democracy and collective action. Gender equality, with special reference to the participation of women and girl children in education, is critical for enabling development and sustainability. Education for sustainable development is immediately necessary for securing sustainable life chances, aspirations and futures for young people.

Education for sustainable development in the 21st century

6. Education for sustainable development is setting a new direction for education and learning for all. It promotes quality education, and is inclusive of all people. It is based on values, principles and practices necessary to respond effectively to current and future challenges.

7. ESD helps societies to address different priorities and issues *inter alia* water, energy, climate change, disaster and risk reduction, loss of biodiversity, food crises, health risks, social vulnerability and insecurity. It is critical for the development of new economic thinking. ESD contributes to creating resilient, healthy and sustainable societies through a systemic and integrated approach. It brings new relevance, quality, meaning and purpose to education and training systems. It involves formal, non-formal and informal education contexts, and all sectors of society in a lifelong learning process.

8. ESD is based on values of justice, equity, tolerance, sufficiency and responsibility. It promotes gender equality, social cohesion and poverty reduction and emphasises care, integrity and honesty, as articulated in the Earth Charter. ESD is underpinned by principles that support sustainable living, democracy and human well-being. Environmental protection and restoration, natural resource conservation and sustainable use, addressing unsustainable production and consumption patterns, and the creation of just and peaceful societies are also important principles underpinning ESD.

9. ESD emphasises creative and critical approaches, long-term thinking, innovation and empowerment for dealing with uncertainty, and for solving complex problems. ESD highlights the interdependence of environment, economy, society, and cultural diversity from local to global levels, and takes account of past, present and future.

10. Linked to different needs and the concrete living conditions of people, ESD provides the skills to find solutions and draws on practices and knowledge embedded in local cultures as well as in new ideas and technologies.

Progress in the UN Decade of Education for Sustainable Development

11. During the first five years of the UN Decade of Education for Sustainable Development, led and co-ordinated by UNESCO, many countries have made progress in implementing ESD and have designed innovative policy frameworks. A number of UN agencies, NGOs, regional bodies, and partner networks are engaged in concrete activities that support specific areas of ESD. Many people and organizations are committed and engaged in action. Efforts towards better understanding,

promotion, implementation and assessment of the quality of ESD are underway. A global monitoring and evaluation framework has been designed. Efforts at the global level have been complemented by regional strategies and initiatives.

12. We recognise that education is a significant factor in improving human well-being. We now have the knowledge and experience available to significantly improve the contents, methods and purposes of education. We know how to begin re-orienting education systems to emphasise lifelong learning. Through ESD we are learning how to improve links between formal, non-formal and informal education. We know the importance of strengthening and sharing knowledge of educational change processes.

13. Science has provided us with a better knowledge of climate change and of the Earth's lifesupport systems; it has gathered significant knowledge about HIV and AIDS, malaria, tuberculosis, heart diseases, and other serious health challenges. We know more about natural systems, and human impacts on them, and the ways that biodiversity supports our well-being. We know that current economic thinking has to change, and that there is a need to avoid unsustainable production and consumption and promote and support the emergence of 'sustainably developed' countries. Social science has provided insight into ethical, cultural, cognitive and affective aspects of human development, as well as sociologies of change.

14. We now need to put this knowledge into action. This is especially important to strengthen and extend the outcomes of the UN DESD in the next five years, but also to ensure longer term implementation of ESD.

A call for action

15. The progress of ESD remains unevenly distributed and requires different approaches in different contexts. In the coming years, there is a clear need for both developed and developing countries, civil society and international organizations to make significant efforts to:

At policy level in member states

a) **Promote ESD's contribution to all of education and to achieving quality education**, with particular regard to fostering the linkages between ESD and EFA within a coherent and systemic approach. Foster the goals of the ESD agenda in international fora and at the national level.

b) **Increase public awareness and understanding about sustainable development and ESD**, by mainstreaming and expanding the learning and insights gained in the first five years of the UN DESD into public awareness policies and programmes and various forms of informal learning. This should include promoting the role and contribution of the media for fostering public awareness and understanding of sustainability issues. It should also include capacity-building of media professionals.

c) **Mobilize adequate resources and funding in favour of ESD**, in particular through integrating ESD into national development policy and budgetary frameworks, into UN common country programming processes and other country-level policy frameworks (such as sector-wide approaches), as well as into EFA and MDG initiatives. Promote and include ESD in the priorities of foundations and donors.

d) **Re-orient education and training systems to address sustainability concerns through coherent policies at national and local levels**. Develop and implement ESD policies through co-ordinated inter-sectoral/inter-ministerial approaches that also involve business and the corporate sector, civil society, local communities and the scientific community.

e) **Develop and strengthen existing international, regional and national enabling mechanisms and cooperation for ESD that respect cultural diversity**. Establish regional and country-level committees, networks and communities of practice for ESD that strengthen local-national, and national-global links, and that enhance North-South-South and South-South co-operation.

At practice level

f) **Support the incorporation of sustainable development issues using an integrated and systemic approach in formal education as well as in non-formal and informal education at all levels,** in particular through the development of effective pedagogical approaches, teacher education, teaching practice, curricula, learning materials, and education leadership development, and also by recognizing the significant contribution of non-formal education and informal learning as well as vocational and work-place learning. Sustainable development is a cross-cutting theme with relevance to all disciplines and sectors.

g) **Re-orient curriculum and teacher education programmes to integrate ESD into both pre-service and in-service programmes**. Support teacher education institutions, **teachers** and **professors** to network, develop, and research sound **pedagogical practice**. Specifically support teachers to develop ESD strategies that can work with large class sizes, and to evaluate ESD learning processes.

h) Promote evidence-informed policy dialogue on ESD, drawing upon relevant **research, monitoring and evaluation strategies**, and the **sharing and recognition of good practices**. Develop national ESD indicators that inform the effective implementation and review of ESD outcomes and processes.

i) **Develop and extend ESD partnerships to integrate ESD into training, vocational education and workplace learning** by involving civil society, public and private sectors, NGOs, and development partners. ESD should become an integral part of the training of leaders in business, industry, trade union, non-profit and voluntary organizations, and the public services. Re-orient TVET programmes to include ESD.

j) **Involve youth in the design and implementation of ESD**. Engage the commitment, solidarity and potential of youth and their organizations and networks in enhancing ESD. Foster young people's ownership of ESD questions and issues.

k) **Enhance the major contribution and key role of civil society** in stimulating debate and public participation, and initiating ESD actions. Explore ways to further this involvement and commitment.

l) **Value and give due recognition to the important contribution of traditional, indigenous and local knowledge systems for ESD** and value different cultural contributions in promoting ESD.

m) ESD should actively promote **gender equality**, as well as create conditions and strategies that enable women to share knowledge and experience of bringing about social change and human well-being.

n) **Develop knowledge through ESD networking**. Identify and support schools, universities and other higher education and research institutions, education centres and education networks that could serve as centres of expertise and innovation that develop and share knowledge, and create resources for ESD. Explore the potential of specific geographical and bioregional sites which can serve as spatially defined 'laboratories' for ESD.

o) Encourage and enhance **scientific excellence, research** and **new knowledge development** for ESD through the **involvement of higher education institutions and research networks** in ESD. Mobilise the core functions of universities: teaching, research and community engagement to strengthen global and local knowledge of ESD, and utilise the UNESCO ESD Chairs and UNESCO programme networks in this process. Establish institutional and organizational structures that facilitate flexibility, student participation, and multi-disciplinary programmes and develop model projects that can respond to the complexity and urgency of ESD. Reward structures should be developed and implemented to support ESD initiatives and research in higher education.

p) **Develop institutional mechanisms** during the UN Decade of Education for Sustainable Development and other ongoing Decades, such as the UN Decade for Action 'Water for Life' that will ensure that ESD continues to be implemented beyond those Decades.

q) **Engage the expertise available within the UN system** to strengthen ESD in key sustainable development conventions; for example, those focusing on biodiversity, climate change, desertification and intangible cultural heritage.

r) **Intensify efforts in education and training systems to address critical and urgent sustainability challenges** such as climate change, water and food security by developing specific action plans and/or programmes within the UN DESD umbrella and partnership framework.

16. The participants in the 2009 World ESD Conference request UNESCO, as lead agency responsible for the UN DESD, to:

a) Enhance its leadership and co-ordination role for the UN DESD based on the International Implementation Scheme in co-operation with other UN agencies and programmes such as

UNEP, UNU, the EFA convening agencies (UNICEF, UNDP, UNFPA and the World Bank) - amongst others, and incorporate ESD into One UN strategies at country level, particularly through UNDAF processes.

b) Support member states and other partners in the implementation of the UN DESD, particularly through upstream capacity-building and policy advice on the development of coherent national strategies, monitoring and evaluation, recognising and sharing good practices on ESD, advocacy and global partnership development, with due consideration to post-conflict and least developed countries.

c) Represent and/or promote the ESD agenda in other major education and development forums such as international conferences and negotiations such as the G8, G20, Copenhagen Climate Change Conference, EFA High-Level Group, UN Chief Executives Board, and UNESCO world conferences (amongst other ongoing events and activities).

d) Utilize the expertise that exists within UNESCO biosphere reserves, world heritage sites and other science, culture and education programmes, such as TTISSA (Teacher Training Initiative for Sub-Saharan Africa), ASPnet schools and LIFE (Literacy Initiative for Empowerment) to further ESD objectives and ensure that key priorities for ESD are integrated into longer term programmes and strategies within UNESCO.

e) Promote ESD-related research through UNESCO's programmes in order to enhance the quality and evidence-base of ESD. Further develop the global monitoring and evaluation system to evaluate ESD and take initiatives to develop international strategies and practices that can lead to a successful conclusion of the UN DESD with visible and concrete outcomes.

f) Highlight the relevance and importance of education and training in the UN Summit on Climate Change (COP 15) in Copenhagen, Denmark, in December 2009 in consultation and co-operation with other partners.

g) Intensify efforts and initiatives to put climate change education higher on the international agenda, in the framework of the DESD, in the context of UNESCO's strategy for action on climate change, and as a component of UN-wide action.

17. Furthermore, the participants in this conference undertake to work towards implementation of this Declaration.

18. The participants encourage the mobilization of adequate funding in support of the recommendations contained in this Declaration.

19. The participants in the World ESD Conference express their gratitude to the German Government for hosting this conference, and welcome the intention announced by the Government of Japan to host jointly with UNESCO the end-of-decade world conference on ESD.

Annex 5: Tokyo Declaration

Tokyo Declaration[54]

Conclusion and Recommendation to the World Conference on ESD

by the International Forum on ESD Dialogue

5 December 2008, Tokyo, Japan

I. The UN Decade of Education for Sustainable Development (DESD, 2005-2014) was proclaimed by the United Nations General Assembly through Resolution A/RES/57/254 in 2002 and was launched in 2005. Since the inception of the Decade, for whose promotion UNESCO was designated the lead agency, the international community has discussed the needs, fundamental concepts and objectives of Education for Sustainable Development (ESD), recognizing its key importance for future generations. UNESCO, its Member States, other UN bodies and a diverse range of partners will discuss the achievements and challenges of implementing the DESD as well as strategies for the remainder of the Decade at the World Conference on ESD in Bonn Germany (31 March – 2 April 2009).

The International Forum on ESD Dialogue 2008 (Tokyo, Japan, 2 - 5 December 2008) was held for a number of purposes: to use our collective learning as a basis for enhanced future action; to identify results-oriented strategic projects for the second half of the Decade; to explore the possibility of a global consortium on ESD involving the private sector and NGOs; and to consider the contribution of research and innovation to the Decade. Furthermore, it considered inputs from a number of Member States in the Asia-Pacific region. It is expected that this Forum will contribute to the promotion of ESD in a systematic and comprehensive manner and to enhancing the visibility of the DESD.

The 2009 World Conference on ESD will be an important opportunity to strengthen the implementation of the DESD, including the leadership role of UNESCO. To this end, a list of recommendations to the Bonn Conference has now been compiled.

II. The International Forum on ESD Dialogue 2008, meeting in Tokyo from 2 to 5 December, 2008,

Recalling the expectations for the DESD expressed by Member States in United Nations Assembly Resolution 57/254,

54 Asia-Pacific Cultural Centre for UNESCO (ACCU). 2008. *Tokyo Declaration: Conclusion and Recommendation to the World Conference on ESD by the International Forum on ESD Dialogue.*

Also recalling UNESCO's role as the lead agency to promote the DESD, as set out in General Assembly Resolution 57/254,

Further recalling the comprehensive and strategic framework provided by the International Implementation Scheme (IIS) which was adopted by the 172nd Session of UNESCO's Executive Board in 2005,

Recognizing UNESCO's global leadership role and its implementation support based on the IIS over the past four years as well the valuable contribution of other UN agencies,

Also recognizing that education plays an important role in achieving sustainable development worldwide, as confirmed, among others international events, by the Johannesburg Plan of Implementation at the World Summit on Sustainable Development 2002, and acknowledging the DESD as a unique opportunity for UNESCO and its Member States to educate for sustainable development,

Reaffirming that the DESD promotes quality education for all, which is at the heart of the Education for All (EFA) agenda, and contributes to the achievement of the Millennium Development Goals (MDGs),

Congratulating the Member States on the many initiatives they have implemented during the course of the DESD to date.

III. We, the participants in the International Forum, recommend to the Member States of UNESCO to:

1. Include the principles, values and practices of sustainable development as an important element of their strategies in all settings, types and levels of education;

2. Assist each other in implementation of the DESD through, among other things, exchange of good practices and innovations in ESD;

3. Make full use of schemes, frameworks, institutions and networks, such as the Associated Schools Project (ASP) Network, the UNEVOC Centre and its global network, the UNESCO Chairs network, UNESCO Category 2 Centres and UNU Regional Centres of Expertise on ESD (RCEs) as laboratories of ideas for innovative research, methods, teaching and learning in ESD, in particular, flagship projects which could guide stakeholders in implementing ESD and thereby enhance the visibility of the Decade;

4. Consolidate and strengthen partnerships with UN agencies, and build up closer connections with various stakeholders, in particular, higher education institutions, NGOs, the private sector and media.

IV. Participants in the Forum also call upon the Director-General of UNESCO to take the necessary steps so that UNESCO:

1. Promotes an accelerated implementation of the DESD, in line with the IIS;
2. Builds a stronger relationship between EFA and ESD;
3. Facilitates cooperation between Member States on ESD, including through implementation of flagship projects and exchanges between ASPnet schools, UNEVOC Centres, UNESCO Chairs and other networks for the promotion of North-South and South-South cooperation;
4. Facilitates intersectoral activities in ESD such as the Man and Biosphere Programme of Biosphere Reserves as learning laboratories for ESD;
5. Promotes worldwide cooperation mechanisms in favour of ESD, particularly by reinforcing partnerships between all stakeholders such as Member States ,NGOs, the private sector and media;
6. Assist Member States to develop ESD programmes well suited to their specific conditions and needs;
7. Strengthens efforts to raise the visibility and understanding of ESD in the international community.
8. Invites Member States to support the development of national research agendas and to strengthen the capacity of higher education institutions for ESD research and innovations, including incorporating relevant indigenous and local knowledge systems.

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Glossary

Cognitive skills
Skills associated with understanding, such as thought processes, visual and auditory processes, memory, logic and reasoning and attention. Cognitive skills include literacy, critical thinking and problem solving.

Corporate responsibility
Corporate responsibility (CR), also known as corporate social responsibility (CSR), corporate citizenship and responsible business, is a form of business that integrates the principles of sustainable development into planning, programming, management and operations.

ESD Thrusts
The four major thrusts of education originated in Chapter 36 of Agenda 21: Improve basic education; reorient existing education programmes; build public understanding and awareness of sustainability; and provide practical training.

Formal education
The structured, chronologically graded "education system", running from primary school through university and including general academic studies.

Gender equality[55]
The concept that all human beings, both men and women, are free to develop their personal abilities and make choices without the limitations set by stereotypes, rigid gender roles and prejudices, such that the different behaviours, aspirations and needs of women and men are valued and favoured equally.

Inclusive education [56]
Inclusive education (IE) is an ongoing process aimed at offering good quality education for all, while respecting diversity and the differing needs, abilities, characteristics and learning expectations of learners and communities. IE eliminates all forms of discrimination. It addresses social inequity and poverty and aims to equip teachers with the appropriate skills and materials to meet differing learning needs.

Informal education
Education and learning that takes place in daily life. For example, education and learning through the media, brochures, art galleries and museums, and involvement in community groups and independent projects.

55 Adapted from ILO. 2000. ABC Of Women Worker's Rights And Gender Equality, Geneva, ILO , p.48.
56 Adapted from UNESCO. 2009d. *Final Declaration of the Education for All Regional Conference* held in Tzahkadzor, Armenia, 29-30 September.

Learning objectives for ESD
The knowledge, skills, values and attitudes associated with sustainability. Learning objectives for ESD enable individuals to learn independently and to learn to lead sustainable lives.

Learning characteristics for ESD
The characteristics of learning that underpin ESD. They promote learning that is interactive, integrated, interdisciplinary and relevant to the lives of learners.

Non-formal education
Education outside of the established formal system that is intended to serve specific learners and their learning objectives (e.g. adult literacy classes administered through community learning centres).

Social and emotional skills
Social and emotional skills include competencies such as compassion, cooperation and conflict resolution. These skills have an important impact on good citizenship, positive social behaviour and sustainable development and are essential for effective participation in both work and society.

Sustainable development issues
Issues which affect the sustainability of development, such as climate change, water shortages, food security and loss of biodiversity. Such issues require the attention of governments, development agencies, communities and other stakeholders.

Sustainable development priorities
The development issues that are most relevant to the national context (e.g. climate change, water resource management, disaster risk reduction, illiteracy, etc.) in terms of a country's ability to increase the quality of life of its citizens. These issues should be the focus of government policy, donor funding and development programmes. The key priorities (three or four most urgent development priorities) can act as a prism for focusing and coordinating relevant ESD efforts and also developing education structures to achieve development that is sustainable.

System
A group of components, parts or issues that are intertwined and interact with one another (e.g. the climate system, the respiratory system, etc.)

Systems thinking
Systems thinking, also referred to as systemic thinking, is an approach to problem solving that views issues as components of a system. It enables people to understand how issues are interlinked and how individual actions can influence the sustainability of development. For example, Use of fossil fuels for electricity generation → CO_2 emissions → climate change → loss of natural resources and ecosystem services → food shortages and hunger → competition for resources → increasing spiral of conflict and violence.

Technical skills
Knowledge and competencies required to design, set-up and carry out specific tasks. Technical skills include computer literacy, researching and analyzing data and vocational skills (e.g. automobile maintenance and sewing).

Universal education goals
Common goals found in education curricula throughout the Asia-Pacific region, such as developing good relationships with others, developing skills and self-confidence and developing appropriate values and attitudes.

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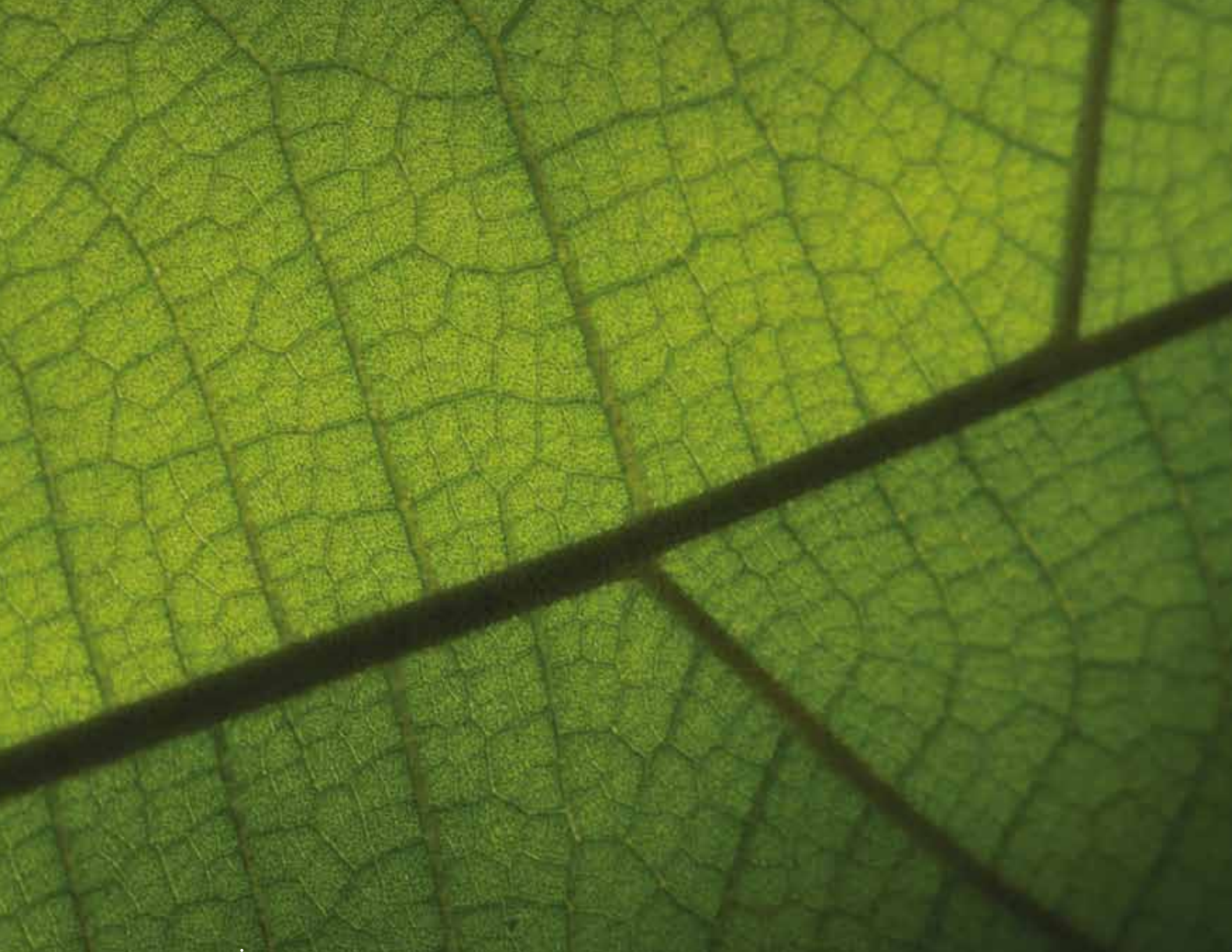

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