United Nations
Educational, Scientific and
Cultural Organization

UNESCO Bangkok

The Asia-Pacific Programme of Educational
Innovation for Development

Education for Sustainable Development

Japanese
Funds-in-Trust

Asia-Pacific Guidelines
for the Development of National ESD

Indicators

Asia-Pacific Guidelines for the Development of National ESD Indicators

Asia-Pacific Guidelines for the Development of National ESD Indicators. Bangkok: UNESCO Bangkok, 2007.

109 pp.

1. Education. 2. Sustainable development. 3. Educational indicators. 4. Monitoring. 5. Guides.

ISBN 92-9223-121-9 (Print Version)
ISBN 92-9223-122-7 (Electronic Version)

Executive Summary:

A summary version of this document, "Monitoring and assessing progress during the UNDESD in the Asia-Pacific Region: A quick guide to developing national ESD indicators," is available from http://www.unescobkk.org/education/esd

The *Quick Guide* offers a consolidated version of the contents of this *Guidelines* document and provides a step-by-step guide linking to the different sections within. The *Quick Guide* should be used in conjunction with the *Guidelines*.

Websites: http://www.unescobkk.org
http://www.iucn.org
http://www.gse.mq.edu.au

For up-to-date information on national ESD monitoring system development in the Asia-Pacific region, please visit the Asia-Pacific ESD Monitoring Project webpage (http://www.unescobkk.org/education/esd/monitoring).

This publication was written by Daniella Tilbury and Sonja Janousek of Macquarie University, Australia and Derek Elias (Programme Specialist) and Joel Bacha (Project Officer) of UNESCO under the guidance of the Education for Sustainable Development Programme at UNESCO Bangkok.

© UNESCO 2007
Published by the
UNESCO Asia and Pacific Regional Bureau for Education
920 Sukhumvit Rd., Prakanong
Bangkok 10110, Thailand

Chief Editor: Caroline Haddad
Editors: Leanne Denby and Jessica North
Design/Layout: Sirisak Chaiyasook

Photos by J. Burner, S. Faison, C. Khamken, P. Morgan and Rex Pe used in accordance with Flickr Creative Commons license terms (http://creativecommons.org/licenses/by/3.0/). Photos by the International Rice Research Institute from the image collection of the International Rice Research Institute (http://www.irri.org).

Printed in Thailand

The designations employed and the presentation of material throughout the publication do not imply the expression of any opinion whatsoever on the part of UNESCO concerning the legal status of any country, territory, city or area or of its authorities, or concerning its frontiers or boundaries.

APE/ESD/07/OP/022-1000

Foreword

> "An initiative as long and complex as a Decade must benefit from the adequate processes of monitoring and evaluation from the start."
>
> *– UN Decade of Education for Sustainable Development (2005-2014) International Implementation Scheme, p. 21.*

The United Nations Decade of Education for Sustainable Development (DESD) is a vast undertaking requiring stakeholder involvement from all sectors, including government ministries, the private sector, civil society, educational institutions, youth and communities. Given the extraordinary diversity and sustainable development needs of the Asia-Pacific region, it is essential to employ participatory processes to monitor and assess progress at the national level, including collaboration toward identifying and developing suitable and relevant national-level indicators for ESD. To assist UNESCO, as the lead agency for the Decade, with this challenge, I think it is important to acknowledge from the outset the UN International Implementation Scheme for the DESD which emphasizes the need for both quantitative and qualitative methods to effectively monitor the Decade; in addition, ESD monitoring systems should work closely with those from other international initiatives, such as Education for All, the United National Literacy Decade and the Millennium Development Goals. By linking ESD monitoring and assessment with what has been learned from other initiatives, coupled with active stakeholder participation toward developing national ESD indicators and assessing national progress, the Asia-Pacific region will be more likely to learn from ESD the important lessons and actions required to achieve a sustainable future.

I am pleased to note that the development of the *Asia-Pacific Guidelines for the Development of National ESD Indicators* has been a collaborative effort in every sense of the phrase. Commencing with on-line e-mail discussions between experts and National Commissions for UNESCO, the *Guidelines* development process was carried out with the document taking shape over a sixteen month period. The *Guidelines* has been subject to intense discussion in Hiroshima, Japan, in August 2006; further presented and discussed during the 10th UNESCO-APEID International Conference in Bangkok, Thailand, in December later that year; and reviewed once again in Bangkok in April 2007. More than one hundred experts and officials have contributed to the *Guidelines* by taking part in these meetings as well as ensuring input into the online development of the document during the initial phases of the project.

The Asia-Pacific DESD Indicators Project was initiated with an agreement in 2004 between UNESCO Bangkok and the IUCN CEC (Commission on Education and Communication of the World Conservation Union), in collaboration with Macquarie University in Australia, to produce a set of guidelines that assists UNESCO Member States in the region with the development of national ESD indicators. My colleagues and I believe this project is one of the most successful initiatives undertaken by UNESCO to push ESD forward at the national level. I would like to take this opportunity to thank all who participated in this stimulating project and to thank Prof. Daniella Tilbury and her team at Macquarie University for their tremendous efforts in facilitating the development and elaboration of the *Guidelines*. Prof. Tilbury's involvement was beneficial due to her expertise in both the UNECE (UN Economic Commission for Europe) indicator development process and the Monitoring and

Evaluation Experts Group (MEEG) convened in Paris, which has ensured that all efforts toward national ESD indicator development in the Asia-Pacific will be closely aligned to global reporting processes as preparation for the DESD mid-decade assessment begins.

It is on this note, with an eye to the future, that UNESCO Member States throughout the Asia-Pacific will play a crucial role in disseminating and sharing information on national ESD indicator development processes as indicators are adopted and implemented in accordance with national contexts and priorities. The challenges that lie ahead will be considerable while working collectively to ensure coordination of reporting on ESD indicators to reflect the rich diversity of national efforts in the Asia-Pacific region and respond to the challenges presented under the Decade. Indeed, it is foreseen that this activity will become more and more central to the implementation of ESD under the Asia-Pacific Programme of Educational Innovation for Development (APEID) through UNESCO Bangkok.

This document is designed to build capacity for developing national ESD indicators and to promote discussion on the development of national DESD monitoring systems, which consists of an ESD indicator framework and data collection and reporting mechanisms. In order to establish a monitoring system which will enhance interaction of global ESD initiatives and ESD activities at the national level, we hope that all stakeholders will find this document useful for guiding the initial and intermediate collaborative processes to develop national indicators, data collection tools and reporting formats for monitoring national ESD progress in the Asia-Pacific.

On behalf of UNESCO Bangkok and my staff, I would like to extend my sincere gratitude to all who have cooperated to make the *Guidelines* successful, including the support of Macquarie University and the IUCN CEC. Finally, I wish to gratefully acknowledge the ongoing support of the Japanese Funds-in-Trust for ESD, made available through the Japanese Ministry of Education, Culture, Sports, Science and Technology. Without this generous assistance, much of the progress made so far with ESD indicator development in the Asia-Pacific would not have been possible.

Sheldon Shaeffer

Director
UNESCO Asia and Pacific Regional Bureau for
Education, Bangkok, Thailand

Acknowledgements

Over one hundred individuals, including Education for Sustainable Development (ESD) practitioners, indicator experts from around the globe and representatives from UNESCO National Commissions and UNESCO Offices in the Asia-Pacific region, contributed to the development of this document. As members of an *Expert Team* (see Appendix 2) and a *Guidelines Review Team* (see Appendix 3) participants shared experiences, identified monitoring and assessment needs and priorities and provided feedback on the content and practical nature of the *Guidelines* during the drafting process.

The Asia-Pacific DESD Indicators Project Team is grateful to the Japanese Funds-in-Trust for their financial support and UNITAR HOAP for their assistance in hosting the "Review Meeting of the Asia-Pacific Guidelines for National DESD Indicators" in Hiroshima, Japan, on 10-11 August 2006. Appreciation is also extended to the participants who attended the meeting and reviewed the first draft of the *Guidelines* document.

Special thanks also to those who participated in the "Indicators Project Session" during the 10th UNESCO-APEID International Conference in Bangkok, Thailand, on 7 December 2006, and provided feedback on the second draft of the *Guidelines*. The Project Team is grateful also to those who sent their comments during the December 2006 to March 2007 open comment period.

In addition, it is important to acknowledge the countries that took part in the "Workshop for the Development of National DESD Monitoring Systems" from 2-4 April 2007, in Bangkok, Thailand. The Japanese Funds-in-Trust, IUCN CEC and Macquarie University generously provided financial support for this meeting, which assisted to clarify the key messages contained in this document and lay a foundation for developing ESD indicators and monitoring systems in the Asia-Pacific region.

Lastly, the Asia-Pacific DESD Indicators Project Team expresses great thanks for the constant support throughout the duration of the project to the Japanese Funds-In-Trust for their generous financial contributions, to the IUCN CEC for administration of the *Expert Team* and *Guidelines Review Team* e-lists and to Macquarie University for their financial assistance and in-kind leadership. Without this ongoing support, regional collaboration and completion of the *Guidelines* would have been difficult.

Asia-Pacific DESD Indicators Project Team

Derek Elias
Programme Specialist for ESD
Asia and Pacific Regional Bureau for Education (UNESCO Bangkok)

Joel Bacha
Project Officer for ESD
Asia and Pacific Regional Bureau for Education (UNESCO Bangkok)

Keith Wheeler
Chair
IUCN CEC

Daniella Tilbury
Indicators Project Leader
Director, ARIES
Macquarie University

Sonja Janousek
Indicators Project Coordinator
Macquarie University

Gillian Martin-Mehers
Head, Learning and Leadership
IUCN

Before Reading the *Guidelines*...

The *Asia-Pacific Guidelines for the Development of National ESD Indicators* aims to provide stakeholders in the Asia-Pacific region with a practical resource from which to develop an ESD indicator framework at the national level. The document highlights how learning, commitment and ownership among stakeholders can be maximized.

This publication does not include an indicator framework itself. Rather, the resource is an extensive platform from which ESD stakeholders can work collaboratively to develop a relevant and meaningful indicator framework based upon national ESD goals and priorities.

There are different types of ESD indicators available for a national framework. Since many indicators overlap in function, it can be difficult to define clear-cut boundaries among them. Therefore, it is vital that stakeholders make an effort to learn about the different indicator types available; what information they can and cannot provide; why they would be used in specific contexts; and where they overlap.

A national indicator framework will not necessarily include all the indicator types described in the *Guidelines* (see Section 7, pp. 30-34). The range of different indicator types has been included so that Member States can have a better understanding of the indicator options available. Without an understanding of the available options, it is common to limit efforts to what is already known rather than acknowledge the experiences of others in ESD or think about monitoring and assessment in a variety of ways.

For instance, stakeholders are often most familiar with the quantitative and qualitative characteristics of indicators. Both quantitative (measurable) and qualitative (observational) data play a role in defining the scope of different indicator types by providing information, for example, about the existence of a variable and its quality. However, when these characteristics are considered on their own they are not enough to ensure effective choices are made about ESD indicator components or variables that will illustrate progress in ESD. The choice of ESD indicators is important because they assist in commencing an analysis of the scope of meaningful change in national or regional ESD policies, programmes and actions, as well as the results of their implementation.

Finally, while developing national ESD indicators, it is important to consider other national activities that are linked or could be linked to ESD, such as those implemented through national sustainable development plans, development assistance frameworks, bilateral and multilateral assistance, in addition to national ESD action plans and processes for data collection and national and regional reporting for the DESD. ESD activities are also inter-related to the Millennium Development Goals (MDGs) and Education for All (EFA), as highlighted in the International Implementation Scheme (IIS) for the DESD. Maintaining a holistic perspective on these important linkages while developing ESD indicators will present opportunities for collaboration and coordination within and among groups involved in related activities, such as a National DESD Committee and National EFA Forum.

To find up-to-date information about national ESD indicators and monitoring systems in the Asia-Pacific region, please visit the Asia-Pacific ESD Monitoring Project webpage (http://www.unescobkk.org/education/esd/monitoring).

Table of Contents

1. Introduction 1
2. What is Education for Sustainable Development? 5
3. United Nations Decade of Education for Sustainable Development (2005-2014) 9
4. Asia-Pacific Goals and Priorities for the DESD 13
5. UNESCO National Commissions and UNESCO Offices: Role in Monitoring and Assessment during the DESD 19
6. What is an Indicator? 23
7. Using National ESD Indicators to Assess Progress During the DESD 29
   - A. Distinguishing ESD Indicator Types 30
   - B. Choosing Appropriate ESD Indicator Types for a National Framework 35
8. The ESD Indicator Development Process 39
9. Collecting New and Existing Data for ESD Indicators 47
10. National and Regional Reporting of ESD 55
11. In Summary 61

Appendices 65

- Appendix 1: Monitoring and Evaluation Strategy – UNDESD (2005-2014) International Implementation Scheme 66
- Appendix 2: ESD Expert Team – Asia-Pacific DESD Indicators Project 67
- Appendix 3: Guidelines Review Team – Asia-Pacific DESD Indicators Project 67
- Appendix 4: Responses – Guidelines Review Team "DESD Priorities and Activities" E-mail 68
- Appendix 5: Responses – Guidelines Review Team "Role of UNESCO NatComs and Offices" E-mail 84
- Appendix 6: Examples of ESD Indicator Initiatives Worldwide 91
- Appendix 7: ESD-related Indicator Initiatives 95
- Appendix 8: ESD Indicators in the UNECE Region – Key Points 98
- Appendix 9: Debate on ESD Indicator Approaches 98
- Appendix 10: Key Questions to Guide ESD Indicator Development 99
- Appendix 11: Description of Different Data Collection Methods 100
- Appendix 12: Indicator Planning Tool for Data Collection 101
- Appendix 13: UNECE Assessment Key and Ranking Scale Example 102
- Appendix 14: Using DevInfo for ESD Reporting at the National Level 102

Glossary 104

References 106

List of Acronyms

ACCU	The Asia/Pacific Cultural Centre for UNESCO
APEID	Asia-Pacific Programme of Educational Innovation for Development
ARIES	Australian Research Institute in Education for Sustainability (Macquarie University)
CEC	Commission on Education and Communication (IUCN)
CEP	Committee on Environmental Policy (UNECE)
CSD	Commission on Sustainable Development
DEFRA	Department for Environment, Food and Rural Affairs (UK)
DEH	Australian Government Department of the Environment and Heritage
DESD	Decade of Education for Sustainable Development
DfES	Department for Education and Skills (UK)
EE	Environmental Education
EFA	Education for All
EG	Expert Group on ESD Indicators (UNECE)
ESD	Education for Sustainable Development
GEO	Global Environmental Outlook
GRI	Global Reporting Initiative
HDI	Human Development Index
HOAP	Hiroshima Office for Asia and the Pacific (UNITAR)
ICT	Information and Communication Technology
IIS	International Implementation Scheme (UNDESD)
IPCC	Intergovernmental Panel on Climate Change
IUCN	The World Conservation Union
MDGs	Millennium Development Goals
MEEG	Monitoring and Evaluation Expert Group
NatCom	UNESCO National Commission
NGO	Non-governmental Organisation
NMC	Nordic Minister Council
SD	Sustainable Development
SDC	Sustainable Development Commission (UK)
UNCED	United Nations Conference on Environment and Development
UNDSD	United Nations Division for Sustainable Development
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	United Nations General Assembly
UNITAR	United Nations Institute for Training and Research
UNLD	United Nations Literacy Decade
UNU	United Nations University
WCED	World Commission on Environment and Development
WSSD	World Summit on Sustainable Development

© UNITAR / A. Yasui

Participants of the **'Review Meeting of the Asia-Pacific Guidelines for National DESD Indicators'** Hiroshima, Japan, 10-11 August 2006. Photo taken in front of the Hiroshima Peace Memorial Museum.

1
Introduction

UNESCO Bangkok, with assistance from the Commission on Education and Communication (CEC) of the World Conservation Union (IUCN) in conjunction with Macquarie University in Australia, implemented a project to assist with the important task of monitoring and assessing progress during the UN Decade of Education for Sustainable Development (DESD). This process has been funded by the generous contribution of the Ministry of Education, Culture, Sports, Science and Technology under the Japanese Funds-In-Trust for Education for Sustainable Development (ESD). The DESD provides an important opportunity to enhance the profile of ESD in both formal and informal learning spaces which in turn assists UNESCO Member States with the transformation into sustainable societies. Efforts to promote and integrate ESD at all levels will be key to advancing the reach of the Decade.

Responding to the DESD International Implementation Scheme's (IIS) recommendation to develop indicators (see Appendix 1), the Asia-Pacific DESD Indicators Project commenced in March 2006. The first stage of the project has resulted in the publication of this *Guidelines* document which assists UNESCO Member States in the Asia-Pacific region with the development of ESD indicators and monitoring systems at the national level. The document is intended to provide an important practical resource for UNESCO National Commissions, in addition to other stakeholders, in the area of ESD indicator development.

By outlining how to develop national ESD indicators, the *Guidelines* offers an effective way of building knowledge and increasing ownership of the Decade among stakeholders. Rather than deliver a pre-packaged set of ESD indicators, this document provides countries with a foundation for developing indicators that are relevant to their national contexts. The objectives of the *Guidelines* are:

- To assist with understanding the nature of ESD indicators and the different approaches for their use;
- To identify the different types of ESD indicators and what they may reveal about progress;
- To identify important sources, methods and planning tools for both data collection and reporting;
- To encourage UNESCO Member States in the Asia-Pacific region to work collaboratively, share experiences and learn about meaningful monitoring and assessment during and beyond the DESD; and
- To build national capacity to develop ESD indicators and ESD data collection mechanisms at the national level.

Since 2005, a smaller movement of regional and national ESD indicator initiatives has been growing alongside a number of DESD launches, strategies and activities. Stretching across the globe to regions in Europe, North America and the Asia-Pacific, these initiatives are, and will be, important experiences from which to learn and build upon. (See Appendix 6 for examples of ESD indicator initiatives around the world and Appendix 7 for related initiatives such as those for developing well-being indicators.) The UN Economic Commission for Europe (UNECE) provides one example of a particularly substantial ESD indicator effort that is currently being tested in practice (see Appendix 8 about ESD indicators in the UNECE region). As the UNECE region is just beginning to apply their ESD indicators as this document is being published, the *Guidelines* includes some of the UNECE region's initial developments and lessons learned which may assist national ESD indicator and monitoring system development in the Asia-Pacific.

About the Asia-Pacific DESD Indicators Project

Research undertaken during the Asia-Pacific DESD Indicators Project aimed to identify key ESD indicator experiences, make sense of indicator types used in practice and clarify indicator functions and what they reveal about progress. The *Guidelines* makes recommendations for *how* to develop indicators in line with national ESD programmes, *what* data should be collected and *how*. National and regional reporting formats are also considered in an effort to assist promotion and sharing of ESD experiences and achievements.

A number of international and regional stakeholders contributed to the document at various stages to assist in creating a practical set of guidelines that are relevant to the field of ESD. Collaborating as participants of an *ESD Expert Team* (see Appendix 2), practitioners from around the world with expertise in ESD and/or indicators engaged in a process to identify and share key ESD indicator experiences and provide advice and feedback on ideas related to ESD indicator types and functions. Members of the team were connected via an e-mail list to dialogue with each other and the Asia-Pacific DESD Indicators Project Team. Expert Team discussions and input reflected the latest knowledge and understanding about ESD indicators.

Complementing the contribution of the ESD Expert Team, a *Guidelines Review Team* of participants representing UNESCO National Commissions and UNESCO National Offices and Cluster Offices in the Asia-Pacific formed another e-mail discussion list. This team helped to identify the DESD priorities of UNESCO Member States and clarify the roles of the National Commissions and UNESCO Offices in the development of indicators for the DESD. In addition, members shared their national reporting priorities and needs. The information provided by the Guidelines Review Team directly informed the content of this document.

Stakeholders from the Asia-Pacific region and around the globe were also given opportunities to provide feedback on draft copies of the *Guidelines*. A review meeting of the document held on 10-11 August 2006 in Hiroshima, Japan, co-hosted by UNITAR HOAP, engaged a selection of UNESCO National Commission representatives from Member States moving ESD forward in the Asia-Pacific. The meeting participants provided feedback on the first version of the document and were an important source of interim feedback on the direction and practicality of the first draft of the *Guidelines*. Participants also contributed to a discussion about how ESD indicators might be linked to current education monitoring and reporting initiatives in the region, such as EFA. Similarly, an Indicators Project Session at the 10th UNESCO-APEID International Conference in Bangkok, Thailand, on 7 December 2006, provided feedback on the third draft of the *Guidelines*. This session also initiated an open comment period from December 2006 until March 2007 when stakeholders could provide further feedback on document content. Key messages contained within the *Guidelines* were also identified and fine tuned at an ESD monitoring capacity-building workshop held in Bangkok from 2-4 April 2007 with participating National Commission representatives from Member States leading the Decade in the Asia-Pacific.

Thus, the *Guidelines* is the product of a collaborative effort to learn about, and advance knowledge on, ESD indicators and monitoring systems. Project teams and meeting participants not only contributed to the development of the document, but also played an important role as peer reviewers to ensure that the contents of the publication are accurate and relevant. Future experiences from the countries developing DESD monitoring systems in 2007 and 2008 will also provide important lessons, further contributing to the development of knowledge about national ESD indicators and data collection and reporting mechanisms in the Asia-Pacific region.

© UNESCO / H. Schmid

© International Rice Research Institute

© Rex Pe

© UNESCO / H. Schmid

© C. Hoult

2

What is Education for Sustainable Development?

The focus of sustainable development and priorities for the DESD vary according to the socio-cultural, economic and environmental contexts and national development needs of each country. In the context of the Asia-Pacific region's extraordinary diversity, perspectives on sustainable development and the DESD vary widely. Prior to discussing the DESD and ESD indicators in detail, it is important to share a common understanding of what is meant by "sustainable development" and ESD in the *Guidelines*.

Sustainable Development

The notion of sustainable development gained wide recognition following the publication of the 1987 Brundtland Report by the World Commission on Environment and Development (WCED). The report emphasized the need to promote sustainable development that would "meet the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). Expanding on the importance of the Brundtland Report, more than 187 countries adopted the Rio Declaration during the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (known as the Earth Summit). The Declaration set out 27 principles for achieving sustainable development, and Agenda 21, a guiding document for sustainable development, was simultaneously adopted.

This publication views sustainable development in light of the Rio Declaration and Agenda 21 based on three pillars – society, economy and the environment – as described by UNESCO (2007a):

- **Society:** an understanding of social institutions and their role in change and development, as well as participatory systems which provide opportunity for the expression of opinion;
- **Economy:** a sensitivity to the impact of economic growth on society and on the environment; and
- **Environment:** an awareness of the resources and fragility of the physical environment and the effects of human activity and decisions on environmental impact.

As an underlying dimension, UNESCO has also included a fourth pillar of sustainable development, *culture*:

- **Culture:** ways of being, relating, believing and acting that differ according to context, history and tradition (UNESCO, 2007b).

Sustainable development aims to establish a balance between society, the economy and the environment. As these pillars become balanced, well-being increases in line with sustainable development. How the relationship between these three pillars and the natural world is perceived, however, is dependent upon each individual's local circumstances and world view.

Education for Sustainable Development

Education for sustainable development (ESD) aims to achieve well-being in line with 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, in both economically developing and developed countries, in change for a better world. ESD goes beyond teaching about the knowledge and skills associated with understanding the environment, society and economics; it aims to foster respect and understanding for the values and perspectives necessary for nurturing sustainable livelihoods, as well as build human capacity to be able to act upon these understandings.

UNESCO (2005a) describes ESD as striving to promote sustainable development through four thrusts. These thrusts originated in Chapter 36 of Agenda 21 and include:

- **Promoting and improving quality education** to share knowledge, skills and values throughout a lifetime of learning in such a way that it supports citizens to lead sustainable livelihoods;
- **Re-orienting education programmes** from pre-school to universities. Emphasis lies on re-orienting curricula, as opposed to developing new curricula, to encourage content and pedagogy that support sustainable development with clear focus on developing the knowledge, skills, values and perspectives associated with change for a sustainable future;
- **Building public understanding and awareness** through community education, including informal education through media; and
- **Providing practical training** to businesses, institutions and civil society to build the capacity to carry out sustainable practices at the local, provincial and national levels.

ESD is based on the premise of 'learning by doing.' Each country, at the national and local level, will choose to address ESD in the context of their own needs and aspirations for sustainable development. Thus, there can be no "one-size-fits-all" approach to ESD. The challenges in formal education, for example, will be quite different to the challenges of engaging the private sector in ESD. How a small coastal community addresses ESD will, similarly, be different to the activities of an urban community. In the Asia-Pacific, there are many examples of ESD initiatives and programmes aimed at improving people's quality of life. Some examples of ESD in action in the region are provided here:

Communities

In small communities throughout the Pacific islands, ESD approaches are helping to engage communities in decision-making about their own lives. In Vanuatu, drama and comedy are used to help communities share concerns about economic and social well-being. As a result, communities have been encouraged and empowered to take action and interact with government bodies and non-governmental organisations in eliciting change in areas such as health and environmental protection.

Government

Many local authorities in Australia and New Zealand have developed formal ESD strategies. These strategies assist in engaging and supporting local communities in change for sustainable development. Principles of critical reflection, systemic thinking, participation in local decision-making and partnerships for change have underpinned the strategies. At 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.

Formal Education

Across the Asia-Pacific region, programmes in peace education, human rights education, environmental education and young entrepreneur schemes are carried out by many schools. "Whole-school" approaches to such initiatives, such as those implemented in Korea, help students and teachers gain an understanding of the inter-linkages that need to be addressed for sustainable development to become a reality. Within the curriculum itself, interdisciplinary approaches are being trialed whereby ESD is integrated into the subject area, learning and pedagogy to promote interaction, independent thinking, and collaborative, cooperative and holistic learning.

Private Sector

Recognizing the need for corporate social responsibility, learning and education in sustainable development now underpin many initiatives in the private sector. Hong Kong has been pioneering many of these innovative programmes, which are supported by enterprises across the region. Business schools and other executive education providers are mainstreaming sustainable development into courses such as ethics, human resource management, economics and finance.

Training & Research

The Intergovernmental Panel on Climate Change (IPCC) report has 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 sustainable development challenges. In addition, these institutions are undertaking research to build community responses and implementing actions to reduce their ecological footprints.

These examples are some of the many ESD initiatives that share a desire for change in order to create a better future and a willingness to participate in action learning, or learning by doing. They aim to promote ways of addressing current issues and developing innovative alternatives to current lifestyles. These initiatives challenge people's values and belief systems, and rely on discussion and dialogue with all to ensure that communities are able to learn together while working towards a common vision for a sustainable future (Tilbury & Cooke, 2005).

© S. Faison

3

United Nations Decade of Education for Sustainable Development (2005-2014)

In recognition of the need to enhance efforts in education and learning to address sustainable development, the United Nations General Assembly (UNGA) declared the Decade of Education for Sustainable Development during its 57th Session on 20 December 2002. The recommendation for the DESD surfaced at the World Summit on Sustainable Development (WSSD) in Johannesburg earlier that year as an effective way to increase awareness and understanding about sustainability and highlight education's vital role in fostering sustainable practices. Marked by the years 2005 to 2014, the DESD encompasses a global vision where everyone has the opportunity to benefit from education and learning that motivates societal change towards a sustainable future (UNESCO, 2005b).

The DESD aims to integrate the principles of sustainable development into all areas of learning. In particular, governments are encouraged to incorporate ESD within education systems, strategies and development plans, as well as promote public awareness to increase participation in ESD activities. Chapter 36 of Agenda 21 acknowledges the four major thrusts of education on which to focus ESD activities during the Decade: improving access to quality basic education; reorienting existing education programmes; developing public understanding and awareness; and providing training. Also guided by the fundamental principles and values for sustainable development outlined in the *Earth Charter*, the DESD seeks to foster the lifestyles that respect environmental integrity, economic viability, and a peaceful and just society for present and future generations (UNESCO, 2005b).

In order to lead implementation of the Decade at all levels, the following objectives were identified for the DESD (UNESCO, 2005b, p. 6):

- To facilitate networking, linkages, exchange and interaction among stakeholders in ESD;
- To foster an increased quality of teaching and learning in education for sustainable development;
- To help countries make progress towards and attain the Millennium Development Goals through ESD efforts;
- To provide countries with new opportunities to incorporate ESD into education reform efforts.

The Decade involves a variety of themes (see Box 1) and seeks to include people from around the globe. The DESD International Implementation Scheme (IIS) outlines a broad framework that identifies stakeholders and their potential contributions. Promotion and advancement of the Decade are translated into seven key strategies: vision-building and advocacy; consultation and ownership; partnership and networks; capacity-building and training; research and innovation; use of information and communication technologies (ICTs); and monitoring and evaluation (see Box 2 for a summary of the monitoring and assessment strategy during the Decade and Appendix 1 for the full excerpt from the IIS). These strategies provide vital opportunities to engage stakeholders across all sectors and levels in the DESD. In particular, the IIS emphasizes the importance of partnering and coordinating efforts among countries, groups and individuals and fostering collective ownership of and commitment to the Decade (UNESCO, 2005b).

As lead agency for the DESD, UNESCO undertakes an active leadership role in coordinating action at the international level. Assisting to catalyze new partnerships, bring together stakeholders, share good ESD practices, and encourage monitoring and evaluation, among other supportive actions, UNESCO works together with the Inter-Agency Committee on DESD and the UNESCO Member States to ensure the Decade's success (UNESCO, 2005c).

Asia-Pacific Responses to the DESD

UNESCO Member States in the Asia-Pacific region are responding to the DESD initiative in a variety of ways. Regional and national programme launches, strategies and various activities for the DESD have shaped the first years of the Decade. The Asia-Pacific regional launch took place on 28 June 2005 in Nagoya, Japan, at the UNU/UNESCO International Conference and Regional Launch of the Decade of Education for Sustainable Development. The *Working Paper: Asia-Pacific Regional Strategy for Education for Sustainable Development* was presented at the launch as a guide to the implementation of ESD throughout the Asia-Pacific region. The Regional Strategy, based on the outcomes of *A Situational Analysis of Education for Sustainable Development in the Asia-Pacific Region,* provides an overview of the current status of ESD in the Asia-Pacific and, thus, serves as a foundation from which to further plan and implement ESD-related initiatives in the region (see Section 4 on Asia-Pacific goals and priorities for the DESD).

Box 1: DESD Key Action Themes

- Gender Equality
- Health Promotion
- Environment
- Rural Development
- Cultural Diversity
- Peace and Human Security
- Sustainable Urbanization
- Sustainable Consumption

(UNESCO, 2007c)

At the national level, Asia-Pacific Member States have held DESD launches, workshops and symposiums. These promotional and celebratory activities have brought stakeholders together and led to the development of working groups and committees, which are taking on the challenge of advancing and implementing actions for the Decade at the national level. Boxes 3, 4, 5 and 6 highlight examples of some of the DESD activities in the region. These initiatives are vital for ensuring continued momentum for the DESD and for helping to generate stakeholder support for and engagement with activities that advance progress towards a sustainable future.

Box 2: Advancing Monitoring and Assessment During the DESD

Countries develop monitoring mechanisms from the start of the Decade.

Countries identify suitable and relevant indicators at every level, including the local, national and regional levels and for each initiative and programme.

Partners identify their own objectives, outcomes and indicators within the framework of the Decade.

(UNESCO, 2005b)

Box 3: Australia – DESD Symposium

A National DESD Symposium was held in July 2005 in order to raise awareness of the Decade among different sectors. The objective of the event was to identify potential partnerships and activities to promote the DESD. Representatives of nearly seventy national organisations attended the event. These included industry groups, NGOs, trade unions, professional associations, local and state/territory governments and agencies, and further and higher education. The event showcased a range of initiatives being planned for the DESD and held planning workshops for a National Framework for the Decade. Suggestions made during the workshops were sent for further consultation to local groups and then compiled to make a formal recommendation to the Australian Government.

(UNESCO Asia and Pacific Regional Bureau for Education, 2006a)

Box 4: China – National Working Committee

Embracing the DESD as a natural progression of the Environment, Population and Development (EPD) programme that began in 1998, China has expanded its National Working Committee for EPD to include responsibility for DESD-related activities. The Committee Secretariat exists within the Beijing Academy of Educational Sciences, which has been formally entrusted with the DESD by the Chinese National Commission for UNESCO. The Committee boasts a number of initiatives under the EPD programme, including research, training and educational programme implementation. In addition, information relating to experiences and findings in the area of sustainable development and EPD are published in the bimonthly journal, "Education for Sustainable Development in China," as well as in a series of websites and books.

(UNESCO Asia and Pacific Regional Bureau for Education, 2006a)

Box 5: Indonesia – National DESD Launch

Indonesia's launch of the Decade took place in conjunction with the country's World Environment Day celebrations in 2005. The event promoted issues such as reducing pollution, cleaning rivers, and greening cities. A memorandum of understanding was signed between the ministries of Education and Environment to develop cooperation, improve environmental understanding among communities, and develop human resources to better address environment and conservation issues. Subsequent themes for the DESD have expanded to involve a wider range of stakeholders. For instance, as a result of the tsunami of December 2004, Indonesia has chosen to incorporate disaster reduction themes into the DESD and use the Decade as an opportunity to strengthen national policies on education for natural disaster management and preparedness.

(UNESCO Asia and Pacific Regional Bureau for Education, 2006a)

Box 6: Iran – National Workshop on ESD

Iran officially introduced ESD at a national workshop run by the UNESCO Tehran Cluster Office. Attendees included university academics and senior government personnel, including the Minister of Education and several Deputy Ministers. The focus of the workshop covered the development of actions towards: EFA goals, the UNLD, and cross-cutting issues such as environment, poverty alleviation, gender and human rights. Among the results of the workshop was the establishment of a National Secretariat for ESD. Subsequently, in June 2005, the Secretariat was given the responsibility for ensuring action towards DESD goals. Secretariat representatives include stakeholders from the tourism, culture, education, media, environment, science and research, health, women, social welfare and planning sectors.

(UNESCO Asia and Pacific Regional Bureau for Education, 2006a)

© UNESCO / D. Elias

© Live & Learn / S. Marks

© UNESCO / H. Schmid

© UNESCO / J. Bacha

4

Asia-Pacific Goals and Priorities for the DESD

Sustainable development is affiliated with a wide range of global issues which focuses the attention of governments, development agencies, communities and stakeholders in an effort to increase human well-being, worldwide. At the national level, countries have their own sustainable development issues which are relevant to each national context. Priorities for the Decade of ESD are the collection of these issues that countries focus on in terms of government policy, donor funding and programmes for ESD.

Unlike Education for All (EFA), which has universal concerns and goals, ESD has goals and priorities which are thematically bound and different for every country; for example, in Uzbekistan, fresh water is a national priority and, in Indonesia, disaster preparedness is a national priority. From national priorities, countries establish their national goals for ESD. Targets and indicators are then developed to assess progress towards these national goals (UNESCO Asia and Pacific Regional Bureau for Education, 2007).

The impact of the DESD will be assessed upon the extent to which meaningful, agreed-upon goals identified at the beginning of the Decade are acted upon and achieved throughout the region. Identifying national priorities, therefore, is an important part of the initial efforts of national DESD working groups and committees (such as those groups highlighted in Boxes 3-6 in Section 3). Similarly, involving stakeholders early in the process of identifying national ESD goals is vital to fostering cooperation and partnership and facilitating comprehensive action toward common sustainable development needs. As awareness of the Decade spreads across the Asia-Pacific, some UNESCO Member States have already begun to identify the goals and targets which reflect the ESD priorities in their national context. This section provides examples of some initial regional and national efforts to identify ESD priorities while highlighting the diversity of priorities throughout the region. Also acknowledged is the benefit of monitoring and assessing progress toward national ESD goals.

Asia-Pacific Regional Strategy for ESD

In 2005, UNESCO Bangkok, with the financial support of the Japanese Funds-In-Trust, commissioned the *Situational Analysis of ESD in the Asia-Pacific Region* (Asia and Pacific Regional Bureau for Education, 2005a). This publication provides a snapshot of the current state of ESD throughout the region, describing the extent to which countries have integrated ESD policies, programmes and practices into both formal and non-formal educational settings at the grassroots, sub-national and national levels. The analysis is divided into the following sub-regions: South Asia, Central Asia, South-East Asia, North Asia and the Pacific; and includes individual country reports from Australia, the People's Republic of China, the Republic of Korea, Japan, Mongolia and the Socialist Republic of Viet Nam. The results of the *Analysis* assisted in guiding the development of a regional strategy for ESD and directly informed the content of the *Working Paper: Asia-Pacific Regional Strategy for ESD* (UNESCO Asia and Pacific Regional Bureau for Education, 2005b).

The *Regional Strategy for ESD* recognizes a number of core ESD issues, or priority areas, identified during the analysis by researchers in the region (see Box 7). These priority areas guide UNESCO's project implementation and future project formulation, as well as help to create and strengthen regional partnerships and networks for ESD (UNESCO Asia and Pacific Regional Bureau for Education, 2005a). Also emphasizing the importance of partnerships, the *Strategy* suggests potential roles for a selection of crucial stakeholders from governments, UNESCO National Commissions, communities, the private sector, education institutions, civil society, media, youth and international agencies, in addition to recommendations for engaging these stakeholders in ESD. Lastly, a section on monitoring and evaluation mechanisms highlights the importance of measuring the impacts of the Decade at all levels. Importantly, since socio-economic, environmental and cultural realities are not static, the *Regional Strategy* is an open document that is adaptable for revision to the changing needs of countries and stakeholders throughout the region as the Decade progresses.

Box 7: Core ESD Issues in the Asia-Pacific

- **Information and Awareness** (e.g. eco-media, media literacy, ICT)
- **Knowledge Systems** (e.g. learning for local and indigenous knowledge, integrating traditional and modern technologies)
- **Environmental Protection and Management** (e.g. biodiversity, climate change, natural resources, conservation)
- **Peace and Equity** (e.g. conflict resolution, peace, equity, appropriate development, democracy)
- **Local Context** (e.g. community development, empowerment)
- **Transformation** (e.g. rural transformation, urbanization, sustainable habitat, water, sanitation, public infrastructure)
- **Culture** (e.g. diversity and intercultural/ interfaith understanding)
- **Cross-cutting Issues and Themes** (e.g. human rights, citizenship, gender equality, sustainable futures, holistic approaches, innovation, partnerships, sustainable production & consumption, governance)
- **Health** (e.g. HIV/AIDS, malaria)
- **Environmental Education** (e.g. integrated pest management, environmental awareness, community recycling programmes)
- **Engagement of Leaders** (e.g. professional training courses, executive education, partnerships, networking)

(UNESCO Asia and Pacific Regional Bureau for Education, 2005b, p. 4)

National Priorities

The DESD is a far-reaching initiative that will inspire action in many different sectors and areas of learning and encourage the participation of all members of society in change for a sustainable future. In response to the Decade, countries will identify and work towards several national priorities that are unique to their national contexts.

In an effort to demonstrate how national programmes and policies coincide with national priorities during the Decade, the Asia-Pacific DESD Indicators Project asked participating UNESCO National Commissions to share their national priorities for the DESD (see Box 8, 9, 10 and 11 for excerpts of correspondence or Appendix 4 for full responses). Responses include priorities that range across all types of education, from re-orienting curricula to working with the media. They target many different groups, from rural populations to younger generations. Moreover, activities that have, or will be, undertaken towards goals and address national priorities include

Box 8: Malaysia – DESD Priorities

- What are your DESD priorities?

  Adding value to the economy, capacity building, addressing socio-economic inequalities, improving quality of life and strengthening institutional capacity

- How will you achieve your goals?

  Developing human capital, improving national schools, strengthening teachers' skills and improving the delivery of education

(Ishak, 2006a)

Box 9: Palau – DESD Priorities

- What are your DESD priorities?

  Quality education, raising awareness through the media and identifying and restoring lost cultures

- Who is your DESD priority?

  The younger generation

- How will you achieve your goals?

  Capacity building for school administrators, professional development for content area teachers, promotion of toolkits and partnerships with the media

(Alexander, 2006a)

Box 10: Philippines – DESD Priorities

- What are your DESD priorities?

  Re-engineering the science of education to condition self-sufficiency from infancy to adulthood and the EFA goals

- Who is your DESD priority?

  All people, especially the disadvantaged, over their lifespan: learning from early childhood to training beyond retirement

- How will you achieve your goals?

  Through the OB Montessori School, as a Dept of Education laboratory for basic and higher education, skills training, new teacher training and curriculum development

(Soliven, 2006a)

Box 11: Viet Nam – DESD Priorities

- What are your DESD priorities?

  Reforming curricula, course content, education methods and educator training

- Who is your DESD priority?

  The younger generation, disadvantaged populations, those living in rural areas, policy makers and educators

- How will you achieve your goals?

  Training teachers, developing new educational methods and curricula, organizing awareness-raising workshops, DESD dissemination in the media, capacity building, networking and partnerships

(Kinsella, 2006; Tho, 2006a)

actions from developing and promoting toolkits to building community learning centres (CLCs).

It is important to acknowledge the diversity of national priorities among countries in the Asia-Pacific region as differing contexts are a reality that must be respected and accommodated in all ESD activities, including monitoring and assessment of progress. With the aim of assisting Member States in the region to define national priorities and goals for the Decade, UNESCO Bangkok will publish a set of guiding examples highlighting aspects of several national ESD programmes in the region[1]. Consisting of a compilation of ESD experiences and processes undertaken to initiate ESD-related activities, these examples will serve as models that could be used by

1 *"ESD on the Move: National ESD Efforts in the Asia-Pacific"* is a UNESCO Bangkok effort. The proposed publication date is February 2008.

other countries to develop their own approaches to ESD and form a basis for monitoring and assessing national progress during the Decade and beyond.

Monitoring and Assessing Progress towards National ESD Goals

Monitoring and assessment of progress is an essential activity throughout the Decade. Monitoring change towards ESD goals is a key strategy for ascertaining the impact of the DESD which will help to:

- ensure the ongoing relevance and effectiveness of ESD policies, programmes and activities during the DESD (UNESCO Asia and Pacific Regional Bureau for Education, 2005b);
- guide planning and re-orienting of programmes;
- assist stakeholders to better understand progress in ESD (UNESCO, 2005b); and
- improve decision-making capabilities and the ability to take meaningful action during the Decade.

Monitoring and assessment also offer an important opportunity to engage stakeholders in the DESD initiative. According to the *Asia-Pacific Regional Strategy for ESD*, a key monitoring and evaluation challenge during the DESD will be the identification of suitable, relevant and measurable indicators at every level. From national priorities, Member States can develop their ESD goals and targets and apply ESD indicators for diverse purposes in their own national contexts.

With the vast amount of diversity in the Asia-Pacific, "one-size" indicators will not "fit all" national goals and priorities in the region. Early involvement of stakeholders and establishing agreed-upon goals will be vital to addressing this indicator development challenge. In addition, developing national action plans for the DESD or similar strategies will assist in communicating ESD goals throughout the country. Effective processes and clear stakeholder roles and responsibilities will also help in defining suitable targets and indicators.

To promote stakeholder involvement in ESD monitoring, the following section considers the important coordinating role UNESCO National Commissions and UNESCO National Offices and Cluster Offices can play in the ESD indicator development process.

© UNESCO / H. Schmid

© UNITAR / A. Yasui

© UNITAR / S. Shaposhnikov

© UNITAR / S. Shaposhnikov

Prof. Shuichi Nakayama. Representative, Japanese National Commission for UNESCO. (Left)

Ms. Dilnoza Kurbanova. Senior Expert, National Commission of Uzbekistan for UNESCO. (Middle)

Mr. Shui-kee Chu. Former Head, UNESCO Hanoi Office. (Right)

5

UNESCO National Commissions and UNESCO Offices: Role in Monitoring and Assessment during the DESD

Ensuring that ESD policies, programmes and activities remain relevant and address national priorities during the DESD requires the implementation of an effective monitoring system. As key partners at the national level, UNESCO National Commissions and UNESCO Offices are the initiators and catalysts assisting to advance implementation of the Decade (UNESCO, 2005c). Therefore, these groups are in a vital position to promote and support national efforts to identify national ESD goals and priorities, establish national action plans and develop and implement national ESD indicators. Reflective of diverse national needs and experiences, the specific activities undertaken and roles played by National Commissions and UNESCO Offices in monitoring and assessment during the DESD will differ across the Asia-Pacific region.

As efforts to develop ESD indicators begin, National Commissions and UNESCO Offices are defining various actions and responsibilities in the development process. The Asia-Pacific DESD Indicators Project asked the Guidelines Review Team participants to clarify and describe the role National Commissions play or will play in developing national ESD indicators. The following five distinct roles were identified (see Box 12, 13, 14 and 15 for a summary of correspondence or Appendix 5 for full responses):

i. **Nodal Agency:** plays a pro-active role in developing national ESD indicators in consultation with relevant governmental departments and ministries, as well as with other stakeholders.

ii. **Liaising Body:** disseminates information and ideas on national ESD indicator development to the Ministry of Education, relevant governmental departments and ministries and other stakeholders. In addition, provides consultation and direction on indicator development.

iii. **Coordinating Body (government):** coordinates the development of national ESD indicators among national DESD committees, working groups, UNESCO Offices and/or relevant governmental departments and ministries.

iv. **Coordinating Body (stakeholders):** coordinates the development of national ESD indicators among stakeholders implementing ESD programmes (government and non-governmental agencies, media, the private sector, etc.)

v. **Supporter of Learning:** welcomes the sharing of experiences with other national ESD indicator initiatives to promote learning and the successful development and use of indicators during the DESD.

The role of UNESCO Offices came under discussion during the "Workshop for the Development of Asia-Pacific National DESD Monitoring Systems" held in Bangkok, Thailand, in April 2007. Participants noted that UNESCO Offices will play different roles based on their proximity. For example, a National or Cluster Office located in-country may play a more central role than a Cluster Office located in a neighboring country.

Coordinating the ESD Indicator Development Process

Most National Commissions and UNESCO Offices will play a coordinating role in the development of national ESD indicators and monitoring systems. Although this role will vary throughout the region, in general, it assists with the following activities (UNESCO, 2005c):

- Coordinating government agencies, NGOs and other organisations to work in partnership for the development, implementation and revision of DESD indicators;
- Linking UNESCO programmes to simultaneous ESD indicator efforts undertaken by national institutions, NGOs and civil society;
- Advocating and providing advice on the development, implementation and revision of ESD indicators;
- Informing governments about the importance of ESD indicators and their continual revision; and
- Strengthening cooperation towards the development of innovative policies and programmes related to ESD indicators at the regional level.

National DESD Committees

In many countries, UNESCO National Commissions will work through their governments to establish national committees on ESD to head the promotion and implementation of the Decade at the national level (UNESCO, 2005c). In some countries, national DESD committees are already engaged in developing national priorities and goals for ESD, advocating for the Decade, and designing and implementing national ESD strategies and programmes.

Box 12: The Role of the Indian National Commission for Co-operation with UNESCO

- Central agency for the development of national ESD indicators
- Pro-active role as consultants for education departments and ministries
- Recommend and formulate policies to support the development of indicators
- Develop a DESD National Action Plan

(Sharma, 2006)

Box 13: The Role of the Sri Lanka National Commission for UNESCO

- Consultation, advice and guidance to the Ministry of Education and others
- Dissemination of information through organized meetings, workshops or discussions on how to develop and implement ESD indicators
- Submission of indicator-related project proposals
- Provision of technical specialists

(Chandith, 2006a)

Box 14: Role of the National Commission of Uzbekistan for UNESCO

- Coordination of all activities related to ESD indicators
- Identification and analysis of stakeholder and partner needs related to ESD indicators
- Activities, projects, meetings and events that promote the DESD and the importance of monitoring progress

(Kurbanova, 2006a)

Box 15: Role of the Palau National Commission for UNESCO

- Coordinate with the Ministries of Education in the region to implement ESD indicators
- Encourage the involvement and cooperation of all stakeholders to develop ESD indicators at the national level
- Promote and support partnerships and networks

(Alexander, 2006b)

National DESD committees will also work with key stakeholders, as members of the committee or as consulting groups, to increase national participation and ownership when developing indicators and monitoring systems (see Box 28, p. 40 for potential stakeholders to consider in this process). As noted earlier, the roles played and processes undertaken to develop indicators and monitoring systems will vary throughout the region, and should reflect the diverse priorities and experiences within each country. To meet diverse national priorities, some of the general activities that national DESD committees can carry out when developing an ESD indicator framework will most likely include:

- Liaising with UNESCO National Commissions to coordinate government agencies, NGOs and other organisations to work in partnership for the development, implementation and revision of ESD indicators;
- Identifying inter-linkages with monitoring and reporting mechanisms from other initiatives, such as the Millennium Development Goals (MDGs) and Education for All (EFA);
- Identifying and supporting stakeholder needs in relation to the development, implementation and revision of monitoring and reporting mechanisms;
- Collaborating with stakeholders to develop, implement and revise ESD indicators based on national goals and priorities;
- Collaborating with stakeholders to develop, implement and revise methods for data collection and reporting for ESD;
- Coordinating the monitoring and reporting of ESD at the national level; and
- Sharing experiences and learning about ESD indicators through partnerships and networks.

Countries that choose not to establish a formal national DESD committee may wish to carry out the above activities through the National Commission or designated working groups on ESD. Regardless of the working body who develops the national ESD indicator framework, advancing knowledge and understanding about ESD indicators contributes, not only to improving stakeholders' ability to monitor and assess progress during the Decade, but also engages a wider audience in the programmes and activities at the national level that seek to transform society towards change for a sustainable future.

Monitoring and Assessment During the DESD – Key Points from Sections 3, 4 and 5

- Monitoring and evaluation has been identified as one of seven key strategies for moving the DESD forward. The IIS has called for the development of relevant and suitable indicators at all levels.
- UNESCO Member States from across the Asia-Pacific region are holding DESD launches, workshops and symposiums, among other activities, in order to introduce and collaborate on efforts for the Decade. In addition, they are in the process of identifying goals and priorities for the DESD and implementing programmes.
- Defining clear goals and priorities for the Decade is a key initial effort that will assist in developing meaningful and relevant indicators.
- Differing contexts, needs and experiences are a reality in the Asia-Pacific region. This diversity must be respected and accommodated when developing ESD indicators. 'One-size' indicators will not 'fit all' countries in the region.
- Monitoring and assessment during the DESD assists to ensure ongoing relevance and effectiveness of ESD efforts, guide planning and re-orienting of DESD programmes, increase understanding of ESD progress, and improve decision-making and action for the DESD. It also offers an opportunity to engage stakeholders in DESD activities.
- UNESCO National Commissions and UNESCO Offices can promote and support national efforts to develop and implement ESD indicators by playing a role in stakeholder coordination and knowledge sharing. Coordinating indicator development involves activities such as:
  - linking stakeholders and information;
  - providing advice to stakeholders; and
  - informing and influencing government agencies about the importance of ESD indicators.
- A broad range of stakeholders will be crucial to the development of a national monitoring system.
- The process for developing national ESD indicators and monitoring systems will differ across the region, including the roles and responsibilities of stakeholders.

© UNESCO / A. Yokoi

© UNESCO / A. Yokoi

© UNITAR / A. Yasui (all photos unless otherwise noted)

6
What is an Indicator?

Indicators are commonly used tools in monitoring and assessment. When constructed effectively, indicators have the capacity to provide stakeholders at all levels with valuable information about ESD policies, programmes and activities (Gallopin, 1997). Relevant and meaningful information is key to improving decision-making and actions during the DESD. Indicator development processes also provide UNESCO Member States with an important avenue through which to engage stakeholders in the DESD and catalyze further learning about ESD and ESD indicators. For indicators to play a role in building knowledge about ESD, it is important for stakeholders engaged in indicator development to have a clear understanding of what constitutes an *effective* indicator in their national context. This section identifies and clarifies what ESD indicators are, what information they can provide and why they are useful.

Defining ESD Indicators

Indicators are applied in many different fields and contexts. This means that interpretation of the word 'indicator' varies depending on the expertise and background of stakeholders. As a result, many different terms are used to discuss indicators (see Box 16). Since stakeholders from many different sectors and levels will likely be involved in ESD indicator development, establishing a shared interpretation of ESD indicators and the related terminology will be crucial.

Recent experiences with ESD indicators can help navigate the way through the potentially complex territory of indicator development. The UNECE Expert Group on ESD Indicators (UNECE EG) defines indicators as having "the ability to point to an issue or condition" (UNECE EG, 2005, p. 1). Indicators show how well a system is working and, if there is a problem, help to determine what decisions to make in order to address the issue (UNECE EG, 2005). In particular, the value of an indicator framework lies in its ability to show information about a system that is not always visible or easily measured (Eder, 2004).

Indicators represent a desired quality, characteristic or property of a system that may vary or change over time. Rather than directly identifying the desired attribute, however, an indicator shows information about an associated or related feature using a specific measurement or observable procedure (Gallopin, 1997). For instance, the indicator, '*improved understanding of ESD issues among secondary education students*,' might be desired during the DESD. However, as learning is not a tangible concept, the learning that takes place cannot actually be seen. In this case, indicators can be used to show improvements in students' knowledge and skills (Eder, 2004). The indicator above could be assessed through data taken from either exams or a variety of classroom activities.

Indicators can also be used to assess learning in society. Progress during the DESD relates to invisible attributes such as the alignment of thinking or values in a society towards sustainability, as well as an increase in awareness and understanding about sustainable development. Ultimately, determining what information to measure or observe through indicators depends on the clarity of the ESD goals and targets defined, as well as the reason(s) for undertaking the assessment and the information donors and other stakeholders wish to know.

Why Use Indicators?

Indicators can serve a wide range of important functions. How UNESCO Member States in the Asia-Pacific region choose to use indicators will often coincide with their national priorities, goals and monitoring needs and experiences. ESD indicator functions include, but are not limited to:

- guiding planning and decision-making;
- acting as a warning system or providing clues about the status of a system;
- accounting for the effectiveness of resources that have been spent on a programme or policy;
- determining the performance of individuals or groups over time;
- comparing progress across a region;
- communicating information about monitoring and assessment of progress; and
- promoting learning.

(Gallopin, 1997; Rode, 2006; UNDSD, 2006; UNECE EG, 2005)

Member States may find that more than one indicator function is appropriate for their monitoring needs. For example, some countries might use indicators to *determine performance targets, promote learning and guide practice*. Box 17 highlights a selection of diverse indicator approaches used in practice which serve various functions. Indicators developed across the Asia-Pacific region are expected to vary according to the approach, or combination of approaches, undertaken by a country.

Box 16: Clarifying Indicator Terms

Ambiguities exist with the general terminology used to discuss indicators. Being aware of the different terms used for an "indicator" can, therefore, assist communication with stakeholders from different sectors. Indicators can be referred to as a:

- Variable
- Measure
- Proxy
- Parameter
- Statistical Measure
- Value
- Meter or measuring instrument
- Fraction
- Something
- Piece of information
- Quantity
- Sign

(Gallopin, 1997)

What Information Can Indicators Provide?

The information provided by indicators about progress towards ESD goals and priorities is crucial to identifying the strengths of a programme. It also provides the first step towards addressing any unwelcome outcomes. ESD indicators consider information related to change in a country's ESD policies, programmes and actions as well as the results of their implementation. These changes and results can be related to the existence of certain efforts (identified through measurable data) or their quality (identified through observational data) (Gallopin, 1997).

Measurable data consists of simple numbers and/or ratios and tends to communicate the *presence* or *status* of policies and programmes. Indicators that are based on measurable data are called 'quantitative indicators.' These indicators tend to be the most commonly used in practice. An example of a quantitative indicator is:

- *% of primary school teachers who received pre-service training in ESD-related content and pedagogy*

Box 17: Various Indicator Approaches

- "Desirable indicators are variables that summarize or otherwise simplify relevant information, make visible or perceptible phenomena of interest and quantify, measure and communicate relevant information" (Gallopin, 1997, p.15).
- Sustainable development indicators not only track progress, but also provide the foundation for the development of performance targets (UNDSD, 2006).
- Educational indicators play a central role in today's accountability systems because they focus attention on results such as school performance on standard-driven tests (Lashway, 2001).
- "If ESD is to emerge-through-practice throughout the education system…can we build an approach to 'indicators' that promotes *reflection on practice* rather than simply hitting targets?" (Vare, 2006a, p. 10)
- The UNECE EG wanted to promote higher level learning by encouraging institutions and learners to set their own indicators and providing opportunities for respondents to state what they think their achievements will be during the next reporting period (Vare, 2006b). "The Experts stressed that the resulted indicators and the reporting mechanism are not meant 'to compare' but rather to 'learn and develop' towards a 'learning region'" (UNECE CEP, 2006a, p. 2).

On the other hand, observational data is usually based on observations or descriptions and tends to communicate the *quality*, *details* or *nature* of a policy or programme. Indicators that are based on observational data are called 'qualitative indicators.' An example of a qualitative indicator is[2]:

- *Pre-service training for primary school teachers improves the capacity of teachers to use ESD-related content and pedagogy*

2 Indicators can be expressed in a number of ways in addition to the traditional indicator statements shown here. For example, the UNECE EG subdivided their indicator statements into sets of sub-indicator questions. For additional examples of ESD indicators see Section 7A on "Differentiating ESD Indicator Types."

Meaningful indicators are chosen depending on the need for quantitative and/or qualitative data. For instance, to make *comparisons* across countries it is more appropriate to use indicators requiring quantitative data such as numbers or ratios because they are easy to compare. On the other hand, when using indicators for the purpose of *learning*, it may be appropriate to use indicators requiring qualitative data such as descriptions or observations which are more likely to provide information that has greater meaning. Both quantitative and qualitative indicators provide valuable information that can be considered alongside different indicator types. UNESCO Member States may, therefore, wish to consider the use of both qualitative and quantitative indicators for monitoring and assessing the progress of ESD.

How do Different Indicators Relate?

Indicators can be defined by a diverse set of characteristics, including indicator *specificity, data type, purpose, focus* and *context*. Box 18 shows how these characteristics relate by placing them on an Indicator Spectrum where detailed, quantitative indicators are found on one end of the spectrum and, more general, qualitative indicators are found on the other end.

ESD stakeholders may want to be aware that the dominant use of detailed, quantitative indicators in practice, rather than more general, qualitative indicators has sparked an important debate within the ESD indicator community. Experts have noted that advantages exist in using indicators from both sides of the spectrum to monitor a wide range of needs throughout the Decade. For example, where a quantitative indicator might often apply to a larger, more generic context such as the national level, a qualitative indicator might apply to a more localized area, such as a province or town within a country (see Appendix 9 for further details about this debate).

Experience with ESD indicators is limited worldwide. It is a new area that will not only build on the indicator experiences of fields such as education and sustainable development and initiatives such as EFA and the MDGs, but potentially innovate indicator development in general. Determining appropriate ESD indicators will be a challenge for ESD stakeholders at all levels until more is understood in this area. Since indicators can play a key role in building knowledge about ESD, it is important that Member States in the Asia-Pacific make an effort to share experiences and lessons learned about effective indicators for ESD. The review of different indicator types in the next section seeks to assist Member States in advancing this understanding and raise awareness of the indicator options available for developing a national ESD indicator framework.

Box 18: Spectrum of Indicator Characteristics

Indicator Characteristics:	← Indicator Spectrum →	
Specificity:	Detailed	General
Data:	Quantitative	Qualitative
Purpose:	Prescriptive	Indicative
Focus:	Performance	Process
Context:	Generic	Localised

(Adapted from Sterling, 2006a)

What is an Indicator? – Key Points from Section 6

- Indicators will assist in assessing progress and decision-making during the DESD.
- Indicators are a valuable part of monitoring and assessment as they show information about attributes that are not always visible or easily measurable.
- Stakeholders from across sectors will have a diverse understanding of indicators. Developing a common understanding of indicator terminology is a crucial part of the ESD indicator development process.
- *Quantitative indicators* are based on measurable data in the form of numbers and ratios.
- *Qualitative indicators* are based on observational data in the form of descriptions.
- Both quantitative and qualitative indicators provide valuable information that can be considered alongside the different types of indicators available.
- Indicators have many different functions. Effective application of an indicator requires stakeholders to consider what type of data is needed (quantitative or qualitative) when developing the indicator at hand.
- UNESCO Member States within the Asia-Pacific region can develop indicators with different functions depending on their national priorities, goals and monitoring needs and experiences.
- There are different ESD indicator approaches. Advantages exist for using indicators from both sides of the Indicator Spectrum (see Box 18 and Appendix 9).
- A need exists for Member States to build on and learn from the experiences of current ESD indicator initiatives and monitoring efforts for related initiatives such as EFA and the MDGs.

© UNITAR / A. Yasui

© UNESCO / A. Yokoi

© UNITAR / S. Shaposhnikov

© UNESCO / A. Yokoi

© UNITAR / A. Yasui (all photos unless otherwise noted)

7

Using National ESD Indicators to Assess Progress During the DESD

UNESCO Member States can use different indicator approaches to serve a variety of functions and assess different sorts of information. Utilizing a variety of approaches will require the use of different indicator types. Developing an effective national indicator framework requires a process of understanding and selecting the appropriate indicator types that meet national monitoring and assessment needs. Having clear national goals and targets for ESD will greatly assist with this task. Also needed is a process where stakeholders engaged in developing a national indicator framework (see Box 28, p. 40) can exchange ideas about assessment approaches, monitoring functions and corresponding indicator types. To assist with discussion on these important topics, this section is presented in two parts:

A. **Distinguishing ESD Indicator Types:** provides a brief description of the different indicator types available and highlights the different functions they serve. Several examples are provided demonstrating how each indicator type might be used in practice.[3]

B. **Choosing Appropriate ESD Indicator Types for a National Framework:** provides a table that consolidates the key elements of each indicator type and addresses key questions to assist reflection on the appropriate choice of indicators for a national framework. Criteria for selecting indicators is also introduced.

3 The indicator examples provided in this section are intended to guide understanding of the different indicator types available for ESD. UNESCO Member States will develop and identify their own indicators for ESD based on their own national goals and priorities for the Decade.

A. Distinguishing ESD Indicator Types

Many different types of indicators are available to monitor and assess progress during the DESD. UNESCO Member States in the Asia-Pacific region will find that the information and lessons learned from using several indicator types in their national monitoring system will be much more meaningful than the information gathered from a single indicator type on its own (UNECE CEP, 2006a). For this reason, it is expected that Member States will use a number of different indicator types to assess progress throughout the Decade. Therefore, learning about and clarifying the different types of indicators available for ESD can assist stakeholders in determining which indicators are most appropriate to assess progress towards national goals and priorities.

It is useful to think of ESD indicator types as belonging to three ESD indicator categories:

i. **Status Indicators:** assess variables that determine the position or standing of ESD in a country. *Baseline* indicator types belong to this category.

ii. **Facilitative Indicators:** assess variables that assist, support or encourage engagement with ESD. *Context*, *process* and *learning* indicator types belong to this category.

iii. **Effect Indicators:** assess variables relating to initial, medium and long-term achievements during the DESD. *Output*, *outcome*, *impact* and *performance* indicators belong to this category.

These categories can assist Member States in thinking about the various stages of ESD progress, for example, the ESD starting point, the increase in the number of activities during the DESD, the achievements and progress made. In this sense, each category of indicators could be considered for assessing progress at different points throughout the Decade.

Indicator types differ in *why* they are used and, therefore, *what* they assess. In practice, distinction can be challenging because many indicator types overlap in scope and are often described using a number of different names. To illustrate how different indicator types might be used in practice, Table 1 presents the different types of indicators being used to assess a common goal (*integrate ESD into formal education*) and target (*provide pre-service training in ESD to all new teachers by 2010*). Using ESD goals and specific targets to guide indicator development assists Member States by ensuring that indicators are relevant to national DESD goals and priorities (AIMS-UIS, 2006).

Table 1: Indicator Types Using Teacher Education as an Example

	Indicator Type	Function	Indicator Example
Status	Baseline	To identify the status of the overall ESD picture	*% of new teachers currently receiving pre-service training in ESD*
Facilitative	Context	To identify the existence of ESD support systems	*National education policy exists that requires pre-service teacher education courses to provide training in ESD*
	Process	To identify the existence of ESD processes and activities	*All pre-service teacher education courses provide training on ESD-related content and pedagogy*
	Learning	To promote learning and reflection on ESD	*Lessons learned in the process of training pre-service teachers in ESD are captured*
Effect	Output	To assess outputs such as tools and learning resources, and the immediate results of an activity	*% of new teachers certified as having received pre-service training in ESD*
	Outcome	To assess outcomes related to changes or improvements that result from ESD efforts	*% of new teachers using ESD-related content and pedagogy in the classroom*
	Impact	To assess impacts that result from ESD efforts	*Learners use sustainable practices in daily life*
	Performance	To assess the change in the status of the overall ESD picture in a region or country	*Increase in the number of new teachers receiving pre-service training*

(Tilbury & Janousek, 2006)

The following information aims to clarify the differences between each indicator type by explaining *what they can be used to identify*; *what questions they can assist to answer*; and *how they have been used in practice*. In addition, a selection of examples is included in Boxes 19-26 to assist stakeholders in learning about each type of indicator. It is important to note that all sample indicators correspond to a diverse range of goals and targets. Member States will want to define their own national goals and targets for ESD prior to developing their indicators.

Status Indicators

Baseline Indicators

- Baseline indicators are used to identify the status of the overall ESD picture. Considered as a group, these indicators provide information about the initial or existing position of ESD within a country or region.
- They assist stakeholders to answer the questions: *Where does ESD stand?* and *What is the ESD starting point?*
- Since baseline indicators provide information on the existing position of ESD, they provide a useful basis from which to define DESD goals or develop impact indicators (Sollart, n.d.) For more detail on impact indicators see the discussion on "Effect Indicators" below.

Facilitative Indicators

Context Indicators

- Context indicators are used to identify the existence of a supportive ESD setting or context. These indicators provide information about whether a country's governance mechanisms, institutional support systems and public opinions are assisting to embed ESD within the country (Rode, 2006).
- They assist stakeholders in answering the question: *Is everything in place that needs to be in order to implement and integrate ESD effectively?*
- The UNECE EG developed what are called *checklist indicators* for measuring the implementation and effectiveness of their Regional Strategy for ESD. Checklist indicators can be considered a subset of context indicators. They are defined by the EG as those indicators that provide information on initial policy, legislation, regulatory and governance measures taken by government authorities in order to implement the Strategy (UNECE EG, 2005).

Process Indicators

- Process indicators are used to identify the existence of ESD processes, activities and opportunities. These indicators provide information about the level of engagement in ESD within a country or region.
- They assist stakeholders to answer the questions: *Who is learning about ESD? What audiences or sectors are being exposed to ESD?* or alternatively, *Who is not learning about ESD?*
- The UNECE EG developed *input indicators* in order to provide information about the broader spectrum of activities taking place as part of the implementation

Box 19: Baseline Indicator Examples

- Types of educational policies for ESD that exist
- % of NGO-managed non-formal education programmes that include ESD concepts and practice
- % of schools integrating ESD into primary-level curricula
- No. of ESD resource books available to high school teachers
- No. of postgraduate institutions with ESD-focused research programmes
- % of private companies engaged in corporate social responsibility initiatives

Box 20: Context Indicator Examples

- A national ESD/SD strategy exists*
- A formal structure exists for interdepartmental co-operation at the national level on issues of ESD*
- ESD policy and regulatory documents adequately address the need for ESD in non-formal education*
- A public budget and/or economic incentives are available for ESD teaching resources*
- National mandatory policy exists requiring pre-service teacher education courses to provide training in ESD
- National business councils promote the importance of SD among the private sector

**Adapted from UNECE CEP (2006b)*

of the UNECE Strategy for ESD. Input indicators can be considered a subset of process indicators. Some examples include, *the ratio of educators who received training on ESD issues* and *the number of businesses becoming involved in ESD* (UNECE EG, 2005).

It is important to note that process indicators can be challenging to define and are often considered to have different scopes for assessment. For instance, Rode (2006) considers process indicators as the instruments that control and enhance educational processes; for example, the existence of steering groups in schools to implement innovations, or support structures such as teacher training and research facilities for evaluation. On the other hand, the OECD also considers process indicators to provide information on educational, financial and human resources, participation and decision-making processes (Bottani, 1996; Walberg & Zhang, 1998).

Learning Indicators

- Learning indicators are used to identify learning and knowledge built during the development, implementation and assessment of ESD efforts.
- A learning indicator requires a process of data provision and collection that stimulates learning beyond the comprehension of the data itself (Vare, 2006c). There are at least two areas where this type of learning can occur: learning through ESD efforts and learning through the application of the indicators themselves.

1. Learning through ESD efforts, including the indicator development process:
   - In particular, collaborative learning among stakeholders about ESD programmes and indicators during development, implementation, feedback and revision processes (see the key elements of the ESD indicator development process in Section 8).
   - Learning that takes place during the indicator development process has been argued to be equivalent to *learning about how to achieve the target* (Vare, 2006b).
   - Reviewing indicators will likely involve evaluation, learning and adaptation, allowing for the integration of new ideas and priorities being reflected in subsequent indicators and programmes (Pinter et al., 2005).
   - These indicators assist stakeholders in answering the following questions: *How do stakeholders know that an increased understanding of ESD programmes and indicators develops? How can stakeholders work productively to build ownership and commitment?* and *Are stakeholders improving their ability to assess ESD progress?*

Box 21: Process Indicator Examples

- ESD research and development activities exist for all areas of learning
- Multiple stakeholders from across sectors participate in the development of national ESD action plans
- Educators in conservation-related NGOs receive training workshops on ESD-related content and pedagogy
- % of national level companies that include an ESD component in their on-the-job training

2. Learning through the application of the indicators themselves:
   - In particular, learning that results from allotting space for qualitative responses in tables, rather than plugging data into exhaustive lists when reporting. Providing ample space for qualitative responses encourages Member States to reflect on past challenges and progress, state what they think their achievements will be throughout the next reporting period and contribute suggestions that enhance the framework of indicators (Vare, 2006b).
   - The application of indicators may also raise consciousness in relation to the need for multi-stakeholder involvement at the policy and implementation levels (European ECO Forum, 2005).
   - These indicators assist stakeholders to answer the questions: *What does the data say about good practice in ESD? What can be done to improve the assessment of progress and achievements during the DESD?* and *How can stakeholder involvement in the ESD monitoring process be improved?*

Contributing to the UNECE EG discussions on ESD indicators, the ECO Forum suggested the following example of a learning indicator (Vare, 2006b, p.1):

> *"Evidence that groups (classes, community groups, work-based teams, etc.) have discussed and used to develop their own set of indicators on sustainable development."*

Box 22: Learning Indicator Examples

- ESD teaching resources encourage users to learn and build knowledge about ESD and indicators of progress
- ESD mechanisms for cooperation among all national and regional levels of government are periodically modified based on lessons learned
- Pre-service training institutions have shared their indicators of progress with stakeholders and incorporated feedback
- The National Business Council for SD has developed indicators of progress that promote learning

(Learning indicators work best with observational data. Leaving space for qualitative responses in reporting tables will be beneficial.)

Box 23: Output Indicator Examples

- No. of titles and copies produced of ESD materials for primary-level curricula*
- No. or % of community learning centres with ESD materials for educators*
- % of community educators certified to work in inter-cultural settings
- ESD research is supported through increased availability of case studies
- Existence of public forums for the community to become familiar with ESD
- Toolkits are available for integrating ESD-related activities into the private sector
- No. of sustainability networks for businesses

**Adapted from Chu (2006)*

Effect Indicators

Output Indicators

- Output indicators are used to assess ESD outputs such as products, resources and immediate results.
- Outputs are the products of a project or activity that do not normally have value in and of themselves but, rather, are important as tools for the achievement of outcomes and impacts (Fien et al., 2001). ESD outputs include ESD information kits for the media or support materials for schools and administrators.
- They assist stakeholders to answer the question: *What ESD tools and resources are available to stakeholders and societies to assist with the implementation and integration of ESD in a country or region?*

Outcome Indicators

- Outcome indicators are used to assess outcomes or the mid-term results related to changes in awareness or understanding from ESD efforts.
- Outcomes are the achievements or changes brought about by a programme, project or activity that provides a supportive context or infrastructure for longer-term impacts (Fien et al., 2001). ESD outcomes include increased levels of ESD awareness, as well as increased competencies relating to all disciplines and sectors.

Box 24: Outcome Indicator Examples

- New engineering graduates understand how to address climate change within their profession
- Increased understanding within the private sector of how to work with partnerships to accomplish sustainability goals
- Improved competencies of youth to stay away from unhealthy practices (e.g. drugs, unprotected intercourse, etc.)
- % new primary level teachers who use ESD-related pedagogy in the classroom
- % of new secondary level teachers who re-orient lessons toward ESD

- These indicators assist stakeholders to answer the questions: *Has there been an increase in awareness, understanding and skills for ESD?* and *Are new skills and knowledge being applied?*
- Diverse references have been made about outcome indicators in literature. For example, Rode (2006) considers outcome indicators to be those that provide information about the results and effects of education processes. On the other hand, Sollart (n.d.) considers learning outcome indicators to measure anticipated and unanticipated learning.

Impact Indicators

- Impact indicators are used to assess impacts that result from ESD efforts at the end of the DESD and beyond.
- Impacts are the longer-term cumulative effects of a programme, project or activity that embody lasting changes (Fien et al., 2001). ESD impacts might include increased numbers of women with university degrees, decreased income-inequality gaps for countries and improved human rights records. These are often effects that go beyond the desired outcomes of ESD efforts and the extent to which objectives have been implemented (Vare, 2006c).
- They assist stakeholders to answer the question: *What progress and achievements have occurred as a result of the DESD efforts in a region or the country?*
- These indicators show genuine ESD progress related to the organisational, societal and learner-oriented change for sustainable development. Impact indicators consider the longer-term achievements that result from increased awareness, understanding and changes in behavior.
- The UNECE EG uses effect indicators to provide information on the eventual impacts of the implementation of ESD relating to the values, attitudes and choices in favour of sustainable development (UNECE EG, 2005). These can also be considered to be equivalent to impact indicators.

Performance Indicators

- Performance indicators are used to assess the changing status of the overall ESD picture in a region or country. They are baseline indicators that are used at a later point in time to tell how the status of ESD has changed.
- They assist stakeholders to answer the question: *How are we doing?*
- The Australian NSW Environmental Education Council uses performance indicators to assess the effectiveness of their implementation plan and facilitate discussion among stakeholders about the extent to which environmental education is meeting identified needs. More specifically, some of the indicators highlighted in the plan include (New South Wales Council on EE, 2005):
  - *the number of new environmental education programmes and level of participation reported*; and
  - *the number of new professional development programmes that are based on the needs of environmental educators.*

Box 25: Impact Indicator Examples

- % of new residential developments that are sustainable communities
- A decrease in the environmental impact of industrial production processes
- Ratio of women to men entering managerial positions
- Primary education completion rate (boys/girls)
- Poverty gap ratio
- Knowledge and use of sustainability practices extend from NGO learning audiences to other community members

Box 26: Performance Indicator Examples

- Change in the number of existing educational policies for ESD
- Change in the % of NGO managed non-formal education programmes that include ESD content and practice
- Change in the % of schools across the country that are integrating curricula in ESD
- Change in the number of ESD resource books available to high school teachers
- Change in the number of postgraduate institutions with ESD- focused research programmes
- Change in the % of private companies engaged in corporate social responsibility initiatives

B. Choosing Appropriate ESD Indicator Types for a National Framework

Appropriate indicators are those that correspond to national ESD goals, priorities and efforts made during the Decade. However, with several indicator types available, it can be challenging to identify which types are most suitable for a specific set of needs. Table 2 is a tool developed to assist UNESCO Member States in learning about how specific indicator types can help in monitoring national ESD efforts[4]. The table addresses the following questions:

- Why would each indicator type be used?
- What does each indicator type assess?
- What are the benefits of using one indicator type over another?
- What are the limitations of each indicator type?

Once Member States identify what they want to assess and why, the benefits and limitations of different indicator types will be important considerations for determining suitable indicators for a national framework. While some indicator types provide quantitative, detailed data about ESD and are easy to collect and interpret data for, other indicators will provide qualitative, descriptive information and data collection and interpretation may require further innovation. It can also be beneficial for stakeholders involved in indicator development to recognize the benefits and limitations of resources, mandates and expertise for monitoring and assessment. Understanding these assets will assist in choosing an appropriate mix of indicators that will ensure a more representative assessment of ESD progress.

Defining Indicator Criteria

Identifying criteria for appropriate indicators will also help Member States identify the most meaningful set of indicators for a national framework. Many different criteria are available for assessing the suitability of indicators. Some criteria of interest for ESD might be:

- Is the indicator relevant to national goals and priorities?
- How well does the indicator suit the purposes of assessment?
- How easily is the indicator/data collected understood?
- Is the data collected reliable?
- Is the indicator comparable?
- What is the cost/benefit or convenience[5]/benefit ratio?

This criteria was adapted from the work undertaken by the UNECE EG (2005) and Huckle (2006a, b & c). See also Box 27 for an additional set of conditions for assessing the suitability of indicators for a national framework.

In order for indicators to be most useful, stakeholders can develop their own, shared interpretations of criteria by answering questions such as, *What does reliability mean?* and *What is good practice?* In addition, any resulting standards set for criteria through these discussions can guide the development and revision of indicators. It is also likely that criteria will change periodically as more is learned about ESD indicators, objectives for monitoring change and national contexts evolve.

Box 27: SMART Conditions[6]

Practitioners often develop indicators to meet the SMART conditions; that is, indicators which are:

- **Specific:** closely measure the result they are intended to measure
- **Measurable:** present no ambiguity as to what is being measured
- **Attainable:** require data that can be obtained at a reasonable cost
- **Realistic:** can be practically achieved and meet stakeholder expectations
- **Timely:** can be assessed frequently enough to inform progress and influence decisions

(UNESCO Asia and Pacific Regional Bureau for Education, 2006b)

4 Table 2 is not an indicator framework itself, but a tool to assist UNESCO Member States with understanding the differences between indicator types and choosing those that are most useful for their ESD monitoring needs.

5 Convenience in terms of development, monitoring, application, interpretation and adaptation.

6 The concept of SMART indicators is widely used and accepted by UNESCO and other organisations as a long-standing approach to indicator assessment. For general information on SMART indicator conditions, see information provided by the Global Environmental Facility (2006).

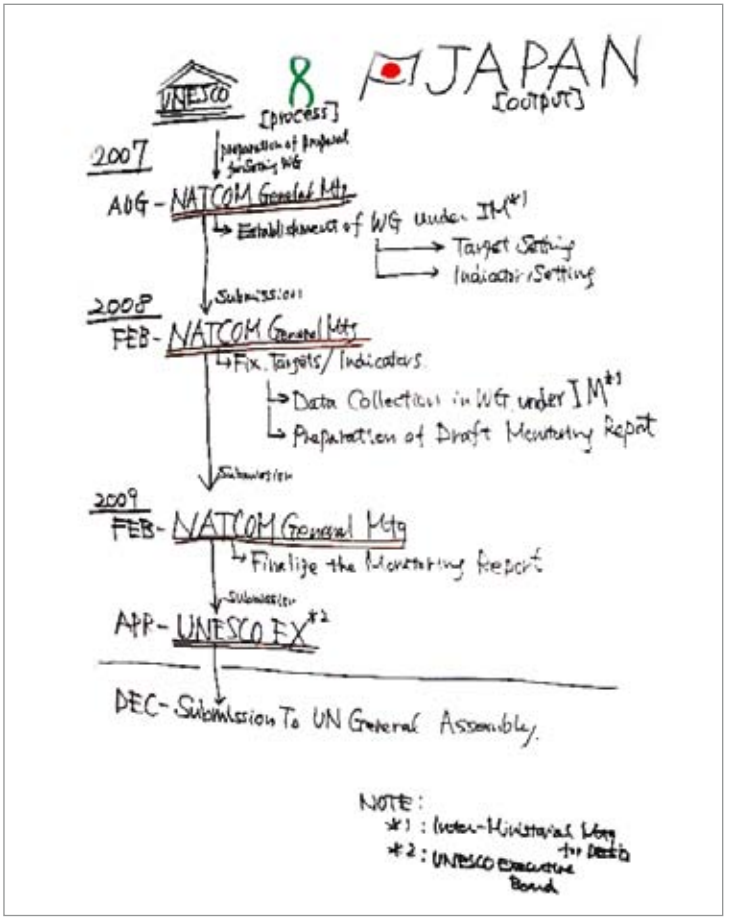
Table 2: Understanding the Differences between ESD Indicator Types

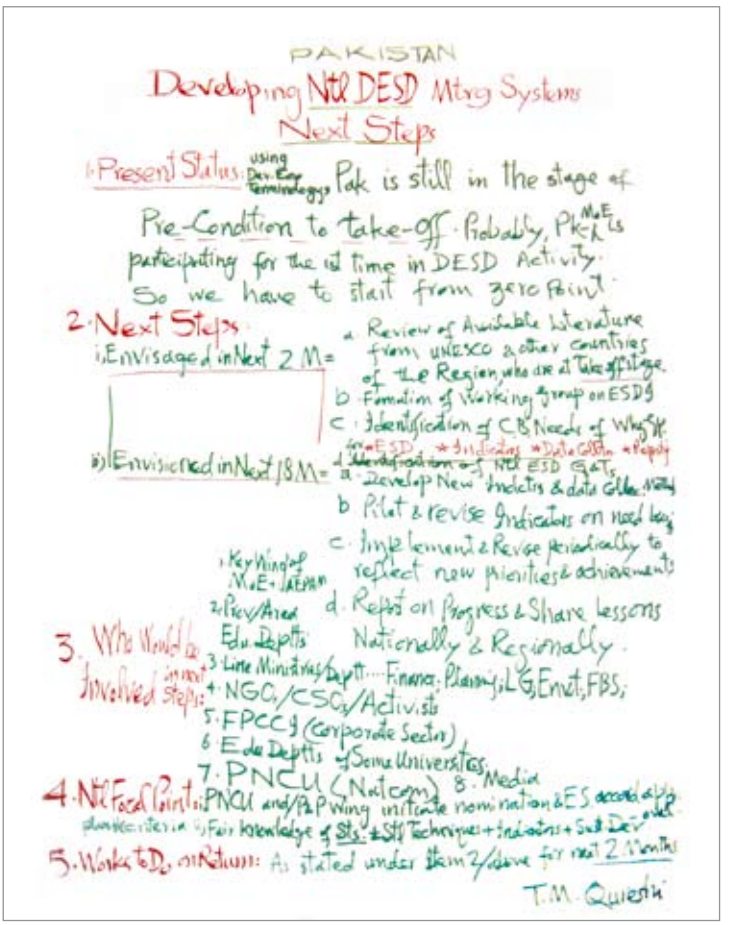
Categories:	Status Indicators*	Facilitative Indicators**		
Indicator Type:	Baseline	Context	Process	Learning
Why would this indicator type be used?	• To identify the current status of ESD in a region	• To identify the existence of ESD support systems	• To identify the existence of ESD processes, activities and opportunities	• To ensure the validity and improve effectiveness of ESD development, implementation and assessment • To promote learning and reflection on ESD progress
What ESD elements does this indicator type assess? (specifics depend on goal & target identified)	• The overall ESD picture	• ESD governance mechanisms • Institutional support systems • Public opinions on ESD	• ESD processes, activities and opportunities for engagement	• Learning during ESD development and assessment processes • Learning from the indicators themselves
What are the benefits of the indicator type?****	• Easy to identify areas that require improvement • Provides a practical way to design impact indicators • Helps to determine quantitative change relating to the overall ESD picture • Relatively simple to develop and monitor indicators as well as to collect, interpret, and communicate data • More likely to be comparable across regions	• Provides a 'snap shot' of the ESD governance and support structures in place • Easy to identify ESD support systems not in place • Relatively simple to develop and monitor indicators as well as to collect, interpret and communicate data; however, it can depend on the quantitative or qualitative nature of the indicator • Comparable at times, particularly if quantitative	• Provides a 'snap shot' of the ESD processes and activities • Easy to identify areas that require improvement • Comparable at times, particularly if quantitative	• Provides info on genuine ESD progress (quality) rather than existence or status • Promotes learning for change (or higher level learning) • Promotes multi-stakeholder involvement and ownership of processes • Contributes to the continual improvement of development and monitoring processes • Learning can be shared across regions through case studies
What are the limitations of the indicator type?	• Unable to provide relatively detailed information on ESD efforts • Potential for an indicator set to become too large and impractical, limiting the ability to communicate change *(large numbers of indicators are a challenge among all indicator types)* • Explicit criteria must be developed to define what constitutes the overall ESD picture	• Details about the quality of the support structures may be challenging to attain or qualify • Explicit criteria must be developed to define what constitutes a support structure	• Often difficult to define a process • Details about the quality of processes and approaches in place may be challenging to attain or qualify • Challenging to compare as it is context-specific • Explicit criteria must be developed to define what constitutes an ESD activity or process as well engagement with ESD	• Details about learning may be challenging to attain or qualify • This data has not been traditionally gathered and therefore may present some challenges • Explicit criteria must be developed to define what constitutes learning and reflection • Not comparable

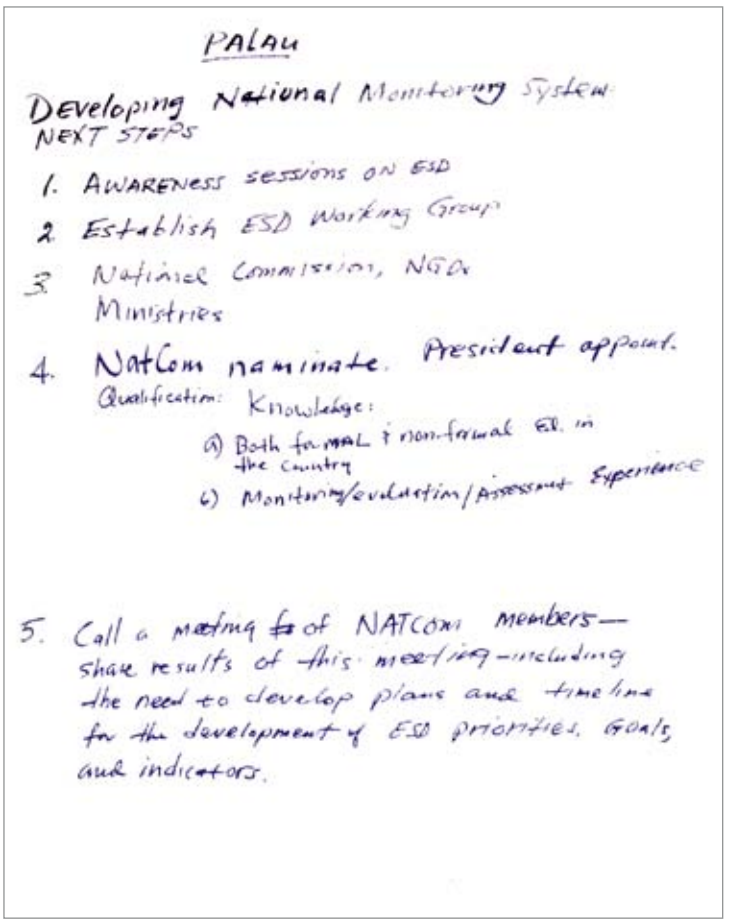
(Tilbury & Janousek, 2006)

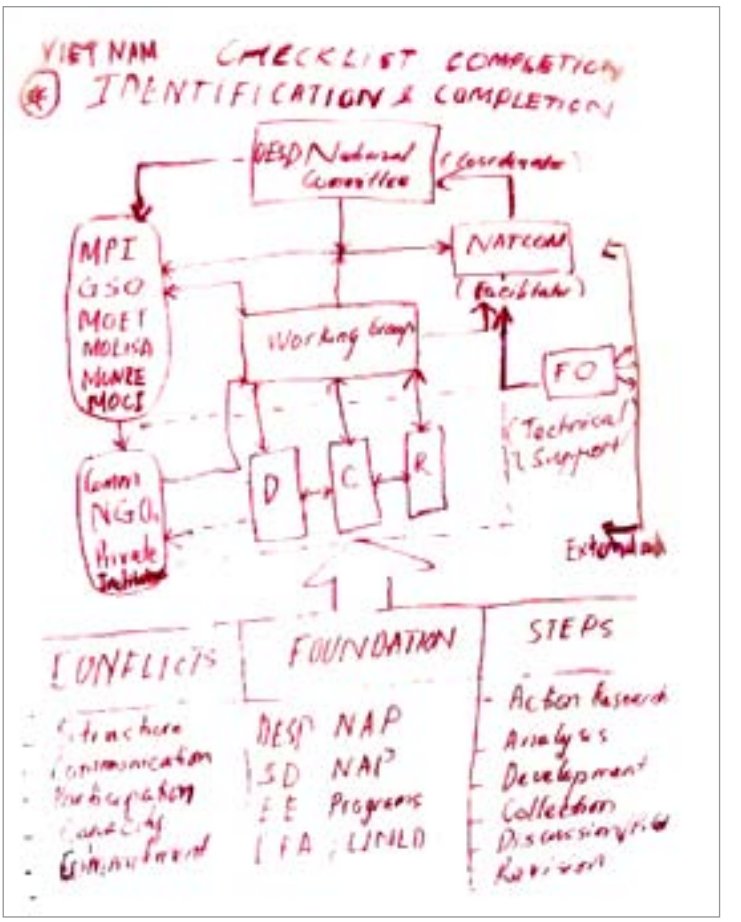
* *Status indicators assess variables that determine the position or status of ESD in a country.*
** *Facilitative indicators assess variables that assist, support or encourage engagement with ESD.*
*** *Effect indicators assess variables relating to initial, medium and long-term achievements during the DESD.*
**** *Benefits and limitations should be defined taking into account a country's DESD goals and priorities. Collaborative efforts should be made to clarify and modify as more is understood about ESD needs and good practice.*

	Effect Indicators***			
	Output	Outcome	Impact	Performance
	• To identify the existence of products, resources and tools that assist with implementation and integration of ESD	• To identify increased ESD awareness, understanding and skills	• To identify the existence of medium to long-term effects of ESD efforts that correspond to different ways of making decisions and taking action	• To identify change in the status of the overall ESD picture
	• ESD outputs often come in the form of materials such as tools and learning resources or show immediate results	• ESD outcomes or changes that result from ESD efforts provide the context for longer-term achievement • These assist persons to address SD in their daily lives so they are now capable of making change	• ESD impacts or lasting changes resulting from ESD efforts; goes beyond targets to show how goals are reached and decision-making and actions change	• Change in the overall ESD picture
	• Provides a 'snap shot' of ESD tools and resources available • Easy to identify areas that require attention • Simple to communicate and understand	• Provides a 'snap shot' of improvements resulting from ESD efforts • Simple to communicate and understand 'improvement' • Comparable when explicitly defined	• Provides a 'snap shot' of achievement in ESD (actions that are being taken as a result of efforts) • Relatively simple to communicate (for example when increase or decrease in numbers or ratios) • May be comparable depending on contexts	• Easy to identify areas that require improvement • Helps to determine quantitative change in the overall ESD picture relating to efforts undertaken • Relatively simple to develop and monitor indicators as well as to collect, interpret, and communicate data • More likely to be comparable across regions
	• Unable to provide information on details of the tools and resources • Explicit criteria must be developed to define what constitutes an ESD tool or resource • Challenging to compare due to context specific needs	• More work might be required to measure knowledge and competency • Improvement can be challenging to qualify • Explicit criteria must be developed to define the boundaries of improvement as well as make the indicators comparable	• Difficult to establish clear cause and effect relationships (i.e. how ESD leads to sustainable practices) • Difficult to identify source of change (i.e. whether results stem from increased awareness, understanding, capacity-building or legislation, for example) • Few programmes include funding for long-term assessment • Difficult to know when it is realistic to expect an impact to occur • Difficult to ensure that the impacts are lasting	• Unable to provide detailed information on ESD efforts • Potential for an indicator set to become too large and impractical, limiting the ability to communicate change *(large numbers of indicators are a challenge among all indicator types)* • Explicit criteria must be developed to define what constitutes the overall ESD picture









© UNESCO / A. Yokoi

8

The ESD Indicator Development Process

Information outlining the process for developing ESD indicators at the national level is limited. However, there are valuable lessons that can be drawn from existing ESD activities and indicators developed for related programmes and initiatives. For instance, processes undertaken to develop regional strategies, national strategies and national action plans for the DESD involve documented good practices that are relevant to any ESD process, including indicator development. In addition, tapping into and potentially linking with current indicator experiences can also assist with the development of indicators for ESD. Current initiatives within the region, such as the MDGs and EFA provide a basis for common linkages and experiences from which to learn.

The ESD indicator development process provides an important opportunity to invite and engage national stakeholders to participate in the DESD. Developing effective ESD indicators requires careful consideration of what constitutes a "good" process within each country. *Participatory* and *learning* processes, for example, provide practical assistance to stakeholders who will be engaged and committed to making long-lasting decisions and actions. These processes are key to cross-sectoral engagement, developing a greater collective understanding about indicators and encouraging the development and trial of innovative actions. Indeed, the development process is as important as the indicators themselves (Tilbury & Cooke, 2005). (See Appendix 10 for a set of key questions to guide a "good" ESD indicator development process.)

This section uses the experiences from national and regional ESD strategies to provide UNESCO Member States in the Asia-Pacific with practical advice about the ESD indicator development process. It begins by identifying some of the key elements of a "good" development process and outlines basic steps for developing national indicators for ESD. As indicator development is closely linked with programme goals, it will be beneficial for Member States to identify their national goals for ESD prior to developing their ESD indicators. As such, the key elements introduced in this section can also play an important role in the ESD goal-setting process.

Key Elements of the ESD Indicator Development Process

Multi-stakeholder Approach

UNESCO places a strong emphasis on partnerships, cooperation, networks and alliances for the development of ESD initiatives. Identifying and engaging stakeholders from across all sectors is considered key to advancing the monitoring and assessment of progress during the DESD (UNESCO, 2005b). Stakeholder engagement should begin during the preliminary stages of monitoring system development in order for monitoring and assessment to produce more effective results (Tilbury & Cooke, 2005). Therefore, a wide range of stakeholders can be included, not just in the application or interpretation of national ESD indicators, but also in the development of the indicators themselves. Even prior to indicator development, a multi-stakeholder approach can be an integral part of the goal-setting process.

ESD stakeholders include representatives from all groups that have a role to play in effective ESD monitoring and assessment. Box 28 identifies several groups of stakeholders that might be relevant to the ESD indicator development process in the Asia-Pacific region.

Box 28: Potential Stakeholders to Involve in the Development of National ESD Indicators and Monitoring Systems:

- National DESD committees and organisations
- Ministry of Education, Environment, Science, Culture and other relevant departments and ministries at the national and state levels
- Bureau of Statistics
- Non-governmental agencies
- Education institutions at all levels
- Private sector representatives
- Media representatives
- Experts in ESD and/or M&E
- Individuals and institutions
- UNESCO National Commissions and UNESCO Offices (see Section 5)

Successful development, implementation and revision of ESD indicators during the DESD requires long-term *input*, *commitment* and *participation* from these groups (Tilbury & Cooke, 2005). Multi-stakeholder processes are an important way of recognizing diverse expertise and knowledge. In addition, actively engaging multiple stakeholders ensures greater ownership and commitment toward the indicators, particularly when the development process goes beyond simply consulting stakeholders and involves them in decision-making (Tilbury & Cooke, 2005).

Participatory Approach

Participation can take many forms which involve stakeholders to varying degrees, ranging from *consultation* and *consensus-building* to *decision-making, risk-sharing* and *partnerships*. In particular, participation in decision-making will incorporate and increase the value of diverse knowledge and experiences for ESD and indicators. Decisions made and indicators developed are then based on the knowledge of the group rather than on decisions from an external expert or uninformed body (Tilbury & Cooke, 2005).

In addition, through participation stakeholders are often able develop confidence and build skills that assist in making informed decisions about indicators. Stakeholders cannot be expected to engage and commit to the development of indicators when they are only given information. Instead, participating in a collaborative learning process that provides opportunities to increase knowledge, skills and the ability to be involved in decision-making about ESD indicators is more likely to be successful. A participatory learning approach has more potential to increase stakeholder commitment to the success of an ESD indicator framework by allowing those involved to take control of the indicator development process and become responsible for its outcomes (Tilbury & Cooke, 2005). Box 29 describes how active participation in decision-making might take place.

Bottom-Up and Top-Down Approach

Both bottom-up and top-down approaches have a role to play in the ESD indicator development process. A top-down approach involves management or leadership that guides stakeholders in the strategic planning of indicators and inclusion of ESD components such as envisioning, critical and reflective thinking, participation, partnership and systemic thinking. This form of guidance aims to produce a clear, organized pathway toward an agreed upon vision or goal that identifies roles and responsibilities for different stakeholders. However, the top-down approach has one crucial limit; it does not always result in ownership by all stakeholders (S. Sterling, personal communication, 2005). Therefore, a bottom-up approach is also needed.

Box 29: How Does Participation in Decision-making Occur?

- Actively involving participants in building knowledge through dialogue, generally in smaller groups
- Stimulating dialogue that encourages reflection on diverse participant perspectives and values
- Developing confidence among participants to share knowledge, negotiate, solve problems and provide leadership
- Empowering participants to contribute to decision-making

(Adapted from Tilbury & Cooke, 2005, p. 42)

A bottom-up approach is characterized as being shaped, owned and enacted by the stakeholders themselves (Sterling, 1996). Through a bottom-up approach, Asia-Pacific stakeholders will be at the centre of the process making key decisions that advance the development of ESD indicators (in addition to ESD goals and targets). Working from the bottom-up encourages dialogue, new working relationships and partnerships that can go beyond the ESD indicator development process. Facilitation, rather than leadership or management, then becomes the central role played by the lead agency or coordinating group (Sterling, 1996).

Facilitative Approach

The implementation of multi-stakeholder participation in decision-making and bottom-up approaches depends on the role played by the agency or group coordinating the ESD indicator development process. Playing a facilitative role, rather than a managerial one, helps stakeholders from different sectors and backgrounds to explore new ideas and tools and to critically reflect upon experiences and assumptions that underlie knowledge and perspectives (Tilbury & Cooke, 2005). Such exploration and reflection can encourage the development of new skills that support participation and commitment towards ESD indicator development.

Facilitation can be conducted by the lead agency itself or by an independent facilitator. A "good" facilitator is someone who is well-respected, remains neutral and aims to assist stakeholders in rethinking and making decisions and actions aligned with ESD. In addition, an effective facilitator provides genuine opportunities for input and learning and builds trust by encouraging a transparent process (Tilbury & Cooke, 2005). A facilitative environment provides stakeholders with opportunities to engage in all stages of ESD indicator development and enables them to become responsible for the outcomes.

Box 30: Summary of Key Elements to Consider When Developing National ESD Indicators

Multi-stakeholder: The process actively engages multiple stakeholders from across sectors. The process specifically includes participation from the decision-makers who are in a position to support and implement the outcomes of the process.

Participation: The process is participatory in a sense which goes beyond pure consultation to involve participants in decision-making and taking action.

Combination of top-down and bottom-up approaches: As both top-down and bottom-up approaches have strengths and weaknesses when used alone, the two approaches combined provide stronger outcomes. A top-down approach capitalizes on the benefits of strong leadership support and commitment to a national monitoring system. A bottom-up approach ensures that on-the-ground support for the system exists.

Facilitation: The main role for those who lead the development of the indicator framework is to be facilitators of the process. The focus is on providing participants with encouragement, support and the structural base to ensure all of the above points can be achieved.

Transparency: The process being used to develop the national framework of indicators is clearly articulated and open to public input at all stages.

Capacity-building for decision-making: Participation in the development process provides participants with opportunities to increase their knowledge, skills and ability to be involved in decision-making processes.

(Adapted from Tilbury & Cooke, 2005)

Box 30 provides a useful summary of the four key elements discussed above, along with the elements of transparency and capacity building. All elements may help stakeholders answer the following questions which form the basis of a participatory development process:

- *How can stakeholders effectively learn from and account for the vast expanse of cultural diversity, opinions and experiences within the Asia-Pacific region when developing ESD indicators?*
- *How can stakeholders ensure that all who want to be involved in the ESD indicator development process have the opportunity and support to actively participate?*
- *How can stakeholders ensure that those involved in ESD indicator development feel they have contributed equally and are part owners of the process?*

Steps in the ESD Indicator Development Process

There are at least seven stages, or *steps*, in the ESD indicator development process (processes for data collection and reporting are also considered in Sections 9 and 10). All of these steps reflect the key elements highlighted above. Since indicator development and data collection go hand-in-hand, the steps described for developing ESD indicators also serve as a basis for the data collection planning process.

Step 1: Form a Working Group on National ESD Indicators

The majority of ESD indicator initiatives that have begun since the launch of the DESD in 2005 have formed a working group of stakeholders to manage and/or lead the development of ESD indicators in their country. Appendix 6 lists several of these ESD indicator initiatives and Box 31 describes an example of a working group with reference to the UNECE ESD indicator development process. The formation of a working group often begins with identifying and inviting a wide range of stakeholders from across all relevant sectors (see Box 28). Such a working group can also be involved in ESD data collection planning and reporting highlighted in Sections 9 and 10.

Once a working group is formed, determining the clear roles and responsibilities of all involved will establish a foundation for effective collaboration. This includes:

- making public the roles and responsibilities of the stakeholders, managers and facilitator(s);
- establishing clear lines of communication, internal and external to the process; and
- identifying potential conflicts relating to diverse stakeholder interests or power relationships (Department of Sustainability and Environment, 2004).

In addition, it is important to identify and seek resources needed to ensure that stakeholders have the ability to participate throughout the entire ESD indicator development process, including any long-term efforts such as revision and adaptation of the indicators (UNDP, 2003; Department of Sustainability and Environment, 2004). The commitment of the working group to the development process will then depend on the extent to which participatory and learning processes are used.

Box 31: Stakeholders in the UNECE ESD Indicator Process

The UNECE ESD indicator initiative formed an ESD Indicator Working Group that involved persons with extensive experience in national and international environmental and education policy, environmental education, education for sustainable development as well as data collection.

(UNECE Expert Group, 2005; Vare, 2006b).

Step 2: Develop a Common Understanding among Working Group Members

Developing a common ESD platform at the beginning of the indicator development process is beneficial for developing a shared understanding of terminology and building ownership among the working group. Rather than devote much time to defining ESD and sustainable development, however, discussions about indicator terminology, approaches, types and criteria (see Sections 6 and 7) are noted to be more useful[7]. Also important is arriving at a group consensus of what constitutes ESD in a country's context as well as *why* and *how* progress should be measured during the Decade. Such agreement can boost productivity of the working group and enhance efforts to monitor and assess progress.

Past experiences have shown, however, that it can be challenging to reach agreement on standardized measures of learning achievement (UNESCO Institute for Statistics, 2001). In particular, a facilitator will be invaluable in assisting stakeholders to clarify and develop consensus from diverse understandings and perspectives of ESD. Arriving at a consensus at the beginning of the process is useful for improving the efficiency throughout, as well as ensuring ownership during the latter parts of development, including the implementation, revision and adaptation of the indicators.

7 At the August 2006 "Review Meeting for the Development of National ESD Indicators" in Hiroshima, Japan, Roel van Raaij, Chair of the UNECE Expert Group on Indicators for ESD, described how the Expert Group spent an extensive amount of time discussing definitions of SD and ESD. He considered other topics of discussion, such as indicator criteria, to be more productive in terms of ESD indicator development processes (UNESCO Asia-Pacific Regional Bureau for Education, 2006b).

Step 3: Gather Relevant Data from Related Indicator Initiatives

Rather than focusing on the differences between indicators for sustainable development, education and ESD, it is important to focus on the inter-linkages. Currently, UNESCO Member States in the Asia-Pacific are gaining valuable experience with MDG and EFA indicator processes, among others, at all levels. Applying the lessons learned from these experiences to ESD indicator development will likely improve understanding about what constitutes effective indicator development, application and interpretation. Considering additional experiences with ESD-related indicators in the region could also be beneficial (AIMS-UIS, 2006). These experiences might include the Global Reporting Initiative (GRI), Human Development Index (HDI) and Global Environmental Outlook (GEO) indicators.

In addition, it may be useful to determine whether related monitoring and evaluation initiatives have already developed data collection systems that are appropriate for national ESD efforts (AIMS-UIS, 2006). For example, initiatives such as EFA have similar focus areas and monitoring systems have been established to rank national and global progress (UNESCO Institute for Statistics, 2001). Similarly, MDG indicators reflect the target for achieving universal primary education (UN Statistics Division, 2006). As ESD progress may be reflected in both EFA and MDG data, Member States may consider linking ESD monitoring and assessment with these initiatives, and others, where appropriate.

Linking with other related experiences, however, still requires going beyond what has already been done before. The DESD IIS highlights the need to develop both quantitative and qualitative ESD indicators across relevant sectors. Although qualitative indicators are not a new concept, experience with qualitative indicators and ESD is limited. Therefore, monitoring and assessment will also require innovative approaches and the regular revision of indicators to ensure that the information generated is appropriate for assessing the desired progress. In addition, learning and sharing experiences about ESD indicator types and approaches regionally and nationally will also play an important role in increasing understanding about ESD, thereby complementing society's advance towards the goals and objectives of the Decade.

Step 4: Engage in Working Group Capacity-building

In conjunction with steps 2 and 3, capacity-building among stakeholders engaged in the ESD indicator development process is key to ensuring that, not only effective indicators are produced, but also that stakeholder commitment and ownership is maintained. While developing a platform for understanding in Step 2, it will also be useful to identify the working group's capacity-building needs. For example, it may be useful for working group members to receive training to learn more about the different functions and types of indicators available. In addition, as highlighted in Section 9, training could include material related to various methods for data collection. Capacity-building helps stakeholders develop the understanding and confidence necessary to participate actively in ESD indicator development.

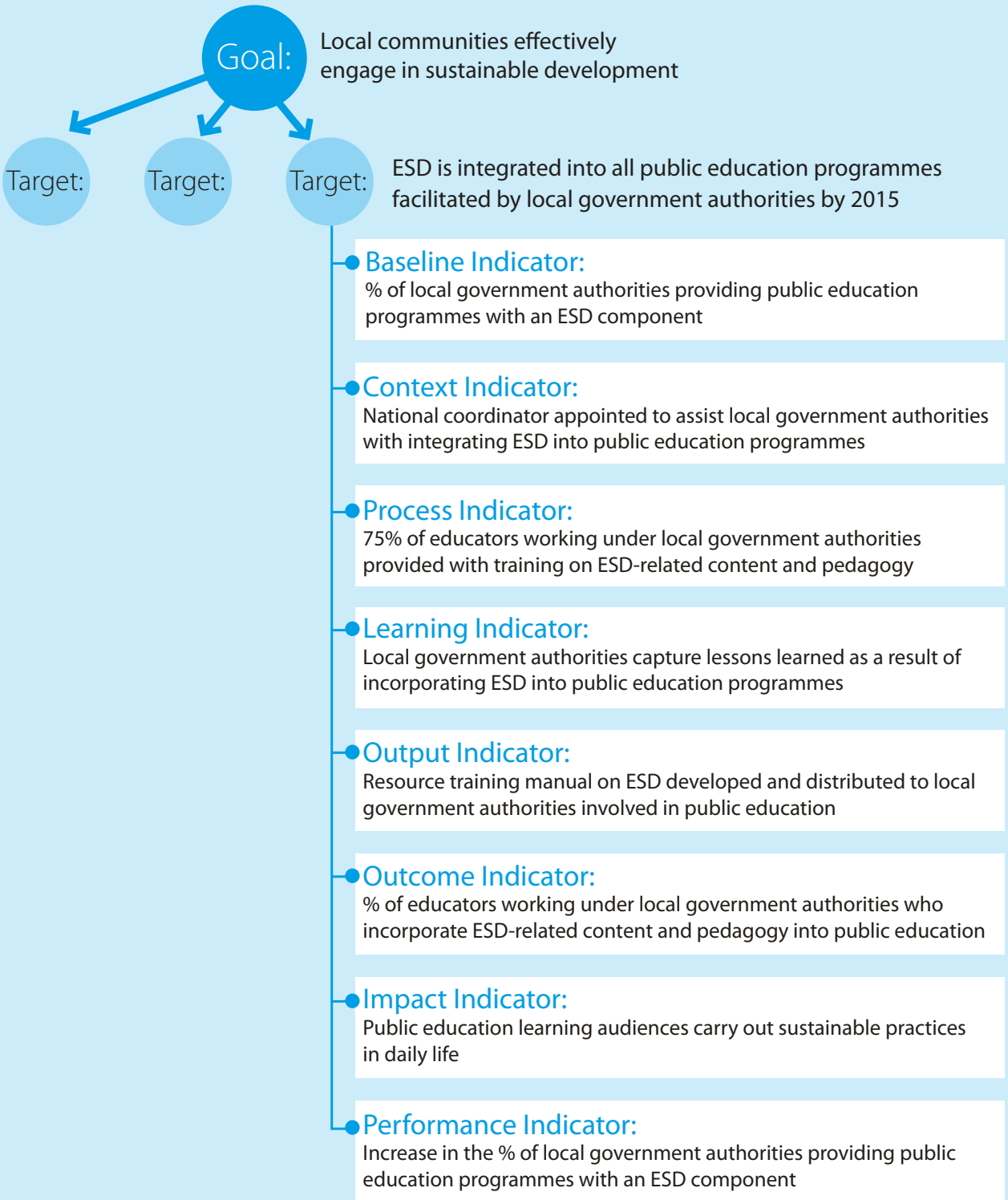
Step 5: Develop ESD Indicators in Line with DESD Goals and Priorities

Once a working group has developed its capacity and established a common understanding of ESD and the related indicator terminology, the group will be better equipped to work productively on the development of ESD indicators. However, relevant ESD indicators are those that reflect DESD goals and priorities, as well as ESD programmes, policies and actions that are being implemented at the national level. Therefore, it will be useful for stakeholders to identify and locate information related to national ESD goals, priorities, policies and programmes, including national sustainable development strategies, in preparation for ESD indicator development. Having this information close at hand will assist in the process of formulating appropriate national indicators for ESD.

National sustainable development plans, development assistance frameworks and national action plans and regional strategies for ESD provide a basis for identifying national ESD goals and priorities. As such, they provide a practical framework from which to develop national ESD indicators in the Asia-Pacific region. Similarly, indicator initiatives in other regions, such as those of the UNECE EG and the Nordic Ministers Council (see Appendix 6 and 8), also formulate ESD indicators based on a framework of goals and objectives for national and regional strategies and development plans.

Figure 1 below shows how ESD indicators reflective of national goals and objectives are developed. Indicators can be most useful when developed by breaking down broad goals into specific targets and then using these targets to produce indicators of progress (AIMS-UIS, 2006). Targets include specific information (i.e. a target date and number to be achieved) and link indicators to a specific ESD goal. When developing indicators from targets, it is helpful for the group to have an idea of what some of the possible outcomes of these targets might be while keeping the door open to any unforeseen outcomes from which learning might occur.

Figure 1: Moving from ESD Goals to Indicators[8]



8 The indicators in Figure 1 are simply examples. UNESCO Member States will establish their actual indicator framework based on their own national ESD goals and priorities.

Step 6: Share ESD Indicators with a Wider Audience[9]

The indicators developed by a working group can be enhanced if shared with a wider audience. Comments and feedback from other ESD stakeholders will be useful for ensuring that the group develops indicators that are applicable in practice and relevant to all stakeholders. The indicators can then be revised to incorporate feedback and subsequently applied in practice.

Step 7: Apply, Revise and Adapt Indicators Periodically

Periodic review of the indicator framework will be helpful to ensure that the indicators remain relevant and adapt to changing priorities and goals during the DESD. Revision is also important as new knowledge and understanding about ESD and indicators emerge.

Along with revision and adaptation, a large framework of indicators can be reduced and/or grouped to be more applicable in practice. For example, indicators might be arranged by:

- hierarchical ordering to orient national data collection priorities;
- grouping core indicators according to the interests or capacities of a region; and
- picking and mixing approaches, which allow countries to choose and arrange indicators for specific contexts (UNESCO Institute for Statistics, 2001).

The latter approach has also been referred to as grouping indicators into core (those which are always assessed) and non-core indicators (those which are assessed less often) (UNDSD, 2006).

The key elements and steps of the indicator development process are listed in Table 3 as a checklist to guide Member States with national ESD indicator development.

Table 3: Checklist for the ESD Indicator Development Process[10]

☑	Activity
☐	1. Identify and invite stakeholders at the national level to form a Working Group on ESD Indicators.
☐	2. Determine the roles and responsibilities of the Working Group. Encourage a bottom-up and top-down approach to developing indicators.
☐	3. Make the process transparent by determining clear lines of communication, internal and external to the process. Predict and prepare for potential conflicts related to diverse interests.
☐	4. Encourage long-term participation through knowledge-building activities, reflecting on diverse values and perspectives, capacity-building exercises and empowering stakeholders to take part in decision-making.
☐	5. Come to a consensus on a common understanding of ESD.
☐	6. Define national ESD priorities and goals for the DESD (i.e. develop a national action plan for ESD).
☐	7. Determine stakeholder and donor needs for monitoring and assessment.
☐	8. Identify the function(s) and approach of the ESD indicator framework (e.g. quality control vs. learning and improvement).
☐	9. Clarify understanding of the different indicator types and their functions.
☐	10. Develop indicators that best align with national ESD priorities and goals. Take into account related initiatives from which indicators can be used in addition to practical data collection.
☐	11. Engage a wider audience. Seek feedback and further input into the indicator framework.
☐	12. Apply the indicators to determine usefulness in practice. Revise and adapt periodically as per DESD priorities.

9 Sharing indicators might be more productive once data collection methods have been identified in order to provide stakeholders with a more complete picture of indicator practicality within the overall indicator framework.

10 UNESCO Member States may wish to adapt this checklist to reflect the ESD indicator development needs in their own national context.

© UNESCO / D. Elias

9

Collecting New and Existing Data for ESD Indicators

Developing national ESD indicators goes hand-in-hand with not only the ESD goal-setting process, but also the data collection process. Countries are likely to benefit if they begin thinking about the data collection process as early as possible. Developing indicators with data collection in mind enables stakeholders involved in the process to consider the practicality of gathering information for each indicator and identify data collection needs in a timely manner. In addition, collecting data as soon as the indicators are developed assists to embed monitoring processes within ESD activities and ensures that information derived from the process is considered during policy-making cycles. Periodic and timely coordination will also enable UNESCO Member States to learn and build the capacity for achieving national ESD targets and goals (see Box 32).

This section highlights how the key elements of the data collection planning process are similar to those for developing ESD indicators. Several steps describe the processes necessary for identifying existing and new data collection mechanisms in an effort to provide practical advice to stakeholders involved in data collection planning.

Key Elements of Data Collection for ESD Indicators

Similar to the ESD indicator development process, identifying ESD data collection methods, collecting information and interpreting data should also involve multiple stakeholders, including relevant ministries and sectors. It is important that stakeholders be involved from the start of the process to better ensure policy support and implementation of effective national monitoring and reporting mechanisms for ESD across all sectors. In addition, data collection should include the same good practice elements identified in Section 8 and highlighted in Box 30. As emphasized, it will be beneficial for all stakeholders to be involved in a participatory learning process that is facilitated to ensure both a bottom-up and top-down approach to planning data collection for ESD.

Steps in the ESD Data Collection Process

Several tools for identifying and developing data collection mechanisms were presented at the August 2006 "Review Meeting of the Asia-Pacific Guidelines for National DESD Indicators" in Hiroshima, Japan. These tools have been integrated into seven suggested steps that make up the data collection planning process (AIMS-UIS, 2006). It is important to note that these steps build on working group efforts initiated through the indicator development process (see Section 8).

Step 1: Building on the ESD Indicator Development Process

Developing a Common Understanding of Data Collection Terminology

Similar to the ESD indicator development process, a common platform from which to work collaboratively is needed among diverse stakeholders in a working group. Stakeholders involved in ESD data collection planning need an opportunity to identify a common language associated with quantitative and qualitative data and data collection terminology. This step is particularly important since the majority of stakeholders are likely to be more familiar with quantitative rather than qualitative data for ESD (van Raaij, 2006).

Building Working Group Capacity

Also in line with the ESD indicator development process, capacity-building is expected to benefit those planning and undertaking the collection and analysis of data. Building capacity can help to improve knowledge and understanding about data collection among stakeholders, as well as increase ownership and commitment for the process and interpreted results. Capacity-building can be based on stakeholder needs, such as gaining familiarity with data collection tools and concepts or developing the necessary skills for collecting data. Participants at the August 2006 meeting in Hiroshima noted that relevant training for data collection will most-likely include the following topics (UNESCO Asia and Pacific Regional Bureau for Education, 2006b):

- Key concepts associated with ESD;
- Key concepts associated with data collection and reporting;
- Data collection methods;
- Monitoring, analysis and reporting strategies for trainers;
- Rules and ethics of data collection; and
- Responsibilities of reporting.

Box 32: Lessons learned from EFA

One of the main lessons learned from an EFA 2000 Assessment exercise was that the assessment of progress toward established targets should not be an ad hoc exercise conducted in a hurry at the end of a designated period. On the contrary, it is recommended that a continuous monitoring process include consistent data collection and interpretation. This process should be put in place to allow for early prediction of targets that may not be achieved and to permit necessary measures to correct the trend.

(UNESCO Institute for Statistics, 2001)

Step 2: Review Available Methods of Data Collection

Before identifying and developing suitable data collection methods for each indicator, it is important to find out what data is already being collected and by whom. Ongoing data collection from other initiatives will undoubtedly include data that is relevant for ESD. Accessing this data, when possible, will likely reduce costs and improve efficiency (AIMS-UIS, 2006). In addition, identifying the methods of data collection used at the national level by related initiatives, such as EFA, the MDGs and GRI, ensures that data collection efforts are not doubled and will more likely be complementary. Groups involved in data collection for related initiatives also have potential to become important stakeholders and partners for ESD and coordinating joint efforts for collecting data might even be possible. Questions that may help guide research about complementary data collection include:

- How is data collected for other international education initiatives (e.g. EFA, MDGs, etc.)?
- Who is collecting this data and how can it be accessed?
- What current ongoing processes would be most useful for collecting ESD data?
- Which methods are used for collecting qualitative or quantitative data?

Not all data needed to assess a country's framework of national ESD indicators will be available through ongoing data collection initiatives, especially with regards to qualitative data. At this point, the working group will need to build on current knowledge and expertise to identify other useful methods for collecting data. Table 4

Table 4: Quantitative and Qualitative Data Collection Methods

Methods of Data Collection	
Quantitative data	Qualitative data
• Administrative data collection - financial data - performance data - resource allocation - school census • Surveys and questionnaires - door-to-door - election-type polls - national census - phone interviews - school/teacher	• Case studies • Content analysis • Focus groups • Interviews (individual, community) • Observations • Research (action research) • School inspections (formal education) • Story-telling

provides examples of several potential methods for collecting data for both quantitative and qualitative indicators (see Appendix 11 for a description of these methods). UNESCO Member States across the Asia-Pacific region are expected to use a variety of data collection methods to collect data for their national ESD indicators, reflecting the extraordinary diversity of ESD priorities and experiences found throughout the region.

Step 3: Identify and Analyze Appropriate Methods of Data Collection

The working group will need to consider at some point the data collection method most suitable for each ESD indicator. A number of different criteria can be used to assist with this process (UNECE EG, 2005; Huckle, 2006a, c & d; Barker, 2006; Vare, 2006c; AIMS-UIS, 2006). Some of these criteria include:

- **Availability:** Is the data available and how often can it be made available?
- **Accessibility:** Is the data readily accessible? How effectively can the data be collected in hard-to-reach or sparsely populated areas?
- **Accuracy:** Is the data collected accurate? What events might skew the data being collected? Is data collected with this method appropriate for this indicator?
- **Affordability:** Is the method time and cost effective?
- **Reliability:** Is the data reliable? Will the data always be available to collect?
- **Comparability:** Can the data be compared across regions?

By using criteria and questions such as these, stakeholders can analyze several data collection methods to identify the most applicable method for each indicator.

Table 5 below demonstrates such an analysis based on the criteria for *availability*, *reliability*, and *comparability*. The questions found in each column assist stakeholders in determining the best choice method for the given indicator. In order for the questions to be answered accurately, involving representatives who are knowledgeable about the types and methods of data collected in the sector at hand, in this case NGOs, could be an asset for stakeholders planning the data collection process. The last question in each cell provides stakeholders with an opportunity to think about how data collection might be adapted for the ESD indicator or what new method(s) of data collection might be introduced.

As many countries may find the need to develop new, innovative ways for collecting data (van Raaij, 2006), a checklist for developing new data collection methods and tools is outlined in Table 7 (see Step 5). As methods for data collection are identified and developed for ESD, Member States may find it necessary to introduce new policy to institutionalize ESD data collection or expand existing infrastructure to support the process.

Step 4: Plan for Data Collection

After having identified the most appropriate method of data collection for each indicator, the working group can form a comprehensive plan for data collection, analysis and programme improvement. This step is recommended to ensure that stakeholders are not only effective in their collection of data, but also in using it productively to improve the implementation of ESD programmes.

Table 5: Analyzing Data Collection Methods

Indicator: Increased awareness about ESD issues among NGO learning audiences			
Criteria \ Method	NGO or Learner Performance Data	Learner Surveys	Learner Focus Groups
Availability	• Is data on increased awareness about ESD issues available in performance data?* • If so, is it more available than surveys and focus groups? • If not, how could it be made available and is it feasible to do so?	• Is data on increased awareness about ESD issues available in surveys?* • If so, is it more available than performance data and focus groups? • If not, how can it be made available and is it feasible to do so?	• Is data on increased awareness about ESD issues available in learner focus groups?* • If so, is it more available than performance data or surveys? • If not, how can it be made available and is it feasible to do so?
Reliability	• Is performance data a reliable source of increased awareness about ESD issues? • If so, is it more reliable than surveys and focus groups? • If not, how can it be made more reliable and is it feasible to do so?	• Are learner surveys a reliable source of increased awareness about ESD issues? • If so, are they more reliable than performance data and focus groups? • If not, how can they be made more reliable and is it feasible to do so?	• Are focus groups a reliable source of increased awareness about ESD issues? • If so, are they more reliable than performance data and surveys? • If not, how can they be made more reliable and is it feasible to do so?
Comparability	• Is performance data on increased awareness about ESD issues generally comparable across the country or region? • If so, is it more comparable than surveys and focus groups? • If not, how could it be made comparable and is it feasible to do so?	• Are surveys on increased awareness about ESD issues generally comparable across the country or region? • If so, are they more comparable than performance data and focus groups? • If not, how can they be made more comparable and is it feasible to do so?	• Are focus groups on increased awareness about ESD issues generally comparable across the country or region? • If so, are they more comparable than performance data and surveys? • If not, how can they be made more comparable and is it feasible to do so?

** If it is decided that no data is available for this indicator when using this method, then another method should be considered.*

An *indicator planning tool*, such as the one in Table 6, can guide the working group in the planning process and assist to align indicators with practical data collection. The indicator planning tool has two main purposes: 1) to promote discussion about data collection for each indicator; and 2) to evaluate each indicator in light of data collection methodology by answering questions, such as *Is data collection feasible for this indicator?* and *How can this indicator be adapted so that data can feasibly be collected?* In particular, by reviewing each indicator with the indicator planning tool, stakeholders are able to consider:

- How often will the data be collected?
- What data is needed to calculate or analyze the indicator?
- From where (or whom) will the data be obtained?
- Who is responsible for collecting and collating this data?

Countries may adapt the indicator planning tool to their own monitoring needs. Planning can be undertaken in a collaborative manner that stimulates and facilitates dialogue about additional key questions, such as:

- Is there a need for (further) data collection training?
- Who will interpret the data and how?
- How will findings inform ESD programmes? (I.e. What processes will be carried out to evaluate and improve ESD programmes based on findings?)
- What processes will be carried out to modify ESD indicators based on lessons learned?

Stakeholder dialogue allows for modification and adaptation of decisions made along the way. For example, countries may find that through planning discussions related to data collection, it is necessary to modify or adapt a data collection method or develop a more appropriate indicator for which data is more readily available. Such adaptations are an important part of the monitoring and assessment process as they can be associated with an increased level of understanding about data collection and indicators for ESD.

Table 6: Example of an Indicator Planning Tool for Data Collection[11]

Education for Sustainable Development Indicators	How often should data be collected?	What data is needed to assess or calculate the indicator?		Where will the data come from?	How will the data be collected?	Who will be responsible for the data collection?
ESD Target: ESD is integrated into 75% of NGO non-formal education programmes by 2015						
National coordinator appointed to assist NGOs with integrating ESD into non-formal education programmes (Context)	Once (checklist)	Confirmation of appointment of a national ESD coordinator for non-formal education		Ministry of Environment or the Ministry of Education	Survey or interview	National DESD Committee or Data Collection Working Group
75% of NGO non-formal educators trained in ESD-related content and pedagogy (Process)	Baseline & 2 years	# of NGO non-formal educators / # of NGO non-formal educators trained in ESD content and pedagogy	x 100	Ministry of Education, NGOs working in non-formal education	Workshop attendance records, NGO census information (Administrative)	National DESD Committee, Data Collection Working Group, Ministry of Education
NGO non-formal educators utilize ESD knowledge and skills (Outcome)	2 years	Educator's ESD knowledge and skills		NGOs and NGO educators	Survey, questionnaire, interview, focus group, observation, or research	Ministry of Education, NGOs or school
ESD Target: (next target)						

Step 5: Develop Additional Tools as Necessary

When conducting Steps 2, 3 and 4, Member States may find that some data is not readily available and developing new tools may be necessary for gathering appropriate data, such as a new questionnaire, a table with pre-designated criteria for guiding observations or a data base where quantitative and qualitative data can be collected from the district and provincial levels online. Table 7 is an example checklist of considerations that can assist in the process of developing new tools to gather new forms of data.

Step 6: Pilot Data Collection Instruments and Procedures Adapt for Implementation

Once a data collection plan has been established and new tools have been developed as needed, Member States are encouraged to pilot tools and methodologies accordingly. Where and on what scale the pilot is carried out is considered at this stage. Following the pilot, countries are encouraged to evaluate their data collection tools and methods and update them to incorporate lessons learned. A few questions that may guide the evaluation of the data collection process include:

- What aspects of the data collection worked well?
- To what extent does the data collected coincide with the effectiveness of the indicators?
- What were the key challenges that developed from the process?
- What improvements will be made to the data collection and reporting tools before full-scale implementation?
- What steps will be taken to achieve these improvements?

11 The *indicator planning tool* is one example of an instrument that UNESCO Member States can develop and adapt to guide planning for data collection. A template for this tool can be found in Appendix 12 and is available in electronic form on the Asia-Pacific ESD Monitoring Project webpage (http://www.unescobkk.org/education/esd/monitoring).

Table 7: Checklist for Developing New Data Collection Tools

☑	Activity
☐	Identify which administrative channels can help develop tools*
☐	Identify which administrative channels can help collect data
☐	Build political support for new tools as necessary
☐	Mobilize resources to develop new tools (financial, human, etc.)
☐	Develop the new data collection tools/instruments (questionnaires for surveys, guidelines for focus groups, etc.)
☐	Add new questions to pre-existing surveys as necessary (e.g. household, labour force, etc.)
☐	
☐	
☐	

* 'Administrative channels' refer to the system in which data moves from the school to district education office (for verification and compilation) to the education statistician in the provincial education office (for the same process) to the central level.

Step 7: Interpret Data Collected and Make Periodic Revision and Adaptation to Both Indicators and Data Collection Methods

After data is collected, it will need to be interpreted in order for it to become useful for informing ESD progress within the country and the Asia-Pacific region. When using an indicator planning tool in Step 4, the working group can also identify who will be involved in interpreting data, as well as how often interpretation will take place. The working group is also encouraged to reflect upon the best way to interpret data, such as: a) what statistics to use for processing and interpreting quantitative data; and b) what processes, tools and expertise will be needed to process and interpret qualitative data in a manner that is feasible, cost effective and valid. For example, the UNECE EG found that it was not always feasible to sum up their responses for some indicators in a quantitative way. Instead they developed an assessment key using a variety of rankings and a six-category scale (UNECE EG, 2006) (see Appendix 13). The methods stakeholders use to interpret ESD data will ultimately depend on the reasons guiding the assessment, the indicators used and reporting needs.

The processes use for interpreting data will go hand-in-hand with reporting on progress. When considering how the findings will inform and modify current ESD programmes, an effective reporting format, the frequency of reporting and availability of findings to ESD practitioners and others will be key to promoting change. Decisions will be made and actions will be taken based on the interpretation of data and, therefore, findings and lessons learned must be communicated clearly and effectively. (See further information on the reporting process in Section 10.) Following interpretation, the data collection process should be adapted and improved to address the collection of any irrelevant data and other lessons learned. Consistently updating data collection efforts as new knowledge is acquired is key to carrying out relevant monitoring and assessment at different stages during the Decade.

© International Rice Research Institute

Mongolia
Kazakhstan
Uzbekistan
Turkmenistan
Kyrgyzstan
Tajikistan
Democratic People's Republic of Korea
Republic of Korea
Japan
The People's Republic of China
Iran
Afghanistan
Pakistan
Nepal
Bhutan
Bangladesh
India
Macao, China
Myanmar
Lao People's Democratic Republic
Thailand
Viet Nam
Cambodia
Philippines
Federated States of Micronesia
Marshall Islands
Sri Lanka
Maldives
Brunei Darussalam
Malaysia
Palau
Nauru
Kiribati
Papua New Guinea
Indonesia
Timor-Leste
Solomon Islands
Tuvalu
Tokelau
Cook Islands
Samoa
Vanuatu
Fiji
Tonga
Niue
Australia
New Zealand

10

National and Regional Reporting of ESD

National and regional reporting should occur consistently and simultaneously throughout the Decade. Identifying adequate reporting timeframes will be essential for raising awareness about the DESD and ensuring that data collected is used to inform subsequent ESD efforts. Timeframes for reporting will vary according to national needs and will usually fall in line with the implementation and evaluation cycle of national ESD programmes while taking into account regional and global reporting periods. Many Member States will decide on the appropriate timeframe for national reporting while planning for data collection. Just as revision and adaptation is important during the indicator development and data collection processes, reviewing reporting processes to ensure they are meeting national needs is also likely to enhance monitoring and assessment during the DESD.

Why Report on Progress?

National and regional reporting of progress during the DESD serves a number of purposes:

- to communicate progress and achievements among donors and stakeholders at all levels, including the UN General Assembly, as well as to the general public;
- to promote and raise awareness about ESD;
- to undertake regional comparisons; and
- to share lessons learned and good practices.

In particular, sharing lessons learned and information about good ESD practices is especially important to build new knowledge and advance the DESD objectives. For this reason, Member States may wish to include both quantitative (measurable) and qualitative (descriptive) data when reporting on ESD progress in order to share with their citizens, and those in other countries, meaningful experiences from which to learn.

If vital information is to be captured during the DESD, it is necessary for reporting of national ESD outcomes, progress and learning to be conducted at two levels:

1. Reporting among national stakeholders including ministries, local governments, media, civil society, the private sector and communities. Reporting at this level ensures ESD interest and collaboration are stimulated at the national and sub-national level.
2. Reporting among regional stakeholders including national governments, international organisations, including UNESCO Bangkok, and regional DESD committees. Reporting among regional stakeholders promotes collaboration at the regional and international level.

It is recommended that reports be prepared in a participatory manner where stakeholders are involved at all stages of preparation in order to ensure good quality reporting. This includes giving stakeholders a feasible and timely opportunity to comment on the draft report before its final submission (UNECE EG, 2005).

How Should Reporting be Undertaken?

Once determined who will be collecting data and how it will be interpreted, a working group can devise a format to assist with national reporting. The reporting format will be an important communication medium designed to share vital information as required by the country or region. In some cases, a reporting format can be adapted from the tools used for data collection. For example, a template used for collecting a certain type of data could very well be used for reporting the collective results when accompanied by an interpretation of the data and lessons learned. The layout and content of a reporting format will ultimately depend upon the indicators and reporting needs of each country.

As reporting methods for ESD and their examples are limited, it is useful to consider some of the UNECE EG formats developed for reporting ESD at a *regional* level in Europe and North America. As Member States in the Asia-Pacific develop reporting tools for ESD at the *national* level, the following examples could be used to promote productive discussion about what type of reporting format(s) to use in order to meet national reporting needs.

Using Indicator Sets in a Reporting Format

To promote more effective monitoring and reporting, the UNECE Expert Group organised and modified their original set of eighty indicators into sets of indicators and sub-indicators based on the objectives of the UNECE Strategy for ESD (see Figure 2). When reporting with indicator sets, it will be important for a working group to consider how the indicators should be organized for ease of understanding and communication. At the national level, indicator sets might be arranged according to national ESD goals and priorities such as those highlighted in a national action plan for ESD.

Reporting with Yes/No and Explanations

The UNECE Expert Group chose to include two parts for each sub-indicator: a) a *checklist* (yes/no) part; and b) a *descriptive* part (UNECE CEP, 2006b) (see Figure 2). The allotted space for part (b) allows countries to input qualitative and informative data, such as languages spoken, explanations, etc. For part (a), in the case of 'not applicable,' countries select "no" and provide an explanation of why the sub-indicator is not applicable in the space provided. A yes/no and explanatory format could also be used at the national level. To do so, it will be important to have a clear understanding how explanatory statements will be processed, especially when the assessment involves aggregation of national data.

Figure 2: Reporting with Indicator Sets, Yes / No and Explanations

ISSUE 1. ENSURE THAT POLICY, REGULATORY AND OPERATIONAL FRAMEWORKS SUPPORT THE PROMOTION OF ESD	
If necessary, provide relevant information on your country situation regarding this objective (up to 1,500 characters with spaces).	
Indicator 1.1: Prerequisite measures are taken to support the promotion of ESD.	
Sub-indicator 1.1.1	Is the UNECE Strategy for ESD available in your national language(s)?
Yes ☐ No ☐	*Please specify languages.*
Sub-indicator 1.1.2	Have you appointed a national focal point to deal with the UNECE Strategy for ESD?
Yes ☐ No ☐	
Sub-indicator 1.1.3	Do you have a coordinating body for implementation of ESD?
Yes ☐ No ☐	*Please specify its mandate and coordinating mechanism. Please also specify whether its mandate covers implementation of the UNECE Strategy for ESD.*

(UNECE CEP, 2006b, p. 4)

Ranking Data for Reporting Purposes

The UNECE Expert Group also developed indicator ranking templates to aid in the analysis of data (see Figure 3). These templates use a ranking system with an assessment key to express several kinds of indicators, such as values, percentages, amounts and, more qualitatively, the state of a process. To ensure consistency across the indicator set, rankings are expressed on a scale from A (minimum) to F (maximum) (UNECE CEP, 2006b). Such a system avoids the ambiguous labeling of scales and, at the national level, allows countries to assess themselves relative to their own ESD goals.

Self-assessment

National self-assessment can also be a valuable addition to assessing progress during the DESD (see Figure 4). The UNECE EG highlights the increased potential for innovation within self-assessment initiatives (UNECE EG, 2006). Self-assessment can be an important way of encouraging participation, as well as a way of increasing learning among participating organisations. Furthermore, self-assessment improves national practices and minimizes subjective conclusions drawn from independent experts (Nagata, 2006; Sato, 2006; UNECE EG, 2006). Inviting those practitioners directly involved in ESD efforts to undertake a self-assessment of progress offers a meaningful perspective from which to consider the outcomes of policies, programmes and actions during the DESD.

Figure 3: Reporting with Ranking Templates

ISSUE 2. PROMOTE ESD THROUGH FORMAL, NON-FORMAL AND INFORMAL LEARNING	
If necessary, provide relevant information on your country situation regarding this objective (up to 1,500 characters with spaces).	
Indicator 2.1: SD key themes are addressed in formal education.	
Sub-indicator 2.1.1	Are key themes of SD addressed explicitly in the curriculum / programme of study at various levels of formal education?
Yes ☐ No ☐	*Phase II: Please specify in the table in Annex 1 (a) and use the scale. Indicate the results in the box below.* A ☐ B ☐ C ☐ D ☐ E ☐ F ☐
Sub-indicator 2.1.2	Are learning outcomes (skills, attitudes and values) that support ESD addressed explicitly in the curriculum/ programme of study at various levels of formal education?
Yes ☐ No ☐	*Phase II: Please specify in the table in Annex 1 (b) and use the scale. Indicate the results in the box below.* A ☐ B ☐ C ☐ D ☐ E ☐ F ☐

(UNECE CEP, 2006b, p. 6)

Figure 4: Self-assessment Reporting

Indicator 1	Prerequisite measures are taken to support the promotion of ESD.
Yes ☐ No ☐	*Please explain.*
Indicator 2	Policy, regulatory and operational frameworks support the promotion of ESD.
Yes ☐ No ☐	*Please explain.*
Indicator 3	Strategies to implement ESD are clearly identified.
Please rank from 1 to 5 (1 is the lowest, 5 is the highest)	
1 2 3 4 5w	
Indicator 4	Opportunities exist for educators to cooperate on ESD.
Please describe the existing opportunities with indication of the strengths and weaknesses of each.	

Adapted from UNECE CEP (2006b)

Some countries may choose to report ESD nationally through electronic distribution similar to the reporting formats presented above; other countries may choose to compile the results in a pamphlet or small booklet to include more detail such as ESD case studies, stories and/or photographs. Communicating information in creative ways can be an important way of inspiring new and experienced stakeholders to work towards the DESD objectives. In addition, ensuring that information is accessible will be necessary for sharing progress and lessons learned and promoting change. Reports can be made available through websites and/or hard copies so that information can be shared widely across sectors and regions.

What Are Some of the Reporting Challenges?

National level reporting among stakeholders should be carried out in such a way that it is financially feasible yet data rich. For this reason it will be important to consider what type of information stakeholders seek and what will be most practical in terms of advancing and improving DESD efforts. Information regarding lessons learned and good practices are important. However, sharing such information could end up being costly. Therefore, when considering the development of national reporting mechanisms, countries should ask themselves, *What national and/or regional platforms currently exist for compiling and presenting information for monitoring and advocacy purposes?*

Reporting on the outcomes, progress and learning about ESD at the regional level is still in its infancy. Yet this need not be the case. As regional reporting requirements significantly affect national reporting processes, developing regional reporting formats could be completed in conjunction with the development of national reporting systems. As monitoring results are used to assess and re-orient national ESD programmes throughout the Decade, sharing lessons learned will also aid rollout of ESD among other Member States in the region, especially those with similar ESD contexts (UNESCO Asia-Pacific Regional Bureau for Education, 2006b). Similar to national level reporting, it is also important that regional reporting be cost effective and convenient in order to guarantee the participation of all Member States as they continue to move national ESD programmes forward.

One method for regional reporting currently being considered for ESD is the use of DevInfo, a comprehensive programme used for the reporting on MDG progress. (See Appendix 14 for information about the potential of DevInfo for ESD reporting.) It may also be worthwhile to consider the formation of a monitoring and assessment committee to encourage relevant and informative discussion regarding national and regional monitoring and assessment mechanisms.

An Asia-Pacific Reporting Framework for the DESD

As the Decade progresses and national monitoring systems are established, UNESCO Bangkok envisions working together with partners, national DESD committees, UNESCO National Commissions and UNESCO Offices in the Asia-Pacific to establish a reporting framework for ESD in the region. This framework will be based on lessons learned from ESD monitoring and assessment at the national level, including a common set of agreed upon indicators that are widely used throughout the region. A regional reporting framework and related activities will potentially act as a bridge between national and global reporting for ESD in preparation for reporting to the UN General Assembly in 2010 on mid-Decade progress and at the end of the Decade on progress achieved throughout the DESD.

A Global Reporting Framework for the DESD

To track progress on the implementation of the Decade, the DESD Monitoring and Evaluation Expert Group (MEEG), has been established. The MEEG is assisting UNESCO and its partners with the development of a global monitoring and evaluation framework, which consists of a series of global-level indicators for monitoring global progress on ESD.

The first meeting of the MEEG was held on 29-30 January 2007 at UNESCO Headquarters in Paris. The meeting resulted in the identification of key issues and questions aimed at facilitating the development of a monitoring and assessment framework for the implementation of the DESD. The MEEG recommended that the framework include three key reports: a first report in 2008 with a focus on context and structure, a second in 2010 with a focus on process and learning, and a third in 2015 with a focus on impact and outcomes. The summaries of these three exhaustive reports would serve as a basis for reports to the UN General Assembly and the UNESCO Executive Board (UNESCO, 2007d).

Developing ESD Indicators, Collecting Data & Reporting – Key Points Sections 8, 9 and 10

- Documented experiences in ESD indicator development, data collection processes and reporting are limited but growing.
- In order to develop meaningful ESD indicators, ESD goal-setting should take place prior to initiating the indicator development process.
- Key elements of ESD processes include multi-stakeholder involvement, participation in decision-making, bottom-up and top-down approaches and facilitation. These elements will benefit goal-setting, indicator development, data collection planning and reporting processes.
- Both indicator development and data collection planning should begin early. Building stakeholder capacity and piloting indicators and data collection methods is an important part of advancing understanding about ESD indicators.
- Developing a common understanding of ESD and indicator/data collection terminology among diverse stakeholders in a working group is key to productive development of ESD indicators and data collection processes.
- A number of different data collection methods exist for collecting quantitative and qualitative data. There are benefits and limitations to each method.
- Existing data collection efforts from other international initiatives may be useful (e.g. EFA, MDGs, GRI); however, ESD may also require the development of new and innovative data collection methods and policies.
- An indicator planning tool assists stakeholders in discussing and planning data collection processes for each indicator.
- Timeframes for national reporting will vary according to Member State needs and will tend to fall in line with the implementation and evaluation cycles for national ESD programmes, in addition to regional and global reporting periods for the Decade.
- Different formats for monitoring and reporting exist. Some of them involve using indicator sets, rankings, Yes/No responses and short and long explanations.
- National and regional reporting of progress and achievement during the DESD serves a number of purposes:
  - to communicate progress and achievements among stakeholders at all levels, including the UN General Assembly, as well as to the general public;
  - to promote and raise awareness about ESD;
  - to undertake regional comparisons; and
  - to share lessons learned and good practices.

© C. Khamken

11

In Summary

The DESD provides an important opportunity to enhance the profile of ESD in formal and informal learning spaces and assist in the transformation to sustainable societies worldwide. Along with efforts to promote and integrate ESD at all levels, monitoring and assessment of progress is one of seven strategies for advancing DESD efforts. In this effort, UNESCO works with its Member States to develop suitable and relevant indicators for the Decade and beyond.

Focusing on the vital role of UNESCO National Commissions and UNESCO Offices in the development of ESD indicators at the national level, the *Asia-Pacific Guidelines for the Development of National ESD Indicators* aims to identify diverse coordinating roles which will help to initiate and catalyze monitoring and assessment at the national level. National assistance in defining clear goals and priorities is essential for developing an effective national ESD indicator framework. The definition of national ESD goals and priorities, along with ESD targets, is the first step in producing meaningful indicators that can work to ensure relevant ESD programmes, policies and actions are implemented during the DESD.

The *Guidelines* clarifies the nature of indicators, including their diverse functions and approaches in practice. Differing types of ESD indicators are available to determine diverse areas of progress during the DESD. These belong to indicator categories that assist Member States in assessing and reflecting on the various stages of ESD progress; for example, the starting point or current position of ESD (*status indicators*), the implementation of ESD efforts (*facilitative indicators*), the results of ESD efforts, including qualitative change (*effect indicators*). It is important for stakeholders to learn about the different indicator types, assess their utility and make efforts to go beyond what is known so that new understanding about progress in ESD can develop and be shared.

Choosing appropriate indicators for a monitoring system can be challenging. A table is, therefore, presented in Section 7 to assist UNESCO Member States in choosing appropriate indicators for a national framework for ESD. The table considers the following questions:

- Why would each indicator type be used?
- What does each indicator type assess?
- What are the benefits of each indicator type?
- What are the limitations of each indicator type?

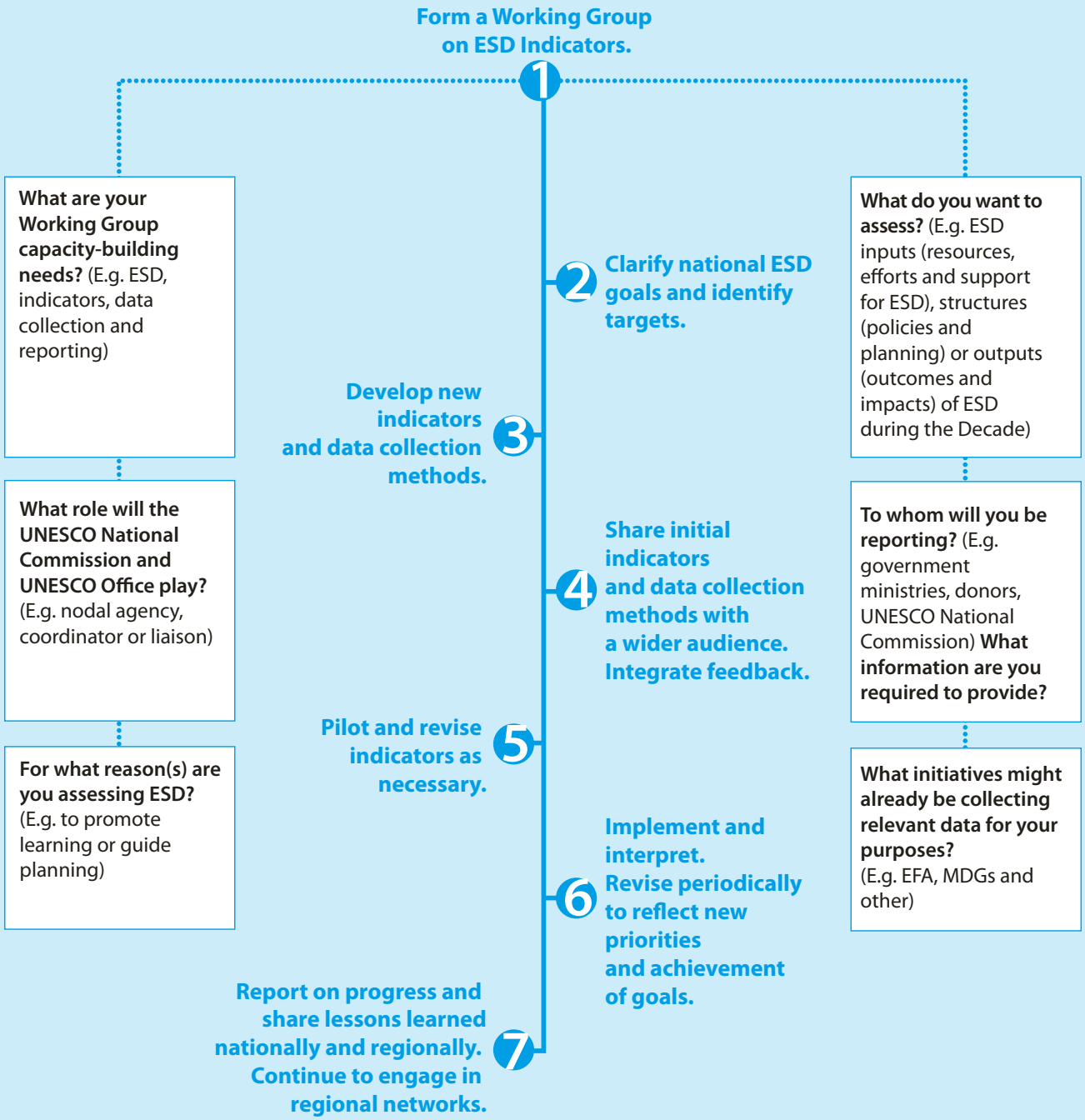
The use of indicator criteria is also considered an effective way to choose suitable indicators. UNESCO Member States across the Asia-Pacific are invited to develop a national ESD indicator framework which corresponds to their national priorities, goals and ESD monitoring needs. Establishing indicator criteria can assist with this process.

The key elements of "good" processes for developing ESD indicators and collecting data (as well as most ESD activities) are identified as multi-stakeholder involvement, participative approaches, top-down and bottom-up approaches and facilitation. Both indicator development and data collection processes will be enhanced by the formation of a working group and developing a common understanding of ESD and monitoring and assessment terminology among stakeholders from different sectors. The steps needed to develop and adapt indicators and data collection methods are highlighted and followed by the functions of reporting at the national and regional level. Considerations are then given to what type of reporting format might be useful and how data might be compiled and presented during the DESD. Figure 5 provides an overview of the primary steps for developing and implementing a national ESD monitoring system. In addition, key questions are provided to assist in forming a basis for collaboration and effective development of a national ESD indicator framework and mechanisms for data collection and reporting. As monitoring systems are implemented throughout the Decade, ESD indicators will not be static, but will change over time adjusting to the evolving contexts and achievements in each country.

ESD requires going beyond what is known to developing collaborative knowledge that assists society in progressing towards a sustainable future. In addition to outlining some of the key elements and stages in the development of ESD indicators, the *Guidelines* also aims to encourage stakeholders to get involved in participatory collaborative processes that are meaningful to their own needs and priorities. This document does not provide step-by-step, detailed information or an example of an ESD indicator framework, but presents ideas and experiences about ESD indicators that have been shared, lessons that have been learned and good practices that can be replicated and integrated into ESD monitoring systems in the Asia-Pacific region. It aims to be one of the resources that UNESCO Member States and all ESD stakeholders will use when devising processes for developing national ESD indicators and monitoring systems for their country.

Monitoring and assessment should not be just another measure of performance but, rather, should serve to inspire and build knowledge among stakeholders nationally and regionally in the Asia-Pacific.

Figure 5: Steps Toward Developing an Implementing a National ESD Monitoring System and Key Questions for Consideration[12]



12 The specific body that develops national ESD goals will differ from country to country. For example, some UNESCO Member States may choose to develop goals through a national DESD committee, the National Commission for UNESCO or a working group on indicators. Regardless of the group who develops the national goals for ESD, it is highly recommended that those tasked with developing indicators clarify each national ESD goal in Step 2 in order to develop a shared understanding and a strong foundation for moving forward with the development of targets and indicators.

© J. Burner

Appendices

Appendix 1: Monitoring and Evaluation Strategy – UNDESD (2005-2014) International Implementation Scheme

Monitoring and evaluation will become key strategies to ascertain the changes and impact of the Decade. An initiative as long and as complex as a Decade must benefit from adequate processes of monitoring and evaluation from the start. Without that, it will be impossible to know if the Decade is making a difference and what that difference is. A key aspect of monitoring and evaluation will be the identification of suitable and relevant indicators at every level – local, national, regional and international – and for each initiative and programme.

As the Decade puts major emphasis on cooperation through the integration of ESD concerns into existing networks and alliances, each grouping should set up its own objectives, outcomes and indicators within the Decade framework. Thus monitoring and evaluation will take place at many levels, national, regional, local, institutional, etc. and will be an integral part of new initiatives and directions, which the Decade may stimulate. Both qualitative and qualitative evaluation methods will be necessary to track the DESD as well as longitudinal and community-wide studies.

Monitoring and evaluation can be expensive. Each ESD effort must balance the responsibility of collecting enough information to show that progress is being made and that ESD is effective at reaching goals against the cost. The education community cannot afford to put ESD programmes in place without evaluating them, however, it must minimize the expenditures that it does make.

As part of this process, UNESCO will work closely with other international monitoring initiatives, including the *EFA Global Monitoring Report*, the United Nations Literacy Decade monitoring initiatives and the ongoing monitoring of the Millennium Development Goals. The results of monitoring and evaluation will be used for the assessment and reorientation of programmes during the course of the Decade, in order to ensure ongoing relevance and effectiveness.

(UNESCO, 2005b, pp. 21-22)

Appendix 2: ESD Expert Team – Asia-Pacific DESD Indicators Project

Osamu Abe
Joel Bacha
Timothy Barker
Javier Benayas
Aline Bory-Adams
Vicente Carabias-Hutter
Irene P A Cheong
Arthur Dahl
Dieter Gross
Jose Gutierrez
Derek Elias
Zinaida Fadeeva
Gerald Farthing
John Fien
Laima Galkute
John Huckle
Sonja Janousek
Denise Jeanmonod
Jon Kapp
Barry Law
Alexander Leicht
Carl Lindberg
Heila Lotz-Sisitka
Gillian Martin-Mehers
Zabariah Matali
Michaela Mayer
Philip Muller-Wirth
Yoshiyuki Nagata
Fumiko Noguchi
Pernilla Ottosson
Gayane Pogosyan
Pam J. Puntenney
Lixia Quin
Christian Rammel
Zohra Rehmat Ali
Masahisa Sato
Tatiana Shakirova
Tomoko Shibao
Karin Sollart
Robert Steele
Stephen Sterling
Lawrence Surendra
Daniella Tilbury
Aya Yokoi
Roel van Raaij
Paul Vare
Rikka Vuorela

Appendix 3: Guidelines Review Team – Asia-Pacific DESD Indicators Project

Dwight Gilbert Alexander
Nassrine Azimi
Joel Bacha
Jasmin Taslima Banu
Saba Bokhari
Aline Bory-Adams
Keembiyage Prasanna Chandith
Shiu-Kee Chu
Altynay Dyussekova
Derek Elias
John Fien
Charles Hopkins
Naimah Ishak
Sonja Janousek
Denise Jeanmonod
Komiljon Karimov
Jan Kinsella
Sereana Leleitani Kubuabola
Dilnoza Kurbanova
Samuel Lee
Gillian Martin-Mehers
Inna Melnikova
Ichiro Miyazawa
Hayden Montgomerie
Khulan Munkh-Erdene
Shuichi Nakayama
Gholam-reza Samarbakhsh
Masahisa Sato
Shailendra Kumar Sharma
Tomoko Shibao
Preciosa Silverio Soliven
Pham Quang Tho
Daniella Tilbury
Balaram Timalsina
Rikka Vuorela
Aya Yokoi

Appendix 4: Responses – Guidelines Review Team "DESD Priorities and Activities" E-mail

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
Ministry of Education Malaysia **Dr. Naimah Ishak** Principal Assistant Director Education Planning and Research Division *4th July 2006* *(Ishak, 2006a)*	The following are our priorities based on the government's National Mission 2006-2020. The five key thrusts for Malaysia are: 1. To move the economy up the value chain 2. To raise the capacity for knowledge and innovation and nurture a 'first class mentality' 3. To address persistent socio-economic inequalities constructively and productively 4. To improve the standard and sustainability of the quality of life 5. To strengthen institutional and implementation capacity
Nepal National Commission for UNESCO **Mr. Balaram Timalsina** Section Officer *3rd July 2006* *(Timalsina, 2006)*	• Education • Science and technology • Culture • Peace • Environment • Health • Media • Empowering the private sector • Community development and capacity building • Teacher training and development • Other public private sector
Palau National Commission for UNESCO **Mr. Dwight G. Alexander** Secretary-General *3rd July 2007* *(Alexander, 2006a)*	a) Palau's priority area in Education is Access to Quality Basic Education. While Palau has access for all children there is a greater need to improve the quality of education starting with capacity building of school administrators and professional development for content area teachers. b) Palau also needs to build a strong partnership with the media and to use the media to inform the public of ESD programmes and initiatives. Most of the media outlets in the country whether paper media, radio or television still play the typical role of the media in focusing on saleable items rather than those that are informative and educational. c) The private sector has a strong partnership with education and this is one area that Palau is very well advanced. Through the Summer Work Experience Programme (SWEP) businesses and NGOs are given students to teach and train on the job so students can make wise decisions regarding their future career. In other words, SWEP exposes students to different types of work so they can make informed decisions about their future. d) Culture: The country as a whole is acting through various agencies to identify and restore some of the lost cultures and traditions through traditional arts and crafts. There are learning of traditional chants, stories, arts and crafts as well as others. This is an area that is lacking support and that the people feel should be pursued as many of Palau's traditional practices have been influenced by foreign cultures and peoples. For the Pacific region, the development of the "Our Pacific Heritage" handbook is a key area for the Pacific to pursue "Education for Sustainable Development" by ensuring that the students know their heritage, their identity and their culture. This is an ongoing project in the Pacific where several workshops have been held to train the teachers to use the toolkit in their classrooms. There are further plans to develop a new teaching kit on the Pacific Heritage to make it more country specific rather than generally covering the entire Pacific. This new development will require each state, including Palau, to develop a heritage teaching kit that will be used in the classroom as part of the school curricula to teach the students about their heritage.

What ESD activities have been or will be implemented in your country during the DESD?
The list of ESD activities that have been or will be implemented during the DESD are based on programmes that have been identified under the education sector only. 1. The development of human capital in order to drive the transformation to a knowledge-based economy 2. Making national schools the school of choice 3. Narrowing the gap between urban and rural areas 4. Strengthening the teaching profession 5. Improving educational institution excellence 6. Improving the delivery system 7. Establishing the nation-state through education
• Implementation of Education for All • Development of school as a peace zone • Implementation of a secondary education support programme • Post conflict management • Implementation of the Millennium Development Goals • Curriculum and text book change in accordance with changing context • Cultural awareness and enhancement programme • Protection and development of world cultural sites • Development of national parks and reserves • Introduction of computer science in government schools • Development of STE in school level education • Development of community media centres • Improve the health situation in the country • Strengthen health education • Establish an ESD unit in the Ministry of Education • Strengthen the peace secretariat which is already established
a) The main and key focus that Palau will work on is to reorient existing education to address education for sustainable development. Palau is in its last year of the 2000 Education Improvement Plan and has completed its evaluation of the progress in the last 10 years. It is now developing a new plan for the next ten years covering 2006-2016. Thus reorienting the existing educational programmes to address education for sustainable development is very timely and will be incorporated into the plan. b) Building partnerships would be a key area to develop and pursue within the Decade as it is critical to the development of national ESD programmes. This would help in identifying new modules for teaching and best practices. c) Palau will also give considerable effort to the sustainability of the environment and in particular the marine and related ecosystems. Palau presented the "Micronesian Challenge" in the Conference in Biodiversity in Brazil, where the Small Island Developing States were challenged to reserve portions of land (20% of forest land and 30% of the reef area) from ridge to the reefs as protected areas to ensure sustainability of the environment and biodiversity. This will be a project that will require networking between the small island developing states. Already, many countries of the north Pacific have already signed the initiative. These include countries such as Guam, Saipan, the Federated States of Micronesia and the Republic of the Marshall Islands.

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
UNESCO National Commission of the Philippines Ms. Preciosa Silverio Soliven Secretary-General *17th July 2006*	The Philippine priorities on DESD are the following: • Respect, value and preserve the achievements of the past; • Appreciate the wonders and the peoples of the Earth; • Live in a world where all people have sufficient food for a healthy and productive life; • Assess, care for and restore the state of our planet; • Create and enjoy a better, safer, more just world; • Be caring citizens who exercise their rights and responsibilities locally, nationally and globally.

What ESD activities have been or will be implemented in your country during the DESD?

1. The Operation Brotherhood Montessori Pagsasarili Mothercraft Literacy Twin Projects

   Initially funded by Operation Brotherhood International in 1966, the 40-year old OBMCI became financially self-sufficient by 1973. It has been advocating activities to make Filipinos economically independent.

   The OB Montessori Child and Community Foundation is the implementing arm of OBMCI that reaches out to "help people help themselves" setting up alternative non-formal education referred to as the OB Montessori Pagsasarili Mothercraft Literacy Twin programme. The Foundation office with full time directors and staff provide yearly teacher training and regular monitoring for the seven OB Montessori Pagsasarili preschools in Metro Manila, five in the Ifugao World Heritage Site, and 30 in Lipa City, Batangas. The Pagsasarili system is also currently being used in the EFA-DAKAR pilot project in Angeles Elementary School to initiate UNESCO's framework of action for quality education in the public schools. The above are all self-sustained with the partnership of local government and parents.

   The OB Montessori Pagsasarili Mothercraft Literacy training course for village mothers was developed to fulfill UNESCO's vision of "Teach a Mother, Teach the Nation". From 1986 to 1990, it established 14 Mothercraft literacy houses in Cadiz and Sagay, Negros Occidental which aimed to elevate the status of village mothers by developing their potentials to the fullest, thus, making them economically self-sufficient. Given a complete household environment, village mothers and their children learn together a very disciplined way of Personal Grooming, Housekeeping, Child Care and Cooking.

   This Literacy Twin Project won the 1993 UNESCO International Literacy Award in New Delhi, India.

2. Programmes and Activities Promoting Economy, Education for All and Environmental Thrusts

   2.1 Saint Louis University train and provide the people in the community with technical assistance in order to cultivate backyard business such as the production of honey for commercial purposes. They also provide livelihood training and certificate programmes on Beekeeping. They educate community folks to develop small business and to handle entrepreneurship, management, technical training, consultancy, research and information. Conduct of classes for parents and adults to address and arrest the dismal health situation such as lack of health manpower, poor facilities and services in the underserved and far-flung areas of the Benguet province. Faculty and students visit barangays and provide lectures and classes on health education. They also provide Mobile Nursing Clinic and Health Education to Far-Flung Areas.

   2.2 La Consolacion College Bacolod through its programmes of building capacity, especially of the indigents and those who have less opportunities, seek to respond to the challenges of the Third Millennium. The school officials, teacher and students are one in their efforts to bringing LCC closer to the larger community through the day care centre. This programme has helped hundreds of poor but deserving students to be given opportunity to improve their lives through education. Most of the indigent beneficiaries of the programme are working during daytime as household helpers and then goes to school after working hours.

   2.3 University of St. La Salle Bacolod programme primarily aims to provide continuing formation to the street children and their parents, equip them with basic numeracy and literacy skills to become functional and productive members of the community, as well as develop their livelihood skills to help them generate additional and alternative sources of livelihood. USL also provide coastal-marine environmental education, capability building seminars, environmental issues advocacy, economic self-sufficiency and environmental monitoring and enhancement for fishermen in Balayan, Negros Oriental, through the Fisherfolk Project. Research on its effectivity is needed if it will become a flagship model.

   2.4 University of Negros Occidental, Recoletos started project "Handumanan" (which means in the native language "A Place to Remember"), adopting a poor community, the Purok Katilingban of Barangay 39 in Bacolod City. Handumanan offers the poor families with instructions on health care fully equipped with medical facilities, automotive, electrical and computer aided courses, technical and vocational courses, early childhood day care facilities for out of school kids and housing projects. Monitoring and evaluation should be recorded.

   2.5 University of the Philippines Open University (UPOU) provides quality higher and continuing education to Filipinos through distance education. Its mission is to give its students a formal qualification, as well as to develop in them the discipline and capability to become lifelong learners who are at home in today's knowledge society. UPOU reaches adult learners and professionals through distance education. Certificate programmes are also offered for barangay officials and local government officials. Monitors must meet students on a quarterly basis to acquire tertiary qualifications as is done in Australia.

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
(p. 70 continued)	*(p. 70 continued)*
(Soliven, 2006a)	

(p. 71 continued)

2.6 Miriam College's Public Education and Awareness Campaign for the Environment (PEACE) works to promote environmental concern for the 21st century in the school community and in communities around the school. Miriam College is home to the Environmental Education Centre, which gives seminars and workshops on environmental themes and studies. However, this should also be matched with horticulture projects.

2.7 Philippine Women's University promotes peace issues through the activities of a youth organisation called Children and Peace Philippines, which has been working to spread a culture of peace in their schools and their communities. They have been involved in peace education and advocacy for more than ten years now, conducting workshops with children and other young people, in efforts to replace the prevailing culture of violence with a culture of peace and hope. Specific action for sustainable development over and above advocacy working should be input.

3. DESD Activities under the Technical Education and Skills Development Category

3.1 Marikina Institute of Science and Technology conducts Non-Formal Skills for Life Education for skills development on basket weaving, meat processing and other income generating training programmes. This is dependent on a sustained work laboratory.

3.2 Concrete Hollow Blocks (CHB) Making in North Luzon - The CHB makers were trained in value formation, leadership, entrepreneurial development, health management and cooperative development in partnership with various organisations. It has a monitoring mechanism.

3.3 Zambales Dairy Development in Zambales City includes lectures and training on milk production utilizing rural technology to utilize marginal land for grass/legume production and to improve the economic conditions of farmers. This requires monitoring since the dairy industry depends on rich grassland.

4. DESD Activities for Basic Education

4.1 Sta. Ana National High School provides out-of-school youth and adults continuing learning opportunities and experiences after acquisition of basic literacy

5. DESD Activities of Non Government Organisations

5.1 The Quezon City Social Service Development Department - MYH was established in 1973. Youth offenders were given informal training and education by the local government. They also take accreditation and equivalency programmes to qualify for higher education even when they are in prison.

5.2 The Department of Land Reform Bureau of Agrarian Reform Information and Education (BARIE) aims to develop a high performing community of workers in DLR and contribute to the empowerment of Agrarian Reform Beneficiaries through the implementation of integrated and responsive HRD and ARB programmes, such as the Agrarian Reform Advocacy Programme.

5.3 The Department of Social Welfare and Development (DSWD) provides social protection and promotes the welfare rights of poor, vulnerable and disadvantaged individuals, families and communities to contribute to the large Self-Employment Assistance-Kaunlaran (SEA-K) project.

5.4 The Technology and Livelihood Resource Centre (TLRC) Training Courses have set the standard in business and livelihood technology training for practicing and would-be entrepreneurs.

5.5 The Asian Institute of Journalism (AIJC), through quality graduate education, research and development and community communication programmes, prepares professionals to become leaders of communication and society.

5.6 The International Institute for Rural Reconstruction (IIRR) is a rural development organisation that works with the rural poor in developing countries to improve their lives by building on their unique assets and strengths through field research, training, publications and field programmes in partnership with communities and other development organisations.

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
Sri Lanka National Commission for UNESCO **Mr. Keembiyage Prasanna Chandith** Deputy Secretary-General *21st June 2006* *(Chandith, 2006b)*	1. Education 2. Environment 3. Science and technology 4. Media 5. Health 6. Peace 7. Culture 8. Private sector 9. NGOs

What ESD activities have been or will be implemented in your country during the DESD?

Education Sector – Ministry of Education
- Implement Education for All
- Curriculum development and curriculum change according to global trends
- Implement the Millennium Development Goals

Environment – Ministry of Environment
- Protect protected areas
- Enhance children's as well as villagers' knowledge of environment issues
- Implement law and order against environmental acts and laws

Science and Technology – Ministry of Science and Technology
- Implement new technologies
- Establish Vidatha Centres, resource centres whose the main objective is to give new technical knowledge to villages

Media – Ministry of Mass Media
- Focus on social development issues
- Implement community media centres

Health – Ministry of Health
- Implement the free health system
- Raise awareness especially of HIV/ AIDS, social diseases, cancer and other diseases
- Conduct health camps

Peace
- Establish a peace secretariat to promote the peace process
- Promote UNESCO's Teachers Guild to Peace Education
- Establish a Peace Education unit in the Ministry of Education

Culture
- Protect and conserve all cultural heritage sites
- Protect and promote intangible and tangible cultural heritage
- Establish divisional level cultural centres
- Raise awareness among villagers and children about culture
- Promote UNESCO's World Heritage in Young Hands Kit

Private sector
- Involvement in various ESD activities which include:
  - Primary and secondary education
  - Environmental protection
  - Cultural protection
  - Improving ICT capacity

NGOs
- Involvement in various ESD activities which include:
  - Environmental education
  - Cultural activities
  - Disaster management

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
National Commission of Uzbekistan for UNESCO **Ms. Dilnoza Kurbanova** Senior Expert *22nd June 2006*	Based on the National Programme and Conception on "Development of Environmental Education and Perspectives of Improvement of Preparing and Retraining Ecologist Personnel in Uzbekistan for 2006-2010," national policy on ESD will be created with the main objectives being: • To improve the quality of education • To reorient existing education programmes to address sustainable education • To develop public understanding and awareness • To provide training programmes for all sectors of private and civil society • To elaborate the lifelong environmental education system • To elaborate the State Programme on environmental education and improvement of population awareness • To integrate ecological subjects into other studies in higher educational establishments; • To create a centre for retraining the personnel of environmental organisations • To create a museum of local lore in the regions of Uzbekistan • International cooperation in the sphere of education

What ESD activities have been or will be implemented in your country during the DESD?

1. The UNESCO Office in Tashkent, the National Commission of the Republic of Uzbekistan for UNESCO and the National University of Uzbekistan held the National launch of the DESD on 11 May 2006.

2. The Ministry of Higher and Specialized Education of the Republic of Uzbekistan, the Ministry of Public Education of the Republic of Uzbekistan and the State Committee for Nature Protection of the Republic of Uzbekistan will organize the national seminar on "Improvement of Environmental Education" in June 2006.

3. The National Commission of the Republic of Uzbekistan for UNESCO in collaboration with UN agencies and local partners will organize the educational youth camp "Youth and Sustainable development: Environment for Healthy Life" for 180 young people on 17-27 August 2006. This project is targeted at young people between ages 14-16 from members of the UNESCO ASPnet in Uzbekistan. Participation is also expected from young people involved in the UNDP project, "Internet Schools in Uzbekistan".

   The programme of the Camp is designed to provide considerable opportunity for group and plenary discussions and activities on the themes of:

   • Environment and sustainable development
   • Healthy styles of life
   • World heritage in young hands
   • Youth values
   • Standard-setting documents on child rights
   • Principals of a democratic society
   • Preventive education on HIV/AIDS and drug abuse
   • Combating against desertification
   • Ecology and biological diversity
   • ICT and youth (Internet Festival)
   • A United Nations model

4. CLC project in Uzbekistan

   The concept of lifelong education was introduced in Uzbekistan in 1999 and began with a pilot project on establishing and developing Community Learning Centres (CLCs). The project was supported from UNESCO within the framework of the Asia-Pacific Programme of Education for ALL (APPEAL). In the meantime there are ten CLCs and one CLC Resource Centre created under the initiative of the National Commission of Uzbekistan for UNESCO. Moreover, the UNESCO Office in Tashkent created two CLCs on skills development (carpet weaving) - in Khiva, Bukhara, with three more CLCs currently under development - in Samarkand (traditional paper), Shakhrisabz (Suzanne) and Tashkent (traditional music instruments).

   Due to the fact that most of the population lives in a rural social environment with a strong sense of community, the CLCs provide opportunities for individuals to acquire knowledge and life skills through structured activities and non-formal learning. CLC environments are also encouraging for all age groups living together in one community to make and follow their own educational plans and programmes.

5. The Asia-pacific Centre of Education for International Understanding (APCEIU, Korea, Seoul) launched a 3-year project on the Asia-Pacific Consultation on Developing EIU Policy (2006-2008). APCEIU in cooperation with the National Commission of the Republic of Uzbekistan for UNESCO and the UNESCO Tashkent Office will organize the "Asia-Pacific Consultation on Developing EIU Policy 2006 Situational Analysis and Consultation on EIU in Central Asia," in Tashkent, Uzbekistan on 9-11 September 2006. The objectives of this project are:

   • Setting the groundwork for a situational analysis on the development of EIU policy
   • Sharing information on the current situation of EIU in formal and non-formal education systems in each country
   • Creating an agenda for the balanced and contextualised EIU development in the region

6. The UNESCO/ZEF pilot research project working on sustainable development through the "Economic and Ecological conversion of land tenure and stream use in the Khorezm region (Uzbekistan)" (2002-2012) in the Aral Sea basin is being realized in the Khorezm region. The aims of the project are following:

   • Elaboration of the possibility of long-term land tenure and stream use in the Aral Sea basin
   • Combat against desertification
   • Improvement in the living condition of local populations

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
(p. 76 continued)	*(p. 76 continued)*
(Kurbanova, 2006b)	
Vietnamese National Commission for UNESCO **Mr. Pham Quang Tho** Deputy Secretary General *20th June 2006*	1. Reform curricula, contents, methods of education and training for comprehensive educational improvement for younger generations; enhance practicality, practical skills, self-study ability with emphasis on social and human knowledge; supplement modern science and technological achievements suitable with students' ability to acquire and approach the common education level of countries in the region and in the world. 2. Assist disadvantaged provinces in the implementation of compulsory secondary education by 2010 by helping to train teachers in ten disadvantaged provinces and increasing the budget for building schools, boarding schools and procurement of teaching equipment and facilities for disadvantaged areas. 3. Train human resources for rural areas to equip farmers with basic knowledge of rural professions, enabling farmers to diversify their production and trade activities to generate jobs and raise income through the rapid growth of community study centres networking across the country. 4. Sustainably develop education methodologies in ethnic minority and disadvantaged areas with due consideration and recognition of cultural sensitivities; narrow the gap in educational development between regions by implementing the following measures: building a suitable network of schools and classes in ethnic minority and mountainous areas; strengthen and renovate teaching training centres to improve the quality and efficiency of teacher training, particularly teachers for ethnic minority and mountainous areas; implement proper budget allocation and financial aid from the state and local budget. 5. Mobilize all society and citizens to contribute to the establishment of the education system, education socialization, informal and formal forms of educational diversification, living skills and lifetime study education, making the country a learning society. 6. Incorporate ESD into curricula both in and outside of schools; promote and spread knowledge of sustainable development to improve people's knowledge and awareness to get all citizens involved in sustainable development on this basis. 7. Implement objectives of the National Action Plan of Education for All 2003-2015 to make study opportunities available to everyone so that they can get access to basic high-quality education pursuant to the six Dakar goals.
(Tho, 2006a)	

What ESD activities have been or will be implemented in your country during the DESD?

(p. 77 continued)

7. "Waste management" project in Uzbekistan.

   The National Commission of the Republic of Uzbekistan for UNESCO has adopted and published the educational kit on environmental education, PLANET 3 "Waste management," with the financial support of ACCU (Japan). The kit was distributed among all ASPnet schools (thirty-one) and ten Community Learning Centres (created by UNESCO in ten regions of Uzbekistan). This kit was duplicated and distributed two times by the Uzbekistan/UNDP project "Waste management in Uzbekistan" and is being republished by the EU/UNDP project "Enhancement of Living Standards in Karakalpakstan and Namangan Region of Uzbekistan." Several seminars and trainings for using the kit are being organized by the National Commission of the Republic of Uzbekistan for UNESCO in collaboration with the Ministry of Public Education, the State Committee for Nature Protection of Uzbekistan and the UNDP Office in Uzbekistan.

Within the framework of the DESD and on the basis of the orientation of Viet Nam's sustainable development strategy, Viet Nam tentatively plans the following activities:

1. Awareness raising to all stakeholders and institutions on the DESD through:
   - Seminars and workshops on ESD as well as on themes with participation of all stakeholders, including the private sector and individuals
   - Mass media : radio, newspapers, TV, Internet
   - Dissemination of information on ESD to various organisations, schools and CLCs (Community Learning Centres), local communities at tourist sites, mass gatherings, factories and companies
   - Translation of UNESCO and other international ESD documents for distribution
2. Capacity building in the following fields:
   - Research and develop appropriate policies on ESD and ensure incorporation of ESD elements in all national sustainable development strategies, policies and plans
   - Develop teaching and learning materials on ESD for both formal and non-formal education
   - Research the reform of formal and non-formal education curricula centring on quality education and implementation of the National Education for All Action Plan (2003-2015), UN Literacy Decade (2003-2012) and socialization of education
   - Train and equip teachers and instructors, especially at the university level, on methodologies of delivery, approaches and knowledge on ESD
   - Develop ESD monitoring and evaluation indicators
3. Networking and partnerships:
   - Establish a network of partnerships among stakeholders, institutions, universities, professional associations, social organisations, the private sector, formal and non-formal education sectors, ASPnet-CLC, regional and international organisations, NGOs, etc.
   - Participation in regional and international seminars, workshops and activities such as student exchange programmes and scholarships, establishment of opportunities for students to take part in international youth forums on sustainable development, research and study trips by key ESD stakeholders to other countries
   - Sharing experiences and knowledge on the DESD among national, regional and international stakeholders
4. Some immediate activities:
   - Development of shared teaching material for ASPnet-CLCs Phase 1 and Phase 2
   - Meeting of the Viet Nam National Committee on DESD for approval of the DESD Action Plan
   - An awareness raising seminar for all stakeholders on the DESD
   - Participation in the ACCU-UNESCO Asia-Pacific IP and COE Programmes for ESD

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
UNESCO Hanoi **Ms. Jan Kinsella** Assistant Education Project Officer *12th July 2006*	Taken from the draft Viet Nam National Action Plan for DESD Main contents and priorities of the Decade: • Reform curricula, contents, methods of education and training for comprehensive educational improvement for younger generations; enhance practicality, practical skills, self-study ability with emphasis on social and human knowledge; supplement modern science and technological achievements suitable with students' ability to acquire and approach the common education level of countries in the region and in the world. • Assist disadvantaged provinces in the implementation of compulsory secondary education by 2010 by helping to train teachers in ten disadvantaged provinces and increasing the budget for building schools, boarding schools and procurement of teaching equipment and facilities for disadvantaged areas. • Train human resources for rural areas to equip farmers with basic knowledge of rural professions, enabling farmers to diversify their production and trade activities to generate jobs and raise income through the rapid growth of community study centres networking across the country. • Sustainably develop education methodologies in ethnic minority and disadvantaged areas with due consideration and recognition of cultural sensitivities; narrow the gap in educational development between regions by implementing the following measures: building a suitable network of schools and classes in ethnic minority and mountainous areas; strengthen and renovate teaching training centres to improve the quality and efficiency of teacher training, particularly teachers for ethnic minority and mountainous areas; implement proper budget allocation and financial aid from the state and local budget. • Mobilize all society and citizens to contribute to the establishment of the education system, education socialization, informal and formal forms of educational diversification, living skills and lifetime study education, making the country a learning society. • Incorporate ESD into curricula both in and outside of schools; promote and spread knowledge of sustainable development to improve people's knowledge and awareness to get all citizens involved in sustainable development on this basis. • Implement objectives of the National Action Plan of Education for All 2003-2015 to make study opportunities available to everyone so that they can get access to basic high-quality education pursuant to the six Dakar goals.

What ESD activities have been or will be implemented in your country during the DESD?

Specific activities of the DESD

Within the framework of the DESD and on the basis of the orientation of Viet Nam's sustainable development strategy, the National Decade of Education for Sustainable Development Committee of Viet Nam plans the following activities:

5.1 Awareness-raising and capacity-building: raise awareness and build capacity of beneficiaries through seminars and workshops as well as other forms with emphasis on the following beneficiaries:

- Managers within ministries/central and local branches, lawmakers (National Assembly)
- Teachers and educators
- Those directly involved in the DESD
- Reporters from press agencies

5.2 ICE

- On radio, newspapers, TV
- In schools
- At tourist attractions
- Manufacturing factories, companies

5.3 Policies

- Education: incorporate sustainable development into informal and formal curricula with policies encouraging schools to incorporate this content into curricula and examinations.
- Manufacturing sectors: sustainable development is a critical factor during project assessment. There should be policies that require manufacturing sectors to pay for environmental protection costs and policy that stipulates sustainable development labeling for standard products.
- There should be regimes and policies ensuring the presence of ESD in all national sustainable development strategies.
- Policies to reward organisations with achievements in ESD; policies to label "sustainable development".
- Appropriate policy to boost implementation of the Action Plan of Education for All (2003-2015), the UN Decade of illiteracy eradication (2003-2012) and education socialization.

5.4 Document editing

- Reference and extracurricular documents
- Formal curricula
- UNESCO ESD-related translated documents

5.5 Teacher training

- Teachers are the major force to deliver the contents of sustainable development to everyone. Teachers need to be provided with relevant knowledge and proper training to be able to effectively perform their task.
- Beneficiaries: the first are teachers in teaching training colleges then teachers at schools and those teaching at centres.

5.6 Research on incorporation of sustainable development into formal curricula

- Among fifteen themes, select themes that receive attention of the government are to be incorporated into the current curricula. This should be identified as a long-term process, requiring active participation of all relevant organisations (in each relevant theme), particularly the Education Programme and Strategy Institute, the Education and Training Ministry, the National Assembly and other educational agencies.
- Incorporate sustainable development into compulsory examinations.

Asia-Pacific DESD Indicators E-list Members: Guidelines Review Team	What are the DESD priorities in your country?
(p. 80 continued)	*(p. 80 continued)*
(Kinsella, 2006)	

What ESD activities have been or will be implemented in your country during the DESD?

(p. 81 continued)

5.7 Set up a website for the Decade

- Information on ESD in different countries
- Provision of activities in Viet Nam
- Biosphere reserves
- Nature and heritage reserves
- Community study centres
- Partnership schools
- Relevant seminars and workshops
- Research subjects

5.8 Holding seminars and workshops on each theme

- Related to environment: sustainably exploit natural resources, preserve biosphere reserves and biodiversity, change production and consumption models to be more environmentally friendly.
- Related to economics: encourage production of clean products, boost living-skills education and disseminate science and technology knowledge to raise income of poor households.
- Related to socio-culture: preserve heritage, encourage sustainable consumption, enhance education on prevention of HIV/AIDS and other heath care issues, spur activities to establish a cultural living style and establish a healthy and civilized society.

5.9 Establish a network of partners and stakeholders

- Network of universities
- Network of enterprises, private organisations, voluntary organisations and NGOs
- Network of reporters and journalists
- Network of educational research centres
- Network of community study centres and regular education centres at localities
- Network of partnership schools
- Network of specialists, researchers, scholars and professors
- Network of typical centres: educational technique centre, MAB commission, Hanoi teacher training college

5.10 Participation in regional and international activities

- Assign participants to regional and international seminars and workshops
- Take part in research projects, exchange experiences with regional and international countries
- Hold regional and international seminars in Viet Nam
- Take visiting delegates to beautiful locations and heritage sites as well as other research trips

5.11 Other assistance activities

- Research on establishing the budget for ESD with assistance from sources such as:
  - UNESCO and other international organisations
  - Interested countries like Denmark, Canada, Japan
  - Domestic enterprises
- Research on other fund raising activities: organizing ecological tours and heritage tours for pupils and students; organize second-hand item markets, collect unused items to raise funding; educate on saving and consumption among schools, families and the society.

Appendix 5: Responses – Guidelines Review Team "Role of UNESCO NatComs and Offices" E-mail

Asia-Pacific DESD Indicators E-List Members: Guidelines Review Team	Kindly share the current or future role of the UNESCO National Commission or UNESCO Office with regards to the development of national ESD indicators in your country.
Bangladesh National Commission for UNESCO **Ms. Rita Parveen** Programme Officer *27th July 2006* *(Parveen, 2006)*	Brief on DESD 1. The Decade of Education for Sustainable Development (DESD) priorities in Bangladesh are: • Education • Environment • Science and technology • Media • Health • Culture • NGOs 2. The Bangladesh National Commission for UNESCO (BNCU) always works with the related ministries and sends delegates and participants to different meetings and workshops related to Education for Sustainable Development (ESD) within the country and outside the country. Delegates and participants in different countries also participate in international and regional workshops held in Bangladesh. 3. We also work according to the instructions that are provided time to time by UNESCO and ISESCO in developing national ESD Indicators. 4. During the Decade of Education for Sustainable Development (DESD), the Ministry of Education and Ministry of Primary and Mass Education are making an all out effort to implement Education for All, curriculum development and curriculum change according to the global trend and addressing all areas to achieve the Millennium Development Goals in Bangladesh.
Cambodia National Commission for UNESCO **Mr. Supote Prasertsri** Programme Specialist *28th July 2006* *(Prasertsri, 2006)*	1. The National Commission can coordinate, but cannot develop ESD indicators. It is a very young NatCom and has limited capacity. 2. Our office is happy to be involved in the development of DESD indicators. 3. Steps: a) meeting with key ESD stakeholders; b) reviewing existing indicators, including those for the MDGs, EFA and others; and c) developing indicators which should be included in both the process and outcome of sustainable development.
Indian National Commission for Co-operation with UNESCO **Mr. Shailendra Kumar Sharma** Director *21st July 2006*	1. The role of National Commission in developing National DESD Indicators is that of a nodal agency which is central to the success of the Decade. The Indian National Commission has been playing a pro-active role in developing the DESD indicators in consultation with the concerned Departments and Ministries. Being a part of the Education Ministry, it is placed in a unique position to interact continuously for inclusion of various provisions of the DESD into National Education Policies especially in the national curriculum. However, several of the provisions of the DESD are already being implemented in our country. Various social, economic and environmental issues have been incorporated in the revised national curriculum in consultation with all major stakeholders. 2. The Indian National Commission as part of its commitment in developing DESD indicators and its implementation given the local variations as per the socio economic factors has taken the following steps for taking this process forward: • To oversee the implementation of the DESD in our country, the Indian National Commission has worked out a National Action Plan with the approval of the competent authority. • As part of this National Action Plan, a National Committee consisting of experts and officials from government, civil society, academics and NGOs on education, environment, culture, social sciences, science, communication, media and other related fields, under the Chairmanship of the Secretary (HE) and the Secretary-General of the INCCU has been constituted.

Asia-Pacific DESD Indicators E-List Members: Guidelines Review Team	Kindly share the current or future role of the UNESCO National Commission or UNESCO Office with regards to the development of national ESD indicators in your country.
(Sharma, 2006)	• This National Committee would monitor the development and implementation of the National DESD Action Plan. Its role is also: - Policy making and framework setting - Budget and mobilization of resources - Promotion of public consultation and input - National and International public campaigns - Restructuring of educational systems to enable the implementation and operationalisation of ESD. The Committee would also recommend and formulate ESD policy options which reflect local-level experience and challenges, set national ESD priorities and integrate ESD into country programmes for international priorities.
Ministry of Education Malaysia **Dr. Naimah Ishak** Principal Assistant Director Education Planning and Research Division *21st July 2006* *(Ishak, 2006b)*	Sustainable development has been integrated into national development policies since the late 1970s and factors such as increased access to education, increased equity in education, increased quality of education, and improved efficiency and effectiveness of education management have been the major thrusts of the Education Blueprint 2001-2010. In meeting the demands of globalisation and becoming a fully developed nation by 2020, Malaysia is embarking upon a new phase of development towards realising its aspiration; the next 15-year phase will be guided by the National Mission, a policy and implementation framework aimed at obtaining greater performance and impact from the country's collective and developmental initiatives. As such, the Ministry of Education is revising the Education Blueprint 2001-2010 and producing the Education Master Plan (2006-2010) aimed at fulfilling the Mission's thrusts and objectives for the 2006-2010 period. One of the key thrusts of the National Mission is to raise the capacity for knowledge and innovation and nurture a 'first class mentality'. In line with the National Mission, human capital development will be one of the key thrusts in the Education Master Plan, 2006-2010. Thus, the role of the National Commission and/or the UNESCO office in developing national DESD indicators is crucial to ensure that ESD activities are integrated into the implementation of educational programmes. In developing ESD indicators, a working group from the Educational Planning and Research Division, Ministry of Education was set up to plan and produce ESD indicators which encompass various aspects of education such as enhancing national schools, establishing a nation state through education, developing human capital, narrowing the education gap, enhancing the teaching profession and establishing institutional excellence, effectiveness and efficiency in the delivery system. These areas (i.e. strategies, the plan of action and indicators) were developed with inputs from various Divisions in the Ministry of Education so that a concerted effort is derived to enable the Ministry of Education in producing the comprehensive Education Master Plan 2006-2010. The UNESCO office is responsible for coordinating the development of ESD indicators among stakeholders in the Ministry of Education. This is deemed important as to increase collaboration between various divisions in the Ministry of Education and to ensure that there is commitment among the stakeholders. The Ministry of Education will continuously establish linkages with stakeholders from other governmental and non-governmental agencies as to ascertain that the educational programmes as outlined in the Education Master Plan will be carried out effectively and efficiently. Malaysia welcomes the sharing and learning of best practices from other countries on ESD.

Asia-Pacific DESD Indicators E-List Members: Guidelines Review Team	Kindly share the current or future role of the UNESCO National Commission or UNESCO Office with regards to the development of national ESD indicators in your country.
Palau National Commission for UNESCO **Mr. Dwight G. Alexander** Secretary-General *20th July 2006* *(Alexander, 2006b)*	Palau does not have a UNESCO Office except for the Pacific Cluster Office in Apia, Samoa. They will have a greater role in the implementation of ESD in the Pacific and will rely on the National Commissions and the Ministries of Education in the implementation of ESD and ESD indicators at the national level. The future role of the National Commission in the development of national DESD indicators is a real challenge in our country. There are several agencies, government agencies and non-governmental agencies, that are implementing ESD programmes in the country. Some are in environment, culture, education and technology. The Palau National Commission for UNESCO is ensuring that the DESD is integrated into education policies by working with the framers of educational development for the next ten years to include the Pacific Framework for ESD in the national plan. This would cover all ESD activities related to education whether it be in science, environment, health, culture or CI. The Palau National Commission for UNESCO hopes to play a key role in unifying all efforts or at least get all the different agencies involved in ESD programmes to work together so that one set of ESD indicators can be developed to cover all ESD activities. While some agencies maybe well advanced and some are still in the development stage, once all the agencies agree to work together, it will make it much easier to measure the progress of ESD development in the country. The role of the National Commission is critical and crucial because all the agencies put emphasis and focus in their area while leaving other areas for others. There is also the issue of government agencies vs. the non-government agencies and the lack of networking and partnerships. Since the National Commission consists of experts from the different fields and sectors, it should be able to establish partnerships between the agencies where they can build a network focusing on ESD. Palau welcomes the sharing and learning from the experiences of ESD indicator initiatives and believes that the valuable lessons gained would truly help countries that are off to a slow start on the Decade like Palau and other countries in the Pacific. Palau believes in the statement made and shared with the members of the *Review Team* as follows: "Vital to the Asia-Pacific DESD Indicators Project, is learning from the experiences of similar initiatives. Since there are no documented experiences on education for sustainable development (ESD) indicators, we need your help in collating information related to current and recent initiatives. This information will aid in avoiding replication of efforts, deepen our understanding of ESD indicators and assist with identifying lessons learnt."
UNESCO National Commission of the Philippines **Ms. Preciosa Silverio Soliven** Secretary-General *1st August 2006*	1. How would you describe the role of the National Commission or UNESCO Office in developing national ESD Indicators? The projects of the UNESCO National Commission (UNACOM) of the Philippines' Committees on Education, Communication, Social and Human Science, Science and Technology, as well as Culture focus on education for sustainable development. It uses the country's national laboratory for Lifelong Learning – the OB Montessori Pagsasarili Literacy twin project that transforms the mother and child to become self-sufficient at home and in school. "Pagsasarili" is a Filipino word which means the capacity to be self-sufficient or independent. The National Laboratory for Lifelong Learning tries to reach illiterate mothers and disadvantaged or poor children and help them gain access to quality education that will equip them towards economic independence. The stakeholders of the UNESCO World Heritage Site of Ifugao Rice Terraces work together with the local government and non-government organisations, as well as the state universities and colleges using UNESCO experts from Paris and Asia to sustain its culture and eco-tourism, such as its agriculture, woodcraft and weaving industry. It has also converted seven of its day care centres into Pagsasarili preschools.

Asia-Pacific DESD Indicators E-List Members: Guidelines Review Team	Kindly share the current or future role of the UNESCO National Commission or UNESCO Office with regards to the development of national ESD indicators in your country.

The Committee on Marine Sciences uses the networking of stakeholders of fishing and coastal marine communities (local government officials, students, teachers, fishermen, entrepreneurs, tour operators, etc.) to address conservation issues.

The Communication Committee focuses on the training of journalists and access to information for marginalized sectors through a project with INTEL.

2. To what extent are you or will you be involved in developing ESD Indicators? (DESD, 2005-2014)? What steps are you taking or will you take in the development of ESD Indicators?

As founder of the Operation Brotherhood Montessori Centre, the implementing arm of the OB Montessori Pagsasarili Mothercraft Literacy Twin Project that won the UNESCO International Literacy Award in New Delhi, India, we have been using this literacy course in the Philippines since 1983.

Using the Mothercraft Literacy course with a complete household environment, village mothers and their children learn together a very disciplined way of personal grooming, housekeeping, child care and cooking. This will elevate the status of village mothers by developing their potential to the fullest, thus, making them economically self-sufficient.

- From 1986-90, fourteen Mothercraft Literacy houses in Cadiz and Sagay, Negros Occidental were established;
- By 2003, Marikina Mayor Marides Fernando had fifteen of her community leaders trained; and
- The Department of Education's Bureau of Non-Formal Education has also adopted the Mothercraft curriculum in their Family Literacy Programmes in four pilots in the provinces of Bulacan, Quezon, Rizal and Ifugao in coordination with their respective local government officers.

At present, the Montessori Pagsasarili system, with the partnership of local government and parents, is being used in the following sites. All are self-sustaining:

- Seven OB Montessori Pagsasarili preschools in Metro Manila;
- Five in the UNESCO World Heritage Site of the Ifugao Rice Terraces; and
- Thirty in Lipa City, Batangas.

The Pagsasarili system is also currently being used in the EFA-DAKAR Pilot Projects in public schools to initiate UNESCO's framework of action for quality education in public schools:

- Angeles Elementary School in Angeles, Pampanga; and
- South Concepcion Elementary School in Tarlac.

With regards to public opinion, the said Literacy project has been accepted greatly since it has proven to produce graduates with high average to superior levels of literacy, not only in school, but also within the home and the community.

3. To what extent have you or will you be coordinating the development of DESD indicators among experts, policy makers, etc.?

The UNESCO National Commission plays the lead role in promoting the Decade of Education for Sustainable Development (DESD) 2005-2014 in the country. It convened a National Conference on ESD in January 2005 that prepared a detailed roadmap towards achieving ESD. Through the Commissioners of the Education Committee, it has drafted the national policy on ESD, as well as developed and recommended policy directives through Executive Order no. 483 entitled, "Establishing the UNESCO Lifelong Learning Centre for Sustainable Development of the Philippines," designating the Operation Brotherhood Montessori, Inc." to popularize lifelong learning for sustainable development in the country and initiate the establishment of the UNESCO-ASEAN Lifelong Learning Centre for Sustainable Development (LLCSD).

Asia-Pacific DESD Indicators E-List Members: Guidelines Review Team	Kindly share the current or future role of the UNESCO National Commission or UNESCO Office with regards to the development of national ESD indicators in your country.
(Soliven, 2006b)	With its Lifelong Learning Centre, the UNESCO National Commission will prepare national ESD indicators in cooperation with the three education agencies, the Department of Education, the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA). The UNESCO-ASEAN LLCSD will help: - Enhance the skills and upgrade the levels of trainers in the Asia-Pacific region; - Build capacity and empower the people in the region through lifelong education; - Encourage cooperation among countries in the region and promote the exchange of resources, information and research to promote greater knowledge on lifelong learning programmes and networking for sustainable development in the region; - Promote lifelong learning in the region; and - Address regional problems concerning education, poverty and other relevant and urgent issues.
Sri Lanka National Commission for UNESCO **Mr. Keembiyage Prasanna Chandith** Deputy Secretary-General *21st July 2006* *(Chandith, 2006a)*	The Sri Lanka National Commission for UNESCO is under the Ministry of Education and the Chairman of the Sri Lanka NatCom is the Hon. Minister of Education. The Deputy Chairman of the NatCom is the Secretary of the Ministry of Education. Our normal activities comprise of consultation, advice and direction to the Ministry of Education and other relevant ministries on UNESCO subjects. If UNESCO brings out new issues related to Education, Science, Culture and Communication, we will organize a meeting or a special discussion with relevant Ministry officials. Also there is a special EFA Branch in the Ministry of Education, where all EFA activities are handled. Our major role is to disseminate UNESCO ideas to the Ministry of Education. We have discussed several times how to implement and develop the DESD indicators. Following, the workshop on 23rd February 2006 regarding ESD conducted by ACCU, we have already conducted a special workshop with the officers who are involved in the Education sector and NGOs. We disseminated information on ESD indicators, ideas and other important issues related to ESD. The following steps have been taken in the development of DESD indicators: 1. Submitted two innovative project proposals to develop ESD indicators to ACCU; 2. Submitted a proposal for the Centre of Excellence which is regarded to develop ESD indicators; and 3. The Sri Lanka National Commission for UNESCO conducted a Child Camp which is important for developing ESD indicators. The New Delhi UNESCO Cluster Office has already funded a technical specialist for the Ministry of Education to support the EFA branch. ESD is not a single subject. It is integrated with others subjects involving EFA. The technical specialist will also provide inputs to the Ministry on ESD. Our commission has also discussed with the Minister of Education, the Secretary of the Ministry of Education and held a meeting with donors. Donor coordination will indirectly help to develop DESD indicators. Success in any or all three of the projects put forward for ACCU funding, two Innovative Programme projects and one Centre of Excellence project for Sri Lanka, will further enhance our efforts at promoting ESD.

Asia-Pacific DESD Indicators E-List Members: Guidelines Review Team	Kindly share the current or future role of the UNESCO National Commission or UNESCO Office with regards to the development of national ESD indicators in your country.
National Commission of Uzbekistan for UNESCO **Ms. Dilnoza Kurbanova** Senior Expert *21st July 2006* *(Kurbanova, 2006a)*	In Uzbekistan, the National Commission of the Republic of Uzbekistan and the UNESCO Office in Tashkent (Uzbekistan) are coordinating all activities of the DESD and analyzing with partners the needs of people. These activities include: • The National Programme and Conception on "Development of Environmental Education and Perspectives of Improvement of Preparing and Retraining Ecologist Personnel in Uzbekistan for 2006-2010" has been elaborated. • On 11 May 2006 the official National launch of the DESD and Resolution was adopted. • The sub-regional Conference on HIV/AIDS and Education was organized on 26-27 May 2006 (Tashkent, Uzbekistan) and a recommendation was adopted. • The CLC project is being implemented in Uzbekistan (CLCs provide opportunity for individuals to acquire knowledge and life skills through structured activities and non-formal learning, particularly in rural areas). • The National Commission of the Republic of Uzbekistan for UNESCO in collaboration with UN Agencies and local partners will organize the educational Youth Camp "Youth and Sustainable Development: Environment for Healthy Life" for 200 young people on 17-27 August 2006. • The UNESCO Office in Tashkent will organize the Youth Camp "Against HIV/AIDS and drug abuse" in August 2006. • The UNESCO/ZEF pilot research project working on sustainable development through the "Economic and Ecological conversion of land tenure and stream use in the Khorezm region (Uzbekistan)" (2002-2012) in the Aral Sea basin is being realized in the Khorezm region. • The "Waste Management" project on environmental education, PLANET 3 "Waste Management" (ACCU, Japan), is being realized by the National Commission of Uzbekistan and UN Agencies in Uzbekistan. • APCEIU in cooperation with the National Commission of the Republic of Uzbekistan for UNESCO and the UNESCO Tashkent Office will organize the "Asia-Pacific Consultation on Developing EIU Policy 2006 Situational Analysis and Consultation on EIU in Central Asia," held in Tashkent, Uzbekistan, on 9-11 September 2006. This Meeting will be organized within the framework of the 3-year project on the Asia-Pacific Consultation on Developing EIU Policy (2006-2008). • The National Commission of Uzbekistan, UNESCO Office in Tashkent and UN Information Centre in Uzbekistan organized an essay and drawing contest for pupils of Uzbekistan on intercultural dialogue (May-July, 2006). • The Project proposal "Creation of experimental special groups in kindergartens and secondary schools for introduction of inclusive education" submitted by the Resource Centre on Special Education of the Ministry of Public Education of Uzbekistan was approved in July 2006 by the ACCU Innovation Programme on ESD for 2006-2007. • The UNESCO Office in Tashkent and National Commission for UNESCO of Uzbekistan are cooperating on the development of the DESD with ministries, communities, universities, schools, NGOs and UN agencies in Uzbekistan. • The UNESCO Tashkent Office, National Commission of Uzbekistan for UNESCO in collaboration with UN Agencies in Uzbekistan are elaborating ICT Pilot projects set up on the Intranet on ESD for ASPnet schools in Uzbekistan.

Asia-Pacific DESD Indicators E-List Members: Guidelines Review Team	Kindly share the current or future role of the UNESCO National Commission or UNESCO Office with regards to the development of national ESD indicators in your country.
Vietnamese National Commission for UNESCO **Mr. Pham Quang Tho** Deputy Secretary-General *23rd July 2006* *(Tho, 2006b)*	The development of national ESD indicators in Viet Nam will be led by the Viet Nam National Committee on DESD and coordinated through the NatCom which functions as its secretariat, with technical support from the UNESCO Hanoi Office. The Viet Nam National Committee on DESD consists of vice-ministers from the relevant ministries and representatives from key institutions. The president of the Viet Nam National Committee on DESD is the Deputy Prime Minister, Mr. Pham Gia Khiem. Groups of leading experts and specialists from relevant sectors have been created to support the national committee. The National Action Plan for the DESD was recently drafted and will be ratified by the Prime Minister in the near future. For ESD indicator development, relevant statistical and indicator experts will be identified and invited to contribute to this work. Concrete guidelines for the development of ESD indicators will be established based on the objectives, goals, targets and priorities outlined in the National DESD Action Plan. The respective roles of the NatCom and UNESCO Hanoi Office during the DESD are outlined below. The development of ESD indicators will be in line with these roles. The Role of the National Commission for UNESCO: In Viet Nam's case, the Secretariat of the National Commission also plays the role of the Secretariat of the Viet Nam National Committee on DESD. Therefore, the DESD roles of the NatCom are as follows: • Study and develop strategies, plans, programmes and legal instruments • Organize the implementation of the above mentioned fields of activities • Coordinate activities among stakeholders, in networking, internal and external relations and activities in research and study • Advocate DESD (awareness raising, publication of documents, information sharing) • Raise funds for activities and projects • Monitor and assess DESD activities and their implementation based on DESD indicators • Compile reports on the DESD for the government and for UNESCO as required The Role of the UNESCO Hanoi Field Office: • Monitor, observe and study the host country's activities during the DESD • Coordinate international activities on DESD with those of the host country • Support international institutions and the NatCom as well as the National Committee on DESD by providing international guidance expertise, know-how and professional expertise on the development and implementation of DESD programmes and activities • Mobilize international support and raise funds for DESD activities and projects, promote research and carry out DESD promotional activities • Monitor and assess the country's DESD achievements, weaknesses and advantages • Compile reports for relevant authorities and institutions on the country's DESD status

Appendix 6: Examples of ESD Indicator Initiatives Worldwide

Pacific ESD Framework Monitoring Matrix

The Pacific Education for Sustainable Development Framework was officially endorsed by the Pacific Ministers of Education in Nadi, Fiji, on 27 September 2006. Indicators relating to the desired outcomes of the framework are outlined in the *Pacific ESD Framework Monitoring Matrix* below (UNESCO Apia, 2006, p. 9-10). Rather than measuring general ESD progress and change, these indicators focus on the progress made toward implementing the Pacific ESD Framework and will be complementary to other ESD monitoring components developed throughout the Decade.

Area	Desired Outcome	Indicator of Progress
Pacific ESD Framework	Acceptance and adoption by all Pacific countries and agencies ESD Framework reviewed and a forward plan developed	Critical mass of countries actively adopt Framework in time for project implementation in 2008 measured through: • ACCU/PP funding requests made • Bi-annual country progress report by UNESCO Number of countries/agencies that contribute to Bi-annual report First regional ESD Framework Implementation Report covering 2007-2008 completed by march 2009 ESD Framework reviewed 2011
Priority Area: Formal Education & Training	ESD contributes to FBEAP and EFA Pacific educators have ability to and do include sustainability issues in their work	ESD contribution evident in MDG/EFA reporting All levels of national curricula include ESD elements by 2014 Assessment of student learning of SD units in the curriculum occurs by 2014 ESD part of core teacher training at all levels by 2014 ESD Skills building programme for trainers working in informal and technical education in place by 2014
Priority Area: Community-based education	ESD better understood in Pacific context and cultural terms Active participation in policy and decision-making Increased awareness of SD in the Pacific community Media well informed to report sustainable development issues Business groups engaged in sustainable development activity	Systematic research in 3 different counties using appropriate methodologies undertaken by 2011 Mapping of community-based education programmes in the Pacific Courses on community participation, and, participatory techniques of policy development available in 10 countries by 2014 Influential leader groups (including government officials) ESD training undertaken in all countries by 2014 and community champions identified Articles that clearly enunciate why SD matters to the Pacific appear in media Number of sustainable business projects that develop revenue generating skills underway

Area	Desired Outcome	Indicator of Progress
Priority Area: Policy development and innovation	Good understanding and data collected of factors necessary for successful ESD policy in the Pacific Innovative ESD programme models available Improved communication between countries and agencies for data collection National policies recognise that key role of learning in achieving sustainable development Partnerships that support ESD flourish	Baseline data available by 2008 that identifies best practice, and gaps and challenges for ESD Research into effective ESD underway by 2011 Pacific ESD methodologies and resource materials available by 2014 ESD programmes aimed and government and community leaders developed Empirical and anecdotal evidence of new or strengthened project collaboration between agencies The key role of learning in SD acknowledged in policies in 10 countries by 2014 'Partner-in-principle' understanding achieved with all relevant CROP agencies and 10 NGOs/ community groups by 2007 and two business or media ESD partnerships development by 2011

The following examples extracted from Tilbury & Janousek (2006)

Australian National Framework of EfS Indicators

On 1st May 2006, the Australian Research Institute in Education for Sustainability (ARIES) was commissioned by the Australian Government Department of the Environment and Heritage (DEH) to undertake the first stage of a project that aims to build a broad framework of ESD indicators. In particular, the indicators will be used to assess the effectiveness of national ESD initiatives, report on Australia's progress during the Decade and improve implementation and effectiveness of Australian Government ESD policies and programmes.

The objective of the project is to identify indicators that enable future assessment of progress at two levels:

- Overall national progress towards sustainability education; and
- The contribution of key ESD initiatives at the national level.

The proposed outcomes of the project are:

- A summary of lessons learned from documented experiences in the area of ESD indicators;
- Identification of Australian stakeholders reporting needs and priorities;
- Dissemination of information about ESD indicators for uptake by other organisations; and
- A broad framework of national ESD indicators.

Along with documented experiences and establishing the reporting needs and priorities of Australian stakeholders, the project will involve networking with established ESD indicator experts, such as those working on UNECE and UNESCO Asia-Pacific initiatives, in order to provide further opportunities for learning, as well as avoid reinventing the wheel.

Stage 1 will conclude at the end of November 2006 with potential for future elements in areas such as the development of a Draft National Framework on indicators for ESD, capacity building and best practice national guidelines.

Sources: *a) Australian Research Institute in Education for Sustainability (ARIES). 2006. 'Identification of National Indicators for the DESD - Project Brief.' http://www.aries.mq.edu.au/project.htm*

b) Tilbury, D., & Janousek, S. 2006. 'Development of a National Approach to Monitoring, Assessment and Reporting on the Decade of Education for Sustainable Development – Stage 1: Identification of National Indicators.' Report submitted by the Australian Research Institute in Education for Sustainability to the Australian Government Department of the Environment and Heritage.

European Research Project Indicators for ESD

Forum Umweltbildung (Austria), in cooperation with the University of Luneburg, is planning a European Research Project on Indicators for ESD with the purpose of developing manageable and practical sets of ESD Key

Indicators for Formal Education. According to the March 2006 discussion paper, the indicators developed will serve to orient education practitioners in primary, secondary and higher education to adapt their practice towards the goals and methods of education for sustainable development. In addition, a basic set of ESD indicators will be developed to bridge general characteristics expressed by the various educational levels. It has been proposed that the indicators should be developed via a participatory, interdisciplinary research and evaluation process as well as complies with the demands of education practitioners in terms of practicability, applicability and relevance. In conjunction to the development of ESD indicators, this project aims to develop a European Learning Community by bringing together researchers and practitioners across national boundaries.

Source: Forum Umwelt Bildung. 2006. 'European Research Project Indicators for ESD (IFE).' Discussion paper, March 2006.

Germany: ESD Indicators for Formal Education

In Germany, discussion on ESD indicators in the formal education sector has begun. The ESD indicators that will be developed will undertake the following functions or play the following roles:

- indicators as a tool for self-evaluation;
- indicators as a support instrument for implementation and dissemination of ESD initiatives in practice; and
- indicators as a measurement of knowledge about and acceptance of ESD.

In addition, Germany's indicator system will consider indicators that encompass three levels: macro, meso and micro.

- On the macro level, indicators will take into account the responsibilities of the German states for education and their relationships to the federal level. For example, indicators could include, *progress in implementation efforts, ESD in central curricula* and *federal programmes and regional and national support structures.*
- On the meso level, indicators will reflect measures taken to establish and stabilize ESD within educational institutions.
- On the micro level, indicators will reflect ESD at the classroom level. For example, indicators could be time allocated for ESD issues, forms and methods of teaching and perceived learning successes – the viewpoints of teachers and of pupils as well.

Sources: a) Rode, H. (2006). 'Education for Sustainable Development, Different Indicators for Different Contexts: Developing Indicators for ESD in Germany' [powerpoint]. Presented at the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/rodeppt.pdf (Accessed March 27, 2006)

b) Rode, H. 2006. 'Different indicators for different contexts? Developing indicators for ESD Germany' [stimulus material for break-out groups]. Presented at the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/rode.pdf (Accessed March 27, 2006)

Germany: Self-Assessment during the DESD

The German National Committee for the DESD is currently developing a self-evaluation mechanism to monitor achievements during the Decade. In particular, official German contributions for the DESD must meet the following criteria: the contribution is innovative, can serve as a model to others, and should be based on the concept of ESD (i.e. not only the environmental but the social and economic dimensions as well). Along with stakeholder submissions of contributions to the Decade, the Committee is asking practitioners to develop a set of approximately four questions to form the basis of their self-evaluation. Stakeholders will answer these questions so that they can be compiled yearly, forming part of a monitoring report to the Committee. The purpose of the self-monitoring initiative is to encourage a learning process within the contributing organisation, as well as the education system as a whole.

Source: Leicht, A. 2006. 'Asia Pacific DESD Indicators Project: Reminder about current initiatives feedback' [e-mail]. Message to DESDexpertTeam@indaba.iucn.org (Sent 26 May, 2006)

The Nordic Minister Council: Developing ESD Indicators for the Regional Strategy for SD

The Nordic Minister Council (NMC) is an organisation for formal cooperation between the governments of Denmark, Finland, Iceland, Norway and Sweden. In May of 2005, subsequent to their adoption of a Revised Strategy on Sustainable Development for 2005-2008, a Working Group on Indicators for SD was appointed by the NMC. Their task included the development of ESD indicators for presentation to the NMC in June of 2006.

Given that the aims of the Nordic Region were similar to the UNECE Region, the Group decided to work closely with the UNECE EG to develop their indicators. The Working Group identified a set of twelve indicator questions for the Ministries of Education based on "checklist" and "input' indicators. These indicators will be used until the end of the Strategy in 2008 at which time a set of questions based on "output" and "outcome" indicators

will be developed (see Section 7 for a description of these indicator types). ESD development will be measured by comparing change in responses on an annual basis.

Source: Lindberg, C. 2006. 'ESD-Indicators in the Nordic Minister Council's Strategy on Sustainable Development' (unpublished work).

UK: Developing an ESD Indicator for Formal Education within the UK Strategy for SD

In March of 2005, the UK Government launched 'Securing the Future' a new strategy for sustainable development. The strategy identified sixty-eight indicators to assess progress during implementation. These include twenty headline or core indicators and forty-eight supporting indicators. Within the strategy the government also identified its intention to develop, as one of the supporting indicators, an ESD indicator to show the impact of formal learning on knowledge and awareness of sustainable development.

The UK Sustainable Development Commission (SDC) was given the responsibility of developing possible approaches to this indicator and forwarding its proposals to the Department for Environment, Food and Rural Affairs (DEFRA) and the Department for Education and Skills (DfES). In November 2005, the SDC commissioned an ESD consultant to research approaches to this indicator and agreed to change the indicator wording to '*The extent to which learners have developed the skills, knowledge and value base to be active citizens in creating a more sustainable society*' in order to better reflect the first objective of the DfES action plan for sustainable development.

The approaches developed for the indicator were drawn from the ESD literature and reflected six distinctive rationales, each offering a framework of learning outcomes, related modes of assessment and each yielding its own indicator. These approaches are relevant to various degrees to all levels and forms of education. The six approaches are:

- **The sustainability literacy approach:** Indicator – *The percentage of learners who attain the required level of sustainability literacy*
- **The sustainable schools approach:** Indicator – *Percentage of pupils that are able to relate activities carried out in schools to key themes of sustainable development and recognise the values, skills and knowledge that are relevant to taking considered action on issues relating to such development*
- **The citizenship survey approach:** Indicator – *The percentage of pupils who report knowledge, attitudes and activities relevant to active citizenship for a sustainable society*
- **The action research approach (or sustainable schools approach):** Indicator – *The percentage of learners who have successfully taken part in action learning designed to explore ways of creating a more sustainable society*
- **The frame of mind approach:** Indicator – *The percentage of learners who have developed sustainability as a frame of mind*
- **The dilemma approach:** Indicator – *The percentage of learners having the skill to match imaginary characters' decisions to the knowledge and values that is likely to have prompted such decisions*

These approaches were outlined and justified within a consultation paper that also included a sample assessment/survey instruments and discussion of the possible advantages and disadvantages of each approach. This was the focus of two consultative workshops, for members of the UK ESD community, held at DfES in February 2006. Workshop participants were asked to identify their first and second choices from the six approaches suggested. They were also asked to rate the two approaches selected with reference to eight criteria: validity, reliability, simplicity, objectivity, cost, equal opportunities, good practice and government policy. Whereas there was overwhelming support for the action research approach and some support for the sustainable schools approach, there was clear suspicion, or outright rejection, of any approach that sought to test prescribed knowledge, skills and values.

Sources: a) Huckle, J. 2006a. 'A UK indicator of education for sustainable development: Report on consultative workshops.' http://www.sd-commission.org.uk/pages/education.html (Accessed 24 July, 2006)

b) Huckle, J. 2006b. 'A UK indicator of the impact of formal learning on knowledge and awareness of sustainable development.' Proposals from the Sustainable Development Commission. http://john.huckle.org.uk/publications_downloads.jsp (Accessed 24 July, 2006)

c) Huckle, J. 2006c. 'Indicators for Education for Sustainable Development: Engaging the Debate' [stimulus material for breakout groups]. Presented at the Bath Royal Literary & Scientific Institute UK, Indicators for education for sustainable development: engaging the debate, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/huckle.pdf (Accessed April 27, 2006)

d) Huckle, J. 2006d. 'Towards an ESD indicator for the UK' [powerpoint]. Presented at the Bath Royal Literary & Scientific Institute UK, Indicators for education for sustainable development: engaging the debate, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/huckleppt.pdf (Accessed April 27, 2006)

e) Reid, A., Nikel, J., & Scott, W. 2006. Background Note. Paper prepared for the Bath Royal Literary & Scientific, Indicators for education for sustainable development: engaging the debate, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/background.pdf (Accessed 14 August 2006)

f) Securing the Future: http://www.dfes.gov.uk/aboutus/sd/actionplan.shtml

g) DfES Action Plan for Sustainable Development: http://www.dfes.gov.uk/aboutus/sd/actionplan.shtml

h) SDC's recommendations to DEFRA and DfES - SD indicators for education, June 2006: http://www.sd-commission.org.uk/publications/downloads/Education_sd_indicators.pdf

i) DfES self-evaluation instrument for sustainable schools: www.teachernet.gov.uk/sustainableschools

Appendix 7: ESD-related Indicator Initiatives

Argentina: Indicators for an Agenda 21 School Initiative

In Argentina, indicators are being developed as part of an Agenda 21 Programme for Schools. In particular, the indicators are concerned with three areas: Sustainable Management of School Grounds, Innovative Curricula, and Citizen participation. In addition, Argentina has developed a set of Environmental Indicators and is planning to incorporate Environmental Education indicators in 2007.

Source: Satostegui, G. 2006. [CEC-ESD] Indicadores [e-mail]. Message sent to cec-esd@indaba.iucn.org (Sent 8 June, 2006)

Australia: Indicators for a Sustainable School

Indicators for the National Environmental Education Network's (NEEN) Sustainable Schools Initiative were developed by a working group and highlighted in the National Environmental Education Statement for Australian Schools. The Group was comprised of representatives from National, State and Territory Government education and environment agencies. Indicators were developed in the following areas: education, environment, water, electricity, waste, school grounds, society and economy as a practical means of measuring certain aspects of change through the Sustainable Schools Initiative. These indicators are not considered to be a comprehensive evaluation tool.

Source: Australian Government Department of the Environment and Heritage. 2005. 'Educating for a Sustainable Future A National Environment Education Statement for Australian Schools.' Carlton: Curriculum Corporation.

Australia: Performance Indicators for the NSW EE Plan

In line with the Protection of the Environment Administration Amendment (Environmental Education) Act, the New South Wales (NSW) Council on Environmental Education developed a set of performance indicators for the Learning for Sustainability Environmental Education Plan 2006-2009. In particular, the indicators allow stakeholders to: a) assess the effectiveness of the Plan's implementation; and b) facilitate discussion about the extent to which environmental education is meeting identified needs.

Source: New South Wales Council on Environmental Education. 2005. 'Learning for Sustainability NSW Environmental Education Plan 2006-09.' Consultation Draft, October 2005.

Australia: The Victorian Community Indicators Project

The aims of the Victorian Community Indicators Project are to develop an agreed and comprehensive state-wide framework and process for the development and use of community well-being indicators at the local government level (including economic, social, cultural, environmental, governance and democracy dimensions). With a proposed termination date of July 2006, the project assists in improving citizen engagement, community planning and policy making.

Source: The Victorian Community Indicators Project. 2006. About the Victorian Community Indicators Project. http://www.communityindicators.net.au/ (Accessed 21 April, 2006)

Canadian Index for Well-being

The Canadian Index for Well-being is a Canada-wide indicator initiative based on progress towards sustainable development. This index will provide 'relevant' data based on a developed understanding of Canada's economic reality and longer-term prosperity by integrating with information on the social, health and environmental conditions that shape Canadian communities. For example, indicators related to health prevention initiatives, clean air and water, genuine progress by Aboriginal peoples and early childhood education may form part of the index. Of particular interest to ESD is a section of indicators that will consider progress in education and learning.

Sources: Hayward, K. 2006. 'DESD' [e-mail]. Message to D. Tilbury (Sent 15 February, 2006) http://www.atkinsonfoundation.ca/ciw

Environment and Schools Initiative (ENSI): Quality Criteria for ESD Schools

ENSI is an international decentralized network of national authorities and research institutions in Europe and the Asia-Pacific. It brings together school initiatives, school authorities, teacher training, educational research institutions and other stakeholders with a focus on cutting edge research and policy reflection in the field of ESD. One of ENSI's activities includes the three-stage research programme, School Development through Environmental Education (SEED). In particular, the results of the third stage, highlighted in the publication *Quality Criteria for ESD-Schools*, propose a list of quality criteria for schools that wish to work on developing ESD. The list is considered a starting point for schools and aims to facilitate discussion and reflection within the school and with all stakeholders. This discussion serves to clarify the main objectives and changes that orient school development towards ESD and to develop the schools own list of quality criteria, adapted to the school's own situation and plans for change.

Sources: a) Breiting, S., Mayer, M., & Mogensen, F. 2005. 'Quality Criteria for ESD-Schools: Guidelines to enhance the quality of Education for Sustainable Development.' ENSI and SEED: Austria.

b) Mogensen, F. M., & Mayer, M. 2005. 'ECO-schools: trends and divergences, A Comparative Study on ECO-school development processes in 13 countries.' Austrian Federal Ministry of Education, Science and Culture, European Commission and ENSI: Austria.

c) http://www.ensi.org/

European Quality Indicators of Lifelong Learning

Enhancing the quality of education, training and ultimately lifelong learning make up one of the key priorities of the European Union action programme. In particular, the Quality Indicators of Lifelong Learning Initiative was born from a previous initiative completed by a group of experts in 2000 to identify a limited number of key indicators that could assist with national evaluation of systems in the area of school standards. In January 2001, the Indicators on Quality of Lifelong Learning Working Group began to meet with the purpose of extending the initiative to cover all areas of education and training encompassed by lifelong learning.

The Working Group included representatives from thirty-four European countries, the OECD and UNESCO, among others. Indicators were developed for the following areas: skills, competencies and attitudes; access and participation; resources for lifelong learning; and strategies and systems development. In June 2002, fifteen quality indicators based on criteria such as reliability, comparability, political relevance and the ability to reflect the most recent data were identified.

Source: European Commission Directorate-General for Education and Culture. 2002. 'European Report on Quality Indicators of Lifelong Learning: Fifteen Quality Indicators.' Report based on the work of the Working Group on Quality Indicators.

Italy: Quality Indicators for the Tuscan Region Environmental Education System

Between July 2003 and June 2005, ARPAT (Agenzia Regionale per la protezione ambientale della Toscana) (the Functional Division of Environmental Education) of the Tuscan System for Environmental Education lead the Inter-Regional Project on Quality Indicators. Thirteen Italian regions undertook research with the purpose of developing quality indicators for the regional INFEA (information, training and environment education) systems.

In particular, the project worked to identify common areas of certification, a minimum set of quality indicators and methodological proposals for the creation of local indicators based on a categorical approach of 'functions served'. By examining the actions that are actually accomplished (rather than the label actions are given) the group was able to establish a framework of common criteria within a sphere of structural and contextual diversity.

This project involved regional representatives in participatory group discussion, planning, capacity building and partnership development that began by identifying a framework of common principles and values in environmental education. Subsequently, criteria, indicators and descriptors were defined in order to create a functions-indicators matrix involving environmental education, environmental training, support and commitment to territorial development processes, information and communication, research and evaluation and coordination. These functions were designed at the micro and macro level allowing for the development of corresponding indicators and descriptors and ultimately assessment of INFEA systems at various organisational levels.

Source: Agenzia Regionale per la protezione ambientale della Toscana (ARPAT). 2005. 'Inter-regional Project on Quality Indicators: to apply to regional INFEA systems.' Florence: The Tuscan System for Environmental Education.

Japan: Indicators for Community Development

In Japan, The Council on the UN Decade of ESD (ESD-J) is developing ESD Indicators for Community Development. ESD stakeholders in different Regional Centres of Expertise will be interviewed and an ESD case study will be published. Subsequently, an analysis of the case study will assist in the identification of ESD indicators.

Source: Noguchi, F. 2005. 'ESD Indicators' [e-mail]. Message to D. Tilbury (Sent 17 October, 2005)

Mexico: Indicators for Assessing University Contributions to Sustainable Development

Held in 2001, a national workshop on 'The Development of Indicators for the Evaluation of Sustainability in Universities' took place at the University of Guadalajara. This Workshop, proposed by the University with support from a number of organisations including the Consortium of University Environmental Programmes for Sustainable Development, formed part of the Action Plan for Sustainable Development in Higher Education Institutions (an initiative of National Association of Higher Education Universities and Institutions – Anius and the Secretary of Environment and Natural Resources – Semarnat). The aim of the Workshop was to identify and agree on inter-institutional themes that had promoted the advancement of SD in universities during the last ten years and then use these to develop sustainability indicators for Mexican higher education institutions. The indicators were directed towards representatives of university environmental programmes for sustainable development and academic staff. The chosen indicators reflected a series of quality criteria and covered four areas with in the university: science, technology, education and interaction with civil society. The indicators developed were piloted during subsequent years and a publication on the experience is due out in 2006.

Sources: a) deVincCi. 2002. 'Indicadores de Primera Generacion Para Medir Los Aportes de las Universidades Al Desarrollo Sustentable.' Num 8. 22

b) Curiel, A. 2006. Re: [CEC-ESD] Request for Information- ESD Indicator Initiatives [e-mail]. Message to cec-esd@indaba.iucn.org (Sent 8 June, 2006)

The Netherlands: Auditing Instrument for Sustainability in Higher Education

Following a request of the Dutch "Committee for Sustainable Higher Education", the Working Group on Criteria was formed with the aim of developing an Auditing Instrument for Sustainability in Higher Education (AISHE). The AISHE methodology has been developed for use by managers and experts on quality management, didactics and sustainable development, in addition to the teaching staff. The auditing mechanism may be used for both internal and external sustainability auditing.

Source: Roorda, N. 2001. 'Auditing Instrument for Sustainability in Higher Education: English Text.'

South Africa: Researching Indicators for a Learning Region

A preliminary research project was undertaken to identify indicators for a learning region in the Western Cape Province, South Africa. The study was set up by the provincial Department of Economic Development and involved a case study approach which took place in two phases. In phase one, an in depth analysis of a month long mini-festival (part of a larger Learning Festival) was undertaken. In phase two, a four-month project was undertaken to develop a framework of indicators for the learning region. This phase included analyzing indicators in the international literature, investigating relevant data sources, interacting with informants in key sectors, and reporting findings. In particular, the research group considered the following questions: *What are indicators? What is their purpose?* and *What is a learning indicator?* The project focused on three areas: initial learning, adult learning and diffuse learning environments.

The project is currently on hold as the Group encountered a number of challenges during the second phase. In particular, some of the issues that surfaced may be summarized as difficulties working with people trained in different backgrounds, agreeing on the purpose and content of the indicators, ownership of the indicators, researcher responsibilities and the timeframe.

Source: Walters, S. 2006. 'Researching indicators for a learning region.' Paper presented at the 36th Annual SCUTREA Conference, 4-6 July 2006, Trinity and All Saints College, Leeds. http://www.leeds.ac.uk/educol/documents/155405.htm (Accessed 18 July, 2006)

UK- Sustainable Schools Assessment Consultation

In May 2006 the Department for Education and Skills (DfES) began a consultation on sustainable schools. Schools will be encouraged in the future to use a common framework to assess their provision and progress as sustainable schools. Moreover, their assessments, and/or those of OFSTED (the schools' inspection service) may be used to yield an indicator of education for sustainable development.

Source: http://www.dfes.gov.uk/consultations/conDetails.cfm?consultationId=1398

Appendix 8: ESD Indicators in the UNECE Region – Key Points[13]

- The United Nations Economic Commission for Europe (UNECE) includes fifty-five countries from across Europe, Central Asia as well as the USA and Canada.
- ESD was formally recognised in the region in 2003. An ESD Task Force was nominated to prepare a regional ESD strategy adopted in 2005 at Vilnius by all UNECE Member States (except the US).
- An Expert Group on ESD Indicators (EG) was formed with the task of developing ways to monitor: a) Member States' progress in implementing the regional ESD strategy and b) the effects of implementing the strategy.
- The EG included persons with extensive experience in national and international environmental and education policies, environmental education and education for sustainable development. The EG met on four occasions and received feedback from a group of national focal points, stakeholders as well as the UNECE Steering Committee on ESD.
- The indicators developed cover a variety of areas such as policy, regulatory and organisational frameworks, school curriculum and tertiary education courses, educator training and materials, community projects and informal education, research as well as ESD quality, participation, networks and cooperation.
- The indicators range from quantitative to qualitative and differ in their means of assessment, source of verification and timeframe in which they are used.
- A reporting format was developed so that UNECE Member States are able to submit a single report on the implementation of the ESD strategy to the Secretariat. The first formal reporting submission will be in 2010.
- The mandate of the EG was extended until 2008 so that they are able to revise the indicators subsequent to pilot experiences and explore the possibility of developing criteria to assess the implementation of the regional ESD Strategy.

(Vare, 2006b; UNECE EG, 2005; UNECE CEP, 2006a; UNECE CEP, 2006b; UNECE CEP, 2006c)

13 For more information about ESD indicators in the UNECE region, visit http://www.unece.org/env/esd/

Appendix 9: Debate on ESD Indicator Approaches

The contested nature of indicators makes it difficult to determine a single approach that aligns with ESD. Indicators that are convenient and prescriptive have been described *mechanistic*, where as indicators that promote reflection and learning have been described as *holistic* (Sterling, 2006a). Although mechanistic indicators are applied more often in practice and ESD stakeholders may be more familiar with these indicators, it is important to take into account the advantages and disadvantages of both approaches and consider the nature of the ESD effort sought. Table 8 is an initial effort made to identify the advantages and disadvantages of different ESD indicator approaches.

Both holistic and mechanistic indicators assist in meeting a number of important needs. Therefore, stakeholders, rather than restrict themselves, can develop indicators to be used for more than one approach and seek to meet a number of needs simultaneously, for example, using indicators for assessment, reflection, learning, reporting and planning.

Table 8: Advantages and Disadvantages of the Differing Indicator Approaches

	Mechanistic Indicators	Holistic Indicators
Advantages	• General scope, appropriate across a larger region • Precise numbers and ratios means that the indicators are more: - Measurable - Comparable - Recordable	• Specific scope, more meaningful amongst a smaller region • Descriptions and observations require greater ownership and engagement of stakeholders These indicators seek to encourage: • Self Determination • Motivation • Emergence
Disadvantages	• Technical • Numbers tend to leave out key data/information • Emergence and creativity stifled	• Not easily transferable or compared • Require criteria to measure meaningfully and accurately • More difficult to compile

(Adapted from Sterling, 2006a)

Appendix 10: Key Questions to Guide ESD Indicator Development

- Is there open acknowledgement of what the process will involve and how stakeholders can participate?
- Is the purpose of the national indicator framework explicit or implicit? Has it really been thought through? Whose interests does the indicator set serve?
- Is there recognition that ESD is not just a matter of provision and inputs, but also of shifts of perception, meaning and critical understanding in culture?
- Is there an assumption that manifestations of ESD must be comparable between different situations, or is diversity and heterogeneity welcomed?
- Is there recognition that change is not necessarily a simple linear process? Does it encourage discussion and debate of a range of theories?
- Is there space for non-Western, non-scientific and other cultural views of what ESD entails or could entail?
- Is there sufficient emphasis on learning throughout and across all areas of interest? Who determines these areas of interest and how they are interpreted?
- Is there a distinction made between ordinary learning (first order learning in systems terms) and higher order learning (sometimes called deep learning)?
- Is the pedagogic model favoured here implicitly instructive (dominant view) or constructive?
- Do the educational outcomes favour a 'skill set' or a change in consciousness?
- Is there recognition of the need for participative self-determination of indicators at the local level? Are learners enabled to develop their own indicators?
- Are the indicators over-detailed and specific or general and not too specific (to allow for local interpretation, learning and creativity)
- Ultimately, is the framework of indicators likely to foster learning and innovation, or simple compliance?
- Is there built-in recognition that the indicator framework will need ongoing critique, evaluation and revision to keep it relevant and helpful?

Sources: Huckle, J. 2006. RE: Australian DESD Indicators from JH [e-mail]. Message to S. Janousek (Sent 21 July 2006)

Sterling, S. 2006. Re: Australian DESD Indicators Project: Introduction and Analysis of Current Initiatives [e-mail]. Message to S. Janousek (Sent 20 July, 2006)

Appendix 11: Description of Different Data Collection Methods[14]

Administrative data collection[a] is often the main source for education data. Data can be collected on both a regular and ad-hoc basis, through such methods as a school censuses, survey and financial and performance data, etc. The data collected is often quantitative and can be used to derive an indirect assessment of the quality of education. Some of the quality-related indicators for which administrative data can be collected include:

- Resource allocation (student-teacher ratio, student-text book ratio, class size);
- Student performance (repetition rate, promotion rate);
- Teacher (quality and experience); and
- Education finance (contribution and allocation of education finance).

Administrative data, for example, can provide information about the percentage of funding allocated for training of ESD educators.

Case studies and research[a] focus on specific subject areas to promote deeper awareness of issues. Availability and coverage of the data are limited and often collected in connection with other studies. Data can provide, for example, information about good practices for promoting sustainable development through the media.

Content analysis[b] allows stakeholders to code and classify qualitative data in order to develop an understanding of the larger volumes of a qualitative analysis. Data can inform, for example, how ESD-related content and pedagogy are integrated into formal education curricula and lesson plans.

Focus groups[b] are small-group sessions run by a facilitator for the purpose of quickly gathering in-depth information. Focus groups also act as a forum for direct stakeholder participation. Data can provide, for example, information about how to enhance the capacity of community educators to carry out ESD.

Individual/community interviews[b] involve in-depth discussions with relevant individuals or meetings conducted on a relevant topic that are open to all members of a village or community. Data can provide, for example, information about the sustainable development needs of a community and the role of ESD in meeting these needs.

National Censuses[a] are a main source of demographic data. Education-related data collected in a census can measure literacy, educational attainment, attendance, etc. Data can provide, for example, information about the number of university students that have graduated from ESD-related programmes.

Observations[b] are systematic observations of a process in its natural setting. They are often coupled with individual interviews. Data can provide, for example, understanding about the use of ESD-related resources and pedagogy in a classroom and school.

Surveys and Questionnaires[a] provide a snapshot of the situation at a specific time and are useful for comparing data from alternative methods of data collection. Several types of surveys exist including educational surveys, or large-scale multi-national surveys, which assess learners' performance (e.g. student assessment, literacy assessment) and are useful along with other socio-economic data to answer specific policy questions; in addition, general surveys (e.g. a labour force survey, a household expenditure survey) include an education component in which educational data is used to support the survey's main objectives. Surveys and questionnaires can provide information, for example, about the availability of ESD support structures.

School inspections[a] are useful for assessing the quality of education provided at the school level. This method requires systematic procedures to transform observations and findings into measurable indicators, including the development of appropriate tools (checklist, forms, questionnaires, etc.) and capacity building of inspectors. School inspections are useful for assessing indicators such as:

- Governance of school resources;
- Teaching and learning practices related to ESD;
- Teacher and learner characteristics; and
- Environmental and physical school contexts which effect the quality of ESD teaching and learning.

14 Methods often preferred when cost and time are important usually involve third party interviewers and/or facilitators who are skilled in conducting various styles of interviews and meetings. These methods include focus groups, individual interviews, community interviews, observations and questionnaires (IBM Business Consulting Services, 2003)

a Information adapted from AIMS-UIS (2006)

b Information adapted from IBM Business Consulting Services (2003)

Appendix 12: Indicator Planning Tool for Data Collection[15]

Education for Sustainable Development Indicators	How often should the data be collected?	What data is needed to assess or calculate the indicator?	Where will the data come from?	How will the data be collected?	Who will be responsible for the data collection?
ESD Target:					

15 This template is intended to promote discussion on planning for data collection for ESD indicators. Those using the *Guidelines* may photocopy this page and use the template for discussions and workshops. An electronic copy of the template is also available in electronic form on the Asia-Pacific ESD Monitoring Project webpage (http://www.unescobkk.org/education/esd/monitoring).

Appendix 13: UNECE Assessment Key and Ranking Scale Example

ISCED levels	% of education professionals that have received training to integrate ESD into their practice[33]: *(see key below)*																	
	Educators												Leaders/administrators[34]					
	*Initial**						*In service***						*In service***					
	A	B	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
0																		
1																		
2																		
3																		
4																		
5																		
6																		
Non-formal																		
Informal																		

The assessment key for this table (max. 100%) is :

% of educated trainers	0-5	6-10	11-25	26-50	51-75	76-100
Scale	A	B	C	D	E	F

33 Training is understood to include at least one day (minimum 5 contact hours).

34 Para 54 and 55 of the UNECE Strategy on ESD .

* *Please indicate the % of educators that have received initial training on ESD to total number of educators, by the reporting date.*

** *Please indicate the % of educators that have received training on ESD to total number of educators who received in-service teacher training, by the reporting date.*

Appendix 14: Using DevInfo for ESD Reporting at the National Level

DevInfo was presented to participants at the August 2006 "Review Meeting on the Asia-Pacific Guidelines for the Development of ESD Indicators." Originally developed by UNICEF, DevInfo has been enhanced under UN partnership and is currently used by national statistics offices, UN agencies, NGOs, civil society and other groups as a database for compiling and presenting national statistics. DevInfo presents potential for national and regional reporting of ESD with the following benefits:

- Excellent tool for dissemination and advocacy;
- Useful presentation tool (i.e. table, graph, map);
- Common repository for MDG data with potential for ESD;
- Easily adapted to country goals and specifications;
- Accounts for input of qualitative data;
- Incorporates global and user-defined goals;
- Incorporates global and user-defined indicators; and
- Effective at all levels (i.e. sub-national, national, regional).

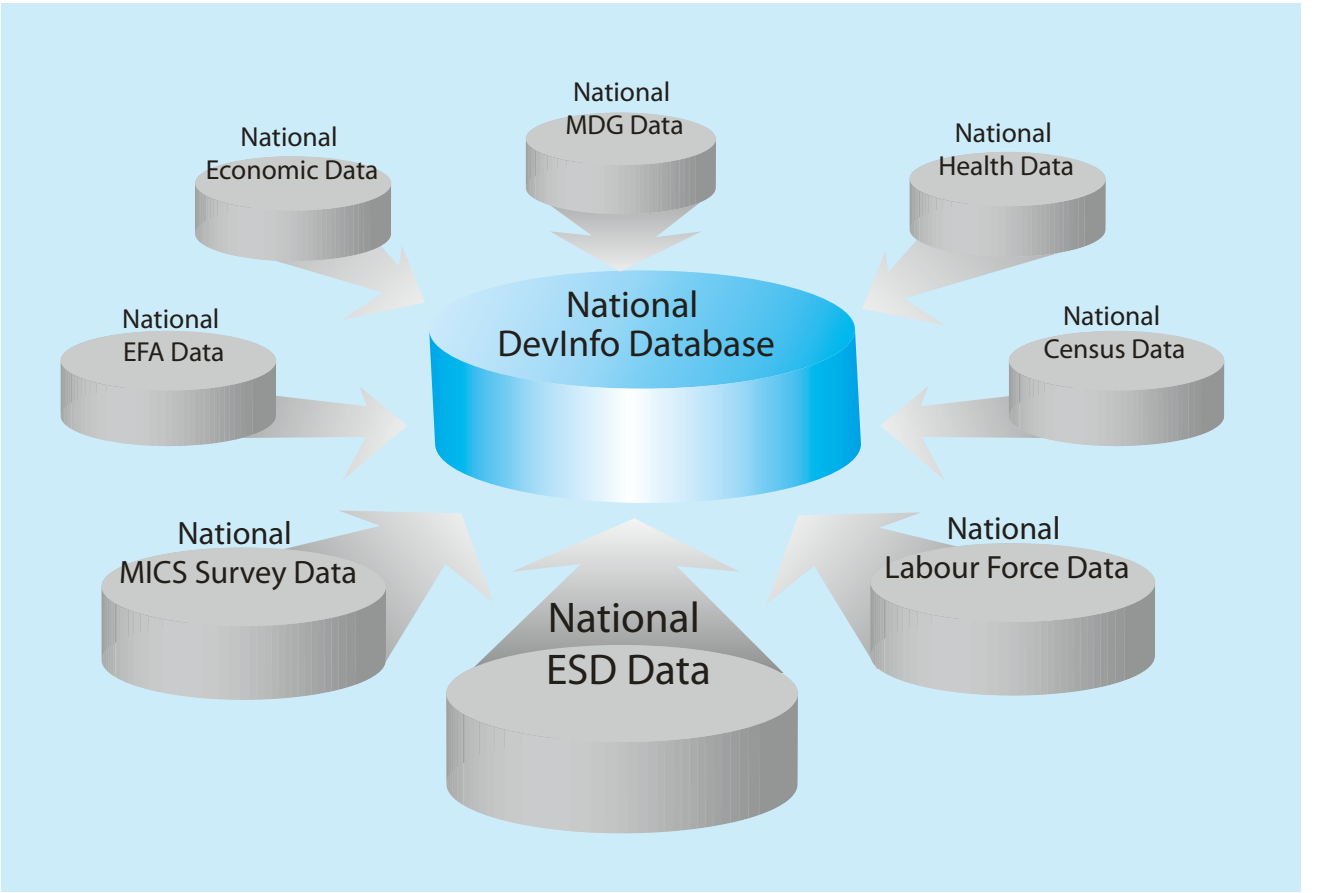
DevInfo is used globally to report on progress related to the MDGs and monitor national development strategies. It is particularly effective in taking a range of data and cross-tabulating it by sectors and/or development goals. The database can be tailored to the specific priorities of a country and used as a database for any number of programmes (see Figure 6). DevInfo can also be used for reporting on ESD at the sub-national, national, and regional levels, including reporting with qualitative data.

The database could be useful in assisting Member States with compiling data, for example, on the *percentage of NGO educators that have been trained in ESD-related content and pedagogy*. In particular, the database could keep track of information such as, *the total number of NGO educators working in non-formal education* and *the number of NGO educators working in non-formal education that complete national training workshops on ESD*.

DevInfo is fully supported by the UN system through ongoing capacity-building, and technical support and expertise are being developed at the national level for the implementation of national database(s). DevInfo also offers free online learning courses for beginners to experts, complete with online resources, training manuals and trainers notes.[16]

16 For more information about DevInfo, visit the DevInfo website at: http://www.devinfo.org

Figure 6: Using DevInfo at the National Level



(Adapted from AIMS-UIS, 2006)

Glossary

Assessment
The process of compiling information about a situation or activity with the aim of reviewing progress and informing decision-making and further actions to be taken. Assessment does not seek to provide details nor make judgments about information in a formal manner. Rather, it generally reflects a wide range of issues in order to provide stakeholders with an idea of progress on a larger scale.

Baseline Indicators
Indicators that provide information about the ESD starting point or current state of play. They help determine progress by assessing the overall ESD picture at a certain point in time.

Benchmark
A pre-selected standard or goal to be achieved. Benchmarks are often established by comparing progress and achievement of a range of actors/programmes. Although there may be some use for benchmarks in ESD, the context-specific nature of ESD means that it is not always meaningful to determine progress on a comparative basis through cross-sectoral and/or cross-country standards.

Context Indicators
Indicators that provide information about the setting or context in which ESD is taking place. They tell whether ESD is being embedded into a country's governance mechanisms, institutional structures and public discourse and opinions.

Data Collection Mechanisms
The tools and processes used to collect data or evidence that assists with the application and interpretation of a selection of ESD indicators.

DESD Indicators
Indicators developed to determine progress and achievements during the UN Decade of Education for Sustainable Development. They provide information on the results of efforts being made towards ESD goals and targets defined for the Decade.

Effect Indicators
Indicators that provide information about the results of ESD efforts in line with initial, medium and long-term ESD achievements. *Output, outcome, impact* and *performance* indicators belong to this category of indicators.

ESD Indicators
All indicators assessing short, medium and long-term progress of ESD, irrespective of the UN Decade of Education for Sustainable Development (could be synonymous with DESD indicators).

Evaluation
The process of collecting information and evidence in order to make judgments about effectiveness and inform future decisions. An evaluation does not seek to provide information about a wide range of issues; rather, it is undertaken formally to assess whether the specific goals of a policy, programme or actions have been achieved.

Facilitative Indicators
Indicators that provide information about efforts to assist progress and reach achievements in ESD. They inform about changes in activities and programmes that assist, support or encourage engagement with ESD. *Context, process* and *learning* indicators belong to this category of indicators.

Impact Indicators
Indicators that provide information about the progress and achievements that will occur as a result of the DESD and ESD initiatives. They assess the longer-term cumulative effects resulting from ESD efforts that represent lasting change (Fien, Scott, & Tilbury, 2001)

Indicator
A tool that helps identify, interpret and communicate progress and achievements by providing meaningful information about the outcomes of efforts undertaken. They are useful in decision-making and planning because they provide socially relevant information that goes beyond the direct meaning of data (Gallopin, 1997).

Indicator Framework
A set of indicators that work together to assess progress towards the goals and objectives of programmes, strategies and development plans. For ESD, the indicators developed for a national framework will depend on national ESD priorities and goals in addition to a country's monitoring needs and experiences.

Learning Indicators
Indicators that provide information about the learning and knowledge being gained during the implementation and assessment of ESD policies, programmes and activities. Learning indicators assess learning at two points:

i. During development, feedback and revision processes to identify improved understanding about ESD programmes, what constitutes ESD progress and the indicators that best assess this progress.

ii. During the application of the indicators to assess opportunities for reflection and learning which improves understanding about good ESD practices.

Monitoring System
A system that assesses ESD progress and achievements at pre-determined times during the Decade of Education for Sustainable Development and beyond. A national DESD monitoring system includes a national ESD indicator framework and mechanisms for data collection and reporting.

Output Indicators
Indicators that provide information about the products and immediate results of ESD efforts.

Outcome Indicators
Indicators that provide information about the mid-term results of ESD efforts; for example, informing whether there has been a change in the understanding of ESD. The type of change captured by outcome indicators provides an indication of genuine progress in ESD (Fien et al., 2001).

Performance Indicators
Indicators that provide information about how a programme is progressing by assessing change in the overall ESD picture. They do so by using the information provided by *baseline* indicators as a foundation from which to compare progress.

Process Indicators
Indicators that provide information about ESD processes in order to identify what type of audiences are being exposed to ESD and what opportunities exist for ESD engagement.

Qualitative Indicators
Indicators that provide information about the qualitative changes related to an ESD effort. They are interpreted through non-numerical data and give details about policies or programmes and the changes that result from implementation. Qualitative indicators describe the *nature* of the data that is used to interpret the indicator. Qualitative data is generally collected in the form of observations or descriptions (Gallopin, 1997).

Quality Criteria
A set of criteria that provokes thinking and action regarding quality enhancement rather than quality control. Quality criteria is often created jointly by stakeholders and is open to participatory and ongoing debate. Quality criteria can be considered as a 'translation' of a shared set of stakeholder values prepared in a transparent manner with a practical function (Breiting et al., 2005).

Quantitative Indicators
Indicators that provide information about quantitative changes related to ESD efforts. They are interpreted using numerical or easily measurable data (Gallopin, 1997) and identify increases and decreases in values or percentages related to specific aspects of a policy or programme. Quantitative indicators describe the *nature* of the data that is used to interpret the indicator. Quantitative data is collected in the form of numbers or ratios.

Reporting Mechanisms
A process that communicates ESD progress and achievement at the national, regional or global level. Information about improvement and change is presented in a pre-determined reporting format (or mechanism). During the UN Decade of Education for Sustainable Development, national reporting mechanisms will be developed according to the national ESD indicator framework and facilitated by a designated coordinating group (e.g. a national DESD committee).

Status Indicators
Indicators that provide a wide-range of information that assists to determine the position or standing of ESD in a country. *Baseline* indicators belong in this category.

Target
A desired objective or achievement that links indicators to a broader ESD goal. They are specific destinations (for example, a deadline and/or number to be achieved) that help reach an overarching goal. Clearly defined targets assist in the process of developing relevant and meaningful indicators.

UNESCO National Commission
National cooperating bodies set up by UNESCO Member States for the purposes of associating their governmental and non-governmental bodies with the work of the Organization.

UNESCO Office
UNESCO Regional Offices, Cluster Offices and National Offices – in the Asia-Pacific region UNESCO Offices are located in Kabul, Afghanistan; Dhaka, Bangladesh; Phnom Penh, Cambodia; Beijing, China; New Delhi, India; Jakarta, Indonesia; Tehran, Iran; Almaty, Kazakhstan; Kathmandu, Nepal; Islamabad, Pakistan; Apia, Samoa; Bangkok, Thailand; Tashkent, Uzbekistan; and Hanoi, Viet Nam.

References

AIMS-UIS. 2006. *Data Collection Capacity and Needs* [powerpoint]. Presented by J. Kapp at the Review Meeting of the Asia-Pacific Guidelines for National DESD Indicators, Hiroshima, Japan, 11 August.

Alexander, D. 2006a. *RE: [DESD Review] Asia-Pacific DESD Indicators Project – Reminder DESD Priorities* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 3 July, 2006)

Alexander, D. 2006b. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: Role of Nat Coms and FOs in developing DESD indicators* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 20 July, 2006)

Barker, T. 2006. *Re: [DESD Expert] Asia-Pacific DESD Indicators project Guidelines Draft#2 for your comments* [e-mail]. Message to DESDexpertTeam@indaba.iucn.org (Send 23 October, 2006)

Bottani, N. 1996. OECD International Education Indicators. *International Journal of Educational Research*, Vol. 25, No. 2, pp. 279-88.

Breiting, S., Mayer, M., & Mogensen, F. 2005. *Quality Criteria for Schools: Guidelines to Enhance the Quality of Education for Sustainable Development*. Vienna: ENSI and SEED.

Chandith, P. 2006a. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: Role of Nat Coms and FOs in developing DESD Indicators* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 21 July, 2006)

Chandith, P. 2006b. *Re: [DESD Review] Asia-Pacific DESD Indicators Project: Thank you for your responses* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 21 June, 2006)

Chu, S. K. 2006. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: Reminder Draft #2* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 1 November, 2006)

Department of Sustainability and Environment. 2004. *Effective Community Engagement Workbook and Tools Version 2*. Melbourne: Victorian Government. http://www.dpi.vic.gov.au/ (Accessed 15 August, 2006)

Eder, D. J. 2004. General Education Assessment within the Disciplines. *The Journal of General Education,* Vol. 53, No. 2, pp. 135-157.

European ECO Forum. 2005. *Statement to the First Meeting of the Expert Group on ESD Indicators*, Ede, The Netherlands, September 2005. http://www.unece.org/env/esd/SC.EGI.htm (Accessed 6 April, 2006)

Fien, J., Scott, W., & Tilbury, D. 2001. Education and Conservation: Lessons from an Evaluation. *Environmental Education Research*, Vol. 7, No. 4, pp. 379-395.

Gallopin, G. C. 1997. Indicators and Their Use: Information for Decision-making. In B. Moldan & S. Billharz (Eds.), *Sustainability Indicators: Report of the Project on Indicators of Sustainable Development*. New York: Wiley & Sons.

Global Environmental Facility. 2006. *Monitoring and Evaluation: Measuring Results the SMART Way*. http://gefweb.org/MonitoringandEvaluation/MEPoliciesProcedures/MEPIndicators/mepindicators.html (Accessed 28 August, 2006)

Huckle, J. 2006a. *A UK Indicator of the Impact of Formal Learning on Knowledge and Awareness of Sustainable Development*. Proposals from the Sustainable Development Commission. http://john.huckle.org.uk/publications_downloads.jsp (Accessed 24 July, 2006)

Huckle, J. 2006b. *Towards an ESD Indicator for the UK* [powerpoint]. Presented at Indicators for Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/huckleppt.pdf (Accessed 27 April, 2006)

Huckle, J. 2006c. *Indicators for Education for Sustainable Development: Engaging the Debate* [stimulus material for breakout groups]. Presented at Indicators for Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/huckle.pdf (Accessed 27 April, 2006)

Huckle, J. 2006d. *A UK Indicator of Education for Sustainable Development: Report on Consultative Workshops.* http://www.sd-commission.org.uk/pages/education.html (Accessed 24 July, 2006)

IBM Business Consulting Services. 2003. *The Performance Management Toolkit: A Guide to Developing and Implementing Performance Management Plans.* Washington, DC: IBM.

Ishak, N. 2006a. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: DESD Priorities* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 4 July, 2006)

Ishak, N. 2006b. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: Role of Nat Coms and FOs in developing DESD Indicators* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 21 July, 2006)

Kinsella, J. 2006. *DESD Priorities – Viet Nam* [e-mail]. Message to S. Janousek (Sent 12 July, 2006)

Kurbanova, D. 2006a. *RE: [DESD Review] Asia-Pacific DESD Indicators Project - Reminder DESD Priorities* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 21 July, 2006)

Kurbanova, D. 2006b. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: DESD Priorities* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 22 June, 2006)

Lashway, L. 2001. *Educational indicators*. Eugene, OR: ERIC Clearinghouse on Educational Management (ERIC Document Reproduction Service No. ED457 536). http://www.vtaide.com/png/ERIC/Education-Indicators.htm (Accessed 31 July, 2007)

Nagata, Y. 2006. *Re: [DESD Expert] Asia-Pacific Indicators Project Guidelines Draft #2 for your comments* [e-mail]. Message to DESDexpertteam@indaba.iucn.org (Sent 28 October, 2006)

New South Wales Council on EE. 2005. *Learning for Sustainability NSW Environmental Education Plan 2006-09*. Consultation draft. Parramatta, NSW: NSW Council on Environmental Education.

Parveen, R. 2006. *[DESD Review] Asia-Pacific DESD Indicators Project: Role of Nat Coms and FOs in developing DESD Indicators* [e-mail]. Message to S. Janousek (Sent 27 July, 2006)

Pinter, L., Hardi, P., & Bartelmus, P. 2005. *Indicators of Sustainable Development: Proposals for a Way Forward*. Discussion paper prepared under a consulting agreement on behalf of the UN Division for Sustainable Development. Manitoba, Canada: IISD.

Prasertsri, S. 2006. *Re: [DESD Review] Asia-Pacific DESD Indicators Project: Role of Nat Coms and FOs in Developing DESD Indicators* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 28 July, 2006)

Rode, H. 2006. *Different Indicators for Different Contexts? Developing Indicators for ESD in Germany*. Presented at Indicators for Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/rode.pdf (Accessed 27 April, 2006)

Sato, M. 2006. *Re: [DESD Expert] Asia-Pacific DESD Indicators Project Guidelines Draft#2 for your comments* [e-mail]. Message to DESDexpertTeam@indaba.iucn.org (Sent 30 October, 2006)

Sharma, S. 2006. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: Role of Nat Coms and FOs in developing DESD Indicators* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 21 July, 2006)

Soliven, P. 2006a. *RE: [DESD Review] Asia-Pacific DESD Indicators Project – Reminder DESD Priorities* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 4 July, 2006)

Soliven, P. 2006b. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: DESD Priorities* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 17 July 2006)

Sollart, K. n.d. Framework on Indicators for Education for Sustainable Development: Some Conceptual Thoughts. Netherlands Environmental Assessment Agency (MNP). http://www.unece.org/env/esd/ (Accessed 15 August, 2006)

Sterling, S. 1996. Chapter 13: Developing Strategy. In J. Huckle & S. Sterling (Eds.), *Education for Sustainability.* London: Earthscan Publications.

Sterling, S. 2006a. *Thinking Frameworks* [powerpoint]. Presented at Indicators for Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/sterlingppt.pdf (Accessed 27 April, 2006)

Sterling, S. 2006b. *Summary Paper for Thinking Frameworks* [stimulus material for breakout groups]. Presented at Indicators for Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/sterling.pdf (Accessed 27 April, 2006)

Tho, P. 2006a. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: DESD Priorities* [e-mail]. Message to S. Janousek (Sent 20 June, 2006)

Tho, P. 2006b. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: Role of Nat Coms and FOs in developing DESD Indicators – Reminder e-mail* [e-mail]. Message to S. Janousek (Sent 24 July, 2006)

Tilbury, D., & Cooke, K. 2005. *A National Review of Environmental Education and its Contribution to Sustainability in Australia: Frameworks for Sustainability*. Canberra: Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability.

Tilbury, D., & Janousek, S. 2006. *Development of a National Approach to Monitoring, Assessment and Reporting on the Decade of Education for Sustainable Development – Stage 1: Identification of National Indicators.* Report submitted by the Australian Research Institute in Education for Sustainability to the Australian Government Department of the Environment and Heritage.

Timalsina, B. 2006. *RE: [DESD Review] Asia-Pacific DESD Indicators Project: DESD Priorities* [e-mail]. Message to DESDreviewTeam@indaba.iucn.org (Sent 3 July, 2006)

UNDP. 2003. *Empowering People – A Guide to Participation*. http://www.undp.org/csopp/CSO/NewFiles/docemppeople.html (Accessed 15 August 2006)

UNDSD. 2006. *Revising Indicators of Sustainable Development – Status and Opinions*. Background Paper for the Expert Group Meeting on Indicators of Sustainable Development, New York, 3-4 October.

UNECE CEP. 2006a. *Indicators for Education for Sustainable Development Progress Report on the Work of the Expert Group*, 21 June. UNECE Steering Committee on Education for Sustainable Development, Second Meeting, Geneva, 4-5 December.

UNECE CEP. 2006b. *Indicators for Education for Sustainable Development: Reporting Format,* 21 July. UNECE Steering Committee on Education for Sustainable Development, Second Meeting, Geneva, 4-5 December.

UNECE CEP. 2006c. *Report of the Meeting*. UNECE Steering Committee on Education for Sustainable Development, Second Meeting, Geneva, 4-5 December.

UNECE EG. 2005. *UNECE Expert Group on Indicators for Education for Sustainable Development First Meeting Report,* 26-28 September. Ede, The Netherlands: UNECE. http://www.unece.org/env/esd/ (Accessed 13 July, 2006)

UNECE EG. 2006. *UNECE Strategy for Education for Sustainable Development Guidance for Reporting* (unpublished work).

UNESCO. 2005a. *UN Decade of Education for Sustainable Development 2005-2014: The DESD at a Glance*. Paris: UNESCO.

UNESCO. 2005b. *United Nations Decade of Education for Sustainable Development (2004-2015): International Implementation Scheme.* Paris: UNESCO.

UNESCO. 2005c. *UNESCO's Contribution to the Implementation of the United Nations Decade of Education for Sustainable Development (2005-2014)*. Report by the Director-General on the United Nations Decade of Education for Sustainable Development: International Implementation of the Decade.

UNESCO. 2007a. *International Implementation Scheme (IIS)*. Education for Sustainable Development unit, UNESCO Paris. http://portal.unesco.org/education/ (Accessed 20 April, 2007)

UNESCO. 2007b. *Cultural Diversity*. Education for Sustainable Development unit, UNESCO Paris. http://portal.unesco.org/education/ (Accessed 20 April, 2007)

UNESCO. 2007c. *Education for Sustainable Development*. Education for Sustainable Development unit, UNESCO Paris. http://portal.unesco.org/education/ (Accessed 15 March, 2007)

UNESCO. 2007d. *Highlights on DESD Progress to date, April 2007*. Paris: UNESCO.

UNESCO Apia. 2006. *Pacific Education for Sustainable Development Framework*. Endorsed by the Pacific Ministers of Education, Nadi, Fiji, 27 September. http://unesdoc.org/ulis/ (Accessed 15 March, 2007)

UNESCO Asia and Pacific Regional Bureau for Education. 2005a. *A Situational Analysis of Education for Sustainable Development in the Asia-Pacific Region*. Bangkok: UNESCO Bangkok.

UNESCO Asia and Pacific Regional Bureau for Education. 2005b. *Working paper: Asia-Pacific Regional Strategy for Education for Sustainable Development*. Bangkok: UNESCO.

UNESCO Asia and Pacific Regional Bureau for Education. 2006a. *Promoting Partnerships the Asia-Pacific Approach to the Decade of Education for Sustainable Development*. Working Draft, July 2006.

UNESCO Asia and Pacific Regional Bureau for Education. 2006b. Review Meeting of the Asia-Pacific Guidelines for National DESD Indicators, Hiroshima, Japan, 10-11 August. Meeting Report, 30 September.

UNESCO Asia and Pacific Regional Bureau for Education . 2007. Workshop for the Development of Asia-Pacific National DESD Monitoring Systems, Bangkok, 2-4 April. Workshop Report, 30 April.

UNESCO Institute for Statistics. 2001. Education for All Indicators Expert Group Meeting, UNESCO Paris, 25-26 June. Report on the meeting and proposals for the future development of EFA.

UN Statistics Division. 2006. Millennium Development Goal Indicators Database. http://millenniumindicators.un.org/unsd/mi/mi_goals.asp (Accessed 24 May, 2006)

van Raaij, R. 2006. *Indicators to Measure the Effectiveness of the Implementation of the UNECE Strategy for ESD, Expert Group Indicators for ESD: Our Results, Struggles and Discussions* [powerpoint]. Presented at the Review Meeting of the Asia-Pacific Guidelines for National DESD Indicators, Hiroshima, Japan, 10-11 August.

Vare, P. 2006a. *From Region of Nations to Nation of Regions: The Practicalities of Setting ESD Indicators* [powerpoint]. Presented at Indicators for Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/vareppt.pdf (Accessed 27 April, 2006)

Vare, P. 2006b. *From Region of Nations to Nation of Regions: The Practicalities of Setting ESD Indicators* [stimulus material for breakout groups]. Presented at Indicators for Education for Sustainable Development: Engaging the Debate, the Bath Royal Literary & Scientific Institute, UK, 17 March. http://www.bath.ac.uk/cree/resources/esrcesd/vare.pdf (Accessed 27 April 2006)

Vare, P. 2006c. *RE: [DESD Expert] Asia-Pacific DESD Indicators Project: Reminder Draft #2* [e-mail]. Message to S. Janousek (Sent 1 November, 2006)

Walberg, H. J., & Zhang, G. 1998. Analyzing the OECD Indicators Model. *Comparative Education*, Vol. 34, No. 1, pp. 55-70.

WCED. 1987. *Our Common Future*. Oxford: Oxford University Press.

United Nations
Educational, Scientific and
Cultural Organization

UNESCO Bangkok

The Asia-Pacific Programme of Educational Innovation for Development

Education for Sustainable Development

920 Sukhumvit Road
Prakanong, Bangkok 10110 Thailand
E-mail: bangkok@unescobkk.org
Website: www.unescobkk.org
Tel: +66-2-3910577 Fax: +66-2-3910866

In collaboration with

IUCN The World Conservation Union

CEC Commission on Education and Communication

MACQUARIE UNIVERSITY ~ SYDNEY