



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

National Journeys

towards Education for Sustainable Development

2011



National Journeys

towards Education for Sustainable Development

2011

Reviewing National Experiences from

- CHILE
- INDONESIA
- KENYA
- THE NETHERLANDS
- OMAN

About this publication

This publication has sourced information from a series of national reviews commissioned by UNESCO in 2010 and written by authoritative stakeholders in Chile, Indonesia, Kenya, the Netherlands and Oman. The selection of countries was based on: i) work showcased at the 2009 World Conference on Education for Sustainable Development held in Bonn, Germany; ii) submissions to the monitoring and evaluation process for the Decade of Education for Sustainable Development (DESD); as well as iii) through evaluation material submitted by UNESCO staff in regional bureaux of education. The countries showcased in this report are not necessarily the ‘best’ examples of the region, as many other countries are also progressing effectively towards implementing ESD. Rather, the countries selected illustrate the wide diversity of ESD approaches and initiatives taking place in different parts of the learnt world. The national studies were then edited and harmonized before common themes and lessons learned were identified to support other national efforts in moving towards the second half of the UN Decade of Education for Sustainable Development.

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Cover photo: © 2007 Dibyendu Dey Choudhury, Courtesy of Photoshare – A grandfather in India enjoys the company of his grandson in the green outdoors.

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Preface

Almost all societies of the world seem to be searching for more sustainable economic and financial alternatives, renewable energies and lower carbon footprints, or greater social equity. Whether priority is granted to the economic realm or the environment will depend on the specific cultural background and the particular circumstances of different societies. However, in 2011, people everywhere seem ready to move towards sustainable development.

While there seems to be an agreement on the ultimate goal, a wide range of different options are available when it comes to deciding on the route to take in order to achieve this objective. For instance, engineers place their efforts in greener technologies while lawyers focus on national laws and international conventions. At the Secretariat of the United Nations Decade of Education for Sustainable Development (DESD, 2005–2014), we place our efforts on promoting education that facilitates the attainment of sustainable development goals.

The DESD calls on governments and other stakeholders to incorporate the principles and values associated with sustainable development into every one of their education programmes. How have different nations moved towards ESD in the first half of the Decade? How does this actually work? I am confident that this work will provide answers to those questions. The present work, whose publishing at the midpoint of the Decade is most timely, describes the different journeys undertaken by countries throughout the world to introduce sustainability in the education sector. It also provides a platform for reflection for those key stakeholders and policy-makers seeking to integrate ESD principles and approaches at country levels.

I hope that this collection of national examples and the corresponding lessons learnt will support national efforts around the world in implementing ESD in the ensuing second half of the Decade.

Aline Bory-Adams
Chief of Section, Education for Sustainable Development
UNESCO

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List of Acronyms

AFEW	African Fund for Endangered Wildlife
AIDS	Acquired Immunodeficiency Syndrome
AISHE	Audit Instrument for Sustainability in Higher Education
ANCEFA	Africa Network Campaign on Education for All
AOC	Agrarian Education Centre (Netherlands)
APEC	Asia-Pacific Economic Cooperation
ASAL	Arid and Semi-Arid Lands
ASPnet	Associated Schools Project Network
BIE	Bilingual Intercultural Education
BSO	Buitenschoolse Opvang (Dutch after school care)
CBO	Community-Based Organization
CBS	Central Bureau of Statistics (Netherlands)
CODEFF	National Committee in Defense of Fauna and Flora (Chile)
CODELCO	National Copper Corporation (Chile)
CONADI	National Indigenous Development Corporation (Chile)
CONAF	National Forestry Corporation (Chile)
CONAMA	National Commission for the Environment (Chile)
COREMA RM	Regional Commission for the Environment (Chile)
CORFO	Chilean Economic Development Agency
CORMA	National Forestry Products Trade Association (Chile)
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
CUEA	Catholic University of Eastern Africa
DANIDA	Danish International Development Agency
DESD	Decade of Education for Sustainable Development
DHO	Dutch Network for Sustainable Development in Higher Education (Netherlands)
DMBO	Dutch Network for Sustainable Development in Vocational Training (Netherlands)
EABL	East Africa Breweries Limited
ECD&E	Early Childhood Development and Education
EDUCAIDS	UNAIDS Global Initiative on Education and HIV/AIDS
EE	Environmental Education
EEAI	Environmental Education and Awareness Initiative (Kenya)
EEPC	Ejercicios Estéticos de Participación Comunitaria
EMSU	Environmental Management for Sustainable Universities
ERSCP	European Roundtable on Sustainable Consumption and Production
EESD	Engineering Education in Sustainable Development
ESSBIO	Biobío Sanitation Services Company (Chile)
EFA	Education for All
EMCA	Environmental Management and Coordination Act (Kenya)
ENCORE	Environmental Conference of the Regions of Europe
EPS	Environmental Programme Support (Kenya)
ERS	Economic Recovery Strategy (Kenya)
ESD	Education for Sustainable Development
ESDA	Education for Sustainable Development in Africa
EU	European Union
FBO	Faith-Based Organization
FONDECYT	National Fund for Scientific and Technological Development (Chile)
FONIDE	Fund for Research and Education Development (Chile)
FPA	Environmental Protection Fund (Chile)
GDP	Gross Domestic Product
GMU	Gadjah Mada University (Indonesia)
GPS	Global Positioning System
HBOraad	The Netherlands Association of Universities of Applied Sciences
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
IVN	Association for Environmental Education (Netherlands)
JICA	Japanese International Cooperation Agency
JKUAT	Jomo Kenyatta University of Agriculture and Technology (Kenya)
KADO	Sustainable Development Strategy (Netherlands)

KCCWG	Kenya Climate Change Working Group
KDM	Company that manages waste and landfills in Chile
KESSP	Kenya Education Sector Support Programme
KNCCI	Kenya National Chamber of Commerce and Industry
KOEE	Kenya Organization for Environmental Education
LfSD	Learning for Sustainable Development
LNG	Oman Liquefied Natural Gas
MBOraad	The Netherlands Association of Vocational Education and Training Colleges
MESA	Mainstreaming Environment and Sustainability in African Universities
MINEDUC	Ministry of Education (Chile)
MNP	Netherlands Environmental Assessment Agency
MOEST	Ministry of Education, Science and Technology (Kenya)
MVO	Dutch Corporate Social Responsibility Network
NatCom	National Commission to UNESCO
NCCRS	National Climate Change Response Strategy (Kenya)
NCESDI	National Coordinator for ESD Implementation (Indonesia)
NCDO	National Committee for International Cooperation and Sustainable Development (Netherlands)
NEC	National Environmental Council (Kenya)
NEMA	National Environment Management Authority (Kenya)
NGDO	Non-Governmental Development Organization
NGO	Non-Governmental Organization
NME	Natuur & Milieu Educatie (Netherlands)
NPESD	National Policy on Education for Sustainable Development (Chile)
NVAO	Netherlands-Flemish Accreditation Organisation
OARE	Online Access to Research in the Environment
OM	Outcome Mapping
PADEM	Annual Plan for the Development of Municipal Education (Chile)
PAS	Provincial Ambition Statements (Netherlands)
PO-raad	The Dutch Council for Primary Education
PPEE	National Programme of Energy Efficiency (Chile)
PRODEEM	Project for the Development of an Environmental Education Model
ProSPER.Net	The Network for the Promotion of Sustainability in Postgraduate Education and Research (Indonesia)
RCE	Regional Centre of Expertise
RCE GN	Regional Centre of Expertise Greater Nairobi
ROC	Regional Educational Centre (Netherlands)
SCS – CEL	Student Community Services – Community Empowerment Learning (Indonesia)
SDEP	Sustainable Development Environmental Policy (Chile)
SLO	Netherlands Institute of Curriculum Development
SIDA	Swedish International Development Cooperation Agency
SNCAE	National System of Environmental Certification for Educational Institutions (Chile)
SQU	Sultan Qaboos University (Oman)
TB	Tuberculosis
TVET	Technical and Vocational Education and Training
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESS	UNESCO National Education Support Strategy
UNU	United Nations University
UNU-IAS	United Nations University Institute of Advanced Studies
VNO-NCW	Netherlands Employers Federation
VOraad	Dutch Council for Secondary Education
VSNU	Association of Universities in the Netherlands
WCK	Wildlife Clubs of Kenya
WWF	World Wide Fund for Nature

Executive Summary

Several authoritative documents recognize that sustainable development is a journey and not just a destination. Visions and plans for the future need to be negotiated across sectors, cultures and interest groups. To progress towards a more sustainable world, societies also need to learn their way out of unsustainable practices. This publication captures national journeys that promote dialogue, engagement and change for sustainable development through education and learning.

The quest for new ways of thinking, living and working was given new impetus by the United Nations Decade of Education for Sustainable Development (DESD, 2005–2014). The DESD encourages governments to develop their own strategies and frameworks in order to reorient education and learning towards sustainable development. National agencies and bodies play a key role in leading, but also supporting, learning opportunities for change towards sustainable development across the sectors. This was recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Conference on Education for Sustainable Development (ESD) held in Bonn, Germany (30 March – 2 April 2009), which restated the need for national plans and actions in this area. The Bonn Declaration (UNESCO, 2009a) and the UNESCO Strategy for the Second Half of the DESD (UNESCO, 2010) recognize that it is important to build a common vision of sustainable development, but also that context-specific national strategies are crucial in order to prepare for the complex challenges facing communities across the globe.

This publication highlights case studies of national progress in the area of learning and education for sustainable development. National efforts are documented from each of the UNESCO world regions, including case studies from: Chile, Indonesia, Kenya, the Netherlands and Oman. These countries have developed national ESD implementation strategies and identified different entry points for progressing towards education and learning for sustainable development across the sectors. For example:

- **CHILE:** Its ‘National Policy on ESD’ (2005–2014) consists of national and regional plans, which enhance the integration of ESD using community

learning approaches. Civil society organizations are key players in progressing towards ESD across the country.

- **INDONESIA:** Facing diverse social, economic and environmental challenges, Indonesia has developed an ESD framework based on community and democratic learning approaches.
- **KENYA:** Its ESD national implementation strategy uses capacity-building, advocacy, vision-building, partnerships and coordination as key approaches to embed ESD at a national level.
- **THE NETHERLANDS:** Its ‘Learning for Sustainable Development’ (LfSD) programme (2004–2007; 2008–2011) is an exemplary framework which embeds ESD across all sectors. The programme adopts a unique and innovative approach underpinned by social and lifelong learning. It adopts an integrative approach recognizing the role played by non-formal and informal education as well as formal education in the attainment of sustainable development.
- **OMAN:** As a response to the DESD, Oman has developed an implementation strategy based on building relationships with the business sector and providing ESD learning opportunities in formal education settings.

The national reviews selected for this publication showcase a diversity of educational approaches and initiatives to demonstrating progress towards sustainable development. The frameworks guiding the implementation of ESD in each country focus on distinctive themes and topics, have different coordination mechanisms, and use a diversity of learning approaches. Whereas some frameworks focus on formal education, others have broadened opportunities through integrating ESD into non-formal and informal education. Several key observations arise from the national reviews and serve to highlight lessons learnt, outlined below.

Framing and coordinating ESD: policies and strategies

ESD national plans and implementation frameworks are underpinned by similar intentions, visions and missions, which are aligned to those supported by the DESD. However, the approaches taken and the coordination processes developed vary from one country to another.

Lessons learnt:

1. Develop strategic frameworks and policies to guide the implementation of ESD in different areas and sectors.
2. Embed ESD strategies and frameworks in national and government decision-making.

3. Develop coordination mechanisms that involve a wide range of key stakeholders.
4. Promote coordination and vision-building across government departments and ministries.

■ **Making ESD happen: implementation and initiatives**

Social change is at the heart of the ESD initiatives as highlighted in the different national reviews. These initiatives engage and empower social groups in sustainable development through meaningful educational processes.

Lessons learnt:

5. Encourage the mapping of needs and actions in support of non-formal and informal learning opportunities for sustainable development.
6. Encourage the development of action plans that emphasize the role of the business sector, indigenous communities and the media in providing ESD learning opportunities.
7. Build synergies among ESD initiatives and programmes to promote a shared vision of sustainable development.
8. Develop plans to review the quality and appropriateness of ESD initiatives.

■ **Reflecting on ESD quality: teaching and learning processes**

Little attention is given to non-formal and informal curricula and the pedagogical approaches used in different educational settings. The national experiences documented in this publication reveal that sustainable development has been partially embedded in formal educational institutions.

Lessons learnt:

9. Encourage national plans and actions to clearly identify pedagogical approaches, which support ESD and encourage and promote these across activities.
10. Encourage whole-of-institution initiatives, social learning approaches and the development of learning organizations.

■ **Facilitating ESD implementation: capacity, resources, innovation and research**

There is little evidence of attention (or investment) in the capacity-building of educators, facilitators or curriculum developers. There is also a lack of support for research and resource development activities.

Lessons learnt:

11. Clearly identify capacity-building needs and address these through specific activities.
12. Ensure that ESD pedagogical resources are available to educators and learners.
13. Create specific funding and structure mechanisms to support ESD innovation and research activities.

Enhancing cooperation, quality and relevance: partnerships for ESD

Although partnerships were explicitly highlighted as important to advancing sustainability by the national stories documented in this publication, few partnerships were showcased by the countries featured.

Lesson learnt:

14. Identify needs and actions to support partnerships for ESD.

Reviewing progress and change: monitoring and evaluation mechanisms

There is a need for more participatory evaluation mechanisms, as well as a need to identify ways to assess the quality of ESD programmes.

Lessons learnt:

15. Develop multi-stakeholder monitoring and participatory evaluation systems.
16. Create monitoring and evaluation processes that assess the quality of ESD learning processes and experiences and not just outputs.

Context

It is possible to track dialogues and debates on the role of education in creating sustainable futures back to when the concept of sustainable development¹ was first conceptualized in the early 1970s. Key United Nations (UN) conferences have played an important part in mobilizing the international community in this area. In 1992, governments across the world gathered at the Earth Summit held in Rio de Janeiro and committed to sustainable development by signing Agenda 21 (UNCED, 1992). This historical document was clear in calling for all countries to develop Education for Sustainable Development (ESD) strategies and frameworks to reorient education programmes and systems. However, ten years later, at the World Summit in Johannesburg in 2002, the United Nations Educational, Scientific and Cultural Organization (UNESCO) recognized that education had been the forgotten priority of Rio (UNESCO, 2002). In this context, the idea of a United Nations Decade of Education for Sustainable Development (DESD) was proposed during the World Summit to move towards the implementation of ESD at national and international levels.

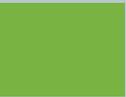
On 20 December 2002, the United Nations General Assembly at its 57th session adopted Resolution 57/254 and officially declared the United Nations Decade of Education for Sustainable Development, designating UNESCO as the official international lead agency. Spanning 2005 to 2014, the ultimate goal of the DESD is to transform and reorient education and learning processes towards sustainable development. To do so, the DESD encourages governments to embed sustainable development into all education systems, plans and strategies, and supports public awareness to increase participation in ESD initiatives (UNESCO, 2005).

Since the DESD launch, nations and regions across the world have engaged in developing ESD strategies and frameworks or reviewing existing ones. However, the first *DESD Global Monitoring and Evaluation Report* (UNESCO, 2009b) highlighted that no country is close to embedding sustainable development into its structures or systems. This global report was released at the UNESCO World Conference on ESD in Bonn, Germany (30 March – 2 April 2009) and sought to celebrate and review the progress of the first half of the DESD as well as to identify key priorities and ways forward for the second half of the decade.

1 This publication uses the terms ‘sustainable development’ and ‘sustainability’ as interchangeable concepts.

The Bonn Declaration (UNESCO, 2009a) continues to call for the development and adjustment of ESD policies and frameworks in order to guide the implementation of ESD in all educational sectors. Drawing upon the recommendations from this authoritative document, the UNESCO Strategy for the Second Half of the DESD (UNESCO, 2010) calls for creating spaces to discuss a common vision towards sustainable development, and emphasizes the need to create ESD strategic documents which are context-based and address the specific challenges that individuals, communities and nations are facing in different parts of the world. It is within this context that this UNESCO publication was commissioned. This publication is an attempt to capture national journeys from countries in five of UNESCO's world regions² and seeks to be an inspirational tool for those stakeholders and policy-makers seeking to integrate ESD at national levels.

2 The five UNESCO Regions represented are Africa, the Arab States, Asia and the Pacific, Europe and North America and Latin America and the Caribbean.



Reviewing
National
Experiences



CHILE

Roberto Figueroa, Consuelo Chaparro, Mario González and Javier Figueroa, ONG de Desarrollo Sociedad y Medio Ambiente - ONG ENTORNO

An ESD policy, accompanied by national and regional action plans, was developed in Chile in response to the DESD. These documents guide the reorientation of programmes, curriculum, pedagogies and operations towards sustainable development in the formal and non-formal education sectors. In terms of ESD activities, there are several key initiatives, such as the national programmes for schools and higher education institutions. Civil Society Organizations (CSOs) are key players in promoting ESD in non-formal education, especially through involving communities, schools and businesses in meaningful activities. This review suggests that the challenge of extending the primary focus of these activities, beyond the coverage of environmental issues, remains.

1. Introduction

This national review will analyse the implementation of the DESD in Chile around three key questions. The first concerns the implementation of ESD in Chile, and asks whether those engaged in ESD processes have built a shared perspective on ESD, coordinated practices, and sought common synergies. The second question relates to the integration of the values, principles and topics proposed by the DESD in the context of overcoming the limitations, reductions and biases associated with environmental education practices. Finally, the third question refers to whether ESD has moved from the periphery to the mainstream at national level.

The purpose of this study is to highlight Chile's national contributions to ESD, taking into account the diverse formal and non-formal educational policies and programmes that have been implemented in the country in the context of the DESD. As it will be explained in the section below, the integration of ESD in Chile emerged from a strong tradition in environmental education. The implementation of the DESD goals in Chile was a challenge from the outset, as it was deemed important to broaden environmental education perspectives into ESD approaches. Revisiting these challenges five years after the DESD implementation presents a good opportunity for Chile to track progress regarding the national implementation of ESD.

2. A Policy Context for ESD Developments

To understand Chile's current commitment and policy initiatives in ESD, it is important to acknowledge the roots of sustainable development as a concept in this country and how this led to the development of a sustainable development policy, and later, an ESD national implementation policy. This sub-section will explain the specific objectives and coordination mechanisms of the ESD national policy.

Chile has a long tradition of environmental education. Emerging during the 1960s, it takes a naturalist approach, linked to biology and conservationism. Over time, its development has been marked by the influence of international environmental agencies, by the emergence of new educational paradigms at global and regional levels, and by national actors who have enriched their practice in the area of formal and non-formal education. Environmental education has become broader and more diverse, acquiring a more comprehensive vision of the relationship between society and nature (Omegna, 2003). Non Governmental Organizations' (NGOs) environmental education initiatives, mostly in the area of non-formal education, are based on the principles and guiding methodologies of 'popular education' (Brown *et al.*, 1996).

In the late 1990s, environmental education began essentially to be understood as a management tool serving the country's environmental goals. In 1997, the Council of Ministers of the National Environmental Commission (CONAMA) Environmental Education and Citizen Participation Unit was created and, in coordination with the Ministry of Education (MINEDUC) and the National Forestry Corporation (CONAF), it launched new educational programmes such as the 'Open Air Schools in Forest Areas' (1998) and the 'National Environmental School Certification Programme' (2003).

In 1998, the Chilean Government recognized that, in spite of the high and sustained rate of economic growth, social inequality and pressure on natural resources constituted serious threats to the quality of life and to social and economic sustainability. This was part of the assessment that led to the development of a Sustainable Development Environmental Policy (SDEP), approved by the Council of Ministers of the National Environmental Commission (CONAMA, 1998).

In 2004, the Ministry of Education adhered to the UN General Assembly resolution proclaiming the DESD. In this context, the Council of Ministers asked CONAMA and MINEDUC to develop a 'National Policy on Education for Sustainable Development' (NPESD) (2005–2014). Given its long tradition, conceptual and methodological evolution, well-established proponents, emerging institutionalism and networks with formal and non-formal education (Gutiérrez, 2005), MINEDUC and CONAMA identified environmental education as the starting point to promote ESD in Chile. To this end, a unique approach to ESD was proposed. Instead of a single model (Olivos and González, 2005) or a new educational programme (Fuentelba, 2004), ESD was approached as a space for governmental and non-governmental coordination where diverse educational recommendations could be proposed beyond specific environmental education perspectives. ESD can be understood as a value-driven educational process oriented towards the development of people's skills, aiming at people's responsibility and proactive engagement in building a sustainable society. ESD is not exclusively focused on acquiring knowledge about sustainability and environmental issues, but rather on challenging mindsets and actions (Weber, 2004).

ESD can be understood as a value-driven educational process oriented towards the development of people's skills, aiming at people's responsibility and proactive engagement in building a sustainable society. ESD is not exclusively focused on acquiring knowledge about sustainability and environmental issues, but rather on challenging mindsets and actions

Introducing ESD from an environmental education perspective presented new challenges. On the one hand, there was a need to shift the environmentalist bias. This entailed focusing on the development of value-driven exercises and tools to address sustainability-related issues such as poverty, health,

equality and social justice, gender equality, cultural diversity and conflict resolution. On the other hand, there was a need to construct a shared perspective and logic in order to gather the various pedagogical experiences taking pace and to build synergies (Olivos and González, 2005; Fuentealba, 2004; González, 2004).

In 2005, within this new context, CONAMA and MINEDUC invited key stakeholders in environmental education and sustainability to start developing the NPESD as a response to the DESD. In April 2009, following four years of discussions, the NPESD was finally approved by the government. The policy was developed in two different stages: (i) the development of a basic proposal (2005); and (ii) a public participation and consultation process (2006).

The NPESD commits to the promotion of ESD at the national level, identifying education as a key tool for sustainable development. Education provides people with skills to develop themselves fully and to achieve their present and future goals. The NPESD acknowledges that there exists a high degree of coherence between ESD objectives and the policies that Chile is implementing as regards the provision of quality education for all (CONAMA, 2009).

The NPESD sustains the need to intervene in various aspects of formal and non-formal educational spaces in order to re-orient management, curriculum, pedagogy and evaluation mechanisms towards sustainable development. It proposes to take up methodological and didactical approaches, which take into account systems thinking, capacity-building, conflict resolution skills, valorization of diversity, teamwork, decision-making and action-oriented perspectives.

The general objective of the NPESD is to form citizens who are capable of taking individual and collective responsibility for creating and enjoying a sustainable society. The NPESD promotes educational processes that focus on values, concepts, abilities, skills and attitudes related to sustainability (CONAMA, 2009).

In order to achieve these goals, the following specific objectives were formulated:

- (i) identify and strengthen curricular, pedagogical and evaluative contents aligned to ESD;**
- (ii) establish ongoing educational processes which empower civil society to construct a sustainable society;**
- (iii) promote inter-sectoral and inter-institutional coordination and networking, maximizing the impact of the ESD programme;**
- (iv) integrate ESD into the professional world, taking into account training, production and business management; and,**
- (v) promote thematic areas of interest to public, private and civil society sectors related to ESD in regional action plans.**

The NPESD developed fifty-nine strategic lines (without including expected results, deadlines or monitoring and evaluation indicators) to meet the above-mentioned objectives.

The implementation of the NPESD is coordinated by CONAMA with a total annual budget of 45 million Chilean Pesos (approximately US\$90,000). Its implementation is carried out at both national and regional levels. At the national level, the NPESD is executed by CONAMA's Environmental Education Unit, which: (i) publishes an environmental education journal (*Revista de Educación Ambiental*); (ii) organizes 'ESD Dialogues' three times a year on such topics as ethics and sustainability or water and biodiversity; (iii) organizes national and international seminars on ESD; and (iv) prepares the national action plan.

The NPESD consists of national and regional action plans, which ensure its implementation and execution at different levels:

National action plan: The first stage of the national plan for ESD is limited to governmental institutions. Different ministries and governmental agencies have appointed senior officials to implement the various ESD training programmes that they offer. A collaborative and interactive website³ has been developed to assist in this task. In addition, work has started to implement a strategy on ESD training programmes. The objective is to gather as much information as possible on these programmes (goals, challenges, coverage, budgets, and so on).

Regional action plans: At regional level, the NPESD is implemented through regional centres that have prepared regional action plans and seek the participation of public services, companies, NGOs, social organizations and universities. Part of the national budget is allocated to implement the NPESD in the various regions. Some noteworthy regional experiences are listed below.

- In the O'Higgins Region, the NPESD is executed through the Project for Development of an Environmental Education Model (PRODEEM), which seeks to develop an environmental education model that strengthens local capacities. PRODEEM is implemented by CONAMA, the Japanese International Cooperation Agency (JICA) and nine municipalities in the Tinguiririca River basin. Local environmental management committees have been organized in the nine municipalities. These committees consist of municipal officers, members from social organizations, the private sector and the education sector. Committee members have been trained as monitors to strengthen environmental issues in their organizations. The training programme has as its main objective the introduction of basic environmental concepts (i.e. on water, waste, air, land, environmental education, and so on) and the promotion of more environmentally responsible behaviours (Mellado, 2009). Teachers from the formal education sector have also been trained in the management of household waste.

3 <http://www.conama.cl/educacionambiental/1142/article-42033.html>

- The Maule Region NPESD Council has been operating since 2008 with the participation of stakeholders, who take an active part in the NPESD discussion and in environmental education programmes. It is composed of twenty-nine public, private, academic, social-community and civil society organizations. The Council conducted a participatory assessment of the region's education needs regarding sustainability in the formal and non-formal education sectors. This assessment was used to develop a regional action plan in 2009. This plan consists of training courses for farmers regarding water use and management; courses on energy efficiency, water, and environmental and forestry resources for teachers; the distribution of the NPESD to the Information Offices of all of the region's public services; and information exchange about the Council's training programmes among the various public services.⁴
- The Biobío Region has focused on developing local strategies to incorporate ESD components into the 'Annual Municipal Education Plan' (PADEM) of twelve municipalities.⁵
- Finally, the Metropolitan Region has established a centre with sixty representatives of the public sector, companies, social organizations and civil society, who have developed an action plan, approved by the Regional Environmental Commission (COREMA RM).

3. A National Review of ESD Activities

This section identifies different ESD initiatives and programmes undertaken within the formal and non-formal education sectors. It also gives a critical overview of curriculum reorientation, teaching and learning processes, available ESD materials, support of ESD research, coordination mechanisms and ESD partnerships, and monitoring and evaluation processes.

As a starting point, ESD programmes and initiatives were collected, which took into account their objectives and ESD-related issues addressed (sustainable urbanization, sustainable consumption, peace and security, rural development, cultural diversity, gender equality, health promotion and the environment), regardless of entity (public or private sector, social or community organizations, or civil society) or education sector (formal, non-formal or informal). From among these programmes, the researchers selected those that had been operating over a long period of time, had shown successful results, and had been facilitated by recognized agencies and

4 Information provided by Ana María Morales, CONAMA Maule Region.

5 Information provided by Roberto González, Environmental Education Unit of the National CONAMA.

organizations. Interviews were conducted with directors, educators or trainers of these programmes.

Finally, in order to obtain a broader spectrum of opinions, a workshop was organized. Sixteen key stakeholders, involved in the implementation of ESD in Chile, attended.

3.1 ESD in School Education

This sub-section highlights the National Environmental School Certification System (SNCAE) as a key initiative to embed ESD in school education.

The National Environmental School Certification System

The most important programme for the integration of ESD in early childhood, primary and secondary education is the National Environmental School Certification System (SNCAE), administered by CONAMA, MINEDUC, CONAF and the Chilean Association of Municipalities. Promoted by UNESCO, SNCAE's main goal is to seek curricular opportunities to integrate ESD into the formal education system. In 2009, MINEDUC approved a Curricular Adjustment Proposal, which explicitly states its purpose as aiming to achieve an equitable, sustainable and efficient development of the country (MINEDUC, 2009). Thus, opportunities for ESD in the curriculum exist within this proposal.

Promoted by UNESCO, SNCAE's main goal is to seek curricular opportunities to integrate ESD into the formal education system

The SNCAE also promotes the implementation of environmental management systems at school level. Since its start in 2003, a total of 1,290 schools nationwide have registered with the programme, of which 572 schools are currently environmentally certified. Educational institutions are encouraged to incorporate environmental, cultural and territorial issues (related to the school's local environment) into their teaching and school management. SNCAE facilitates the coordination with other programmes, such as the CONAMA Environmental Builders Club and Health Promoters Schools, and has also established links between schools, local organizations and companies.

Since its start in 2003, a total of 1,290 schools nationwide have registered with the programme, of which 572 schools are currently environmentally certified. Educational institutions are encouraged to incorporate environmental, cultural and territorial issues into their teaching and school management

Agreements aimed at supporting schools throughout the process of acquiring the environmental certification have been signed with various companies and

professional associations, including the National Copper Corporation (CODELCO), Biobío Sanitation Services Company (ESSBÍO), KDM and CORMA.

Various teaching guidelines on diverse environmental education topics have been published and distributed at different training seminars, and free courses have been offered by specialists from consulting firms, universities and NGOs.⁶ Issues addressed include: the pedagogical implementation of environmental education, environmental management of schools, relationships with the environment, solid waste management, energy efficiency and air quality.

3.2 ESD in Higher Education

This sub-section highlights the Higher Education Consortium as an important ESD initiative in higher education.

The Higher Education Consortium

At higher education level, a consortium to implement the ‘sustainable campus’ initiative was formed among eight universities: Universidad de Santiago de Chile, Universidad de Talca-Sede Santiago, Universidad Tecnológica Metropolitana, Universidad Andrés Bello, Universidad Bolivariana, Universidad de Artes, Ciencias y Comunicación, Universidad de Chile and Universidad Metropolitana de Ciencias de la Educación. This consortium aims to establish and evaluate the university’s management and sustainable ‘clean production’ models. It also comprises the development of ESD methodologies, which can be applied to undergraduate and graduate programmes, particularly in teacher training and science courses. In order to secure public funding for this initiative, an agreement between this consortium and the Chilean Economic Development Agency (CORFO) is currently under preparation.⁷

3.3 ESD in Non-formal and Informal Education

This sub-section highlights non-formal and informal education initiatives undertaken by the public sector and civil society organizations. The following initiatives have been implemented by the public sector.

Environmental Protection Fund programme

The Environmental Protection Fund (FPA), administered by CONAMA, is a programme that seeks to integrate ESD into the non-formal education system. Its main goal is to contribute to environmental responsibility through the involvement of the

⁶ Information provided by Roberto González, of CONAMA’s Environmental Education Unit.

⁷ Information provided by Marcelo Mena, Universidad Andrés Bello.

community in environmental protection and environmental heritage preservation initiatives. This programme strengthens local capacities through educational actions and effective community participation. FPA is articulated with the SNCAE and promotes links between community organizations and certified schools. It has also established an agreement with the Energy Efficient Country Programme (PPEE) to promote energy efficiency results within certified schools.⁸

CONAF is implementing environmental education programmes in non-formal and informal areas, aimed at preventing forest fires, providing information on natural resources and disseminating forest heritage within the Protected Forest Areas and in schools. Every year these programmes reach around 45,000 people

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CONADI Orígenes Programme

The CONADI ‘Orígenes Programme’ focuses on intercultural health and education of indigenous communities in seven regions of the country. Its initiatives include environmental training and protection of native forests and natural heritage, teacher training in Bilingual Intercultural Education (BIE), and BIE educational plans on the topic of environmental education. Finally, it conducts research studies on ancestral knowledge and water in the Antofagasta Region.¹¹

Civil society organizations have used diverse approaches to integrate ESD into non-formal educational programmes. Some organizations use strategies that emphasize the creation of partnerships with companies, seek to harmonize and integrate ESD initiatives with the market economy, or focus on local citizen participation, community empowerment and strengthening territorial identity. Other organizations focus on broadening and reformulating conventional environmental education approaches. Some examples of civil society organizations and their initiatives are described overleaf.

8 <http://www.conama.cl>

9 Information provided by Gabriela Omegna, CONAF.

10 Information provided by Sandra Poblete, CONAF.

11 <http://www.origenes.cl>

■ **Fundación Casa de la Paz**

ESD programmes implemented by Fundación Casa de la Paz highlight connections between environmental matters and the social and economic context, promote the sustainability of projects and the development of inclusive business activities. Projects undertaken by this organization include:

- (i) the development of different projects for neighborhoods and schools, in association with the private sector. For example, projects focus on community waste management or the promotion and organization of waste collectors;
- (ii) the implementation of other educational programmes focused on energy efficiency, in collaboration with the PPEE and a private company. These programmes are designed to have an economic impact on marginalized groups;
- (iii) the development of educational programmes on sustainable coexistence, also in collaboration with the private sector, aimed at improving relationships between private companies, the community and the local government;¹² and,
- (iv) the administration of a funding mechanism called Sueños del Barrio, in cooperation with the Sustainable Development Council and a private company. Sueños del Barrio allocates grants for projects aimed at improving local areas. Specialized training is provided for the social organizations receiving the grants.¹³

■ **Corporación El Canelo de Nos**

Corporación El Canelo de Nos uses a ‘social empowerment for sustainability’ approach in its different projects. It develops non-formal education programmes for communities and neighbourhoods. In association with UNESCO, it develops a programme that provides teacher training on energy saving technologies for classrooms. It also provides environmental education through an educational circuit called ‘Planeta Canelo’ directed at students seeking to complement their formal education.¹⁴

■ **Ecobarrio El Ceibo de Maipú**

Ecobarrio El Ceibo de Maipú takes a very different approach from the above organizations. This social organization proposes ongoing informal education through daily interaction with the community. Their programme is designed to strengthen links with the community and provide them with ecological information. This organization believes that culture can be transformed and thus ways in which

12 Information provided by Carolina Silva, Fundación Casa de la Paz.

13 Information provided by Cecilia Suárez, Sustainable Development Council.

14 Information provided by Pablo Sepúlveda, Corporación El Canelo de Nos.

people live in the city and relate to the environment can also be changed. El Ceibo also aims to share popular and academic knowledge and information, engaging in mutual education and supporting young researchers. It also offers training courses for teachers and students from schools in the municipality of Maipú and to residents of the Villa 4 Álamos.¹⁵

National Committee in Defense of Fauna and Flora

The National Committee for the Defense of Fauna and Flora (CODEFF) offers non-formal environmental education courses and organizes campaigns on climate justice. Its objective is to protect natural resources and generate cultural change, encouraging ways of ‘living differently’. It offers tours and lectures for students through its Centre for Fauna Rehabilitation. These activities focus on issues of biodiversity, and their conservation and connection to climate change.¹⁶

3.4 ESD Teaching and Learning Processes

This sub-section focuses on curriculum reorientation to ESD in formal and non-formal education.

In Chile, the early childhood, primary and secondary education curricula enable the incorporation of ESD processes and methodologies. However, some key stakeholders, such as the Sustainable Development Council or the CONAMA National Director, believe that

more needs to be done in order to truly embed ESD in the curriculum. Moreover, its implementation depends on the school boards and schoolteachers. This review shows that an explicit emphasis on sustainability is not included in the curriculum. One of the problems is that sustainable development issues are only addressed as single-unit



topics in the cross-curricular objectives or in some science focused disciplines (Hoffman, 2003). Another problem is that social issues, such as human rights, do not receive enough attention in the curriculum.¹⁷ Furthermore, the changes made in the 2009 ‘Curricular Adjustment’ do not facilitate a better integration of ESD into the educational system. Although these adjustments were made through a participative process, ESD stakeholders were few in number and involved at a late stage in the process.¹⁸

15 Information provided by Luis Márquez, Ecobarrio El Ceibo de Maipú.

16 Information provided by Vivian Leisersohn, CODEFF.

17 Information provided by Cecilia Suárez, Sustainable Development Council.

18 Information provided by Roberto González, CONAMA Environmental Education Unit.

The authors of this national review consider that the challenge of integrating ESD into curricula is not related to the curriculum itself but rather to its management. On the one hand, ESD is just one of the many issues for MINEDUC and is not considered a priority; at times it is not viewed as complementary to the country's educational goals. On the other hand, schools and teachers tend to manage the curriculum, taking into account only the educational goals defined by MINEDUC. The result is that ESD objectives are never fully developed. Programmes such as the SNCAE have proven to be exemplary practices for integrating ESD objectives, contents and pedagogical approaches into the formal educational system. However, it is important to note that the SNCAE itself needs to overcome critical issues, such as its bias towards environmental education.

In the area of non-formal education, traditional environmentalist approaches have been broadened to include ESD perspectives through innovative pedagogical experiences. These initiatives have initiated ESD mainstreaming processes and have taken into account the three main pillars of sustainable development: economic, environmental and social systems.

3.5 Educational and Pedagogical Materials

In this sub-section, different ESD pedagogical and support materials available to formal education stakeholders are highlighted. It is worth noting that few ESD resources are available in non-formal and informal education sectors.

A variety of educational and pedagogical support materials is available to teachers in the formal education sector. These materials are mainly developed to support curriculum management which, as mentioned earlier, constitutes one of the main challenges at school level. The materials consist of guidelines aimed at improving teachers' understanding of sustainable development while providing ideas for their daily pedagogical activities, i.e. formal projects and activities. The materials are usually distributed at training events and occasionally through SNCAE monitoring or audits. They are mainly developed by consulting firms and NGOs through a public bidding process. Funding of these resources comes primarily from CONAMA. This means environmental topics are usually privileged.

In general, there is a lack of funding to develop ESD materials and resources, especially for those targeting students or civil society. EEPC and CONAMA are committed to the development of materials and are currently providing: (i) support guidelines for teachers in primary, secondary and professional education; (ii) a self-evaluation energy guideline for schools; (iii) free guidelines for the general public (distributed through a national newspaper); and (iv) a 3D movie for students which, in 2009, was screened in thousands of schools.

The development of educational materials for the non-formal sector is still limited because CONAMA only focuses on creating impact in the formal education sector.

Civil society organizations tend to develop their own materials, which are used and distributed through specific projects.

3.6 Development of Capacities, Innovation and Promotion of Research

This sub-section outlines different measures put in place to build pre-service and in-service teacher capacity for ESD and to promote ESD research.

Capacity-building

Training, support and technical assistance for pre-service and in-service teachers are the main educational challenges in Chile. Some workshops have been organized in the different regions, but they are solely focused on training teachers in the use of specific ESD materials. MINEDUC is now planning to offer formal accredited ESD courses to teachers. However, it is difficult for teachers to participate in these training programmes due to work overload and time constraints. More capacity-building processes in ESD need to be offered to institutions rather than to individual teachers.

Promotion of research

There is a need for greater support for ESD research and development. No specific strategic line of research exists in relation to ESD in the National Scientific and Technological Development Fund (FONDECYT), the main funding body for public research. As a result, academic research on ESD is very limited. The creation of the consortium of universities for the development of ‘sustainable campuses’ (see sub-section 3.2 on ESD in higher education) represents a good opportunity to enhance research in ESD.

3.7 Cooperation and Partnerships for ESD

This sub-section highlights coordination mechanisms established in order to implement the NPESD in Chile. It also showcases initiatives taking place through international cooperation.

Coordination and participation of stakeholders in the implementation of the NPESD

- The implementation of the NPESD, through national and regional discussions, has improved coordination in the public sector. However, given the government’s compartmental structure, ministries and government agencies have their own approaches and interests resulting in a duplication of tasks and a lack of shared and systemic vision.

- The participation of civil society, universities, the private sector and community organizations in regional discussions contributes to the creation of synergies. It also promotes consensus processes among public officials on the development of action plans and strategies.¹⁹
- Public funding application processes have created a market for the provision of ESD services within the civil society sector. The lack of resources results in civil society organizations having to compete with each other (rather than creating synergies) in order to be successful in these funding processes.
- The government has provided the private sector with new ESD resources. Stricter environmental certification requirements with respect to productive processes and corporate social responsibility have encouraged companies to collaborate with communities and schools in the areas of formal and non-formal education.



International cooperation

ESD integration across all sectors has contributed to the establishment of relevant connections with international organizations to implement specific programmes and projects such as PRODEEM, with the support of JICA, or the development of educational materials supported by the United Nations Development Programme (UNDP). However, no synergies have yet been created with ESD initiatives already implemented in Chile, such as the SNCAE and UNESCO programmes, for instance, with the Associated Schools Project Network (ASPnet).

3.8 Monitoring and Evaluation

- Mechanisms for monitoring and evaluating ESD in Chile have not been developed. The NPESD and regional action plans do not include indicators to assess the progress of ESD implementation. CONAMA intends to design indicators that can assess the level of ESD integration in planning instruments and programmes of public services and local government. In addition, there is a need to conduct evaluations of the main programmes implemented by CONAMA, SNCAE and FPA. A total of forty-three indicators have been defined by the SNCAE to evaluate its contribution to improving the quality of education

¹⁹ Information provided by Roberto González, CONAMA Environmental Education Unit.

in Chile (ONG Entorno, 2008). These indicators were tested, but the sample used in the pilot study was too small to acquire reliable results.

- The SNCAE has recently introduced an annual audit process in certified schools, which presents relevant progress with respect to the homogenization of monitoring and evaluation processes in schools.
- A number of indicators were designed to evaluate goals and purposes of FPA projects. Educational processes used in formal and non-formal education were not assessed.



ESD Implementation at a Glance

This section identifies strengths, opportunities, weaknesses and threats in implementing ESD at the national level.

Strengths

- ▶ NPESD approved, financial resources allocated, and high-level of legitimacy among key stakeholders.
- ▶ Citizen participation in the design of the ESD policy.
- ▶ Local initiatives facilitating the definition of clear goals and objectives.
- ▶ Key role from SNCAE in the implementation of the NPESD.
- ▶ Possibility to re-orient teaching and learning processes towards ESD through fundamental cross-curricular objectives.
- ▶ Efforts towards opening up schools to their local communities and surroundings.

Opportunities

- ▶ The community, and youth in particular, are interested in sustainable development and ESD issues/challenges.
- ▶ Commitment to environmental education for sustainability by a significant number of organizations.
- ▶ Recognition of the concept of ESD, as defined by UNESCO, by the majority of organizations. Each organization or institution adapts the concept according to their perspectives, experiences and objectives.
- ▶ Creation of networks and partnerships for ESD between the public and private sectors (i.e. through Corporate Social Responsibility policies).
- ▶ The DESD is valued as an opportunity to discuss the country's development and education models from the perspective of sustainability.

Weaknesses

- ▶ ESD is not a priority for the government or MINEDUC policy.
- ▶ Limited commitment by local and municipal institutions.
- ▶ Insufficient allocation of funding resources; CONAMA being the only public institution with an ESD budget.
- ▶ A rigid curricular framework, hindering the integration of sustainability issues and ESD approaches.
- ▶ Need for more teacher training on ESD.
- ▶ Need for capacity development in order to increase innovation and creativity.
- ▶ Need for monitoring and evaluation mechanisms to assess the progress of ESD implementation.

Threats

- ▶ The crisis in the formal and non-formal education system. It is not enough to provide students with knowledge, there is a need to develop skills that will enable them to create a sustainable future.
- ▶ Governmental compartmentalization. Different ministries and governmental agencies have their own perspectives and interests as regards ESD. There is a lack of a common and systemic vision at governmental level.
- ▶ There is a need for further civil society commitment in terms of sustainable development and ESD issues.
- ▶ Reductionist use of the notion of sustainability by policy-makers, political parties, business directors and opinion groups.

4. Lessons Learnt

This section outlines lessons learnt in the implementation of ESD in Chile, and outlines some key recommendations.

1. Establish a formal coordination structure/mechanism with a centralized public budget for the implementation of the NPESD in Chile. This structure will ensure strategic coordination between the public and the private sectors, broaden environmentalist perspectives to ESD approaches, and ensure MINEDUC's commitment to ESD implementation. In order to implement regional action plans, there has to be a significant increase in public resources for the NPESD.
2. Strengthen and create spaces for citizen participation in the design of national and regional plans of action, which incorporate new stakeholders from the economic, cultural and social realms. There is a need for spaces where the roles of citizen organizations can be decisive and where monitoring and evaluation initiatives are adopted. There is a need to create mechanisms for stakeholder participation at the management level. For example, the participation of certified schools in the formal SNCAE and FPA institutions.
3. Align the country's educational goals with NPESD objectives. This process involves greater adjustment of regional action plans and public environmental education programmes as regards MINEDUC's orientations. MINEDUC needs to commit to ESD implementation by allocating resources.
4. Improve the development of ESD capacities, the promotion of pedagogical innovation processes and the development of ESD research through the allocation of public funds such as FONDECYT and FONIDE.
5. Establish monitoring and evaluation mechanisms to assess the NPESD and ESD programmes from the public sector. There is a need to develop a baseline assessment for SNCAE and FPA.

5. Concluding Remarks

The existence of a NPESD and the consensus achieved among its implementers facilitates the integration of ESD in Chile. However, no legal instrument exists that can ensure its continuity. Despite the fact that there is a public budget for the implementation of the NPESD, more resources are needed to integrate ESD into the diverse educational systems. Whereas Chile has started to celebrate important successes in its efforts to integrate ESD into formal and non-formal education, the implementation of ESD within informal education sectors has not yet been initiated.

Many key stakeholders are also yet to be involved in ESD, or have access to resources to implement the NPESD. ESD values and principles have not been internalized by many key stakeholders, as traditional environmentalist perspectives are difficult to challenge. There are many different levels of commitment to ESD within government institutions, which discourage those stakeholders already active in creating opportunities to implement ESD across the different sectors.



INDONESIA

Lawrence Surendra

In 2005, as a response to the DESD, the Ministries of Education and Environment developed the DESD implementation strategy for Indonesia. This strategy guides the implementation of ESD at all levels and sectors of education. The appointment of a national coordinator has enhanced the quality and urgency of embedding sustainable development into the education system. At the ground level, different initiatives and 'adjectival educations' are taking place in Indonesia, which need to be adequately connected. ESD is seen as an important umbrella for all these activities. These initiatives are organized by the government, NGOs, the business sector and media. The involvement of the latter in ESD is providing innovative and creative opportunities to communicate the sustainable development challenges to a wider audience.

1. Introduction

This section introduces the socio-economic, cultural and geographical characteristics of Indonesia, which are key to understanding how sustainable development issues and ESD are addressed in this country. In this national review it is also important to understand the different historical developments that have shaped the goals and principles of ESD in Indonesia. A new vision of education, based on democratic and social justice principles, is now promoted in various key educational documents.

In Indonesia, sustainable development issues need to be addressed by taking into account not only its extraordinary socio-cultural and biological diversity, but also the history of the socio-political system (both colonial and recent history), and the geographical location and size of the country. With a population of about 212 million, Indonesia is the world's fourth most populated country. It is also the world's largest archipelago state with over 13,000 islands spread over a distance of 5,000 km from west to east. Its tropical climate and archipelagic geography have contributed to create the most spectacular natural and biological diversity – the highest level of biodiversity after Brazil. In addition, Indonesia represents a very large social and ethnic diversity, with over 300 distinctive ethnic groups and 742 different languages and dialects. Although it is not an Islamic state, it has the world's largest Muslim population co-existing with people from many other religions.

Over the years, Indonesia has gone through complex and difficult socio-political developments, including its colonial past (under Dutch administration) and the experience of dictatorship. In recent times, major natural disasters, such as the devastating tsunami and earthquake, have caused immeasurable damage. Decentralization and democratization of the government are now core principles promoted in this country. As are democratic, civic and multi-cultural education, which plays a key role in building and unifying the nation. Conservation and environmental education has been part of both formal and non-formal education for a long time. NGOs have played a key role in raising awareness around environmental issues. The historical developments in the country, as mentioned above, bring even greater significance and relevance to ESD as an integrative concept.

2. A Policy Context for ESD Developments

A new vision of education is being promoted in Indonesia, one that emphasizes the implementation of democracy, autonomy, decentralization, and public accountability. This sub-section highlights the national implementation policy of the DESD in Indonesia.

The launch of the DESD in Indonesia took place in 2005. The Ministry of Education and the Ministry of Environment signed an agreement to join efforts and work together in order to promote national ESD implementation (UNEP and Ministry of Education, 2006). Following the UNESCO World Conference on Education for Sustainable Development in Bonn, Germany (31 March–2 April 2009), the UNESCO National Commission of Indonesia and the Ministry of Education appointed the Senior Vice-Rector from Gadjah Mada University as the National Coordinator for ESD Implementation (NCESDI). This appointment was crucial in integrating, planning, monitoring, evaluating and improving the established programmes related to the implementation of ESD. In addition, an ESD Committee was formed to facilitate the DESD implementation strategy.

The DESD national implementation strategy aims to:

- (i) increase access and opportunities for quality basic education, especially for poor and disadvantaged students;**
- (ii) improve the quality of basic education services and facilitate the ability and potential of the community to ensure an efficient early childhood education;**
- (iii) improve capacity-building at local and community levels through school-based management and community participation; and,**
- (iv) improve the professionalism and accountability of educational institutions based on knowledge, skills, experience, attitudes and values derived from both national and global standards.**

3. A National Review of ESD Activities

Extensive desk research and a review of relevant documentation and literature from diverse websites, such as from NGOs, Non Governmental Development Organizations (NGDOs), government ministries, business corporations, and international organizations and networks, provide the basis for this national review. In addition, interviews with relevant key ESD stakeholders and experts were conducted in Jakarta.

This section presents different ESD initiatives, practices and teaching and learning processes (in formal, non-formal and informal education). It also highlights cooperation and partnerships for ESD.

3.1 Government Initiatives

This sub-section highlights the government initiatives that assist in the integration of ESD in the formal education sector.

Law on the National Education System

The Law on the National Education System of July 2003 emphasizes the fundamental citizen's right to access education, which is based on equity, quality and relevance. This law promotes a compulsory, free basic education based on participation and community approaches.

Curriculum development frameworks

In 2000, educational reforms began to take effect in Indonesia. The reforms enhanced context-based teaching and learning processes. At the school level, freedom for innovation is encouraged, while the Ministry of Education's standards on content and exam requirements are still in place.

Under the Ministry of Education, National Curriculum institutions develop lessons, plans and textbooks. These institutions have ensured that ESD is integrated in formal, non-formal and informal education. Following a review of the national curriculum, several improvements were proposed with respect to the integration of ESD-related content. However, the lack of qualified educational personnel, curriculum developers, teacher trainers and in-service teachers makes the implementation process very difficult. To address this issue, curriculum teams for primary, secondary (including vocational education), special and non-formal education, were established for

To address this issue, curriculum teams for primary, secondary (including vocational education), special and non-formal education, were established for each of the thirty-three provinces and 483 districts. These task forces, consisting of master teachers, supervisors, headmasters, district heads of education (Ministry of Education) and education quality assurers (District), have been trained to embed ESD in teaching and curriculum

each of the thirty-three provinces and 483 districts. These task forces, consisting of master teachers, supervisors, headmasters, district heads of education (Ministry of Education) and education quality assurers (District), have been trained to embed ESD in teaching and curriculum.

The integration process of ESD in the education system is centered on justice, democratization, gender and disaster mitigation, and is built on earlier initiatives of 'Green Schools'. The government focuses primarily on teacher quality, school building and community participation.

3.2 ESD in School Education

This sub-section begins with an introduction to the formal education system in Indonesia. Next, it summarizes the ESD integration process in primary and secondary education. It also highlights specific programmes and networks existing within these educational levels.

The formal education system in Indonesia consists of basic or primary education, secondary education, and higher education. Pre-school education is provided outside the formal school system and is led by governmental agencies and non-governmental organizations from the private sector and the community. The main goals and strategies include expanding access, maintaining quality, and making the educational systems more transparent, accountable and participatory. According to the Strategic Plan Document of the Ministry of Education (2005–2009), around 3.2 per cent of children aged 7 to 12, and 16.5 per cent of children aged 13 to 15 do not attend school. Enrolment rates vary according to urban, sub-urban and rural areas as well as socio-economic groups. Poor nutrition is one of the most critical issues affecting student participation and performance. Funding for education is less than 9 per cent of the total national budget, which is reflected in the detrimental state of more than 50 per cent of the classrooms and the lack of schoolteachers. Common problems within the educational system are corruption and the lack of transparency and accountability.

Compulsory primary education includes state and private schools as well as Islamic primary schools (*Madrasah Ibtidaiyah*). Secondary education consists of general secondary schools, vocational schools and religious schools, such as the Islamic ‘junior’ schools (*Madrasah Tsanawiyah*) and Islamic ‘senior’ schools (*Madrasah Aliyah*), both of which are managed by the Ministry of Religious Affairs. As mentioned earlier, Curriculum Institutions ensure the integration of ESD in formal education by conducting reviews, proposing ways to improve ESD implementation and training curriculum developers, teachers and educators.

In Indonesia, there are several programmes for primary and secondary education that facilitate the integration of ESD in all areas of schooling, and are briefly described in the following section.

Adiwiyata green schools

This programme aims to promote sustainable development issues in schools and encourage responsibility in terms of the protection of the natural environment through participatory approaches and community involvement. Schools are selected by the Ministry of Environment and supported by various local stakeholders (local governments, local district education agencies and NGOs). The school community is involved in the planning, implementation and evaluation of the programme.

The national Adiwiyata team consists of officials from the Ministry of Environment, the Ministry of Education, environmental NGOs, the Environmental Education Network and representatives from tertiary institutions.

UNESCO Associated Schools

The ASPnet programme comprises a network of 200 schools. The first step of the programme involves an assessment of teacher knowledge and an understanding of ESD. The second step – a student competition – aims to encourage students to write critical essays on sustainable development. These essays suggest ways and means to integrate ESD at the school level. Through the ASPnet, schools, teachers and students are involved in ESD through the promotion of community service for instance.

Nature Schools

In addition to Adiwiyata and ASPnet schools, Nature Schools have also begun their own initiatives to improve on sustainability.

ESD in vocational secondary schools

More work needs to be done to implement ESD in vocational secondary schools. The Vocational School of Forestry is just one example of the successful integration of ESD.

3.3 ESD in Higher Education

This sub-section highlights two important initiatives regarding ESD in higher education. The first is the Student Community Services – Community Empowerment Learning (SCS-CEL), which is offered by the Gadjah Mada University (GMU). The second is the Network for the Promotion of Sustainability in Postgraduate Education and Research (ProSPER.Net), which brings together universities from across the Asia-Pacific region to address education for sustainable development.

Student Community Services – Community Empowerment Learning programme

This programme consists of a compulsory subject for undergraduate students at the Gadjah Mada University. The programme is based on a critical paradigm in which students are asked to design and implement projects in local communities. Students work as part of multidisciplinary teams and spend time within the communities, implementing their projects. Designing these projects, the students have to take into account the following principles and approaches: win-win solutions; partnership and co-creation; co-financing; research-based activity; multidisciplinary approach;

flexibility and sustainability. Most of the students involved in the programme are in their final year, but come from different disciplines or programmes. Every year around 7,000 students enrol for this programme and around 100 projects are developed. Fifty per cent of these projects tackle sustainable development issues and use ESD approaches and methodologies.

The Directorate General of Higher Education (Ministry of National Education) has appointed GMU as a national coordinator for the implementation of SCS–CEL programmes in higher education institutions, and new project themes on ESD have been introduced. Some examples include:

- (i) use of *Jatropha carcas* oil (similar to castor oil) as an alternative energy for domestic use in the East Java area;
- (ii) development of clean water supply technologies and the promotion of coast conservation to improve community health in Dharmakradenan Village, Banyumas and Central Java;
- (iii) promotion of a healthy lifestyle in Oelpuah Village, Kupang and East Nusa Tenggara;
- (iv) empowering communities through radio-communication in Jagoibabang Ward and West Borneo;
- (v) development of education models for poor children in Cianjur and West Java; and,
- (vi) conservation of porpoise (*Orsaella bersvirostitis*) in Mahakam River, West Kalimantan.

Network for the Promotion of Sustainability in Postgraduate Education and Research

ProSPER.Net is a network of several leading higher education institutions in Asia and the Pacific committed to working together towards the integration of sustainable development into postgraduate courses and curricula. Member institutions have strong education and research programmes in sustainable development and related fields. The ProSPER.Net academic and research alliance is an effort of the ESD Programme at UNU Institute of Advances Studies (UNU-IAS) to bring about understanding and delivery of ESD and sustainable development at the postgraduate level. The creation of the network and implementation of joint activities are currently supported by the Japanese Ministry of the Environment.

3.4 ESD in Non-Formal and Informal Education

This section introduces the role of civil society in implementing ESD and highlights the activities carried out by non-formal Community Learning Centres.

■ Civil society organizations

In Indonesia, civil society has played an important role in accelerating the process of democratization of the country and providing learning about sustainable issues for individuals and communities. Whereas in the past, government and civil society organizations had completely different approaches to education and learning, their ideas now seem to converge. The government accepts and promotes ESD, as linkages between society, economy and environment, and the need for democracy and participation, are seen as the basis for development. Civil society and NGOs have played a major role in reconstructing the areas damaged by the tsunami and the earthquake as well as in providing disaster reduction and mitigation education.

■ Community Learning Centres

These non-formal education centres are managed by the Directorate General of Non-formal and Informal Education. They usually organize activities and projects aimed at empowering communities in becoming more environmentally friendly.

Communities are made aware of the potential of their villages and the possibilities to design business plans based on sustainable development principles. Some of these communities now benefit from new production activities through the establishment of small enterprises, such as crystal sugar productions, rabbit husbandry, indigo dye productions, coffee industries, and so on.



3.5 ESD across other Stakeholder Groups

This sub-section highlights the initiatives to enhance the involvement of the media and indigenous communities in ESD.

■ ESD and the media

Several ESD initiatives have been organized with the media. For example, in 2005, the UNESCO Jakarta Office, in collaboration with the Dr. Soetomo Press Institute,

prepared journalism workshops on ‘Covering Sustainable Development’. The workshops focused on capacity-building for ESD aimed at media professionals. Participants of the workshops were encouraged to reflect on how local communities deal with sustainable development issues. For instance, an analysis of local budgets generated discussions about administrative inefficiency and corruption. The role of the media in promoting democratic principles and institutional transparency and accountability was recognized. These workshops also offered training on how to write articles on sustainable development issues in terms of substance, style and ethics. A great number of articles were analysed and participants were engaged in interactive exercises.

ESD and indigenous communities

Indonesia has a large artisan community with important crafts being developed (batik making, traditional textiles, embroidery, and so on). The UNESCO National Commission implemented several creative and innovative programmes involving indigenous and local handicrafts, and indigenous livelihoods. Scaling these programmes up in more creative and innovative ways as part of ESD activities can be promising, especially as linkages between vocational education, sustainable development and the use of resources in traditional crafts have already been made.

Youth organizations, especially from indigenous communities, need to get involved in ESD projects and contribute more actively to ESD development at the national level. Indigenous communities are important in the implementation of ESD, but their voices are rarely heard. Connecting youth organizations with indigenous communities could prove beneficial in terms of ESD.

3.6 Thematic Approaches to ESD

Education about peace, values and international understanding continue to be practiced by Indonesian governmental and non-governmental organizations, as well as by individuals of regional and international networks within these issues. Although these ‘adjectival education’ types are needed and supported by different international organizations, they are also responsible for disconnecting and compartementalizing education initiatives. In Asia, ‘adjectival education’ categorized under umbrella terms such as ESD presents both a real challenge and an obstacle to a more coherent and interlinked educational system. However, Indonesia has made a very clear commitment towards ESD and is now trying to connect initiatives and activities within ESD. For example, Education for All (EFA) and ESD activities are being addressed within the same goals and perspectives.

3.7 ESD in Teaching and Learning Processes

The authors of this case study have highlighted the exemplary model of teaching and learning used in the SCS-CEL Programme and which is offered at different higher education institutions, coordinated by GMU. For a more detailed explanation, please refer to the sub-section 3.3 on ESD in higher education.



Although ESD teaching and learning processes are highly supported in Indonesia, many challenges and obstacles remain to be addressed. Some examples include:

- The existence of more urgent issues means that ESD remains a low priority issue: for instance, schools, especially in remote locations, have to address many issues related to local challenges (the realities of poverty, health and nutrition issues, and so on).
- The lack of time in schools to cover all the basic educational obligations and standards leaves little time to address ESD. ESD therefore needs to be integrated into all aspects of learning and teaching and not seen as an ‘extra-curricular’ effort.
- ESD is considered a low priority. Middle management in most schools tend to focus on addressing the demands of the Ministry of Education, parents and corporate business.
- The lack of coherence between competitive educational projects, programmes and thematic packages such that there is a need to develop strategies that look at the quality, coherence and possible synergies among educational interventions and initiatives. ESD is viewed as a potential umbrella theme for these connections.
- The lack of balance and links between formal and non-formal education programmes, as well as between primary, secondary, higher and vocational education.
- The lack of capacity-building that allows for improved teaching and learning processes. Capacity-building for teacher trainers, educators and curriculum developers is essential.

3.8 Cooperation and Partnerships for ESD

This sub-section highlights the cooperation mechanisms, networks and partnerships established at an international level. Some examples include:

- Participation and connections with the UN and UNESCO at regional and international levels.
- Network for the Promotion of Sustainability in Postgraduate Education and Research (further explained in sub-section 3.3. on ESD in higher education).
- Regional Centres of Expertise (RCEs).²⁰
- Participation in international conferences such as the UNESCO World Conference on ESD (Bonn, Germany, 31 March–2 April 2009); the Advanced International Training Programme on ESD in Higher Education (Stockholm, Sweden, 27 April–15 May 2009); the Advanced International Training Programme on ESD in Higher Education (Thani, Thailand, 3–14 August 2009); and the International Conference on University-Community Engagement (Penang, Malaysia, November 2009).



²⁰ Regional Centres of Expertise were established by the United Nations University in 2005 to achieve the goals of the DESD by translating its global objectives into the context of the local communities in which they operate.

ESD Implementation at a Glance

This section identifies some of the strengths, opportunities, weaknesses and threats in implementing ESD at the national level.

Strengths

- ▶ By launching the DESD, the President of Indonesia signaled a commitment to the DESD at the highest level of government. An agreement between the Ministry of Environment and the Ministry of Education was signed in order to promote ESD.
- ▶ The appointment of a senior academic at the NCESDI facilitated the integration of ESD in all the different sectors.
- ▶ The NCESDI has made considerable effort to bring different ministries together to enhance cross-sectoral cooperation in ESD.
- ▶ The National Commission for UNESCO in Indonesia established the office of the NCESDI and is playing a very active role at governmental and policy levels.
- ▶ There is a great degree of enthusiasm among curriculum developers and officials from the Ministry of Education regarding the implementation of ESD within the education system.
- ▶ The NCESDI has made continuous efforts to enhance ESD visibility, such as participation in TV discussions and the organization of workshops.
- ▶ The media is actively engaged in ESD. For example, the UNESCO Jakarta Office is engaged in providing capacity-building on the subject of sustainable development to media professionals as well as support related to ESD issues.

Opportunities

- ▶ A closer cooperation between the NCESDI, the UNESCO National Commission and the Ministry of Education could enable a more efficient coordination of ESD planning, implementation and monitoring.
- ▶ Policy change could also be initiated to support ESD developments at institutional levels. Despite the support of ESD policy in Indonesia, the allocation of budgets and the execution of programmes and projects is relatively slow. Furthermore, ESD remains to be embedded in the operations and systems of all government departments.

- ▶ There is also a great potential to enhance ESD at community levels through community educators, teachers, curriculum developers and those involved in raising awareness, such as civil society groups, NGOs and the media. However, in order to integrate ESD in all the programmes and education sectors, further training and capacity-building for education professionals is required. It is important to enable the creation of a community of ESD practitioners who will go on to participate in the development of ESD resources and pedagogical material at both national and regional levels. There is a lack of ESD resources in Indonesia and it is important to stimulate and prepare educators to face this challenge.

Weaknesses

- ▶ Absence of a national policy to develop strategies for ESD implementation and poor cooperation between the ministries of education and environment.
- ▶ Lack of cross-cutting themes and activities within UNESCO.
- ▶ Need for greater collaboration between ministries. ESD is usually viewed as a process whose mandate falls solely under the Ministry of Education.
- ▶ Confusion about the meaning of ESD and its approaches in the country. ESD is a broad concept that requires a clearer understanding about its content, objectives and goals. Capacity-building is essential in order to challenge thinking about sustainable development and ESD issues.

Threats

- ▶ The lack of appropriate inter-ministerial mechanisms for ESD monitoring and evaluation.
- ▶ The lack of financial resources allocated to ESD implementation.

4. Lessons Learnt

This section identifies lessons learnt in the implementation of ESD in Indonesia, and include:

Awareness, meaning and scope of ESD

1. Clarify the meaning and scope of ESD at country level.
2. Develop ESD public awareness programmes.
3. Create a community of ESD practitioners who can create momentum about ESD.

Reorienting curricula, teaching and learning

4. Create coherence between curriculum activities.
5. Develop a plan for re-orienting curricula at all levels, both formal and non-formal education (including Community Learning Centres).
6. Increase availability and accessibility of ESD material and resources on re-orienting curriculum.

Capacity-building

7. Develop and implement a strategic plan guiding the improvement of capacity-building programmes, especially in teacher training and curriculum development institutions.
8. Involve ESD capacity-building at all levels of education and for educational administrators and government senior officials.

ESD resources and materials

9. Develop relevant ESD materials, taking into account Indonesia's local contexts.
10. Make ESD materials and resources from a regional and international context available and accessible.

ESD synergy with other adjectival education types

11. Clarify the difference between environmental education and ESD, and create synergies between them.
12. Create links and connections between adjectival education types, for instance, between values, education and ESD. Promote group cooperation in order to establish these links.
13. Clarify the goal of ESD. Explain to stakeholders that ESD does not intend to suppress the different adjectival education types but seeks common links.

National networking

14. Appoint coordinators at the level of provinces and at sub-regional levels to ensure that ESD is implemented throughout the country, including remote areas. These sub-regional coordinators and the NCESDI can ensure that effective networking is created across sectors.
15. Engage and involve indigenous communities in national and regional ESD implementation.

Coordination and research

16. Establish a national coordination board for ESD, with representatives from different ministries (preferably senior managers and directors). This coordination board could ensure the creation of partnerships and synergies, as well as the coordination of different activities around ESD implementation and promotion. The national ESD coordination board could also conduct research to enhance cooperation as well as measure outputs through a monitoring and evaluation mechanism.

Financing

17. Allocate designated budgets for the implementation of different ESD activities and prepare budgets for ESD activities. This will facilitate the contribution to ESD by bilateral and multilateral agencies, and facilitate the assessment of ESD progress.

International cooperation

18. Establish a plan for international cooperation in creating appropriate synergies with the national implementation of the DESD.
19. Define a clearer role for UNESCO in the implementation of ESD in Indonesia.

Monitoring and evaluation

20. Establish monitoring and evaluation mechanisms, and define indicators to assess the contributions of ESD towards sustainable development and to identify lessons learnt.

5. Concluding Remarks

Ever since the 1992 Rio Earth Summit, countries and governments around the world, including Indonesia, have shown their commitment to sustainable development and the attainment of its goals through education and training. In Johannesburg 2002, these same countries realized that little progress had been made ten years on, and thus the DESD (2005–2014) was proposed in order to advance the sustainability agenda through education. However, there are many challenges to overcome in order to achieve the ambitious goals of the DESD. In Indonesia, ESD is viewed as an excellent opportunity to tackle these problems and to shape the future of a society ready to move towards sustainable development.



KENYA

Dorcas Otieno

In Kenya, viewing ESD as an opportunity to use education to improve the quality of life across all sectors of society is the vision expressed in the national implementation strategy for ESD, which guides its integration across education offerings while promoting advocacy and vision-building, partnerships and coordination, as well as capacity-building processes. A wide range of ESD activities are taking place on the ground and are being led by the government, civil society organizations as well as indigenous communities. These activities are raising awareness, providing capacities and skills, and empowering people and communities to create more sustainable futures. However, synergies among these initiatives, as well as greater support from the business sector, are still challenges that need to be addressed.

1. Introduction

Sustainable development issues in Kenya are both complex and interlinked. The primary issues revolve around such social concerns as poor governance, corruption, lack of acceptance of cultural diversity, ethnic animosity, gender inequality, the spread of and suffering from Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS), the incidence of malaria, tuberculosis (TB) and other communicable and non-communicable diseases, human rights abuse, violence and increased insecurity, drug and substance abuse as well as the erosion of cultural values and morals. At the same time, Kenyans face economic issues, which further contribute to this social insecurity. In addition, the high levels of poverty and related issues impede optimal economic performance.²¹ This is accompanied by an inadequate investment in infrastructure, which has led to rising levels of unemployment, rural/urban migrations, corporate irresponsibility, lack of accountability and corruption. Inefficient and wasteful production systems have led to the unsustainable utilization of natural resources, resulting in their degradation. Furthermore, poor enforcement of regulations in terms of production and marketing are barriers to optimal economic growth.

Adding to this complexity, are the environmental challenges in the form of droughts, natural disasters, acute water shortages, climate change and variability, loss of biodiversity, and poor waste management systems. This has resulted in land degradation and the loss of forest cover. Moreover, about 88 per cent of the country's total surface area is comprised of arid and semi-arid lands (ASALs) while desertification is on the increase as a result of the fragility of ecosystems (NEMA, 2004).

It has been recognized that Kenya's education system must play a critical role in addressing these challenges. Indeed, its education principles and philosophy embrace sustainable development and can provide an important platform for change towards a more sustainable future.

2. A Policy Context for ESD Developments

The Kenyan ESD national strategy outlines the implementation of ESD with a vision for ESD in the Kenyan context, and presents ways to engage in change for the sake of sustainable development.

21 <http://www.unicef.org/voy/media/BACKGROUND%281%29.pdf>

The national ESD implementation strategy proposes action-oriented strategies to guide stakeholders in their journey towards sustainable development. ESD is described as ‘education that enhances sustainable development in Kenya’ whose mission is ‘to provide an enabling environment and capacity for all sectors and stakeholders to contribute effectively towards the achievement of sustainable development’ (NEMA, 2008, p.13).

The strategic objectives for ESD in Kenya are identified as:

- (i) the enhancement of education and learning for equitable, efficient and sustainable utilization of the country’s resources;
- (ii) the promotion of quality education through diverse learning and public awareness processes for an improved quality of life and productive livelihoods; and,
- (iii) the support of teaching and learning processes that promote values, behavior and lifestyles for good governance and sustainability.

ESD is described as ‘education that enhances sustainable development in Kenya’ whose mission is ‘to provide an enabling environment and capacity for all sectors and stakeholders to contribute effectively towards the achievement of sustainable development’

A national steering committee drawn from representation on behalf of the government sector, civil society and the private sector is to spearhead the process of ESD implementation. Sectoral ESD committees are to be established in order to address specific key sustainable development issues while regional and provincial ESD advisers and district ESD coordinators oversee ESD activities at the grassroots level.

The implementation and coordination of ESD is carried out by means of seven strategies: (i) advocacy and vision-building; (ii) consultation and ownership; (iii) partnership and networks; (iv) capacity-building and training; (v) research and innovation; (vi) use of information and communication technologies (ICTs); and (vii) monitoring and evaluation. Several RCEs²² have also been established to enhance this process.

3. A National Review of ESD Activities

A collection of ESD initiatives and good practices has been gathered for this national review. The information was collated from: a questionnaire distributed among ESD stakeholders; an Internet and desktop review of ESD activities; site visits to schools,

22 Regional Centres of Expertise were established by the United Nations University in 2005 to achieve the goals of the DESD by translating its global objectives into the context of the local communities in which they operate.

and Civil Society Organizations and Faith-Based Organizations (FBOs). A series of interviews and a consultative workshop were also held to both supplement and validate this information.

This section presents an overview of the different ESD initiatives and practices and highlights measures taken at national level to facilitate and implement ESD in Kenya, which include: the development of ESD pedagogical materials; the development of capacities and the promotion of research, cooperation and partnerships for ESD; and the establishment of monitoring and evaluation processes.

3.1 Government Initiatives

This sub-section presents the government policies and initiatives that assist in implementing the ESD strategy at the national level.

Kenya Education Sector Support Programme (2005–2010)

The Ministry of Education Session paper No.1 of 2005 (MOEST, 2005a) outlined the overall government policy to achieve Education for All (EFA) such that every Kenyan had the right of education and training regardless of his/her socio-economic status. The Kenya Education Sector Support Programme (KESP 2005–2010) was the result of this session paper, and corresponds to a five-year plan in which investment programmes are prioritized. It focuses on the programmes that aim to enhance access, retention, quality and equity for the most under-privileged (MOEST, 2005b). KESP has contributed to a number of achievements in terms of sustainable development in the country, it has: (i) provided a framework for formulating education policies and costing by means of a sector-wide approach; (ii) steered Kenya to speed up the realization of EFA and the Millennium Development Goals (MDGs); (iii) enhanced the role of CSOs in the adoption and use of EFA goals; and, (iv) promoted the creation of national coalitions and networks (Pamoja Kenya, Elimu Yetu, the African Network Campaign on Education For All – ANCEFA, among others). Its vision is encompassed within the government’s plan, as articulated in the Economic Recovery Strategy (ERS) of 2003. The ERS policy framework provides



the rationale for major reforms in the current education system so as to enable all Kenyans to have access to quality, lifelong education and training.

The KESSP policy provides various opportunities for ESD implementation in formal education (MOEST, 2005b):

In Early Childhood Development and Education (ECD&E), a thematic approach was used to integrate environmental education into the curriculum. ESD-related themes tackled in the curriculum include water, health, hygiene and environment.

At the primary and secondary school level and primary teacher education, the Kenya Education Sector Support Programme²³ (2005–2010) of the Ministry of Education formed the basis of the curriculum review that addressed the sustainable development issues.

Other ESD policy developments in Kenya include the following:

- In 2009, the Ministry of Public Health and Sanitation and the Ministry of Education developed a national school health policy to enable the government to coordinate for better available resources to improve children's health.²⁴ Guidelines have been developed in order to operationalize this policy and to better integrate the *ad hoc* health education activities organized by NGOs across the schools.
- Kenya's new blueprint *Vision 2030*²⁵ attempts to address ESD concerns. The medium-term plan (2008–2012) for Vision 2030 is an important document as it requires that all training institutions' curricula are re-oriented to address sustainable development issues.
- The Ministry of Environment and Mineral Resources and the Ministry of Forestry and Wildlife have developed the 2009 National Climate Change Response Strategy (NCCRS), and an investment framework programme for Kenya. Both frameworks emphasize the importance of climate change education.²⁶
- The National Environmental Management Authority (NEMA), through the department of Environmental Education, Awareness and Information (EEAI) and in collaboration with the national ESD steering committee, is guiding the formulation of institutional ESD policy in higher education institutions.

Some of the government initiatives and actions as a result of the implementation of the national strategy in ESD are outlined overleaf.

23 <http://planipolis.iiep.unesco.org/upload/Kenya/Kenya%20KESSP%20FINAL%202005.pdf>

24 <http://www.publichealth.go.ke/>

25 <http://www.nesc.go.ke/News&Events/KenyaVision2030Intro.htm>

26 <http://www.environment.go.ke/>

- An awareness-raising programme on how to mainstream ESD into over twenty ministerial departments in the government.
- The development of ESD implementation guidelines at the provincial and district levels (NEMA, 2008).
- The development of a life skills curriculum developed by the Ministry of Education. Teachers and education officers have been trained and involved in a pilot to promote the life skills curriculum across the country.

3.2 ESD in School Education

Important initiatives at primary and secondary education are the Eco-school Programme and the activities organized by the Kenya Organization for Environmental Education (KOOEE).

The Eco-schools Programme

The programme²⁷ focuses on the following areas of ESD:

- (i) the reorientation of existing education systems at all levels to address sustainable development: the programme provides appropriate and relevant education, which includes principles, skills, perspectives and values related to sustainability. In addition, it enhances collaboration and cooperation using schools as entry points into the communities, it uses community-based approaches, empowers youth, women and the poor, and focuses on biodiversity conservation and sustainable livelihoods;
- (ii) raising public understanding and awareness of sustainability: the experiences from the programme show that schools are strategically positioned to influence nearby communities on sustainable development issues;
- (iii) training in ESD: the programme offers, among other activities, training through micro-projects. Schools recognize that in order to achieve long-



27 <http://www.koee.org/koee/Programmes/NaturalResourceManagement/ECOSCHOOLS BRIEF/tabid/158/Default.aspx>

term successes, capacity-building for school and community members constitutes a fundamental process;

(iv) commitment by stakeholders: micro-projects at the school level take place through the participation of multiple stakeholders, including government, civil society and the private sector; and,

(v) the development of ESD strategies by schools: schools develop their own strategies to embed sustainable development within their own institutions, which include advocacy, campaigns and vision-building; capacity-building and teacher training; use of ICTs; monitoring and evaluation of micro-projects and of other learning activities; consultation and ownership of environmental initiatives; creation of school-community partnerships; innovation through school and community projects; and community participation.

MESA brings environment and sustainability concerns into the mainstream in terms of teaching, research, community commitment and the management of universities in Africa. As a result of this programme, six universities in Kenya have raised awareness within and beyond their institutions, promoting a new way of thinking about the environment, development and society

Kenya Organization for Environmental Education

KOEE is mainstreaming ESD into the primary and secondary school curriculum based on an environmental action-learning approach in the Eco-Schools Programme and ESD teacher training programmes.

3.3 ESD in Higher Education

This sub-section identifies the various ESD initiatives that are taking place within and across universities in Kenya.

At the level of higher education, environmental education²⁸ is offered both at undergraduate and graduate level; as a full course in some universities and as a unit in others. Jomo Kenyatta University of Agriculture and Technology (JKUAT)

28 Although environmental education and ESD seek to challenge unsustainable thinking and practice, they differ quite distinctly as regards principles and processes. Whereas environmental education has contributed to enhancing experiential learning opportunities with nature, raising awareness about the environment and focusing on changing values and behaviours of individuals, ESD encompasses the integration of thinking and action around ecological, social and economic systems.

has developed an ESD policy to guide its programmes and operations, assisted by the Environmental Programme Support (EPS)²⁹ within NEMA, and funded by the Danish Development Agency (DANIDA) and the Swedish International Development Cooperation Agency (SIDA).

Two key higher education initiatives in Kenya include the network of Mainstreaming Environment and Sustainability into African Universities (MESA) and the Education for Sustainable Development in Africa Project (ESDA).

Mainstreaming Environment and Sustainability into African Universities (MESA Programme)

Developed by the United Nations Environment Programme (UNEP), MESA³⁰ brings environment and sustainability concerns into the mainstream in terms of teaching, research, community commitment and the management of universities in Africa. As a result of this programme, six universities in Kenya have raised awareness within and beyond their institutions, promoting a new way of thinking about the environment, development and society.

The MESA programme has made e-learning a key focus of its activities. For instance, in the creation of partnerships with UNEP's Online Access to Research in the Environment (OARE)³¹ and the Global Virtual University that provides training on the design and development of e-learning courses for MESA participants.

MESA has also contributed to enhancing the quality and development of teaching and learning materials. A number of MESA participants use the MESA ESD Innovations Tool-Kit to design new materials. They have also used UNEP MESA materials in their teaching, such as the Africa Environment Outlook report.

Education for Sustainable Development in Africa Project

The ESDA³² is a project by the United Nations University (UNU) Institute for Sustainability and Peace (ISP) and Kenyatta University whose aim is to develop and test graduate-level education programmes for professionals potentially engaged in sustainable development in Africa. Professionals at the graduate school level will be trained to acquire relevant knowledge, skills and experiences related to sustainable development. ESD developments in Kenya will be promoted through this training.

29 http://www.nema.go.ke/index.php?option=com_content&task=view&id=56&Itemid=64

30 <http://www.unep.org/Training/mesa/toolkit.asp>

31 <http://www.oaresciences.org/en/>

32 <http://update.unuhq.info/2009/03/08/education-for-sustainable-development-in-africa>

3.4 ESD in Non-formal and Informal Education

This sub-section identifies the different non-formal and informal education initiatives held by different organizations that are taking place in Kenya.

The integration of ESD into non-formal and informal education is generally weak in Kenya. It is currently sector-based and is dependant on the organization, the specific ministries and the area of focus. Some of the main initiatives currently taking place are described below.

Regional Centres of Expertise

RCEs³³ are intended to facilitate the implementation of ESD through:

- (i) advocacy and vision-building: many advocacy and public awareness campaigns have taken place since the launch of RCE Greater Nairobi (RCEGN) in 2007. The media has been instrumental in creating awareness on ESD using the UNESCO Media Training Kit³⁴ developed and tested in 2007;
- (ii) consultation and ownership: in order to address the ESD agenda, RCEGN has organized several consultation meetings and workshops. As a result, a national ESD strategy and sectoral policies have been developed;
- (iii) partnerships and networks have facilitated sharing and the exchange of ESD best practices, as well as disseminating ESD knowledge and innovations to wider audiences through forums. Two new regional RCEs have been formed in Kenya, enabling more members to join the network;
- (iv) capacity-building and training processes have delivered appropriate, needs-specific and contextualized training programmes for ESD stakeholders;
- (v) research and innovation: the RCEGN research, innovation and documentation sub-committee conducted a baseline survey and produced a documentary highlighting pertinent ESD issues and proposed interventions;
- (vi) use of ICTs: an environment sector e-learning strategy has been developed by stakeholders from government, CSOs, the private sector

33 Regional Centres of Expertise were established by the United Nations University in 2005 to achieve the goals of the DESD by translating its global objectives into the context of the local communities in which they operate.

34 The 'Media as Partners' training kit is available online at: <http://unesdoc.unesco.org/images/0015/001587/158787e.pdf>

and media institutions. This strategy seeks to create a collaborative environment for information-sharing, the dissemination of knowledge and the promotion of ESD; and,

- (vii) the development of Outcome Mapping (OM), as a tool for monitoring and evaluating ESD implementation in Kenya, provides guidelines for recognizing and assessing the contributions made by development initiatives (i.e. a project, programme or organization) in achieving ESD outcomes.

Rehabilitation and Restoration of Nairobi River Project

Community education is at the core of the Rehabilitation and Restoration of Nairobi River Project. The project is led by the Ministry of Environment and Mineral Resources, UNEP, NEMA, CSOs and RCEGN, and supported by different stakeholders and development partners. The project employs community participation, training, river section adoption, and multi-sectoral and multi-disciplinary approaches in promoting the principles of sustainability among the communities living within and around the Nairobi river basin.

Water Sanitation and Hygiene Community Project

Conducted by Umande Trust, this project offers community training on water use savings, good sanitation practices and hygiene at the household level. As part of the project, the community became owners of bio-centres constructed by the Umande Trust, and other partners provided toilet and bathroom facilities to Kibera slum settlers, thus encouraging good hygiene practices.

African Fund for Endangered Wildlife

This organization provides support for environmental education programmes on wildlife conservation with a special emphasis on endangered species. The African Fund for Endangered Wildlife (AFEW) has established a resource centre and developed a programme for training trainers.

Lake Victoria Catchment Environmental Education Programme

Led by the World Wide Fund for Nature (WWF), this programme aims to empower catchment communities, schools and regional partners in sustainable use and the management of natural resources. The project promotes knowledge and skills among communities within the Lake Victoria catchment to make informed decisions on the way their environment is managed. This is done through teacher training and the involvement of local school children. The programme has strengthened the capacity of teachers and teacher trainers in delivering environmental education as part of their daily educational

activities including: the development of various environmental education materials; raising awareness and understanding on the conservation of freshwater ecosystems; capacity-building on the topic of conservation for riparian communities; and the creation of a partnership mechanism for environmental education.

Wildlife Clubs of Kenya

Wildlife Clubs of Kenya (WCK) seeks to share knowledge and stimulate interest on ESD, especially about wildlife, conservation and biodiversity. This is supported through a teacher training programme and an annual student competition on ESD best practices.

Jacaranda Designs

Chanuka Express is an ESD mobile outreach programme on safety, peace, health, hygiene and sanitation, environment, youth and community development for young people run by Jacaranda Designs in collaboration with UNESCO.

3.5 ESD across other Stakeholder Groups

This sub-section presents some of the initiatives organized by the business sector and indigenous communities. It also highlights a number of activities that raises public awareness and encourages commitment.

ESD and the business sector

The Bamburi Portland Cement Company has developed the Haller Park in Mombasa as a best practice in land derelict rehabilitation, environmental conservation and ecotourism. The Haller Park is used both as a learning centre and ecotourist site. Educational institutions – from primary to higher education level – utilize the site as an ESD resource.

The Kenya National Chamber of Commerce and Industry (KNCCI) is a member of both the national ESD steering committee and the RCEGN. KNCCI is offering entrepreneurship training to low income and poverty marginalized groups in the rural areas of Kenya.

ESD and indigenous communities

i) Community-Based Natural Resource Management

Pastoralists in Kenya have adopted mechanisms of utilizing the grasslands through a rotational system that also conserves water points. This process of community-based natural resource management ensures that their livestock can survive in the midst of drought systems.

ii) Fishing communities

In Kenya, fishing communities use traditional management systems that enable them to control fish stocks and thus ensure sustainability over time. The project uses community education processes. For instance, they use a particular type of fishing net that will prevent the capture of small fish stocks, allowing them time to mature and reproduce. However, the communities have very little say in the further development of ideas.

iii) Equitable conservation

Equitable conservation takes place in the rich natural resource regions of Kenya such as in forest, grassland and wetland ecosystems, among others. Collaboratively managed areas and community conservation areas are the two broad categories of participatory conservation being promoted as a measure of good natural resource governance by the Ministry of Environment and Mineral Resources, the Ministry of Forestry and Wildlife, and the Ministry of Lands and Regional Development. Various learning processes underpin the community engagement techniques used in these projects.

iv) Indigenous people's climate change initiatives

Through customary land use planning, Community-based mitigation initiatives are being promoted by the government using learning-based approaches. The Ogiek's indigenous knowledge and skills are being utilized by the Ministry of Forestry and Wildlife to restore and conserve the extensively deforested Mau Forest. Moreover, the government intervenes only when specific issues become critical and need immediate solutions.

Key stakeholders such as UNEP, UNESCO, Kenyatta University, University of Nairobi, KOEE, WCK, Kenya Wildlife Services, NEMA, and the Ministry of Agriculture, among others, have also contributed to raising awareness and facilitating understanding on sustainable development issues through establishing resource centres and libraries in the country

ESD and public engagement

Public awareness on sustainability and environmental issues is at the core of many activities and initiatives organized by the government, the private sector, NGOs, and so on. These initiatives include the publication of ESD tool kits, periodic ESD newsletters, posters, brochures and factsheets, which are distributed for free to learners, teachers and other education-relevant stakeholders.

Key stakeholders such as UNEP, UNESCO, Kenyatta University, University of Nairobi, KOEE, WCK, Kenya Wildlife Services, NEMA, and the Ministry of Agriculture, among others, have also contributed to raising awareness and facilitating understanding on

sustainable development issues through establishing resource centres and libraries in the country.

3.6 Thematic Approaches to ESD

ESD can be linked with many other educational initiatives and activities taking place in Kenya, for instance, in the case of climate change or health education activities. This sub-section will present some of these initiatives.

ESD and climate change

The Ministry of Environment and Mineral Resources and other stakeholders such as the Kenya Climate Change Working Group (KCCWG) developed a Kenya National Climate Change Response Strategy (NCCR) in 2009. An entire chapter of this strategy is devoted to communication, education and awareness programmes in Kenya.

ESD and poverty eradication

The Kenya Government's Economic Recovery Strategy (2003) seeks to create 500,000 new jobs annually and plays a key role in the promotion of ESD as the policy focuses on growth, employment and poverty reduction. The strategy promotes a teaching and learning approach based on skills training to youth, women and other vulnerable groups.

ESD and waste management

Nairobi City Council Directorate of Environment has developed a solid waste management strategy based on community training on sustainable solid waste management, including waste for wealth creation. The project is expected to connect with the ESDA training that will take place at Kenyatta University.

ESD and sustainable energy systems

Activities include the Kenya Ceramic Jikos construction, the Bio-Domes constructed by the Umande Trust, and the use of renewable energy sources such as biomass, bio fuels, solar and wind energy.

ESD and governance

Initiatives include the Kenyan environmental law comprising legislations, standards, regulations, institutions and the administration adopted to control activities on environmental management and sustainable development. A notable example is the Environment Management and Coordination Act (EMCA) of 1999.

ESD and HIV and AIDS education

A HIV and AIDS syllabus has been developed by the Kenya Institute of Education to help mainstream HIV and AIDS education in Kenyan primary and secondary schools. This has been made possible through UNAIDS Global Initiative on Education and HIV & AIDS (EDUCAIDS). Through this programme, both learners and teachers acquire skills on preventive education.

ESD and life skills education

The Kenyan school curriculum has been reviewed to incorporate life skills. In light of the 2008 post-election violence, the targeted themes include conflict management, social cohesion and ethnic tolerance, survival skills, and gender equality, among others. The Kenya Institute of Education has developed, piloted and implemented the curriculum, and trained the teachers and education officers at the national scale.

ESD and health education



The Ministry of Education and the Ministry of Public Health and Sanitation have developed a national school health policy that guides a comprehensive school health programme. The objectives are: (i) to promote the teaching of positive values and life skills; (ii) to promote gender related issues in schools; (iii) to promote hygiene, sanitation and the use of safe water; (iv) to provide conducive, fully accessible and inclusive environments for learners with special needs and disabilities; and (v) to ensure that mechanisms are put in place for assuring the longevity of school health programmes.

3.7 ESD Teaching and Learning Processes

This sub-section highlights the role of the national ESD framework in ensuring an appropriate process in embedding ESD into the formal curriculum. It also presents some ESD pedagogical approaches used in Kenya.

The Kenya ESD framework promotes a flexible curriculum in which the different local contexts and concerns can be taken into account. Thematic approaches and the integration of local knowledge in curricula have been given great importance. The Kenya Organization of Environmental Education (KOEE), through the Eco-schools Programme, AFEW and WCK, is promoting environmental action-learning. Learning is project-based and promotes creativity, innovation, critical thinking and problem-solving.

The environment of the surrounding area is used as a resource for learning and teaching. The local context is taken into account in the process of teaching and learning. It is worth noting that the approaches generally used in the Kenyan education system do not tend to support ESD pedagogical perspectives.

3.8 Educational and Pedagogical Materials

In Kenya, several measures have been initiated to ensure that adequate tools and materials for ESD are made available and accessible to learners and teachers, especially in the formal system. Various stakeholders have included relevant links on their websites to provide ESD information and established ESD resource centres. KOEE has produced ESD theme packs for teachers and learners in primary and secondary schools, and developed ESD teacher guides, a teacher training manual and a handbook, as part of the Eco-Schools Programme. WCK has published an environmental education resource book for teachers and learners of primary and secondary schools. Nature Kenya has produced an ESD resource book for both students and teachers called *Learning for Sustainable Living in Kenya*.

In the non-formal and informal education sector, the government has yet to develop the requisite pedagogical materials to support ESD. However, various ESD stakeholders in the country have already developed some ESD materials. These organizations include the KOEE, which has produced an ESD teacher guide, ESD theme packs, teacher training manuals and factsheets. ESD micro-projects have also contributed towards enhancing contextual learning and problem solving approaches.

3.9 Development of Capacities, Innovation and Promotion of Research

This sub-section outlines the different measures taken to promote innovation and research in Kenya and includes the provision of scholarships and research grants as well as other support mechanisms for ESD innovations.

Scholarships and grants provided for ESD

Some organizations and universities such as the UNU Sustainability Institute for Community Development at Kenyatta, the Commonwealth Scholarship Commission East, African Breweries Limited, SIDA and different governmental ministries offer scholarships for MSc courses in the area of sustainable development and ESD. UNESCO and DANIDA have both provided funding for the 'Eco-schools Programme' in Kenya in its ESD work with schools. The UNESCO Nairobi Office supported the establishment and subsequent launch of RCEGN in 2007. Testing of an 'ESD Media Training Kit' also received both technical and financial support from UNESCO. Since then, the media has undertaken critical advocacy and public awareness campaigns. UNEP is supporting the World Environment Day activities.

Support provided for ESD innovations

There is a lack of systemized support for ESD in Kenya. Some impetus has been provided to ESD processes through the support of UNESCO, UNEP, and a number of civil CSOs, such as KOEE, Jacaranda Designs (through its Chanuka Express project) and WCK (through teacher training programmes on wildlife and environmental education). AFEW provides training to school children, teachers, university students and community groups on environmental conservation. Some NGOs, in collaboration with the Ministry of Youth Affairs, are offering skills-based training for community-based innovations around marketing, products sales and sustainability.

3.10 Cooperation and Partnerships for ESD

The ESD process in Kenya is multi-sectoral with partnerships between the public sector, private sector, civil society organizations and the media. This sub-section describes some examples of the coordination of ESD activities and partnerships.

Coordination/integration of United Nations ESD initiatives

UNESCO has participated in the development of the national ESD implementation strategy in Kenya, the ESD implementation guidelines for the provincial and district level, the ESD monitoring and evaluation tool, the establishment of RCEGN, and the production of the RCEGN documentary. UNESCO also supports HIV/AIDS education in Kenyan schools. UNEP Directorate of Environmental Education is leading the MESA programme whose membership comprises six Kenyan universities. UNEP supports environmental education in Kenyan schools and universities. It is involved in and provides support to community education for the Nairobi river rehabilitation and restoration project. UN-HABITAT is a member of the ESDA project (ESD joint project between UNU-ISP and Kenyatta University). It also provides technical support on urban issues.

Government cross-sectoral linkages with the Ministry of Education

The Ministry of Education is currently working with various ministries in order to implement ESD initiatives. For example, it implements health education at school level together with the Ministry of Public Health and Sanitation; organizes environmental education and climate change initiatives in schools with the Ministry of Environment and Mineral Resources; implements the Economic Stimulus Package with the Ministry of Planning and, Vision 2030 and the Ministry of Finance; and has participated in the development of the curriculum for technical, industrial and vocational education and training (TVET) with the Ministry of Youth Affairs.

Cross-boundary and international partnerships

Linkages have been created with RCEs in other countries such as RCE Graz, RCE London, RCE Kwa Zulu Natal, and so on. Partnerships have also been created with London South Bank University, the United Nations University, the Nile Basin Initiative and Rwanda.

3.11 Monitoring and Evaluation

Several monitoring and evaluation mechanisms have been established to assess the progress of ESD implementation in terms of programmes and projects.

The Kenyan ESD implementation strategy provides status, communication, facilitative and result indicators to monitor the implementation of ESD at different levels. The ESD implementation strategy uses Outcome Mapping as a monitoring and evaluation tool to assess the outcomes of activities and the progress of ESD implementation. The provincial and district ESD implementation guidelines, developed for provincial and district environmental committees and other stakeholders, are also instrumental tools for the monitoring and evaluation process (NEMA, 2008). The *Vision 2030 Indicator Handbook* is intended to be a guide for all public sector institutions, from top executives responsible for coordination, administration and general managerial control, to those responsible for Vision 2030 implementation.

ESD Implementation at a Glance

This section identifies the main strengths, opportunities, weaknesses and threats in implementing ESD in Kenya.

Strengths

- ▶ The existence of a national ESD implementation strategy provides guidelines to embed sustainability in different education sectors.
- ▶ The implementation and integration of ESD in non-formal and informal education sectors is less noticeable compared to the formal education sector. However, as a step forward, the government has designated stakeholders of the private sector and CSOs in the national ESD steering committee.
- ▶ ESD awareness across sectors has steadily increased over the years.
- ▶ The participation of a wide variety of stakeholders has been key to enhancing ESD practices in Kenya.
- ▶ Some measures have already been initiated regarding the accessibility of ESD tools, for instance, through the establishment of resource centres. An increasing use of ICTs is also an essential step in ensuring that the materials are available and accessible.

Opportunities

- ▶ The KESSP policy provides opportunities for ESD implementation in formal education. However, it requires an appropriate curriculum review and policy guidelines for teacher training and re-training, as well as in ESD material development.
- ▶ In order to integrate local contexts and concerns into the teaching and learning processes, flexible curricula are needed.
- ▶ There is a lack of systemized support of ESD innovation in Kenya. The support provided by UNESCO, UNEP and some few civil society organizations has provided some impetus to the ESD process. Wider support would be possible by establishing a common and binding vision for ESD.

Weaknesses

- ▶ Kenya's new development blueprint 'Vision 2030' has addressed ESD concerns, but with not enough clarity. The medium-term plan (2008–2012) for Vision 2030 requires that all training institutions curricula are reoriented in order to address socio-economic concerns. However, the role of the Ministry of Education is not clearly set. A critical analysis of the document

reveals that although the ecological pillar of sustainable development is mentioned, no clear strategy to achieve the ecological objectives is defined.

- ▶ The level of integration and practice of ESD within the different ministries is still very low. Out of nineteen ministries, only five have implemented ESD initiatives.
- ▶ The approaches used in the Kenyan education system still do not support ESD pedagogical perspectives in teaching and learning processes.
- ▶ In tertiary education, all teacher-training colleges and universities with faculties/departments of environmental studies currently offer courses in environmental education. However, scant training is offered to educators on the critical approaches to learning which are appropriate to ESD.
- ▶ The integration of ESD in the curriculum, as proposed by the ESD implementation strategy, is generally weak in all learning environments and in particular, ECD&E. Initiatives have been taking place especially at tertiary level under the MESA programme.
- ▶ The Kenyan curriculum is essentially exam-oriented. Thus, embedding ESD in the curriculum constitutes a challenge that requires pre-service and in-service teacher training. In addition, the curriculum is overloaded with content and learning outcomes, making the integration of ESD extremely complex.
- ▶ A lack of synergy between ESD activities sometimes results in the duplication of certain initiatives, such as teacher training, by KOEE, NEMA, AFEW and WCK, and in the inefficient use and development of ESD resources.
- ▶ Innovations from CBOs and small community groups do not get adequate support for their projects. In addition, many of these innovations come from groups with limited capacities to draft successful bid proposals to donors.
- ▶ The lack of materials on ESD, particularly in the informal and non-formal sector, is another major challenge to the progress of ESD implementation in Kenya.
- ▶ A lack of government support for private sector innovations regarding sustainable development constitutes a drawback to achieving a breakthrough in the mainstream.
- ▶ There are no clear measures to support research and development in ESD. Institutions of higher education, which have both the technical and human resource capacities to conduct relevant ESD research, still follow a traditional academic research style which – the majority of the time – does not tackle local challenges.
- ▶ There is a lack of awareness and clear understanding of the OM, as well as a reticence to its adoption by the different stakeholders.

Threats

- ▶ Piecemeal curriculum reviews have taken place. However, ESD has been approached as another adjectival education to add to the curriculum. Although these reviews exist in formal education, they cannot take place in the non-formal and informal sector as no written curriculum exists.
- ▶ Comprehensive reviews of schools and colleges curricula are needed to integrate ESD in teaching and learning processes.
- ▶ Although many initiatives are taking place, there is no national policy for guidance and allocation of resources regarding the conservation, use and promotion of indigenous knowledge.
- ▶ One of the major challenges is the lack of resources in implementing and embedding ESD at different levels and in different sectors. It is worth noting that, due to government bureaucracy and a lack of funding, even the ESD implementation strategy published in 2008 is yet to be officially launched.
- ▶ Indecision and disagreements between the Ministry of Environment and Mineral Resources and the Ministry of Education, as well as lack of clear leadership, have delayed the implementation of ESD in Kenya.
- ▶ Inappropriate and/or inadequate policy frameworks for educational development do not facilitate the integration of ESD into the curriculum.
- ▶ Most CSOs have not been able to influence policy in the country due to a lack of ESD awareness and commitment. The negative attitudes towards NGO initiatives among policy-makers do not facilitate opportunities for CSOs to influence policy-making.
- ▶ The progress of small network initiatives is hindered because of the different levels of understanding of ESD among players.
- ▶ The concept of ESD is yet to be fully understood by many people in Kenya. There are few ESD experts in Kenya to facilitate the process of understanding education for sustainability. In addition, the development of ESD material will remain a challenge unless the networks of experts and interested groups enhance and strengthen capacity-building processes.

4. Lessons Learnt

This section identifies lessons learnt to successfully implement ESD in Kenya.

1. A comprehensive and coherent strategy must guide the review and integration of sustainable development in the curricula of formal education.
2. The implementation process should be enhanced through the existing ESD expertise within UN offices, NGOs and universities. Possibilities exist to integrate ESD approaches through the annual review of KESSP. As a starting point, ESD approaches and sustainability issues could be embedded in areas such as ICT education, teacher training, school infrastructure, adult and continuing education, monitoring and evaluation, capacity-building and training, educational opportunities in ASALs.
3. The exemplary ESD practices in Kenya require support from the ministries. Stronger leadership is required in order to create synergies among the ESD stakeholders in order to advance the ESD agenda in Kenya. Contributions from the public sector, CSOs, the media and institutions of higher education need to be taken into account.
4. ESD stakeholders need to be trained on how to use the monitoring and evaluation tool developed for ESD in order to assess progress. The strategy also needs to be reviewed so as to: (i) ensure indicators are clear for all stakeholders; (ii) is aligned to related strategies developed in other sectors; and (iii) is aligned to the new developments in both the public and private sector.
5. The Ministry of Education and Ministry of Higher Education, Science and Technology (responsible for implementing ESD) should play a more active role in the ESD process in Kenya. The ESD coordination role currently undertaken by NEMA could be enhanced if an agency under the two ministries participated in the coordination process.
6. There is a lack of horizontal and vertical processes within the Ministry of Education for more effective implementation of ESD.
7. The process of ESD policy development should be based on a bottom-up approach involving a wide range of stakeholders informed of the ESD implementation strategy.
8. The requisite measures for training of trainers in HIV/AIDS and the subsequent training of other teachers should be re-planned and experts should be identified to carry out the training. The Ministry of Education officials should play an active role in providing logistical support rather than developing the training activities.

9. Educators' capacities on ESD should be enhanced by equipping them with useful pedagogical skills to help re-orient their didactic approaches and educational practices.
10. More involvement of the private sector in ESD activities is needed.
11. Vision 2030 should reflect on climate change problems and raise awareness on sustainable development issues. It should also propose comprehensive school curriculum reviews.
12. The Government of Kenya and development partners should provide more resources for ESD, for instance, by establishing other RCEs.
13. Institutions of higher education should allocate more funding to ESD research.

5. Concluding Remarks

The existence of a national ESD implementation strategy provides guidelines for the implementation of ESD across the public and private sector, CSOs and the media. The national ESD steering committee, whose secretariat is NEMA, provides a platform for a viable institutional coordination role, which NEMA is currently taking. NEMA officers have integrated ESD coordination in their performance contract. This provides stability, continuity and sustainability to the ESD process in Kenya, and with more sectoral support, awareness is likely to trickle to the grassroots at a much faster pace.

Following the awareness campaign carried out by the national ESD steering committee, the level of ESD awareness has steadily increased across sectors. Although the level of awareness could be further increased, it can already, at this point in time, influence a curriculum review to embed sustainable development in school and higher education curricula. Furthermore, because KESSP is reviewed annually by the Ministry of Education and development partners, ESD can be embedded in programmes, including ICTs, teacher training, school infrastructure, adult and continuing education, monitoring and evaluation, capacity-building and training, educational opportunities in ASALs, and so on. This will bring about new dimensions to the delivery and outcomes of education and thus attain the national goals for education.

The participation of the public sector, private sector, CSOs and the media has raised exemplary ESD practices in Kenya that could be replicated in other countries in the region. Such practices include the Eco-schools Programme, RCEs, MESA, Community Education on River Basin Rehabilitation and Restoration, and community education on safe water use, household hygiene and sanitation. Although the use of the monitoring and evaluation tool developed for ESD in Kenya is still limited to those

stakeholders trained on its use, it provides a guide on how to measure the ESD process. This tool may be a useful example for other countries in the region. The provincial and district ESD implementation guidelines provide a means to implement ESD at the grassroots level. The modest progress of ESD at the community level is attributable to these guidelines.

The private sector is yet to become involved with ESD in Kenya. The commitment of the private sector relies on national ESD policy developments, which include the development of consultative and participatory processes.

ESD expertise from NGOs, universities and UN offices in Kenya can enhance capacity-building for ESD in the country. The development of the national ESD policy should be drawn upon this expertise. UNESCO, UNEP and other development partners are supporting this process.



THE NETHERLANDS

Marlon van der Waal

The implementation of ESD in the Netherlands is guided by a national programme entitled 'Learning for Sustainable Development'. The programme is underpinned by an innovative and unique approach based on social and lifelong learning processes. Underpinning this programme are several initiatives striving to embed ESD into formal, non-formal and informal education. The Dutch experience is showing that the establishment of national and international networks within sectors and sub-sectors is very powerful in enhancing ESD implementation processes. In terms of next steps, monitoring and evaluation mechanisms are now required to capture lessons learnt and guide future developments with an emphasis on new forms of evaluation, which can capture the quality of the different projects taking place across the country.

1. Introduction

This section introduces the commitments of the Dutch government (national, regional and local), the education sector (formal, non-formal and informal), as well as the business sector and the media, to embed sustainable development within the core of their activities. It also highlights some of the challenges faced in the process of implementing ESD at the country level.

At a policy level, there are many key issues and agendas connected to sustainable development in the Netherlands, for instance, sustainable fishery, energy, buildings and mobility. ESD initiatives in the Netherlands are constantly being reshaped and are at a wide variety of different stages of development. Some of these initiatives may also have a greater impact than others in moving towards a more sustainable future.

The worldwide ecological and economic crisis has created a growing awareness among Dutch citizens, businesses and educational institutes about the necessity for change, collective action and the development of alternative energy sources. Generally speaking, Dutch society is committed to finding sustainable solutions to such issues as climate change, social inequality, the deterioration of ecosystems and biodiversity, global poverty, and lack of education and healthcare around the world, among others. Furthermore, society and the business sector reveal a growing interest in ways to produce and consume more sustainably, as well as knowing which industrial and knowledge institutions increasingly prioritize sustainable development principles.

2. A Policy Context for ESD Developments

In this particular national review, it was important to understand the roots and development of environmental education and ESD, which has led to the current ESD national programme. This sub-section highlights three key policies guiding the implementation of ESD.

ESD initiatives in the Netherlands originate from its links with nature conservation education and the environmental education movements. At the beginning of the twentieth century, the National Foundation for the Protection of Nature, the Dutch National Forest Service and local governments played a key role in providing learning opportunities about nature while raising environmental awareness.

Later in the 1960s and early 1970s, the focus of nature conservation education shifted towards environmental education, which in the Netherlands, is generally

known as nature and environmental education (NME). This shift was mainly a result of influential international works and gatherings, as well as the emergence of escalating evidence of environmental pollution. At the time, environmental education was centered on changing people's environmental behavior and many organizations were founded during this early period. Most organizations followed this latest perspective of environmental education.

The first departmental policy on environmental education was developed in 1988 and supported by a large number of government departments because of its emphasis on both ecological and socio-economic aspects of sustainable development.

In the 1990s, ESD became more popular and visible, and as a result of the Earth Summit in Rio de Janeiro, international policy agreements and new forms of governance emphasized the involvement of citizens in envisioning the future and decision-making. Between 1992 and 1996, environmental education was essentially part of formal education. However, from 1996 to 2000, environmental education was integrated into informal and non-formal education (for youth groups, farmers, citizen organizations and church parishes).

In 2004, building on the long tradition of multi-year programmes in environmental education, a cooperative venture by six ministries, the association of provincial authorities and the association of water boards developed the Learning for Sustainable Development programme (LfSD programme).

The main key policies informing on the implementation of ESD in the Netherlands are described below.

In 2004, building on the long tradition of multi-year programmes in environmental education, a cooperative venture by six ministries, the association of provincial authorities and the association of water boards developed the Learning for Sustainable Development programme

National Sustainable Development Strategy

In 2008, the Dutch National Sustainable Development Strategy (KADO) was announced by the ministers of environment and of foreign affairs and development cooperation in a letter to parliament. The strategy is largely inspired by two sustainability reports: (i) *The Netherlands in a sustainable world. Poverty, climate and biodiversity second sustainability outlook* (MNP, 2008); and (ii) *A new sustainable development strategy: an opportunity not to be missed!* (RMNO, 2007).

The Sustainable Development Strategy is designed and implemented within the following three central and interdependent strategies:

- (i) Focus on six selected themes: water, climate adaptation, sustainable energy, biofuels and development, carbon capture and storage, biodiversity and food.

- (ii) The government as leader of sustainable management.
- (iii) The government actively establishing dialogue on sustainable development.

The Dutch government also developed a national sustainability monitoring process conducted by the Central Bureau of Statistics (CBS) and several assessment agencies.

The National Environmental Education Programme

The National Environmental Education Programme is closely connected to the LfSD programme (explained below). The programme, developed and supported by the ministries of agriculture, environment and education, aims to encourage initiatives that allow for the acquisition of competences required to protect the environment. The programme is targeted at individuals, businesses, governmental and non-governmental organizations.

Five key strategies and principles have been identified in the programme:

- (i) develop a common agenda in environmental education at the local, provincial and national level;
- (ii) develop a more 'demand-driven' environmental education;
- (iii) focus on children and youth as the prime target group;
- (iv) focus on experience-based learning (learning-by-doing); and,
- (v) increase administrative collaboration by focusing on leadership and control, and on the development of a more effective environmental education strategy.

In 2009, a Programme Bureau was established to execute this programme. This Bureau works under the same steering group as the Programme Bureau LfSD. The strategies used are described in the Uitvoeringskader NME (SenterNovem, 2009a) and the work plan 2010 (SenterNovem, 2009b). In its vision document (SenterNovem, 2009c), environmental education is clearly positioned as a way of achieving a more sustainable future. In order to make environmental education more effective, the steering group has chosen to focus on three themes: 'green', water and energy. It has also chosen to support the emergence of the so-called 'arrangements' or 'vital coalitions' where an heterogeneous group of local or regional stakeholders collectively try to find answers to local or regional issues and create widely supported projects. Environmental education and ESD-oriented projects are increasingly intertwined. However, compared with the LfSD programme the environmental education programme is more directed towards the protection of the environment, and focuses more on individuals, bottom-up approaches and local problems and responses.

The Learning for Sustainable Development Programme

The Dutch national action plan for the DESD and the UNECE ESD Strategy consists of the LfSD programmes ('from margin to mainstream' 2004–2007) and ('from agenda setting to action', 2008–2011). The national government and the provinces together spend around €5 million a year on the LfSD, which is supported by a steering committee, presided by the Ministry of Agriculture. The committee comprises members of the Ministry of Environment, Ministry of Foreign Affairs, Ministry of Economic Affairs and Energy, Ministry of General Affairs, Ministry of Transport, Public Works and Water Management, and the Ministry of Education. The provincial government and the district water boards are also involved. The NL Agency (Agentschap NL) – formerly known as SenterNovem – is responsible for programme management. This organization also implements the National Environmental Education Programme and is responsible for optimizing the connection and communication between the two programmes and their activities.

The leading principle of the LfSD programme is that learning for sustainable development must be central to all activities. Individuals, government, civil organizations and corporate institutions must develop competences in order to integrate sustainable development in all actions and decisions. The programme therefore facilitates sustainable decision-making by:

- (i) explaining in concrete terms the concept of sustainable development. Examples are the publication of a series of essays (i.e. on sustainable management, social learning and sustainable leadership); the development of learning standards; support of a community of practices; the development of tools such as the 'ppp-stamp' (dossier to stimulate critical reflection and discussion), a 'ppp-tool' (tool for sustainable decision-making), 'Sustainable Development Ladder' (a variety of good examples and practices); and the publication of a database of national, provincial and local sustainability projects on the 'LfSD' website;
- (ii) bringing the involved stakeholders together (at all levels) in order to discuss key issues (organizing workshops, starting up networks, and supporting websites for knowledge exchange); and,
- (iii) offering training and coaching to participants in the programme (e.g. participating in processes designed to embed sustainable development in the structure and administration of organizations).

The leading principle of the LfSD programme is that learning for sustainable development must be central to all activities. Individuals, government, civil organizations and corporate institutions must develop competences in order to integrate sustainable development in all actions and decisions

The LfSD programme is based on the following three main pillars:

Pillar 1 – Learning individuals: this pillar aims to ensure that all school-leavers and graduates are able to make an active contribution towards sustainable development. The programme targets educational institutes, teachers, lecturers and administrators in all sectors of education (primary, secondary, higher and vocational education within the formal education system), and focuses on embedding ESD in all curricula. It also targets organizations supporting the education system (SLO, Cito, Kennisnet, and so on) and those that support the area of sustainable development (outside the education sector).



The main focus of the LfSD programme within this pillar is embedding sustainable development in formal education through strategic operations and system changes. Within this pillar the programme aims to: (i) influence the educational system from the top: organizations for primary and secondary education (SLO, Cito and Kennisnet, Onderwijsraad, PO raad and VO raad), and for secondary vocational schools and higher education (VSNU, HBO raad, MBO raad, AOC raad), attempt to influence the integration of sustainable development in school core activities at the policy level; (ii) create national networks by teachers and students from a bottom-up perspective: the programme has facilitated a user network at every educational level to identify needs and stimulate development. No user network has been put in place at secondary level, but some interesting initiatives have been developed (user network around new RCE³⁵ regions, and ‘GLOBE-schools’ and communities on Kennisnet); (iii) disseminate knowledge in educational settings: for instance, the identification of a list of core competences for sustainable development or the dissemination and organization of thematic campaigns, education congresses, articles in professional magazines, and so on, organized by Kennisnet; and (iv) support educational projects for sustainable development at the local level: the ‘LfSD’ programme offers and facilitates sustainability education projects.

Pillar 2 – Learning organizations: this pillar aims to help civil servants and society leaders acquire the competences to engage in responsible ecological, social and economic decision-making. The primary target groups of pillar 2 are national, provincial and local governmental organizations and district water boards. Activities

35 Regional Centres of Expertise were established by the United Nations University in 2005 to achieve the goals of the DESD by translating its global objectives into the context of the local communities in which they operate.

developed within pillar 2 are directed at and focused on: (i) National government: coaching civil servants in ministerial departments; developing and executing special learning strands; coaching project leaders working on sustainability projects in the policy programme; developing inter-vision trajectories and materials to support learning; and supporting the governmental programme of sustainable development by assisting the Ministry of General Affairs in developing plans and executing the programme, as well as in forming special sustainable development teams for coaching and supervision tasks; (ii) Provinces: assisting several provincial organizations, and developing and executing several inter-vision trajectories; (iii) Water boards: organizing meetings between the Dutch Corporate Social Responsibility (CSR) network (MVO) and the water boards, and stimulating and facilitating the use of the MVO scan; and (iv) Creating and supporting communities of practice and learning processes where policy-makers and social actors can meet. Establishing connections between pillar 2 and 3 coordinators as well as between these coordinators and the provincial 'LfSD' team coordinators.

Pillar 3 – Learning society: this pillar is primarily managed on a provincial scale. Local authorities (provincial councils, municipal councils and district water boards), businesses, civil society organizations, NGOs and individual citizens are involved in participatory policy-making and learning processes. The provincial networks of LfSD allocate resources to facilitate these processes and make the results accessible to others. The type of learning processes between stakeholders is defined as 'social learning' with a focus on common interest topics, customer satisfaction and the attractiveness of the programme.

In Pillar 3, the process of social learning is formulated in the context of multi-stakeholder processes dealing with key issues such as water, energy, mobility, area/development, building, construction and production chains. In communities of practices, exchange of values, knowledge and interests form the basis of dialogue through workshops, articles, meetings and ICTs. Stakeholders in pillar 3 mostly work together on projects, guided by a provincial director who is in close contact with the municipalities, district water boards and welfare organizations. Activities developed within pillar 3 are directed at and focused on: (i) the execution of provincial and local projects under the responsibility of the provincial director and formalized in the 'Provincial Ambition Statements' (PAS), with provinces encouraged to focus their sustainability themes on national coalition agreements; (ii) knowledge transfer and knowledge creation through meta-learning and analysis of decentralized projects, with the use of knowledge derived from pilots and embedded results on a higher level of abstraction and scale, and the connection of large scale innovations to pilots in the region; (iii) the development of communication activities such as the production of newspapers and essays, the maintenance of LfSD projects database, or the organization of meetings amongst social actors; and (iv) the achievement of a structural connection between activities of pillar 2 and 3 (as previously mentioned under pillar 2).

3. A National Review of ESD Activities

Several techniques were employed to collect ESD activities and initiatives taking place within different sectors in the Netherlands.

To conduct this review, several key ESD experts gave important feedback on how to outline, structure and develop this national review. They also assisted in giving feedback on the report's progress. Good practices in ESD were identified primarily through interviewing key informants in ESD in the Netherlands. E-mail and/or telephone contacts were also compiled with a number of other specialists. The selected practices were also identified through documented and evaluated LfSD projects.

This section identifies different ESD initiatives undertaken at the policy level and in various learning environments and settings. It also presents outputs and analyses the extent at which these initiatives meet ESD goals and visions.

3.1 Government Initiatives

This sub-section highlights an important initiative from a governmental organization, the Dutch Institute of Curriculum Development (SLO), to embed ESD in the formal curriculum of primary and secondary education.

The Core Curriculum Learning for Sustainable Development

In 2007, SLO developed the Core Curriculum Learning for Sustainable Development for formal education (children aged 4–16) in order to identify the possibilities of integrating sustainable development in the traditional curriculum and to embed it within educational practice. Based on the core curriculum, a practical guideline for schools was published in 2009

In 2007, SLO developed the Core Curriculum Learning for Sustainable Development for formal education (children aged 4–16) in order to identify the possibilities of integrating sustainable development in the traditional curriculum and to embed it within educational practice (SLO, 2007). Based on the core curriculum, a practical guideline for schools was published in 2009. There is, however, currently a lack of information as regards the usage of this core curriculum in many schools.

3.2 ESD in School Education

This section introduces the Dutch education system and summarizes the ESD integration process in primary and secondary education. It highlights and presents specific programmes and networks within these educational levels.

The Dutch educational system is characterized by a constitutional right of ‘freedom of education’, i.e. schools are free to choose their educational content and methodology. ESD is influenced by this constitutional right, as top-down measures are seen to be less appropriate in this domain. However, a minimum list of educational outcomes is set and formulated by the Ministry of Education. It is important to note that some schools

in the Netherlands have adopted international (ESD) frameworks and principles, such as eco-schools, green-flag-schools or UNESCO-profile schools. However, due to the previously mentioned right of ‘freedom of education’, these kinds of general concepts are not adopted in a structured way.

The Dutch educational system operates through three distinctive organizations: Cito, the Dutch Institute of Curriculum Development (SLO), and Kennisnet. Cito is responsible for school tests and exams; SLO, for curriculum development; and Kennisnet is the National Knowledge Centre regarding Education and ICTs. Funding to the educational system is distributed by the Ministry of Education, the Ministry of Agriculture (for agricultural schools) and local governments.

Sustainable development in primary schools is often part of an environmental education project offered by NGOs or local/regional nature and environment centres. In most cases, these projects are not structurally embedded in the school plan or curriculum. However, sustainable development is a central issue and is structurally embedded in about eighty schools. Typically, sustainable development projects implemented in schools, as well as embedded sustainable development themes in educational methods and materials (Heideveld and Eussen, 2010), lack an overview. A good practice in primary education consists of establishing a new network to transform schools into ‘sustainable schools’. This initiative was carried out within the wide network of Duurzame Pabo.

In secondary education, sustainable development is mainly incorporated in subjects such as geography and biology. It is also embedded in the exam requirements of

In upper secondary vocational education, twenty out of the seventy Regional Educational Centres (ROCs) and Agrarian Educational Centres (AOCs) actively execute sustainable policies. Sustainable development in vocational education is focused on practicability and competence development. An example is the use of environmental friendly materials in sustainable building or landscaping

these subjects. Sustainable development themes can also be easily incorporated in other subjects such as ‘nature, life and technology’, within interdisciplinary projects or as part of obligatory societal internships.

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The creation of various networks in primary and secondary education, as well as the execution of several exemplary school programmes, contributes towards enhancing the integration of ESD in formal education. Some examples are described below.

Duurzame Pabo – Sustainable Teacher Education Network³⁶

Duurzame Pabo is a network of teacher training and primary schools. The LfSD programme finances part of this network, but it is more strongly supported by NME funds. Duurzame Pabo works with eighty primary schools that have embedded sustainability into their core educational concept. Duurzame Pabo has organized several activities for teachers and students (internships, participation in the Sustainability Day, LinkedIn group, and so on) and has created ‘schoolportraits’ as examples of how primary schools can deal with the issue of sustainability, and the role teachers and students can play in the development of sustainable development at school.

Duurzaam Middelbaar Beroeps Onderwijs – Sustainable Secondary Vocational Education Network³⁷

Duurzaam Middelbaar Beroeps Onderwijs (DMBO) aims to take measures to integrate sustainable development in education and business operations. DMBO has organized and facilitated a wide variety of initiatives such as basic sustainable development courses (downloadable from the Internet), sustainable development-related internships, symposia and working groups. The annual DMBO conference brought together 150 teachers and the youth department of VNO-NCW (an interest group of entrepreneurs).

36 <http://www.duurzamepabo.nl>

37 <http://www.duurzaammbbo.nl/dmbo/web/>

Scholen voor Duurzaamheid – Schools for Sustainability³⁸

Scholen voor Duurzaamheid is an interdisciplinary programme developed by the Foundation for Nature- and Environmental Education, Veldwerk Nederland (IVN) and designed for secondary schools. The programme connects schools with social actors in the local community and seeks to engage students in sustainable development issues raised by ministries, local governments, district water boards, corporate institutions and landowners. Students are challenged to come up with different solutions to the ‘real’ problems of businesses and governments through a ‘storyline approach’. The programme is primarily financed by local commissioners and the provinces, but is occasionally supported by municipalities and corporate businesses.

GLOBE Programme³⁹

GLOBE is the educational programme of science and environment initiated by Al Gore. Pupils from over 22,000 schools (including primary and secondary schools) in 112 countries collect data on the global environment together with scientists. GLOBE Netherlands receives financial support from the Ministries of Education, Environment and Transport, which is channeled through the LfSD programme and the Science and Technology Platform (Platform Bèta Technique). It is also sponsored by some companies from the business sector. In association with school teachers, GLOBE Netherlands has recently developed a module on sustainable development for the lower levels of secondary school.

Codename Future⁴⁰

Working with 300 schools and 40,000 pupils, the publisher, Codename Future, provides primary and secondary schools with digital files. Sustainable development is structurally integrated in all these files through an ICT based ‘PPP-tool’. Schools can integrate this material into their regular programme, as the content is structured to meet educational system standards. Successful and/or innovative pilots have been taking place. An example is the ‘Welcome to our Neighborhood Project’, which consists of pupils investigating their own neighbourhood, taking photographs and filming areas that are either very good or need further improvement. Parents, companies and organizations then elaborate plans for improvement presenting it to the local government and community. The investigated areas are marked on Global Positioning System (GPS) and made accessible to all.

38 <http://www.scholenvoorduurzaamheid.nl>

39 <http://www.globenederland.nl>

40 <http://www.codenamefuture.nl>

Check it out!⁴¹

Check it Out! is a European project co-funded by the European Union (EU) under the Intelligent Energy-Europe Programme, with five participating European countries: Bulgaria, Germany, Hungary, Spain and the Netherlands. Schools are encouraged to achieve a substantial reduction in energy or even climate neutrality. Check it Out! involves pupils, teachers, school management, parents and the local community, providing teaching material and assistance to pupils and parents. In 2009, the programme was implemented in sixteen schools in the Netherlands. In addition, 200 Dutch schools requested an energy scan, and another 150 schools implemented the educational part of the programme (which is targeted at awareness-raising).

Energieke Scholen – Energetic Schools⁴²

Energieke Scholen is a project developed within the ‘National Environmental Education Programme’. It has been set up as a national campaign for primary school pupils. This programme encourages children to transform their school building into one that is healthier and more energy efficient. The project also promotes cooperation with local partners.

Sarah’s Wereld – Sarah’s World⁴³

Sarah’s Wereld is an ESD project targeted at primary schools. It is a fantasy game in which sustainability issues, such as climate change, consumption and waste, are addressed.

3.3 ESD in Higher Education

There are two types of higher education institutions in the Netherlands: universities and universities of applied sciences (Hogeschole). Whereas universities focus on research and scientific education, universities of applied sciences focus on providing professional skills. In general, universities of applied sciences pay more attention to sustainable development than universities (RMNO, 2009). A sustainable development charter signed at the universities of applied sciences has effectively resulted in ‘sustainability’ becoming embedded within all educational programmes. For instance, systems thinking and sustainable development values are interwoven with regular subjects. Students can also follow special ‘minors’ subjects in sustainable development.

In 1993, all universities signed the Copernicus Charter for Sustainable Development in Higher Education. Central to the Charter is the intention to integrate sustainable

41 <http://www.cio-scholen.nl>

42 <http://energiekescholen.nl>

43 <http://www.saraswereld.nl>

development in the mission, curriculum, research and management of higher education institutions. The Charter enabled the emergence of a broad range of initiatives in the field of sustainability in Dutch universities.

The Technical University in Delft is the only university that has currently integrated sustainable development in all programmes. Other universities usually incorporate sustainable development in research programmes, offer bachelor and master programmes in sustainable development, and develop specific oriented courses at summer schools. Some universities, such as Leiden University, have developed 'minors' subjects on sustainable development.

In the Netherlands, two higher education and sustainable development networks support and lobby higher education institutions in order to become more sustainable, and are described below:

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Duurzaam Hoger Onderwijs (DHO) – Organization for Sustainable Higher Education⁴⁴

DHO is basically a network organization financed by the Ministry of Education (50 per cent), by NGOs (30 per cent), and by higher education institutions (20 per cent), and connected to all Dutch universities. In 2007, DHO had 1,500 associated members. Three sub-networks have been established within the network: (i) the Duurzame Pabo network (now independent), as mentioned previously; (ii) the Network on Sustainability in Building (supporting initiatives of energy efficiency, sustainable materials, sustainable energy, and so on); and (iii) the Network on Sustainable Development in Water Management (linking water management professionals with teachers and students on the issue of water management). DHO has lobbied at all levels and has achieved many of the proposed objectives regarding higher education. DHO has also developed an Auditing Instrument for Sustainability in Higher Education (AISHE), which consists of a (self)evaluation tool that can be used to strengthen the integration of sustainable development in policy and education. It is also used to obtain the Sustainable Development Quality Mark by DHO (when performed by a certified auditor) and the Special Sustainable Development Quality Mark, issued by the NVAO (Dutch-Flanders accreditation organization).

⁴⁴ <http://www.dho.nl>

Morgen – Students Network for Sustainable Development in Higher Education⁴⁵

Morgen is a student-led network organization that aims: to engage students in the daily practice of sustainable development; to integrate sustainable development in curricula; to develop internships; and support or lobby universities to move towards more sustainable management practices. Morgen provides information exchange and organizes activities, such as excursions, projects, debates and workshops. Local student environmental groups or student organizations can become members. Morgen has implemented many student initiatives and contributed to the many activities of partner organizations. Examples are ‘9-9-9’ (activities for the National Sustainability Day), Greening the Ivory Tower (a symposium targeted at support and administrative staff, policy-makers, teaching staff and students of universities and Hogescholen so as to generate synergy and collective ambition), the Cookbook for the Sustainable University (14 cutting-edge initiatives of campus sustainability around the globe), the Road to Copenhagen comprising delegations, informative meetings for students, and an online Hyves profile.

3.4 ESD in Non-formal and Informal Education

The initiatives carried out in non-formal and informal education in the Netherlands are diverse. Some of the examples presented in this report include those initiatives in preliminary school and the Buitenschoolse Opvang (Brede School).

Non-formal education activities in early childhood education

Through the environmental education policy, initiatives and programmes of non-formal and informal education in early childhood, education has been developed to stimulate interest and concern for nature by way of nature experiences and the growing understanding of ESD concepts.

Buitenschoolse Opvang, Brede School (Outside School Childcare)

Buitenschoolse Opvang (BSO) embraces all ages, but is especially targeted at primary school children. BSO develops a great diversity of programmes for children to develop their talents and enjoy extracurricular activities, which are often held at school. Brede school is thus part of both the formal and non-formal education systems. The LfSD programme has established connections with these organizations, such as the Brede School Vereniging and Ekokids Nederland.

⁴⁵ <http://www.studentenvoormorgen.nl>

3.5 ESD across other Stakeholder Groups

In this sub-section, activities from the business sector, and activities addressed to raise public awareness and commitment are presented.

ESD and the business sector

One of the domains in which ESD manifests itself more actively is that of CSR. Central themes in CSR are work participation (varied workforce); poverty reduction (in developing countries, i.e. the Max Havelaar brand); biodiversity (quality marks); health (stimulation programmes for employees); climate change, energy and environment (green energy, waste separation, and so on); and chain responsibility and sustainable purchasing (codes of conduct, collaborative ventures and purchasing strategies).

Key ESD initiatives are managed by the following organizations:

MVO Nederland⁴⁶ is a national knowledge centre and network organization comprising twenty-six full-time employees who inspire corporate business to engage in CSR. General activities are: the collection of good examples; instruments, stories and publications around CSR themes; the distribution of knowledge about CSR; network building and knowledge transfer; and the publication of CSR projects in and outside the Netherlands. MVO Nederland is a partner of CSR Europe, a European network of independent organizations educating corporations about CSR (MVO, 2009). In its Plan 2010, MVO Nederland calls for the establishment of a National Sustainability Coalition of governmental organizations, businesses and NGOs to develop a coherent strategy in sustainable development. Part of this strategy includes policy measures, intensive knowledge transfer, professionalization and a communication strategy.

Another important player in the private domain (mentioned on the LfSD website) is Hiteq⁴⁷, an innovation centre for sustainable development. This organization is mainly focused on technical professions and training. It supports private companies and institutes of education with concepts, models and visions/scenarios for the future in four domains: society, business and labour, education and technology.

ESD and public awareness

There are many measures for public awareness around ESD themes. For instance, at the national level there is: Dag van de duurzaamheid (Sustainability Day), Warme truiendag (Warm Sweater Day), Week van het landschap (Week of the Landscape), Duurzame Dinsdag (Sustainable Tuesday) and HIER campaign (large climate

⁴⁶ <http://www.mvonderland.nl/english>

⁴⁷ <http://www.hiteq.nl>

programme). In addition, there are Milieu Centraal activities (national organization that offer environmental information services to the general public), newspapers with regular sustainable development sections (*Volkskrant*, *Metro*) and Urgenda (an ‘action-organization’ for innovation and sustainable development, which identifies leaders in the field of sustainable development and connects them in regional networks).

3.6 Thematic Approaches to ESD

ESD can be linked to many other educational initiatives and activities taking place in the Netherlands, for instance, to global education or gender education activities. This sub-section presents some of these initiatives.

■ ESD and global education

The Netherlands promotes and facilitates processes related to global education through the establishment of a National Committee for International Cooperation and Sustainable Development (NCDO). In its educational programme, NCDO works towards the implementation of world citizenship in school policy; facilitates capacity-building processes to teachers; develops educational materials; and disseminates information about global education through all media.

The following initiatives are also good examples of how global education is promoted in the Netherlands.

■ Xplore⁴⁸

Implemented between 2004 and 2009, Xplore was a programme focused on facilitating exchanges, voluntary work and internships in developing countries, which engaged 7,000 young Dutch people. Xplore encouraged young people to share cultural differences, work experiences and life prospects. In 2011, a new programme for youth is expected to be developed.



48 <http://www.xplore.nl>

Christian Alliance on Education and HIV/aids⁴⁹

Several organizations are members of the Initiative of the Christian Alliance on Education and HIV/aids, which seeks to promote, develop and support comprehensive responses by the education sector to HIV and AIDS.

Global Campaign for Education⁵⁰

Facing the global educational crisis is a civil society movement. It lobbies and encourages different governments to commit to and provide education for all. In the Netherlands, many organizations work together on this initiative.

ESD and gender and cultural issues

Gender issues are hardly ever addressed in ESD. Local Agenda 21 projects are not strictly concerned with gender, rather with reaching and involving marginalized social groups (i.e. low income and migrant women). Examples of gender projects are those directed at Turkish and Moroccan women who are encouraged to follow courses on how to lower their energy costs.

In the Netherlands, no indigenous groups are distinguished, thus, there is no formal indigenous knowledge. Some attention is paid to provincial languages such as the Fries language. As a result of immigration, there is a growing attention towards cultural diversity and integration. This issue is often dealt with as part of (world) citizenship objectives.

3.7 ESD in Teaching and Learning Processes

This sub-section emphasizes the role of social and lifelong learning as key teaching and learning processes in moving forward on the sustainable development agenda in the Netherlands.

Sustainable development implies processes of change in the ecological, economic and social field (Wals, Hoeven and Blanken, 2009). In the Netherlands, social learning processes are promoted as exemplary approaches to tackle sustainable development issues. Social learning is characterized by and contributes to a 'learning system' in which people learn from and with one another, becoming collectively more capable of dealing with the uncertainty, complexity and risks involved in finding their way towards sustainable development. In other words, social learning is about learning from each other in heterogeneous groups and about creating trust and social cohesion. It is also about creating ownership of both the learning process and the solutions that are found, as well as about collectively finding meaning and making

⁴⁹ see <http://www.educaids.nl>

⁵⁰ <http://www.campaignforeducation.org>

sense. In essence, social learning brings together people with diverse knowledge and experiences, with different backgrounds and perspectives. This diversity assists in finding more creative answers to questions, for which no ready-made solutions are available.

In terms of social learning, the Netherlands support different developments and experimentation. An example is the emergence of ‘arrangements’ (sometimes also called ‘vital coalitions’ ‘constellations’ or ‘configurations’) of social actors. With these arrangements, more traditional environmental actors, such as NGOs, work together in a dynamic and theme-orientated team, with representatives of less traditional actors such as policy-makers, schoolteachers, businesses and institutions. In these hybrid coalitions, although each representative has their own goals and interests, they try to transcend individual interests in order to reach new, collective learning goals through a so-called process of knowledge co-creation.

In 2009, three Dutch ministries decided to finance the development of vital coalitions in environmental education through a memorandum that aimed to reform the environmental education sector into one that was more connected with mainstream developments in society and that was more self-supportive and innovative. The government also designed a plan involving the implementation of vital coalitions around three spearhead themes, interwoven with ESD: ‘green’, energy and water (SenterNovem, 2008). The Programme bureau NME collects examples of lessons learnt derived from the vital coalitions, and uses them to develop stronger coalitions.

As learning for sustainable development is a lifelong process, it occurs in all types of learning environments. In the Netherlands, lifelong learning is a concept that is central to ESD – just as social learning. The Leadership Forum (Leren voor de Toekomst) is a network of influential educationalists, corporate business and administration. In the mission statement, its members call for the development of open education regions where students can learn in direct interaction with their environment, and where teaching, business and science interact, offering knowledge and experience to support these learning processes, working on themes that are relevant to a sustainable future.

3.8 Cooperation and Partnerships for ESD

This sub-section highlights key international networks and partnerships contributing to enhance ESD processes and performance in the Netherlands.

UNESCO has appointed the LfSD programme as the National Focal Point for the organization of activities of the DESD. Members of LfSD programme participate in international networks and working groups of the EU, the UNECE and the DESD. Some of these activities are outlined here, as follows.

UNECE Expert Group on Competences in ESD⁵¹

This Expert Group has identified the need to further define the nature of competences in ESD, and ways in which they may be developed in the education sector. It also stresses the need to create policy environments that support ESD competences and enable their development in each Member State.

Regional Centre of Expertise on Education for Sustainable Development Rhine-Meuse⁵²

The RCE Rhine-Meuse is located in the Netherlands, Belgium and several German Federal States that share borders with the Netherlands. In 2009, the RCE Rhine-Meuse organized and facilitated several interesting initiatives, for example, the establishment of the Leadership Forum and the development of an exchange programme regarding the building sector ('Building New Futures') between Africa and the Netherlands.

Environmental Conference of the Regions of Europe⁵³

The Environmental Conference of the Regions of Europe (ENCORE) is a platform established in 1993 for Regional Environment Ministers and political leaders in the EU. A conference is held every two years. Through political cooperation it aims to contribute to the effective implementation of EU environmental policy, to improve environmental governance, and to implement sustainable development in the regions of Europe.

Benelux Environmental Education Conferences⁵⁴

As a result of the third Benelux (Belgium-Netherlands-Luxemburg) governmental conference in 1975, a Committee for the Environment and project group 'Education, Information and Communication' was established in order to improve the 'life environments' of the Benelux countries, as well as to coordinate different activities. Since 1985, an annual conference is held in one of the three Member States, where sustainable development themes are regularly on the agenda.

51 <http://www.unece.org/env/esd/SG.EGC.htm>

52 <http://www.euregio-office.eu/en/organization/europe/rhine-meuse/rce/default.aspx>

53 <http://www.encoreweb.org>

54 <http://www.lne.be/themas/natuur-en-milieueducatie>

■ **European Roundtable on Sustainable Consumption and Production**⁵⁵

The European Roundtable on Sustainable Consumption and Production (ERSCP) is a non-profit forum that provides a platform for the stimulation, development and dissemination of new initiatives, which aim to foster the implementation of concepts involving sustainable consumption and production, and to develop approaches within local and regional sustainable development-related initiatives.

■ **Environmental Management for Sustainable Universities**⁵⁶

Environmental Management for Sustainable Universities (EMSU) organizes international conferences that explore the role of universities in creating new knowledge and attitudes to meet today's environmental challenges. EMSU also promotes a two-way exchange of knowledge between universities and society. In 2010, the 14th ERSCP conference and the 6th EMSU conference was held in Delft.

■ **International Network of Engineering Education in Sustainable Development**⁵⁷

The International Network of Engineering Education in Sustainable Development (EESD) is based on the Barcelona Declaration, which states the importance of ESD in technological education and encourages higher education institutions to implement ESD. Different engineering universities are currently working to facilitate information exchange and experience in this field. In 2002, the biannual EESD conference was hosted by the Delft University of Technology.

■ **Earth Charter Initiatives**⁵⁸

More than twenty initiatives around the Earth Charter have been developed in the Netherlands by different organizations such as Worldconnector, Club of Rome, and the Jacob Soetendorp Institute for Human Values.

3.9 Monitoring and Evaluation

Through annual evaluations of the LfSD programme, and with continuous reference to the general course of the programme, strategies for new steps are defined. Monitoring and evaluation of the LfSD programme takes place at three distinct levels: the LfSD programme, the target group and project levels.

55 <http://www.erscp-emsu2010.org>

56 <http://www.emsu.org>

57 <http://www.upc.edu/eesd-observatory>

58 <http://www.earthcharter.nl>



At programme level, two earlier evaluation reports of the LfSD programme (EIM, 2007; EIM, 2008) have been published on the basis of four criteria: input, throughput (process), output (product) and outcome (effect). These criteria were set against the international list of indicators of the UNECE ESD strategy. Since 2009, the monitoring and evaluation of the LfSD programme has been closely connected to the monitoring and evaluation of the National Environmental Education Programme.

At the target group level, two special workgroups (within the three pillars) meet regularly to organize activities and discuss the developments within each pillar. Representatives from relevant ESD networks, interprovincial discussion groups and the SLO are members of the Education Team. The Government Team discusses and evaluates the progress of LfSD activities of pillar 2 and 3 by special and regular meetings with all provinces and ministries that cooperate in the programme in order to identify possibilities for improvement.

Many reports have been written at project level. A large number of these have been published on provincial websites and on the LfSD website, together with tools that can be used to analyse and improve the projects. Knowledge transfer between provinces based on thematic discussions of the results of (mostly) pilot projects does occur, though it is often organized informally and held on an irregular basis.

ESD Implementation at a Glance

This section identifies some of the strengths, opportunities, threats and weaknesses in implementing ESD in the Netherlands.

Strengths

- ▶ The LfSD programme has succeeded in positioning sustainable development in the strategic discussion of education.
- ▶ Sustainable development has gained strength within the government and has moved from a marginal to a mainstream position.
- ▶ Dutch provinces have succeeded in involving a growing number of social actors in sustainable development projects in areas such as climate change, water management, spatial planning, sustainable production and consumption.
- ▶ Administrative involvement through dialogue and participation by governments and social partners.
- ▶ A democratic society.
- ▶ High level of education, compulsory education, low illiteracy and a high percentage of Internet usage.
- ▶ High involvement of NGOs.
- ▶ Cooperation between governmental departments to generate funds.
- ▶ Conceptual development of ESD in formal, non-formal and informal education through the support of ‘learning individuals’, ‘learning organizations’ and ‘learning society’ (centralized and decentralized).
- ▶ Good functioning of living networks such as DHO, DMBO and Duurzame Pabo.
- ▶ Development of the Educational Repositories Network – a system of metadata for ESD within the general metadata system for digital educational materials.

Opportunities

- ▶ The establishment of strong networks in formal education would accelerate the process of embedding sustainable development in the formal education sector.
- ▶ The development of a comprehensive monitoring and evaluation system to assess LfSD and environmental education programmes.
- ▶ Ensuring online availability of ESD materials could facilitate the work of ESD educators.

Weaknesses

- ▶ The constitutional right of ‘freedom of education’ does not allow for much top-down influence on the formal school curriculum. Thus, schools and teachers are free to develop their own curricula. The Ministry of Education only influences education by setting central objectives at primary school level and through the realization of exams at secondary level. Inspections by the ministry focus on Cito-tests and the monitoring of school absenteeism. There is no control by the ministry about the quality of educational materials or lessons of the educational process.
- ▶ Given the vast quantity of information regarding environmental education and ESD projects, one of the current challenges is to ensure that users can find information easily and quickly. The development of software able to process ESD data into useful information constitutes another challenge.
- ▶ Difficulty in up-scaling projects which are locally embedded and executed.
- ▶ The environmental education sector is hardly innovative.
- ▶ A lack of integrated methods for ESD developed by well-known educational publishers.
- ▶ A lack of ESD evaluation processes at the school level, making it difficult to ascertain whether an increase in interest in ESD is caused by LfSD measures or by other influences.

Threats

- ▶ Low priority of ESD at schools.
- ▶ Time related difficulties: schools lack time to fulfill all basic educational obligations, with little time for extra programmes.
- ▶ Middle management tends to focus on achieving the demands of the Ministry of Education, parents and corporate business at the expense of ESD issues.
- ▶ Extensive numbers of ‘educations’, projects and thematic packages compete for inclusion into the curriculum. A lack of insight into the quality of these projects and packages is also detrimental.
- ▶ Some NGOs dealing with environmental education and ESD lack the competency to support educational reforms, as they tend to remain focused on messages relating to green issues.

4. Lessons Learnt

This section outlines lessons learnt regarding ESD in the Netherlands, which draw upon the DESD Global Monitoring and Evaluation Report (UNESCO, 2009b).

The DESD Global Monitoring and Evaluation Report identifies ten major action areas and presents recommendations for the second half of the DESD. Drawing upon these guidelines, and taking into account the current initiatives and approaches of ESD in the Netherlands presented in the sections above, this section identifies key ways forward to successfully implement ESD in the Netherlands.

Awareness, meaning and scope of ESD

1. Balance between formal, non-formal and informal learning through the LfSD programme.
2. Strong (inter)governmental cooperation and clear responsibilities formulated and encouraged in the National Strategy for Sustainable Development (KADO).

Reorienting curricula, teaching and learning

3. Drawing boundaries around sustainable development for primary schools; development of a core curriculum and practical guidelines for the implementation of sustainable development in formal education.
4. Establishing strong networks in formal education.
5. Decision-making and policy-making as targets for ESD.
6. Support of multi-stakeholder approaches, vital coalitions, social learning, e-learning and lifelong learning.

Capacity-building

7. Development of learning trajectories in sustainable development and world citizenship.
8. Development of masters, bachelors, minors, projects, workshops and internships for students in secondary or higher education.
9. Support and facilitation of disciplinary overviews, congresses, and so on.

Research, monitoring and evaluation

10. Development of a general monitoring and evaluation programme for the Dutch ESD/LfSD and environmental education policies operating in 2010.

ESD synergy with other adjectival educations

11. NL Agency/SenterNovem is responsible for the coordination and execution of the LfSD and environmental education programmes such that synergies are possible and desirable. The three pillars within the LfSD strategy, and the growing interest in sharing knowledge and communication, increase the possibilities to connect water, global and health education with ESD.

ESD resources and materials

12. Tools, resources and methodologies should be made available online.

International cooperation

13. Support of environmental and ESD initiatives within already established cooperation with UNECE, UNESCO, EU, North-South Centre, RCE Rhine-Meuse and Benelux conferences.

National networking

14. Support of environmental and ESD initiatives within established networks, such as DHO, DMBO, Duurzame Pabo, Morgen and Rijksduurzaamheidsweb.

Coordination

15. Coordination of national programmes of ESD, environmental education and sustainable development.

Funding

16. Different funding sources are being established until 2012. However, there is a growing uncertainty as to whether funding for ESD will continue due to political change and the financial crisis.

5. Concluding Remarks

The final EIM evaluation of the national LfSD programme shows that ESD has moved from the margins to the mainstream and is positively ‘on schedule’. In recent years, ESD and environmental education policy has been developed effectively

in the Netherlands. Exemplary policies have contributed towards developing and deepening ESD issues, creating greater cooperation links between traditional stakeholders, such as NGOs, and less traditional stakeholders, such as businesses, policy-makers and schools in new vital constellations or arrangements. Within formal education, ESD is stimulated not only by the development of the core

The final EIM evaluation of the national LfSD programme shows that ESD has moved from the margins to the mainstream and is positively ‘on schedule’

curriculum of ESD in primary and secondary schools, but also by an endless amount of projects developed by NGOs and supported by governmental organizations. Bottom-up networks in higher education, such as DHO, Duurzame Pabo, DMBO and Morgen, are raising critical awareness of sustainability issues within the educational institutes and through cooperation with various stakeholders. At universities and universities of applied sciences, charters on sustainable development have been signed, sustainable development-oriented courses are being taught and developed, and many professors of sustainability have been appointed.

In non-formal and informal education, ESD is particularly addressed within pillars 2 and 3 of the LfSD programme. Non-formal and informal learning initiatives seek to involve different stakeholders, develop networks, transfer knowledge, develop competences, integrate themes and establish cooperation. The childcare outside school hours promotes and facilitates ESD education to children of all ages. Didactics of sustainable development, from the primary school level to university level, increasingly involve direct experience, experimentation and cooperation with a variety of stakeholders.

ESD in the Netherlands still presents a number of gaps, which have to be overcome if ESD is to become more effective and efficient. Reports from EIM (2008) and MVO Nederland indicate that in Dutch society the ability to act sustainably is hardly expressed. Awareness may have been raised but the sense of urgency is not sufficiently felt by citizens, politicians and businesses. Issues such as structurally embedding ESD in schools, the structural funding of ESD policy, integrating ESD programmes in schools, and supporting networks are crucial if the implementation of ESD is to move forward in the country. Although a National Strategy for Sustainable Development is in place and six ministries participate in the LfSD programme, no substantial funding is available. In addition, whether the new government will continue to support ESD and allocate funding for its implementation is an unresolved question. Government grant regulations for ESD projects are also under threat, as there is an increasing demand for quantifiable results. Yet, ESD requires more qualitative evaluation approaches.

The continuation of the LfSD programme is strongly recommended, as it is gaining support and is improving its strategies for each pillar. Further connections to national and international sustainable development, ESD and environmental initiatives, programmes and networks need to be promoted. In order to keep track and evaluate different ESD developments and projects, a central monitoring and evaluation system should be implemented. Governmental organizations should support the development of new ways and means of evaluating the quality of projects and products, which match ESD principles and methodologies.



OMAN

Abdullah Khamis Ali Ambusaidi

Oman was one of the first countries of the Arab States to express a commitment to sustainable development and ESD. As a response to the DESD, Oman formed a national team and appointed a national coordinator to guide the ESD implementation process at the country level. In practice, various ESD initiatives are taking place in formal and non-formal education. At the formal education level, the UNESCO ASPnet Schools and the Sultan Qaboos University offer opportunities to staff and students to engage in the sustainability agenda. In non-formal education, partnerships between the government, civil society organizations and the business sector are prioritized and seen as critical to sustainable development.

1. Introduction

This section introduces Oman's socio-economic and geographical contexts, identifies the challenges they present to sustainable development, and summarizes the changes that have taken place since the 1970s as well as the government's commitment to the promotion of national and international initiatives on the protection of the environment and sustainable development.



In Oman, sustainable development cannot be understood and achieved without considering socio-economic and environmental dimensions as well as the cultural legacy of the country. The Sultanate of Oman is located in the southeastern corner of the Arabian Peninsula with a total land area of about 300,000 km² and a population of 2,350,000 (according to the national census of 2003). With its privileged geographical position, the Sultanate of Oman is at the intersection of trading between the East and the West. Its great geographical diversity, consisting of open deserts (gravel plains and areas of sand dunes), large mountain ranges and coastal land, needs to be conserved in order to ensure the nation's prosperity and security.

Since 1970, the Omani government has worked on transforming lifestyles and building a modern nation based on sustainable development principles. Changes in the health, education and economic systems, as well as in the provision of modern infrastructures, have taken place to ensure positive social and economic development.

The Omani government's commitment to environmental preservation is reflected in its policy, as well as in the development of several plans and programmes. In 1970, Oman was the first country within the Arab World to establish a Ministry of the Environment. Since then, the Sultanate of Oman has contributed to the international commitment towards environmental conservation and sustainability, and has participated in the implementation of many international initiatives in this domain.

2. A Policy Context for ESD Developments

This review presents policy developments in terms of sustainable development and national responses to the DESD. It also showcases the different mechanisms put in place to coordinate ESD in Oman, such as the formation of an ESD national team and the appointment of a national coordinator.

Economic Vision ‘Oman 2020’

One of the most important national initiatives in which sustainable development is spelled out, is the Economic Vision ‘Oman 2020’, which emphasizes the need to:

- (i) develop human resources and promote skills and competences that ensure a positive and efficient technological progress with regard to the continuous changes at national and global dimensions;
- (ii) create a stable macroeconomic framework in which the private sector is capable of efficiently using human and natural resources, and in ecological-friendly ways;
- (iii) encourage the establishment of an effective and competitive private sector and to consolidate mechanisms and institutions that will foster shared visions, strategies and policies between the private sector and the government;
- (iv) provide appropriate conditions for the realization of economic diversification through the optimal use of natural resources, considering the geo-strategic location of the Sultanate; and to
- (v) enhance the standard of living of the Omani people by reducing inequalities among regions and among people with different income levels, and to ensure that the fruits of development are enjoyed by all citizens.

National responses to the DESD

In 2007, the UNESCO National Commission (NatCom) of Oman participated in the preparation and development of a draft ESD agenda for the Arab Region – a regional response of the DESD in association with the UNESCO Beirut Office. Under UNESCO Beirut supervision, the NatCom distributed the first DESD Global Monitoring and Evaluation questionnaire to stakeholders who had participated in regional ESD activities during the period 2005–2007, and appointed a national coordinator. At that time, no national team or coordinator existed in Oman to manage ESD and DESD activities such that the questionnaire could not be completed accurately.

The Oman Ministry of Education has shown continued support to ESD, recognizing the necessity to strengthen international cooperation in terms of ESD policies and programmes in line with the DESD objectives. The NatCom therefore suggested that the Minister of Education assume the role of ESD national coordinator and form a national team.

The Ministerial Decision No. 78/2008, issued in April 2008 and presided over by the Minister of Education, resulted in the establishment of an ESD national team. The team includes representatives from the Oman National Commission for Education, Culture and Science (Focal Point), the Sultan Qaboos University, and the ministries of manpower, health, education, higher education, national economy, environment and climate affairs, agriculture, and social development. The objective of the national team is the coordination of policies, events and activities in the field of ESD at the country level. The ESD national team also delegates functions to other organizations and stakeholders from the private sector as well as NGOs with expertise on ESD domains. A national coordinator from the Oman NatCom has also been appointed.

The ESD national team has participated in many national initiatives with respect to the national implementation of ESD and the DESD. The team participated in the development of a Draft DESD National Strategy for the Sultanate of Oman. A national report, entitled *Focus on Education for Sustainable Development in Oman: Towards a Sustainable World* (2009), was prepared and presented at the UN World Conference on Education for Sustainable Development, 'Moving into the Second Half of the UN Decade', held in Bonn, Germany (31 March–2 April 2009).

3. A National Review of ESD Activities

Several techniques were employed in order to collect ESD activities and initiatives taking place within the different sectors in Oman. A number of documents and websites from the government, private agencies, educational institutions and civil society organizations were collected and analysed in order to identify how ESD dimensions and themes were addressed and embedded within the different sectors. The national review was further complemented through field visits to four UNESCO ASPnet schools implementing ESD projects. These visits focused on exploring the objectives, funding, implementation period, outputs and challenges of the different projects.

When the national review was finalized, a one-day validation seminar was organized at the Oman NatCom Headquarters. Representatives from the Ministry of Education, Sultan Qaboos University, the Oman NatCom, the Oman Liquefied Natural Gas (LNG) and the Environment Society of Oman attended the seminar and gave feedback on the review.

This section will highlight ESD initiatives implemented in the formal, non-formal and informal education sectors.

3.1 ESD in School Education

This sub-section introduces the process of ESD integration into the curriculum of primary and secondary education. It also highlights and summarizes specific ESD programmes and networks taking place within these educational levels.

In Oman, sustainable development has been integrated within the primary and secondary education curriculum through specific subjects such as life skills, information technology and applied mathematics. Other subjects, such as science (especially in the environmental dimension), social studies (social, environmental and economic dimension), Islamic education and languages (Arabic and English), also integrate specific themes and topics on sustainability.

For example, in life skills students learn about peace and cultural understanding, cultural and linguistic diversity, employment and workplace, career opportunities and public service. Critical thinking is at the core of this specific subject. In information technology, centered on technological awareness, students acquire computer skills and reflect on the different technological challenges. Applied mathematics, based on acquiring economy literacy, also introduces sustainable development issues.

Various guidelines and documents have been developed to help teachers integrate sustainable development issues into their daily work. Indeed, many educational programmes, projects and initiatives on ESD are taking place in the formal education system in Oman. Many of these activities are developed within the UNESCO ASPnet schools. Some examples are described below.

In Oman, sustainable development has been integrated within the primary and secondary education curriculum through specific subjects such as Life Skills, Information Technology and Applied Mathematics. Other subjects, such as Science (especially in the environmental dimension), Social Studies (social, environmental and economic dimension), Islamic Education and Languages (Arabic and English), also integrate specific themes and topics on sustainability

The Road Safety Guidelines

The Ministry of Education, in partnership with Shell-Oman, adopted one of the most significant social projects in formal education. In 2004, the Ministry of Education began preparations on a document guiding the integration of ‘road safety’ issues in Omani curricula. The document was designed to provide curriculum developers and teachers with tools and methodologies to promote children’s knowledge and to raise awareness on such ‘road safety’ concepts as traffic, the environment, good habits, and so on. The project itself consisted of integrating ‘road safety’ issues into different subjects, and included participating in different initiatives on the topic.

The results were used to develop basic guidelines for the curriculum, and to prepare activities and resources on 'road safety' issues. Training was also offered to primary and secondary teachers.

A guideline document to integrate environmental education into the curriculum

The Ministry of Education in Oman, in collaboration with the Ministry of Environment and Climate Affairs and the Oman Environment Society, is developing a project to integrate environmental education concepts into the curriculum. The project consists of developing a guideline document, and providing training to curriculum officers, supervisors and people from the educational field. An ESD expert from the Republic of Lebanon has been appointed to help develop this document with the support of Shell-Oman. The document includes basic environmental concepts to be addressed in the curriculum. Resources and activities are included to help teachers address environmental issues and teach related skills.

Knowledge development programme for students in science, mathematics and environmental geography

A national programme for enhancing the teaching and learning processes in the areas of science, mathematics and environmental geography was adopted in the academic year 2007/2008. The programme aims to promote the culture of science and research among students, teachers, parents and the community. It also seeks to improve student performance levels in the specified subject areas. The programme's ultimate goal is to create and encourage scientific methodology and higher-order thinking skills. Accordingly, the programme focuses on the following key principles: creative thinking, scientific approaches, practical application, higher-order thinking, skills and clarity.

Contest about Preserving Cleanliness and Health in the School Environment

Through this contest, the Ministry of Education aims to improve health and hygiene in schools and promote positive values among students, teachers and parents on these issues. Students get involved in activities that promote self-care and a healthy school environment. The programme encourages closer links and cooperation among students, teachers, school administrators and the community to improve unhealthy school environments.

UNESCO ASPnet schools in Oman developed a wide range of exemplary ESD programmes, projects and initiatives in Oman. Some of these projects are described here, as follows.

Together We Build the Environment

This project was aimed at raising environmental awareness. It consisted of lectures by experts on environment issues and sustainable practices such as the Omani traditional irrigation system (*Falaj*). Students also participated in various art competitions (i.e. the design of leaflets on the environment), the creation of awareness campaigns within their local communities, and activities to keep beaches clean. The project included the celebration of the International Water Day and activities organized for parents (such as tree planting in their children's schools) and the community.

The Communication and Tolerance Forum

This forum promoted communication and a culture of tolerance. The forum organized several activities and events, including: (i) an art exhibition by students on the theme of peace and tolerance with paintings reflecting issues on peace, friendship, the environment and family; (ii) a special exhibition on behalf of His Majesty Sultan Qaboos bin Said, celebrating his leading role in establishing peaceful relations with other countries and cultures, and his continuous call for world peace; (iii) students preparing magazines and booklets reflecting the title of the forum; and, (iv) invited speakers discussing issues related to family communication and tolerance.

The Intangible Heritage Project

This project was aimed at raising awareness among Omani students on the importance of preserving intangible heritage (reflected in the Omani arts, traditional handicrafts, games, folktales, and so on). Schools carried out the project with the participation of parents and the local community. Parents played a leading role in educating young students on the different aspects of Omani culture, including traditional crafts, dancing and folktales. They also participated in the student events in order to generate student interest in Omani heritage. Some schools organized cultural competitions, and art shows were a way to raise student awareness on their culture. With the project's highly satisfactory results, it was decided to continue the project.

The Peace Project

The project was aimed at promoting a culture of peace among students. Students organized several activities during the World Peace Day, such as expressing their ideas about peace on large paintings. One Omani school invited a number of international schools to participate for one day in this programme. The day included drawing competitions, presentations and games. A local workshop on Peace in the Omani Curricula was also organized.

Workshop on ESD in a World of Cultural Diversity: Taking our Responsibilities for the Future

The workshop was organized in Barka (Muscat), Oman, from 8 to 12 November 2008. This regional workshop was one of the most important DESD activities, with the participation of over 100 students, teachers and national coordinators from ASPnet schools around the world. It was organized by the Ministry of Education and the Oman National Commission for Education, Culture and Science in cooperation with UNESCO, the Islamic Organization for Education, Culture and Science, the German National Commission, the Kuwait National Commission for UNESCO and a number of private sector companies. The workshop was aimed at promoting ESD through the exchange of experiences between students and teachers from various cultures, and at preparing joint projects around the DESD.



The Connecting Cultures Project

In 2007, the Ministry of Education and the Oman National Commission for Education, Culture and Science supported this project, which was aimed at enhancing dialogue between the youth from both Arab and Western countries in the form of short trips and visits to meet youth from other countries. The project intended to dispel misconceptions about both cultures while highlighting common values. Since the project began, three trips have been organized with fifty-two participants from thirteen Arab and European countries. Around 14.6 million people followed the visits through local Arab and European media and the project's website. Follow-up activities were held after each of these trips.

3.2 ESD in Higher Education

The government provides free higher education to a large group of graduates. Full or part-time scholarships exist for those students unable to enroll to the state university and pay the fees of private universities. In Oman, it is believed that women are key partners in the country's prosperity and development process, which is clearly reflected in the increased number of women enrolling for higher education courses.

Several ESD projects, undertaken by the faculties of commerce, education and agriculture at the Sultan Qaboos University, are presented as exemplary initiatives in higher education, and include the following.

Faculty of Commerce

The Faculty of Commerce of the Sultan Qaboos University (SQU) trains and prepares students in areas of business and economics. It offers courses in which the economic dimension of sustainable development is addressed. Sustainable development-related courses are intended to:

- (i) showcase innovative business practices through creative thinking and problem solving;
- (ii) promote a close interaction and creation of alliances with the business community through lecture series, field studies and internships;
- (iii) promote basic and applied research, which will add to theoretical and practical knowledge in the various fields of specialization; and,
- (iv) train students to develop a number of skills related to problem solving, creative thinking and the application of modern technologies (i.e. computer, Internet).

Students in their fourth and fifth years are encouraged to develop projects linked to the economic aspects of sustainable development, and present them to colleagues and lecturers. The faculty also organizes ESD initiatives such as the Business Week, Capital Market Forum and Market Day.

Faculty of Education

The Faculty of Education of SQU prepares future teachers and offers quality programmes to achieve the objectives of the DESD. An array of topics in the field of ESD are addressed in these programmes, such as EFA, gender equality, the role of education in eradicating poverty and hunger, and peace issues. ESD topics are also addressed in Bachelors of Arts and Masters programmes.

Field training is one of the most important components in teacher education as it is designed to connect the students with their future working environment. The Faculty of Education offers practical training for undergraduate and postgraduate students. Students can put in place ESD pedagogical approaches and content in real life situations.

Faculty of Agriculture and Marine Sciences

The Faculty of Agriculture and Marine Sciences has introduced themes of sustainable development within its undergraduate programmes, in particular, in areas related to water and fisheries. For instance, in the natural resources and environmental



economics course, students are introduced to sustainable development and its importance in terms of natural resources management. Students work on practical projects related to sustainable development and linked to specific issues such as water, fisheries, pollution, population growth and non-renewable resources.

The faculty also undertakes research related to the challenges of sustainable development in Oman, for instance, the scarcity of rainwater.

Student activities within this faculty are considered as major contributions in the field of ESD and include the Day of the Omani Farmer, Tree Day, International Water Day, Economics Forum, the Green Tide Festival, among others. For example, during the Green Tide Festival, students identify the major environmental problems and risks faced by the community and propose best possible solutions to the concerned authorities. The Green Tide Festival includes a charity market, an educational entertainment evening, workshops, contests and various environmental awareness campaigns.

3.3 ESD in Non-formal and Informal Education

In Oman, NGOs contribute substantially to sustainable development. This section highlights exemplary ESD practices from civil society organizations.

NGOs play a leading role in community service and human resources development. In Oman, several NGOs develop significant ESD initiatives. A description of the activities organized by the NGO, Environment Society of Oman, and its contribution to ESD is given below.

■ The Environment Society of Oman

Established in March 2004, the Environment Society of Oman has the following objectives:

- (i) providing assistance and education to raise awareness on environmental topics;
- (ii) encouraging participation in group activities aimed at preserving the environment;
- (iii) organizing seminars to exchange views and information relating to the Omani environment;

- (iv) promoting cooperation between the government and the private sector in order to preserve the natural environment of Oman; and,
- (v) carrying out research and studies to support initiatives on the preservation of the Omani environment.

The Environment Society of Oman has designed a strategy based on education, teaching and awareness. It also employs professionals to give lectures in schools and institutions to disseminate information and raise public awareness. Further interventions include the revision and assessment of educational and awareness practices and programmes; the identification of projects that promote community involvement and the participation of volunteers in the field of environmental conservation; and, the launch of informational leaflets in both Arabic and English, promoting environmental protection volunteering.

The society has also signed an advisory agreement with the Ministry of Education seeking to develop a module on environmental education into the curriculum.

3.4 ESD across other Stakeholder Groups

This section highlights some ESD activities organized by the business sector.

ESD and the business sector

Sustainable development and ESD cannot be effectively addressed in the absence of a genuine partnership with the private sector. This section highlights initiatives from Petroleum Development Oman and LNG.

In addition to educational materials and training, Petroleum Development Oman contributes to the field of education by offering financial support to the Ministry of Education, the Ministry of Higher Education and the Ministry of Manpower. The company also offers scholarships to students and provides learning resource centres to schools in Oman.

Oman Liquefied Natural Gas (LGN) offers financial support to many sustainable development activities such as the provision of training programmes, learning resources for schools and technical colleges, and materials for low-income students. LGN financed school projects related to health and safety as well as the purchase of mobile laboratories for eleven schools in various regions.

ESD Implementation at a Glance

This section identifies strengths, opportunities, weaknesses and threats in implementing ESD in Oman.

Strengths

- ▶ With regard to formal education, students across secondary and higher education level are currently receiving knowledge, skills and values that will strengthen their understanding of socio-economic and environmental sustainability. Students are also encouraged to actively participate in finding solutions for sustainable development.
- ▶ The Sultanate of Oman pays considerable attention to higher education, which is a vital pillar in Oman's educational system as it precedes entry into the labour market. Teaching and learning in higher education institutions consists of collaborative and interactive learning, and modern technologies are essential in this process. Practical training is offered by many higher education institutions in Oman as real life situations help students apply theory to practice. Partnerships between universities, the government and the private sector are established in order to create work placements and training opportunities for students.
- ▶ The business sector is considered an important partner in the field of sustainable development and community service by the Government of Oman. The private sector has responded to the government's call and made several contributions to the field of human development and ESD.

Opportunities

The Omani Ministry of Education is addressing sustainable development issues through curriculum development. The initiatives and projects currently implemented by the Ministry of Education are ambitious and aim to achieve many goals, some of which have been taking place within the formal education system over a long period of time while others have just been implemented. The following are reflections on some of these initiatives, and include:

- ▶ 'Road Safety Guidelines': its success depends primarily on the teacher training process.
- ▶ A guideline document to integrate environmental education into the curriculum: this document is a significant contribution to ESD as regards its environmental dimension. After completion, this document will provide training staff from the curriculum department, supervisors and school

teachers with guidelines on how to address environmental concepts within the school curriculum.

- ▶ Knowledge development programme: a preliminary assessment of this project revealed specific challenges. As this programme was not part of the formal assessment, students and some teachers showed a lack of interest.
- ▶ Contest about Preserving Cleanliness and Health in the School Environment: despite being compulsory, this project has not been correctly applied in some Omani schools.

As mentioned in the previous section, UNESCO ASPnet schools organize many initiatives related to ESD. These projects and initiatives reveal both positive aspects and obstacles that need to be overcome. Positive points include the following:

- ▶ students acquire fundamental skills and values in order to understand the world around them;
- ▶ each project is underpinned by participation and capacity-building processes;
- ▶ initiatives are received with enthusiasm by the students;
- ▶ many initiatives involve members of the community; and,
- ▶ these initiatives link students to their own environment and local/global communities.

Some of the weaknesses of the implementation of projects and initiatives include:

- ▶ insufficient resources allocated to implementation;
- ▶ lack of time to implement these initiatives during regular school hours;
- ▶ lack of motivation. As these projects are not formally assessed, students do not take them seriously at times; and,
- ▶ lack of incentives, despite teachers' efforts to implement these initiatives.

Threats

- ▶ Partnerships between the government and civil society organizations are vital in order to achieve ESD objectives. Environmental preservation is an important responsibility of both the government and the community. The Environment Society of Oman has contributed to sustainable development by organizing several environmental initiatives. In the absence of a culture of volunteerism in Oman, the Society finds it difficult to attract volunteers and thus seeks assistance from companies and individuals to carry out events and projects. In general, the Society and other NGOs experience a lack of financial and human resource support.

4. Lessons Learnt

In this section, lessons learnt regarding ESD in Oman are identified.

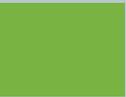
1. Train in-service and pre-service teachers and educators.
2. Allocate funding and resources to undertake ESD initiatives in all education sectors.
3. Support partnerships with local and international institutions as a strategy to achieve the DESD objectives.
4. Identify opportunities for women to enroll in higher education courses and to work in competitive organizations.
5. Integrate sustainable development in all subjects at primary, secondary and higher education level.
6. Embed ESD in teaching methodologies and evaluation mechanisms.
7. Develop clear strategies to create partnerships with the business sector.
8. Provide human resources and financial support to civil society organizations.

5. Concluding Remarks

Countries across the world are facing many sustainable development challenges. ESD enables people to understand these challenges and to take action for a sustainable future. In Oman, these actions included the formation of a national team, and the appointment of a national coordinator to organize, manage and direct activities, events and projects to respond to the DESD call.

A variety of projects and activities have been organized in Oman since the launch of the DESD. Many projects are carried out in cooperation with UNESCO and other organizations working on peace, tolerance and inter-cultural communication issues. Higher education institutions have also organized numerous projects that reflect the growing interest of ESD in the country. The private sector and civil society organizations actively work to achieve sustainable development goals, and the Sultanate of Oman is interested in forging a deeper and broader partnership with these organizations in the future.

This country review has provided a brief overview of some of the efforts and initiatives of the Sultanate of Oman, as well as some of the challenges faced in the field of ESD. The most important challenges revolve around the lack of financial support, teachers' and educators' motivation, awareness about the DESD goals, provision of material and resources, and partnerships with the private sector and NGOs.



Analysis
of National
Experiences



diversity of ESD approaches and initiatives are documented in the national journeys captured in this Report. ESD processes are contextualized, taking into account environmental settings, cultural diversity, and socio-economic, political and educational systems. ESD is viewed as a social learning process where the needs of individuals, communities and nations are explored in order to draw meaningful paths toward sustainable futures. This chapter briefly summarizes the key observations from the national reviews identified for this publication.

Framing and coordinating ESD: policies and strategies

In response to the DESD call, governments from the five countries featured in this Report made an explicit commitment to ESD by developing implementation strategies and policies. These frameworks are guiding the implementation of ESD in each country in formal, non-formal and informal education. They are underpinned by a common ethos, visions and missions aligned to the DESD. However, the approaches taken and the coordination processes developed vary from one country to another.

Key observations

- Underpinning the different ESD implementation frameworks and policies is the principle of Education for All. ESD is viewed as an opportunity to give everyone access to quality and relevant education regardless of their social and economic status, gender or religion. Indonesia is a good example of education based on the principles of equity and quality.
- National ESD frameworks are underpinned by a commitment to social change through the creation of processes, which enhance collaboration and dialogue among key stakeholders and the development of action-oriented strategies.
- The different frameworks have been developed through stakeholder participation and citizen consultation. Many of these frameworks use multi-stakeholder engagement approaches as part of their implementation processes.
- Although the countries share common visions of ESD, the learning approaches adopted differ. For example, the Netherlands uses a unique approach based on social and lifelong learning processes. It promotes social learning among ESD stakeholders, civil servants, project leaders and so on, through the emergence of ‘arrangements’ or ‘vital coalitions’. In Chile, the ESD framework is implemented through national and regional action plans. The latter have been developed through the participation of stakeholders from communities and municipalities, and they emphasize the need for capacity-building processes and training on ESD issues.

- Although the underlying goal of all frameworks is to provide skills and capacities for citizens and communities to contribute to the achievement of sustainable development, none of the strategies address the different pillars of sustainable development in an integrated way. For example, Oman is more focused on creating a sustainable economic sector; Kenya is centered on overcoming health and social justice issues through education; while Indonesia is focused on enhancing democratic learning processes. Although ESD is context-based and needs to help communities face specific sustainable development challenges based on their local realities, ESD strategic frameworks still lean towards one or two sustainable development pillars.
- The development of ESD strategies has been mostly led by ministries (or government departments) of education and/or the environment. However, diverse coordination processes have been adopted. For example, in Kenya the implementation of ESD is carried out by a National Steering Committee consisting of representatives from all sectors of society. Kenya has also created regional committees to address specific issues and appoint regional and provincial advisors and coordinators. In the Netherlands, the development of the Learning for Sustainable Development programme is a cooperative venture between six different ministries, the association of provincial authorities, and the association of water boards. All the activities carried out are underpinned by social learning processes.
- Although the national frameworks have often been developed through an inter-ministerial approach, for most of the countries the reality is that cooperation between ministries needs to be improved.
- Some coordination mechanisms do exist to connect the different strategies and policies developed but, in most cases, there is a lack of common vision and creation of synergies. The Netherlands is an example of good practice in this context. It has coordination mechanisms to create connections between the Learning for Sustainable Development and the National Environmental Education programmes.

Making ESD happen: implementation and initiatives

Social change is at the heart of the ESD initiatives highlighted in the different national reviews described in this publication. These initiatives engage and empower social groups and communities, such as children, youth, marginalized groups, media professionals, migrant women, indigenous people, artisans, and so on, in meaningful educational processes. Although many of the initiatives are still undertaken in formal education settings (schools and higher education institutions), an emerging number of creative and innovative projects from civil society organizations and the

business sector are enhancing the contributions made by non-formal and informal education towards ESD.

Key observations

- A great number of initiatives are organized in primary and secondary education. Many national experiences highlight national ‘eco/green-schools’ programmes (see Kenya and Indonesia) and ‘environmental schools certification systems’ (in Chile), which are usually focused on environmental issues. Oman and Indonesia also highlight the role of UNESCO Associated Schools in providing opportunities to embed ESD in these education levels.
- In primary and secondary education, many countries highlight different thematic projects and initiatives, which are organized by civil society organizations and, in some cases, the business sector. These initiatives are particularly relevant in involving the school and the local community in common projects. Participatory approaches are the basis for the different activities.
- In higher education, several efforts have been made to embed ESD in specific courses and to provide modules on sustainability issues. However, the integration processes are still underpinned by piecemeal approaches. Higher education institutions are far from re-orienting themselves toward sustainability. Learning organizations and whole institutional approaches are needed to ensure that sustainability is at the core of activities at university levels.
- In Kenya, Chile, the Netherlands and Indonesia, networks formed by various universities in each country have proved to be powerful in accelerating the process and quality of embedding sustainable development in the curriculum, management and operations of higher education institutions.
- Few initiatives are directed at early childhood education. A good example is Kenya where environmental education is integrated in the early years curriculum by using a thematic approach.
- Non-formal education initiatives tend to be organized by civil society organizations and NGOs. These initiatives vary depending on the country. For example, in Chile and Indonesia there is a focus on community learning. Connections between the community, the school and the business sector, among others, are created. Some interesting initiatives are also facilitated by the government. For example, in the Netherlands, activities are directed at provincial and local government organizations, and are focused on developing sustainability competences among civil servants and project leaders.

- Although the role of the business sector and indigenous communities in providing non-formal learning opportunities is not always acknowledged, the documented case studies showcase a corporate social responsibility initiative (see the Netherlands) and use of traditional knowledge (see Kenya and Indonesia) in enhancing ESD learning processes.
- Kenya, the Netherlands and Indonesia highlight the role of RCEs in engaging stakeholders from different backgrounds in meaningful learning processes.
- Informal education initiatives have not been showcased in many national experiences. An exception is Indonesia where different workshops were organized to develop skills for media professionals and journalists on sustainable development communication. In Kenya, the media has been instrumental in creating awareness on ESD using a Media Training Kit.
- A key challenge is to create synergies among the various initiatives taking place at the national level. It is also evident that the quality and pedagogical approaches of these activities need to be reviewed.

Reflecting on ESD quality: teaching and learning processes

The five selected country reviews focus mainly on the reorientation processes of formal curricula within existing educational systems. Little attention is given to non-formal and informal curricula, and the quality of processes taking place to embed ESD within the curriculum. Few national experiences have highlighted pedagogical approaches, which are contributing to embed ESD within the different educational sectors. One exception is the case of the Netherlands.

ESD is about challenging structures and educational systems to re-orient them towards sustainable development. No country has reflected on the role of education or the challenge of changing education itself.

Key observations

- The different national reviews highlight the efforts made in embedding ESD within the formal curricula. Although whole institutional approaches are promoted, the reality is that many of these efforts are still based on piecemeal approaches. In some countries educational systems are very rigid in integrating sustainable development issues and ESD approaches. In others, education is based on the principles of ‘freedom of education’ where educational institutions are free in their choice of educational content and their use of pedagogical approaches. In both types of systems, the implementation of ESD relies on the motivation and commitments of individuals and educational institutions to sustainability. In order to fully embed ESD within the education system, there is a need to challenge existing

structures and systems, and even change the education system itself. None of the country reviews reflect on this complex process.

- Some countries highlight systems thinking, creative thinking, innovation and the use of ICTs, participative and context-based learning as pedagogical approaches adopted by the initiatives presented. Few examples are given about how these pedagogies are used or developed in practice. Pedagogies related to cultural diversity and intercultural dialogue appear almost absent from the case studies reviewed.

Facilitating ESD implementation: capacity, resources, innovation and research

The national experiences chosen from across UNESCO regions and documented in this publication suggest that capacity-building initiatives, pedagogical resources, and support for innovation and research are lacking. The country reviews see these elements as interlinked, for example, the lack of capacity-building of educators and curriculum developers leads to a lack of research activities, which in turn hampers the development of quality pedagogical resources.

Key observations

- It is acknowledged that there is a need for more capacity-building in order to provide the tools and competences to teachers, educators and curriculum developers to embed ESD in their daily tasks. In some countries, capacity-building processes are viewed as a necessity in order to ensure the establishment of a ‘community of ESD experts’ who can guide the implementation of ESD in the different educational sectors.
- Various countries have developed ESD pedagogical resources, but these are mostly focused on the needs for formal educators with few materials being made available to non-formal and informal educators, facilitators and researchers.
- This publication documents how Kenya offers student scholarships to undertake Masters or other postgraduate courses in sustainable development. However, there is a general lack of support and funding structures for ESD research.

Enhancing cooperation, quality and relevance: partnerships for ESD

The creation of partnerships, especially within the business sector, is viewed as a crucial component to advance the sustainability agenda. However, there is a lack of evidence of genuine or formal partnerships being established for ESD in the countries selected.

Key observations

- The national reviews highlight the role of national, regional and international networks and conferences in advancing the sustainability agenda. They also showcase the different initiatives which are coordinated together with international organizations, for example, UN agencies. Chile showcases the coordination processes taking place among ministries and stakeholders implementing the ESD National Implementation Strategy.
- Although little information is given on understanding the cooperation mechanisms of partnerships, the Kenyan case highlights the creation of partnerships with international universities and RCEs.

Reviewing progress and change: monitoring and evaluation mechanisms

Kenya and the Netherlands are the only countries with monitoring and evaluation systems in place to review progress and change resulting from the implementation of ESD. However, both countries express the need to improve the evaluation mechanisms and tools. ESD monitoring and evaluation is a new and complex area, which needs to be further developed in order to assess the learning processes and outcomes of ESD initiatives.

Key observations

- The monitoring and evaluation experiences reported by Kenya and the Netherlands lack details in terms of the design of indicators or the evaluation process itself. In Kenya, the ESD implementation strategy includes different types of indicators and the development of a monitoring and evaluation tool. Evidence suggests that there is a lack of awareness and clear understanding on the use of this tool by the different stakeholders. In the Netherlands, there are annual evaluations of the Learning for Sustainable Development programme. The evaluation processes tend to focus only on quantifiable and measurable outcomes of the programme, often neglecting the instances of changes that have resulted from this work.



Lessons Learnt

This section outlines lessons learnt from the national reviews and the implementation of ESD at the national level. Mechanisms on advancing the ESD agenda at country levels, as well as inspiration, can be drawn from national experiences highlighted in this publication. However, stakeholders seeking to embed ESD will need to take into account their specific national needs and sustainable development challenges.

Framing and coordinating ESD: policies and strategies

1. *Embed ESD strategies and frameworks in national and government decision-making:* ensure that strategic policies outline the commitment of governments and key stakeholders to embed ESD across all educational sectors. National ESD policies should be developed through multi-stakeholder participation and citizen consultation processes.
2. *Develop coordination mechanisms for ESD implementation involving a wide range of stakeholders:* in order to ensure that ESD is implemented across all sectors, appoint national and regional coordinators as well as form national teams constituted by key stakeholders from all sectors of society (government, education sector, business sector, civil society organizations, NGOs, faith groups, major cultural groups, and so on).
3. *Promote coordination and vision-building across government departments and ministries:* embed ESD within government activities to ensure that the diverse programmes and initiatives in place are coordinated within a common vision and mission of sustainable development. In this context, create participatory spaces for ministries where coordination, vision-building and dialogues can take place.

Making ESD happen: implementation and initiatives

4. *Encourage the mapping of needs and actions in support of non-formal and informal learning opportunities for sustainable development:* the DESD emphasizes the role of learning – as opposed to teaching – in creating opportunities for people to engage in sustainable development. Learning engages the entire spectrum of social sectors, as not only does it include what happens in the education system but it also extends into daily and professional life. In this context, it is important to support learning processes in both non-formal and informal settings.
5. *Encourage the development of action plans that emphasize the role of the business sector, indigenous communities and the media in providing ESD learning opportunities:* non-formal and informal learning opportunities are usually provided by civil society organizations. It is important to involve the

business sector, indigenous communities and the media in ESD whose voices and aspirations are critical if we are to move towards a sustainable future.

6. *Build synergies among ESD initiatives and programmes to promote a shared vision of sustainable development:* there are a great number of initiatives that tackle sustainable development issues organized by different stakeholders at the country level. There is a need for creating connections and synergies among these initiatives under an ESD umbrella, which sets common visions and goals for attaining sustainable development.
7. *Develop plans to review the quality and appropriateness of ESD activities:* it is important to review the quality of the different ESD initiatives to ensure that sustainable development issues are appropriately tackled and that effective use is made of ESD pedagogies.

ESD quality teaching and learning processes

8. *Encourage national plans and actions to clearly identify pedagogical approaches that support ESD, and encourage and promote these across activities:* although it is important that educational interventions include knowledge and content with respect to sustainable development, it is more important that learning processes are underpinned by didactical approaches aligned to ESD perspectives. There is a need to identify pedagogical approaches such as systems thinking, critical and creative thinking, participation, futures thinking, use of cultural diversity and intercultural dialogue approaches in ESD action plans.
9. *Encourage whole-of-institution initiatives, social learning approaches and the development of learning organizations:* initiatives involving the integration of ESD in educational institutions tend to focus on embedding sustainable development content within the curriculum and are often taking place through piecemeal approaches. There is a need to embed sustainable development in all core activities of educational organizations through whole institutional approaches and learning organization perspectives.

Facilitating ESD implementation: capacity, resources, innovation and research

10. *Clearly identify capacity-building needs and address these through specific activities:* there is a need to help capacity-building processes for pre-service and in-service teachers and educators, curriculum developers, civil servants, researchers, and so on, to embed ESD in their daily tasks and to enable the emergence of 'communities of ESD experts'. There is a need for identifying specific needs and actions to ensure that capacity-building is offered to stakeholders.

11. *Ensure that ESD pedagogical resources are available to educators and learners:* it is important to make sure that pedagogical resources are developed for all education sectors (formal, non-formal and informal). However, it is more important to review the quality and appropriateness of these materials and to ensure that they are available to all stakeholders.
12. *Create specific funding and structure mechanisms to support ESD innovation and research activities:* innovation and research are crucial if we are to review current ESD practices and offer new, creative and original perspectives on how to get closer to sustainability. Scholarships, fellowships and specific research funding for ESD should be offered by governments in order to support innovative research studies.

Enhancing cooperation, quality and relevance: partnerships for ESD

13. *Identify needs and actions to support partnerships for ESD:* there is a need to move from cooperation mechanisms to the creation of true long-term multi-sectoral partnerships between governments, sectors of education and business, NGOs, cultural groups, and so on. Partnerships can help to create synergies, build shared visions, share resources and build capacities among participants.

Reviewing progress and change: monitoring and evaluation mechanisms

14. *Develop multi-stakeholder monitoring and participatory evaluation systems:* there is a need to design and execute evaluation mechanisms in order to create awareness and ownership through a multi-stakeholder participatory approach. This means that ESD indicators need to be designed through participative approaches; data collection also needs to involve key stakeholders to ensure that information is not biased towards a specific area, and evaluation results need to be shared and discussed in order to create common visions and future actions.
15. *Create monitoring and evaluation processes that can assess the quality of ESD learning processes and experiences not just outputs:* although quantitative approaches may be relevant in specific cases, it is important that evaluation processes focus on assessing learning and pedagogical approaches of programmes and initiatives. This means that evaluation tools and data collection methods will need to be designed in order to capture the ‘quality’ of ESD initiatives.



Looking
Forward

The national reviews described in this Report reflect the complexity and challenges countries are facing in embedding sustainable development across different sectors. At the heart of the ESD initiatives showcased are multi-stakeholder processes and collaborative partnerships, which seek social change for a more sustainable future. Ensuring an inclusive approach to ESD is vital, but so is the need to build synergies among policies and activities to construct a shared vision of sustainable development. These dimensions are highlighted in the documented case studies.

Many existing ESD documents focus on thematic areas of sustainable development issues, which are of great relevance to UNESCO's Member States. Recognizing the importance of learning processes and pedagogical approaches that underpin ESD initiatives, this publication seeks to make them visible in the country reports. Monitoring and evaluation mechanisms based on multi-stakeholder participation and focused on assessing the quality and learning processes of ESD programmes and projects also need attention as do mechanisms that build capacity among educational professionals in ESD. Action research will need to play a key role in supporting and creating meaningful learning opportunities for individuals, communities and societies so as to address sustainable development in their own contexts and also guide the development of critical and creative practices in this area.

The *first DESD Global Monitoring and Evaluation Report* released at the UNESCO World Conference on Education for Sustainable Development in Bonn in 2009 reflected on some of the challenges and ways forward indicated in this document. The report acknowledges that substantial progress was made regarding structural and policy changes in ESD across and within regions, but suggests that limited understanding of ESD processes and approaches is still a fundamental challenge (UNESCO, 2009b). The current global economic climate adds further complexity to this mix but it also heightens the need to combine social, economic and environmental interests to support more sustainable futures.

The impact of the DESD is yet to be ascertained. However, the case studies provide evidence that international cooperation and commitment, such as that underpinning the DESD, can lead to strategies and actions for a better world at the national level. In this context, the journeys towards ESD showcased in this publication offer an opportunity to reflect on how different Member States are engaging in ESD while inspiring those stakeholders seeking to embed ESD at the national level.



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National Journeys towards Education for Sustainable Development is a publication series which aims to document how societies use learning and education to address sustainability challenges. It gives concrete examples of Education for Sustainable Development (ESD) in practice in different sectors of society. Each issue summarizes findings and identifies lessons learnt that will support other countries on their own journey towards ESD.

The 2011 edition showcases national progress in ESD from each of the five UNESCO world regions including case studies from Chile, Indonesia, Kenya, the Netherlands and Oman. It demonstrates how these countries have introduced ESD according to environmental context, national history and national sustainability challenges. It is hoped that these examples can be a source of inspiration for other actors working in ESD.

