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Education for Sustainable Development Lens: A Policy and Practice Review Tool

Education for Sustainable Development in Action
Learning & Training Tools no. 2 – 2010
UNESCO Education Sector

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Note on the process

The UNESCO Secretariat for the UN Decade for Education for Sustainable Development (DESD) undertook the preparation of the *Education for Sustainable Development (ESD) Lens* to assist Member States and stakeholders in their efforts to re-orient existing education programmes, one of the four thrusts of ESD. Considering the broad scope of ESD, it has been decided to focus the *ESD Lens* on re-orienting formal education systems at school level.

The preparation of the *ESD Lens* has been a collective effort. Professor John Fein, RMIT University (Australia) undertook the challenging task of putting together the broader ideas and concepts in a structured manner into the first draft. The draft was then reviewed and commented on internally by the UNESCO *ESD Lens* Group and the DESD Reference Group. Dr Jenneth Parker, South Bank University (UK) worked on the second draft of the *ESD Lens* and Professor Heila Lotz-Sisitka, Rhodes University (South Africa) provided technical support to the DESD Secretariat in UNESCO Paris in editing and finalizing the draft of the *ESD Lens*. Santosh Khatri, former member of the DESD Secretariat, coordinated the process.

The draft *ESD Lens* was piloted in selected countries in three of the five UNESCO regions (Africa, Asia, Latin America and the Caribbean) to obtain regional and country-level perspectives. Findings from the pilot were used to revise the document – the current version of the *ESD Lens* is therefore informed by the issues raised at the country level and addresses the policy issues as intended.

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Introduction to the *ESD Lens*

Why this publication?

The *Bonn Declaration*[1] produced by delegates from more than 100 nations at the UNESCO World Conference on Education for Sustainable Development in 2009 states:

> *Despite unprecedented economic growth in the 20th century, persistent poverty and inequality still affect too many people, especially those that are most vulnerable. Conflicts continue to draw attention to the need for building a culture of peace. The global financial and economic crises highlights the risks of unsustainable economic development models and practices based on short-term gains. The food crisis and world hunger are an increasingly serious issue. Unsustainable production and consumption patterns are creating ecological impacts that compromise the options of current and future generations and the sustainability of life on Earth, as climate change is showing.*
>
> *A decade into the 21st century, the world faces substantial, complex and interlinked development and lifestyle challenges and problems. The challenges arise from values that have created unsustainable societies. The challenges are interlinked, and their resolution requires stronger political commitment and decisive action. We have the knowledge, technology and the skills available to turn the situation around. We now need to mobilise our potential to make use of all opportunities for improving action and change.*

The *Education for Sustainable Development (ESD) Lens* has been prepared to support UN Member States to respond to these challenges through implementation of the United Nations Decade of Education for Sustainable Development (DESD, 2005-2014). The *ESD Lens* supports the goals of the DESD, and encourages policy-makers and practitioners in Member States to initiate the process of *re-orienting education*, particularly the formal education system, towards sustainable development. The overall goal of the UN Decade of Education for Sustainable Development (DESD) is for countries to integrate the understandings, skills and values inherent in sustainable

1 Bonn Declaration (UNESCO, 2009). http://unesdoc.unesco.org/images/0018/001887/188799e.pdf.

development into all aspects of national education plans to encourage changes in lifestyles and behaviour that allow for a more sustainable and just society for all. This complements existing Education for All initiatives, and strengthens the objectives of the Millennium Development Goals. Education for Sustainable Development has the potential to improve the quality and relevance of education everywhere.

'The DESD calls on the Governments to consider the inclusion of measures to implement the Decade in their respective education systems and strategies and, where appropriate, into national development plans'.[2] This *ESD Lens* provides tools to start this process. It can be adapted to different educational contexts, and country-specific policy and practice needs. It is not prescriptive, but provides guidelines and starting points for reviewing education policy and practice using an ESD perspective. *ESD Lens Review Tools* are provided for planning, for building knowledge of ESD, for reviewing national policy and the aims of education, for reviewing quality learning outcomes, and for reviewing more specific and detailed aspects of the education system such as curriculum, learning materials, assessment and teacher education. The tool is flexible and can be used at different levels of the system. Some of the tools are more suited to policy-makers, while others can be used by teachers and principals in schools. Ideally they should all be used to ensure a more systemic re-orientation of the education system in a country, province, region or district. The pilot testing[3] of the *ESD Lens* showed that it helps to build synergy for understanding and implementing ESD at national level and at sub-regional levels.

The key question being addressed by the *ESD Lens* is:

> **How can education policies, curriculum and other support processes sufficiently integrate the principles of ESD to inform and strengthen the quality of learning experiences for sustainable development?**

Using the *ESD Lens* metaphor and tools

The *ESD Lens* Metaphor

An ESD 'Lens' metaphor is used in this document to guide an educational review process. It encourages 'looking again with new eyes' – in this case looking with 'Education for Sustainable Development' eyes. It helps to see things differently. There are many different kinds of lenses that guide different ways of looking and seeing. Think, for example, of the lenses in spectacles: they help focus, to see clearly, or to see things at a distance. The lens in a camera helps to 'capture the moment', while the lens of a microscope helps to capture detail. In this document, Education for

2 United Nations General Assembly Resolution A/RES/57/254. http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N02/556/12/PDF/N0255612.pdf?OpenElement.

3 The *ESD Lens* was pilot tested in three of the UNESCO regions – Africa, Asia and Latin America.

Sustainable Development is viewed as a 'lens' through which national policy can be reviewed. ESD can also be used as a lens for reviewing learning outcomes and for reviewing practice. Cultures shape how and what we see, and thus how an *ESD Lens* review will unfold.

In the same way that we always see different things in different places through different lenses, ESD will never be practised in exactly the same way in every country. There are many different factors that influence how ESD will be interpreted, and how countries can accommodate ESD. For example, existing philosophies and theories of learning will influence how ESD can be practised. Dominant patterns and factors that influence social change such as industrialization, urbanization, consumerism, livelihood options, available resources, and globalization will influence ESD priorities differently in different places. Local cultures and histories, and indigenous knowledge and its relation to global knowledge, will also influence ESD and how it is interpreted and practised. Language and its use in education systems is also a key influencing factor on ESD. There are many other factors that will influence how ESD will evolve in different contexts. It is suggested that a process is put in place to allow multi-stakeholder groups to develop a common understanding of what ESD means in their context. Using the *Review Questions* in the *ESD Lens*, particularly *ESD Lens Review Tool 2*, can provide a good starting point.

The *ESD Lens:* A quick overview of the contents

The *ESD Lens* is focused on providing tools for reviewing educational policy and practice towards sustainable development (SD). It addresses the following educational content areas:

- Understanding sustainable development and implications for education
- National development policies and their relationship with educational policy
- Re-examination of the aims of education and associated implications for policy review
- How ESD can contribute to quality learning outcomes
- How ESD can support improved quality of teaching and learning
- How ESD can be actualised and improved in practice including in curriculum planning, teaching methods, teaching and learning materials, assessment practice, teacher education practice, and school management.

To encourage participatory engagement and contextualisation of the *ESD Lens* contents, a set of *Review Questions* is used to structure the *ESD Lens* review process. These are linked to *Review Tools*, and orientations and suggestions for using the tools and opportunities for decision-making and action planning are provided and encouraged. The contents are designed to encourage multi-stakeholder participation in the review process, and also to allow for participation in reviewing education at different levels of the education system (e.g. national policy level, and at school and classroom practice level).

The review questions and tools are designed to help identify areas of strength and strategies for extending and scaling-up good practice, as well as to identify gaps in ESD policy and practice, and areas for potential improvement. Using each *ESD Lens Review Tool* should indicate what needs to be done to improve education through ESD. The *ESD Lens* suggests action planning that can inform strategic planning, and ongoing monitoring and evaluation. An ESD Action Plan is provided at the end of the document to capture some of the action planning decisions arising from the *ESD Lens* review process.

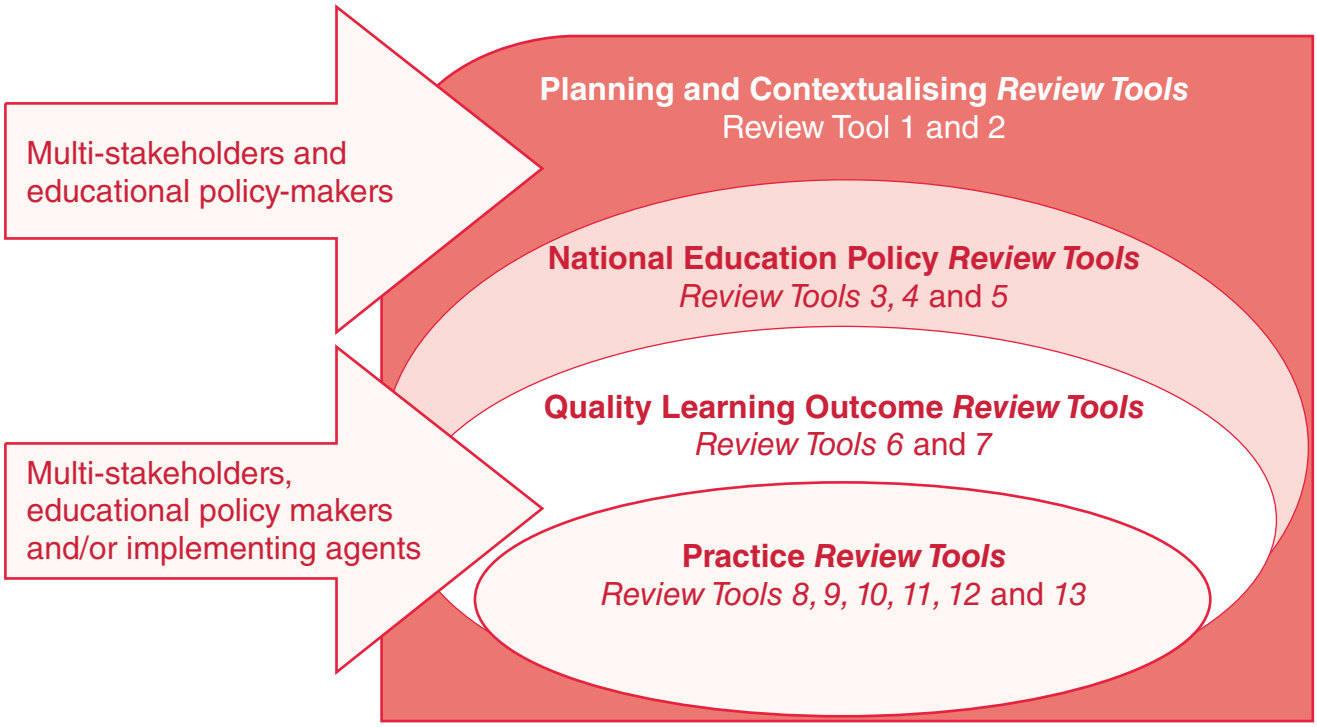
The *ESD Lens Review Tools*

The *ESD Lens* contains different kinds of *Review Tools* (see Diagram 1), that can be used by different stakeholders in the educational planning and implementation process.

- Planning and Contextualising *Review Tools:* There are two Review Tools that help with planning and building mutual understanding and contextualisation of ESD (*ESD Lens Review Tools 1* and *2*). These orienting tools are useful for multi-sectoral groups that wish to work together to build coherence in ESD implementation at a national or local level.
- *Policy Review Tools:* There are three Review Tools that help with re-orienting the purpose and aims of education as reflected in national education and development policies (*ESD Lens Review Tools 3, 4,* and *5*). These are likely to be most useful for curriculum planners and educational policy-makers, or national ESD co-ordinating structures.
- Quality Learning Outcome *Review Tools:* There are two Review Tools that focus specifically on the review of quality learning outcomes (*ESD Lens Review Tools 6* and *7*). These are likely to be most useful for curriculum planners, educational policy-makers, and educational practitioners working at different levels of the education system. They are, however, also very useful for teachers in schools, school managers, curriculum advisors, textbook writers and teacher educators.
- Practice *Review Tools:* There are six Review Tools that focus on different aspects of educational practice, including teaching and learning strategies and methods, curriculum development, assessment of learning, learning materials, sustainable schools, and teacher education (*ESD Lens Review Tools 8, 9, 10, 11, 12* and *13*). These are useful for national policy-makers, but are most useful for teachers, school managers, teacher educators, textbook writers, curriculum advisors and other ESD stakeholders (e.g. NGOs, universities etc.).

NOTE: *ESD Lens Review Tools 2* and *6* are most useful for developing a good understanding of what ESD might mean in a particular context. They help to develop a common understanding of ESD at national and/or local level. All users of the *ESD Lens* are therefore advised to use these two *ESD Lens Review Tools* before using the others.

Diagram 1: Different *Review Tools* and their relationship with suggested broad participation framework for the review processes



Potential users of the *ESD Lens* document

The potential users and beneficiaries of the *ESD Lens* are organizations and individual practitioners involved in the re-orientation of education towards sustainable development. They include:

- Departments and Ministries of Education and their educational institutions (e.g. schools, colleges and universities); as well as other line ministries and departments that have a responsibility for the sustainable development of society (e.g. Ministry of Industry, Ministry of Agriculture, Ministry of Culture; Ministry of Environment; etc.);
- Education for Sustainable Development multi-stakeholder forums or committees (in many countries National ESD coordinating structures have been formed);
- UNESCO and other UN agencies providing advisory services and support to Member States;
- Advisors of international organizations and development agencies as well as other development partners, including those that are working with government on national policies; and
- Principals, teachers, parents, students and other members of school communities.

Perceived benefits of the *ESD Lens*

In the pilot testing process, several benefits of the *ESD Lens* were identified, not only for ESD progress but also for national development and the education system in general. Four of these benefits emerged regularly throughout consultations:

- Promoting discussion on ESD: Discussions that ensue as a result of the *ESD Lens* can help promote understanding and momentum for ESD. For example, the metaphor of the 'lens' promotes discussion about ESD across ministerial departments which could benefit, especially curriculum development and teacher education (both pre-service and in-service). The *ESD Lens* also sparks discussion on the ESD concept among educators, including relevant teaching and learning methods, and gaps in knowledge and implementation.
- Bringing together stakeholders from across sectors: The *ESD Lens* has the potential to promote a more holistic picture of the national education system, linking macro- and micro-levels; it brings together stakeholders from across sectors (e.g. relevant line ministries, educators and development partners) to collaborate on ESD and identify education challenges and strategies for moving forward.
- Assisting the review of national plans from the perspective of sustainable development: The *ESD Lens* can assist the review of national development plans, building on strategies for poverty reduction and more sustainable consumption, and encourage discussion on a holistic approach to sustainable development, including an emphasis on the value and role of culture and the need for environmental protection. The *ESD Lens* can also support the review of national education plans and strategies (and relevant policies from across sectors) in an effort to mainstream learning for sustainable development into all sectors.
- Providing a framework for ESD integration, learning and achievement: The *ESD Lens* offers a framework of ideas to guide learning for sustainable development and, depending on implementation, it can be used as a parameter to assess the level of achievement of ESD (i.e. as a basis for developing monitoring and evaluation tools). The *ESD Lens* acts as a lever for integrating relevant issues such as climate change into formal, non-formal and informal learning; and it encourages discussion to promote more individual and collective action, while also focussing on improving the quality and relevance of education.

Module 1

Planning and preparing the *ESD Lens* review

Plan for an *ESD Lens* review process and build a common understanding of ESD in context

Planning the *ESD Lens* review

Scenarios for using the *ESD Lens*

The *ESD Lens* can be used in different ways (see Diagram 2). It can be used for vision-building, and here it may be helpful to use the Review Questions with *ESD Lens Review Tools 2* and *6* only.

It can be used for detailed review and action planning, in which case more of the Review Questions *and* the other *ESD Lens Review Tools* will be useful, with emphasis on working towards an action plan, as shown in Diagram 2 below.

Different Purposes for the *ESD Lens*	
Phase 1	Phase 2
Awareness/consensus-building for SD and ESD concepts	Reviewing and planning
Purpose(s): - To promote discussion on SD and ESD; - To build understanding of the underlying concepts of SD and ESD in the national context; - To increase familiarity with ESD-related content and pedagogy in the national and local context.	Purpose(s): - To establish a vision for ESD; - To identify ongoing programmes and resources; - To identify capacity gaps and needs; - To formulate a plan of action (the way forward) at the national, institutional or individual level.
Lens use: As promoting discussion will be most important for this phase, discuss the review questions without the *ESD Lens* Review Tools. Instead, use cards, flip charts or discussion prompts to build consensus on key concepts. *ESD Lens Review Tools 2* and *6* can be used for vision-building.	Lens use: As more structured discussion will be needed for reviewing and planning, utilize the *ESD Lens Review Tools* to help establish direction, review ongoing initiatives, identify gaps and clarify steps for moving forward. Identify who should be involved in the different *ESD Lens* reviews before starting out.

Vision for Sustainable Development

Diagram 2: Different purposes for using the *ESD Lens*

- Policy: The *ESD Lens* can be used to encourage collaboration on sustainable development and ESD across ministries through both a national ESD coordinating body and informal discussions. It can also help to revise national educational policy.
- Curriculum development: The *ESD Lens* can be used to promote discussion and raise awareness of ESD amongst academics, curriculum developers and textbook writers to consider ESD as an important contributor to educational quality and relevance. The *Lens* can also inform, and help to shape the development of, learning materials for ESD and pedagogical guidelines for integrating ESD into the existing teaching and learning.
- Higher Education/Research: The *ESD Lens* can also guide higher education and research institutions to identify priority topics and issues for ESD which can inform research agendas and stimulate educational innovation. Involving Higher Education in the *ESD Lens* review process can help to identify research needs and gaps, encouraging higher education institutions to engage with the inter-linkages between culture, environment, society and economy in education.
- Teacher education (in-service): Workshops can be conducted with teachers and principals to participate in ESD reviews at school level. There are a number of *ESD Lens Review Tools* that stimulate practice level review. The *ESD Lens Review Questions* and *Tools* can be used in teacher education programmes to assist teachers to reflect on existing practice with a view to introducing change.
- Teacher education (pre-service): Teacher education institutions can contextualize the *ESD Lens* to meet the needs of future teachers in the national context. Lecturers and pre-service teachers can use the *ESD Lens* to analyze learning objectives for addressing sustainable development issues, to promote discussion and debate on innovative teaching approaches and materials.
- Schools: Schools can use the *ESD Lens* through an interactive forum to engage teachers, students, principals, parents, and community members in assessing and adapting the school environment, including pedagogy and materials, to promote learning for sustainable development through a whole school approach.
- Communities (the role of the ESD Lens in non-formal education): The *ESD Lens* can be used to guide community/school management so that sustainable schools can become centres of learning for the community. The *ESD Lens* also helps promote coherence between schools and their communities. Community processes for using the *ESD Lens* can be launched through a peer-to-peer education model among teachers, local organizations, local governments, colleagues in district offices and among youth and parents. The *ESD Lens* can also be adapted for use in adult education programmes.
- Learners: The *ESD Lens* can be used through a peer-to-peer education model among learners of all ages to help promote understanding of SD and initiate discussions on how to address local issues, particularly in the development of sustainable schools and healthy environments for learning.

A whole-system view and the integrated context of ESD

Education for Sustainable Development is relevant to everyone, at whatever stage of life they are and in any context. ESD is an integral part of lifelong learning, engaging all possible learning spaces - formal, non- formal and informal, from early childhood to adult life. The *ESD Lens* is based upon a whole-system approach to education, positioning ESD within national education systems, policies and programmes. A whole-system approach to ESD involves close integration of the aims of education with the broad span of social, economic, environmental and cultural policies for sustainable development. There is a range of different factors that shape how ESD is viewed and how it can be developed and practised in any context (see Diagram 3). Since all these factors influence ESD, this *ESD Lens* encourages active networking, linkages, exchange and interaction amongst stakeholders as part of a process approach to policy and practice.

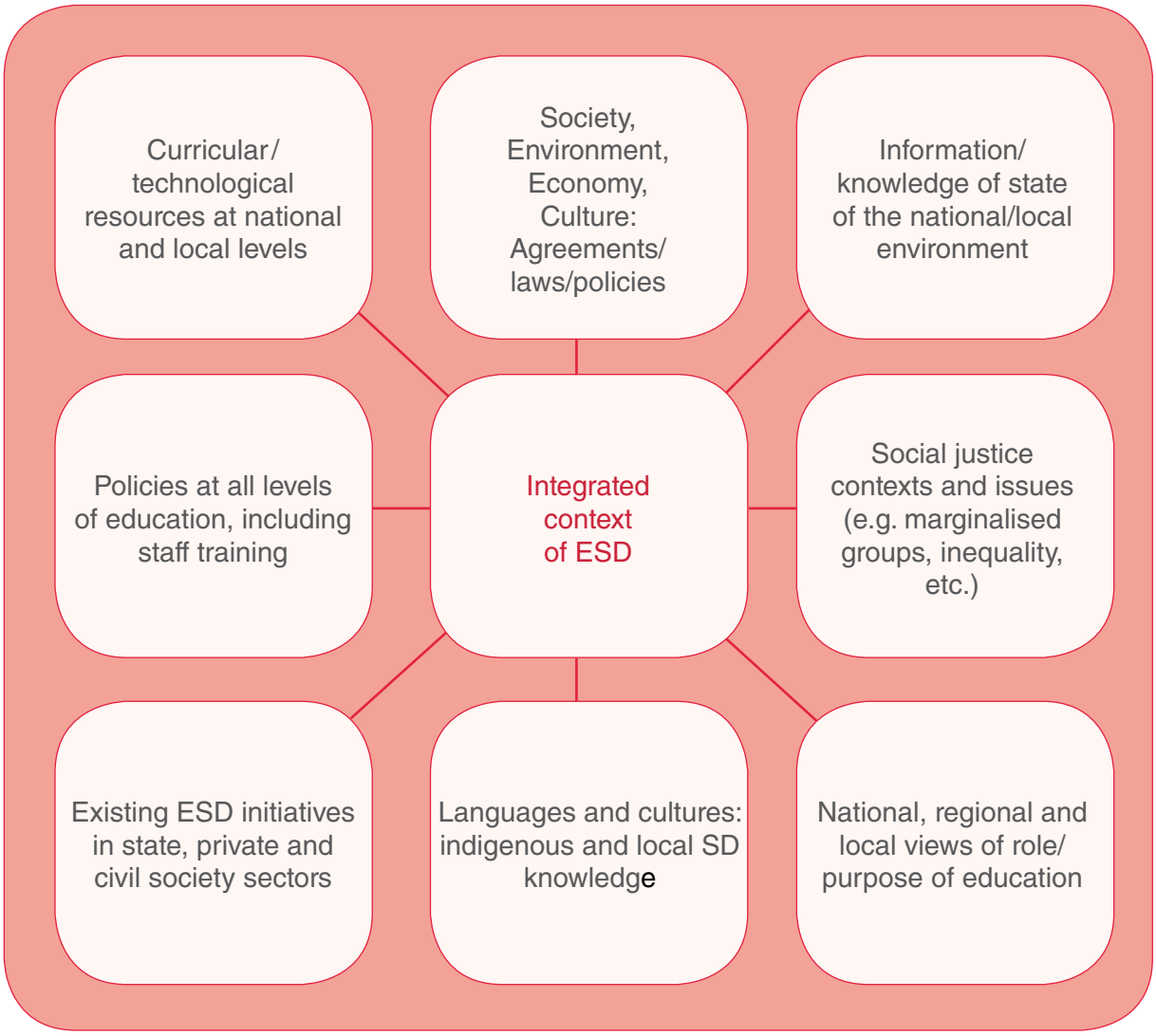
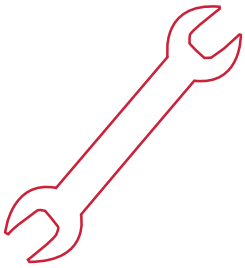


Diagram 3: The integrated context of ESD



ESD Lens Review Tool 1:
Planning to use the *ESD Lens*

This tool provides some pointers for thinking about planning for policy and practice review using the *ESD Lens*.

For use by: National policy-makers, lead organisation responsible for ESD; multi-stakeholder forum or national ESD co-ordinating Forum/Committee

Practical hint: The lead organisation (national ministry of education) should convene a small task team to get started with the *ESD Lens* Review.

Planning question	Response to planning question	What needs to be done by whom & when?
Contextualising the *ESD Lens*: Can the *ESD Lens* be used in this form or does it need adaptation to make it more contextually useful?		
Capacity for undertaking an *ESD Lens* Review: Can the *ESD Lens* review be integrated into existing programme and budget cycles?		
Levels of *ESD Lens* Review and process: Is an initial meeting necessary and possible? What levels of the system will be reviewed in the first instance? Which sections of the *ESD Lens* will be prioritized? What will follow? What time-frames are needed for the review?		
ESD Lens Review integration into existing systems: Is there an existing series of review meetings to which this *ESD Lens* review might be linked?		
Participation in the *ESD Lens* Review: Can the *ESD Lens* process be used to strengthen national debate and participation in ESD? Which stakeholders and networks should be involved?		
Sharing knowledge of *ESD Lens* Review processes and seeking support: Can you form a partnership with another country or is there a regional organization which could support the *ESD Lens* Review process? Are there examples elsewhere in the world which can be drawn on or adapted for your purposes?		
Research capacity: Is there research capacity to provide information and evaluation support for the ESD review? e.g. University and/or scientific organisation involvement?		

Planning question	Response to planning question	What needs to be done by whom & when?
Contribution to Monitoring and Evaluation Processes: Could the review contribute to country-based DESD monitoring reports, and could it be integrated into other reporting systems (e.g. Education for All reporting; National Sustainable Development Strategy Reporting, etc.)?		
Organisation: How should the *ESD Lens* Review process be organized (i.e. who is the lead agent, and how will other stakeholders be invited to participate?)		

Orientation to ESD

Sustainable Development

In order to outline the significance of ESD, it is necessary to briefly review some of the key elements in Sustainable Development. ESD is a learning process for and about sustainable development and in itself contributes to sustainable development.

The concept of sustainable development was defined in *Our Common Future*, the landmark report of the World Commission on Environment and Development (commonly known as the "Brundtland Report" of 1987), as "… development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[1] The ultimate goal of sustainable development is to improve the quality of life for all members of a community and, indeed, for all citizens of a nation and the world – while ensuring the integrity of the life-support systems upon which all life, human and non-human, depends.

The Earth Summit of 1992 led to the wide-scale adoption of Agenda 21, which produced agreements and conventions in many important areas and included a chapter on Education, Training and Public Awareness, emphasising the role of education in the re-orientation of society towards sustainability. Implementation of Agenda 21 has laid the foundations for progress in many areas, including ESD.

The follow-up World Summit on Sustainable Development held in Johannesburg in 2002 further emphasised that sustainable development involves the balanced integration of social and environmental objectives with economic development objectives. These three aspects of sustainable development – society, environment and economy – were reaffirmed at the summit as three interrelated pillars of sustainable development.[2] It

1 World Commission on Environment and Development (1987). *Our Common Future*, Oxford University Press, Oxford.
2 United Nations (2002). *Johannesburg Declaration on Sustainable Development*.
Available at http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm.

also recognised culture as an important underlying dimension as the values, diversity, knowledge, languages, histories and worldviews associated with culture strongly influence the way issues of sustainable development are perceived and decided. Culture also affects and influences the way that ESD is practised.

There is sometimes confusion about the meanings of "sustainable development" and "sustainability" and the relationship between them. A report on Education for Sustainable Development by the New Zealand Parliamentary Commission for the Environment proposes the following explanation:

> *Sustainability is the goal of sustainable development – an unending quest to improve the quality of people's lives and surroundings, and to prosper without destroying the life-supporting systems on which current and future generations of humans depend. Like other important concepts, such as equity and justice, sustainability can be thought of as both a destination and a journey.*[3]

The following principles have been suggested by UNESCO as *sample* concepts of sustainable development.[4] These are important concepts to include in education systems that are oriented towards sustainable development.

Table 1: Sample concepts of sustainable development

Interdependence: People are an inseparable part of the environment. We are part of a system that connects individuals, their culture, their social and economic activities and their natural surroundings.

Diversity: The Earth and all its inhabitants are characterized by great variety - biologically, culturally, linguistically, socially and economically. We need to understand the importance and value of each of these forms of diversity to the quality of human life and the health of ecosystems.

Human rights: Everyone has an inalienable human right to freedom of beliefs, speech, assembly and protection under the law, as well as to the conditions that enable them to act on these rights such as access to basic education, food, shelter, health and equal opportunity.

Global equity and justice: This principle is called "intra-generational equity" and emphasizes that the rights and needs of others are met so that a fair and abundant quality of life is provided for everyone around the world.

Rights of future generations: This principle is called "inter-generational equity". It emphasizes that the lifestyle choices we make today always affect the capacity of future generations to have the same range of choices we have.

Conservation: The natural world contains a range of renewable and finite resources that humans can develop to satisfy their needs. The lifestyle choices we make need to respect the long-term sustainability of these resources, and the need for conservation of nature for its intrinsic worth, not only its utilitarian value.

3 Parliamentary Commissioner for the Environment (2004). *See Change: Learning and Education for Sustainability*, New Zealand Government, Wellington p.14. Available at http://www.pce.parliament.nz/assets/Uploads/Reports/pdf/See_change_report.pdf.

4 The source of these sample concepts is UNESCO (2002). *Education for Sustainability, From Rio to Johannesburg: Lessons Learnt from a Decade of Commitment*. Report presented at the World Summit for Sustainable Development, UNESCO, Paris.

Economic vitality: Economic growth depends upon a dynamic state of economic vitality in which everyone has the opportunity and skills to access the resources required for a satisfying quality of life, within a framework of sustainable development.

Values and lifestyle choices: Values that reflect concern for human well-being, economic vitality and the quality of the environment are required to ensure that we make lifestyle choices that contribute to a sustainable future for everyone.

Democracy and civic participation: People are more inclined to care for others and the environment when they have the right, the motivation and the skills to participate in the decisions that affect their lives.

Precautionary principle: Sustainable development issues are complex, and scientific advice on an issue is often incomplete or divided. In situations of such uncertainty, there is a need to act judiciously and with an awareness of potential unintended consequences.

Sustainable development is strongly linked with the Millennium Development Goals. It is increasingly recognized that there is a strong relationship between human well-being, and the health of ecosystems. The Millennium Development Goal focusing on environmental sustainability is still not being met, and societies are faced with the double challenge of climate change impacts and loss of ecosystems and ecosystem services. These challenges are more acute in countries affected by poverty, HIV and AIDS, and other problems such as malaria, maternal health risks, gender discrimination and poor quality education. The mounting evidence of serious global climate change has highlighted the need for sustainable forms of energy, and has raised other issues such as the relationship between biodiversity loss, climate, overconsumption, food security, water scarcity, health and human well-being. The need for joined-up thinking and integrated approaches to dealing with sustainable development challenges has never been greater.

Although sustainability has been embraced as a desired goal in international fora, environment and development relationships are still seen very differently around the world. One aspect of environmentalism involves conservation, emphasising those aspects of living systems on which human beings depend as well as aspects that ought to be conserved for their intrinsic value. The industrial revolution introduced a model of growth and development that has led to mass exploitation of resources, and degradation of life-support systems, making conservation goals ever-more critical. At the same time, human development pressures and social justice perspectives demand change to improve the lives of the poor and marginalized, and reduction in consumption by the rich. Reconciling over-consumption with equitable sharing of resources, and reconciling provision of basic human development needs for all people on an equitable basis with conservation, environmental protection and waste management goals are some of the key tensions of sustainable development. These tensions play out in different ways across the world. Some societies are faced with the challenge of providing for basic needs, while other societies are faced with the problems of over-consumption and excessive waste production. In some countries, both problems exist side by side. These challenges are centred on issues of equity, fairness, social justice and environmental protection at local, national and global levels.

All require a re-orientation of economic thinking and practice, and cultural change. They also require a re-orientation of education, which Education for Sustainable Development aims to provide.

Education for Sustainable Development

To live "sustainably" means finding ways of developing which will improve everyone's quality of life without damaging the environment and without storing up problems for future generations or transferring them to people in other parts of the world. It requires an understanding that inaction has consequences and that we must find ways to innovate and change at all levels within society.

The role of Education for Sustainable Development is to integrate these concepts and abilities into education, training and public awareness systems at all levels and in all sectors of society.

The role of education in society

Education plays a major role in supporting national development goals, and meeting the needs and aspirations of a society. The Report of the UNESCO Commission on Education in the Twenty-first Century *Learning: The Treasure Within*,[5] (Delors Report, 1996) argued that the aims of education need to balance and integrate several tensions:

- The tension between the global and the local: Education should help young people become world citizens as well as play an active part in the life of their own country and community.
- The tension between the universal and the individual: Education should help young people learn how to critically assess and balance the risks and promises of globalization as well as choose their own future and achieve their full potential within their own cultures.
- The tension between tradition and modernity: Education should help young people appreciate and value history and cultural traditions, balancing these with the ethical discernment and cooperative skills to appreciate where change and innovation are necessary and worthwhile.
- The tension between long-term and short-term considerations: Education should help young people learn how to balance short- and long-term goals, in the full realization that the solutions to many problems call for patience and a consideration of the needs of future generations.
- The tension between competition and cooperation: Education should help young people strive for excellence in all they do whilst balancing the principles of "competition, which provides incentives; co-operation, which gives strength; and solidarity, which unites".

5 Delors, J. (Chairman) (1996). *Learning: The Treasure Within*, Report to UNESCO of the International Commission on Education for the Twenty-first Century, UNESCO, Paris. The *Highlights* to the report are available on-line at http://www.unesco.org/delors/delors_e.pdf.

- The tension between the spiritual and the material: Education should help young people act in accordance with their spiritual and cultural traditions and values, and also to participate critically and sustainably in an increasingly materialistic and consumption-driven society, with respect for pluralism and concern for the well-being of others.
- The tension between the existing curriculum and important new areas of knowledge: The aims of education must balance the best of traditional curriculum content with important new areas of learning such as self-knowledge, ways to ensure physical, psychological and social well-being, and ways to improve understanding of the natural environment and of preserving it better.

Education needs to respond to and accommodate these tensions. Thus education needs to be central to personal, community, social, national and global development, enabling all people (learners) to reach their potential and to care for and be responsible for their lives, families, friends and neighbours (near and far). This involves developing abilities to engage in productive and sustainable employment, contribute to social, cultural and community well-being, minimize the impacts of their lifestyle choices upon the natural world and others, and engage with others as informed and active citizens in local, national and global contexts.

The Delors Report states that finding alternative pathways to social and economic development is "one of the major intellectual and political challenges" of the new century. It asks, "How [can] these great challenges not be a cause for concern in educational policy-making?" and argues that:

> *… it is essential that all people with a sense of responsibility turn their attention to both the aims and the means of education ... [to develop] ways in which educational policies can help to create a better world, by contributing to sustainable human development, mutual understanding among peoples and a renewal of practical democracy.*

Since the writing of the Delors Report, new tensions have emerged in society, particularly those related to equity, resource use and scarcity, consumption and pollution at local and global levels, and the tensions between unfettered economic growth and sustainable development. Sustainable development itself requires ongoing engagement between principles of ecological sustainability, economic viability and social acceptability. These new tensions are not well-captured in the Delors Report, but are dealt with in the context of the DESD and in the concepts and processes of ESD (see *ESD Lens Review Tool 6*).

Background to Education for Sustainable Development

Building on earlier international recommendations on environmental education following the first major conference on the human environment in Stockholm (1972), the Rio Earth Summit (UNCED, 1992) produced some important guidelines for the

role of education which are still relevant today. Chapter 36 of Agenda 21 (UNCED, 1992), which focuses on education, training and public awareness, was arrived at through a participatory process including a wide range of representatives from different organizations, including state, civil society and business. This led to a broad framework for the re-orientation of education, training *and* public awareness towards sustainability. The follow-up World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 led directly to the UN Decade of Education for Sustainable Development (DESD) as there was a need to strengthen the role of education, training and public awareness in sustainable development initiatives.

This *ESD Lens* is an initiative of the DESD. ESD reflects a close relationship to sustainable development, prioritizing knowledge, skills, values and action competence for integrating and balancing the 'pillars' of Sustainable Development: society, environment and economy, and culture (see also *ESD Lens Review Tool 2*). The educational emphases of each of these dimensions of ESD are:

- Society: an understanding of social institutions and their role in change and development, as well as the democratic and participatory systems which create opportunities for the expression of inclusion, rights and social justice concerns, respect, care, opinions, governance processes, the forging of consensus and the resolution of conflicts and differences.
- Environment: an understanding of, and respect and care for ecological systems and their life-giving support properties, their innate beauty and diversity, the limits of resource use and the fragility of these systems and their affects on, and contributions to human activity, well-being and decisions, with a commitment to factoring environmental concerns into social and economic policy development.
- Economy: skills to earn a living and maintain a sustainable economic system that supports the well-being of people and the environment, as well as a sensitivity to the limits, risks and potential of economic growth and its impact on society and on the environment, with a commitment to assess personal and societal levels of consumption out of concern for the environment and for social justice.

- Culture: an understanding of the values that influence and shape individual choices and societies, including the role of world faiths and philosophies; the ways in which relationships with others and the natural world are formed, changed and maintained, and the creative means that are used to express these values and relationships.

In each of these dimensions, ESD should involve developing an understanding of the close relationship between society, economy, environment and culture.

In accordance with the recommendations in Chapter 36 of Agenda 21, ESD is not only limited to formal education. There is a need to stress the wider social and public awareness dimensions of learning. The concept of social learning is being widely used today to explain the diversity of learning situations for sustainability in different

local and global settings. This also includes developing 'learning organizations' that can adapt and change to meet the challenge of sustainable development. Learning organizations and wider social learning for sustainable development processes can link up with formal education, providing opportunities for field and work experience through projects and can bring up-to-date input from the working community and wider society into schools and classrooms.

The *Bonn Declaration*,[6] produced at the UNESCO World Conference on Education for Sustainable Development, defines ESD as follows:

Education for Sustainable Development in the 21st century

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

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

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

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

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

Integrated elements of ESD

Sustainable development is not a fixed technical concept but is rather an ongoing development programme for the future of human existence on planet Earth, so Education for Sustainable Development is also a learning journey, open to ongoing improvement and new thinking. Sustainable development practices integrate knowledge, skills and values, and situate knowledge, skills and practices in particular social, cultural and historical contexts. Since sustainable development challenges are both local and global in nature, engaging in sustainable development practices helps to integrate local and global forms of knowledge, encourages learning from

6 *Bonn Declaration* (UNESCO, 2009). http://unesdoc.unesco.org/images/0018/001887/188799e.pdf.

others in other places and in other parts of the world, and fosters multi-cultural dialogue in the learning process while attending to local issues and solutions. While it is useful to 'separate out' knowledge of sustainable development from values and skills (for analytical and review purposes), it is even more useful to think about how these are integrated in the context of sustainable development practices and actions for change.

○ Knowledge of sustainable development

Sustainability requires knowledge from many disciplines. This multidisciplinarity and associated interdisciplinarity constitute a challenge to formal educational cultures that promote specialization from an early age. It highlights the need for systems thinking, which is also present in some traditional cultural forms of learning and in narrative and/or thematic learning. Sustainable development requires students to see the interrelated 'big picture' of global ecological, economic and social systems and to locate themselves within it. Of critical importance is the ability to understand the relationships that exist between environment, economy, society and culture. Sustainable development also requires connecting local and global forms of knowledge, and knowledge about the past and future, and new solutions to contemporary problems (see *ESD Lens Review Tool 2*).

○ Values supporting sustainable development

Education for Sustainable Development recognises that, amidst the great diversity of cultures and life forms, all people belong to one human family and one Earth community with a common destiny. Such a realization brings with it the responsibility to adopt an ethic of living sustainably, based upon principles of equity, respect for nature, universal human rights, economic justice, and the cultivation of peace and mutual understanding. One expression of such an ethic is the Earth Charter, the product of a decade-long, worldwide, cross-cultural dialogue on common goals and shared values. The Earth Charter (www.earthcharter.org) builds upon principles of peace, social justice, and international conservation and sustainable development law, and the outcomes and commitments of various UN meetings, to provide a broadly international set of values and attitudes for consideration and local adaptation in education settings. The Earth Charter was endorsed by the 2003 UNESCO General Conference as an important ethical framework to guide sustainable development. It presents a valuable teaching tool for ESD. The DESD explicitly recognises that a re-orientation of education requires giving attention to the values that are promoted in education systems (see *ESD Lens Review Tool 2*).

○ Thinking and decision-making skills that strengthen sustainable development

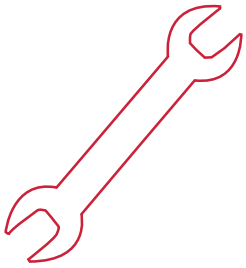
Students of today are the decision-makers of tomorrow. The questions and issues that students are likely to face in years to come will be different from those they face today. Thus, education systems should provide opportunities for developing thinking

and decision-making skills needed for ongoing adaptation to change and for pro-active change towards sustainability. In this way, students can learn how to investigate sustainable development issues, to think critically and creatively, and to form and defend opinions according to existing and new understandings of sustainable development principles, concepts and values. Students also need the skills to find creative solutions for complex problems related to sustainability, and to be aware of the future consequences of decisions and actions. This encompasses the skills needed to engage in informed and ethical decision-making. Some skills that have been identified as being important for sustainability are: investigation skills, skills to envision alternative futures; skills for planning and action taking and evaluation skills (see *ESD Lens Review Tool 2*).

Integrating knowledge, skills and values to promote informed citizenship

Sustainable development involves making changes in all communities and organizations, and more widely in global relations – this is why the topic of citizenship has become so important in ESD. The development of active and informed citizenship in peaceful, sustainable communities is an important outcome of education (see *ESD Lens Review Tool 6*). A key ingredient of success in citizenship education is to start from the questions, issues and problems that concern students, and to provide structured learning experiences that help them develop action competence through community-based projects and involvement in sustainable development practices that bring about change in schools and communities. Examples include improving social relationships in a community through peace-building activities or reducing ecological damage by restoration activities (there are many other examples).

In addition, the big picture of sustainability on a small and complex planet raises the need for an awareness of 'global citizenship' and the need for global cooperation and negotiation to address key global issues such as climate change. Action competence is one way to describe the capacity to envision alternatives, clarify the values and interests that underlie different visions, and make choices between visions. This includes developing the skills to plan, take action and evaluate actions needed for active and informed citizenship.



ESD Lens Review Tool 2:
Integrated elements of ESD

This *Review Tool* shows some of the integrated elements of ESD involving Knowledge, Values and Skills that might be relevant to the different dimensions of sustainable development: Society, Economy, Environment, and Culture. The value of this framework does not lie in the separation of these elements as shown in the table, but rather in how different aspects of these are integrated through sustainable development practices. Thinking through these elements separately, however, is important for developing a holistic view of ESD.

For use by: National and/or local stakeholders (multi-sectoral) interested in integrating ESD into policy and practice. This Review Tool helps to build a common understanding of ESD at national or local level. The tool has been developed to allow for contextualisation of ESD. The questions in the tool help to think through and identify priorities for ESD knowledge, skills and values in different contexts.

Practical hint: For ease of use, develop working groups focusing on each of the dimensions of sustainable development (society, environment, economy, culture), who then report back to the whole group and refine inputs together.

Dimensions of Sustainable Development	ESD Knowledge (indicative not comprehensive)	ESD Attitudes and Values (adapted from Earth Charter)	ESD Skills (relevant to all four dimensions of SD)
Society ○ Good governance ○ Social discrimination ○ Inclusion ○ Gender equity ○ Building communities ○ Health ○ HIV & AIDS and reproductive health ○ Human rights ○ Peace	Identify and prioritise knowledge areas relevant to society and sustainable development, e.g.: ○ How societies work and change ○ Diversity and inclusivity ○ Health and well-being ○ Conflict impacts, conflict resolution and peace building	Identify and prioritise social values needed for sustainable development e.g.: ○ Strengthening of the norms of democracy, transparency and accountability in governance ○ Non-discrimination, inclusion, equity and social justice ○ Participation in decision-making and access to justice	Identify and prioritise skills needed for sustainable development e.g. Literacy and communication skills ○ Using language and numbers (reading, writing, listening, speaking, acting, viewing, counting, measuring, etc.) as tools for learning and communicating (across subject areas) for sustainable development.

Dimensions of Sustainable Development	ESD Knowledge (indicative not comprehensive)	ESD Attitudes and Values (adapted from Earth Charter)	ESD Skills (relevant to all four dimensions of SD)
Discussion points ○ What other social issues are important for your context? ○ Which social issues need to be prioritised for sustainable development in your context?	○ Complex links between local and global society ○ Responsible and ethical forms of governance ○ Human rights and responsibilities How can these be developed through ESD?	○ Affirmation of gender and other forms of equity and inclusivity How can these be developed through ESD?	Critical literacy, relational thinking and analysis ○ Reading and viewing with insight and understanding. ○ Collecting and managing information for assessing and analyzing information through logic and critical reasoning.
Environment ○ Biodiversity ○ Climate change ○ Deforestation ○ Desertification ○ Energy ○ Natural resource conservation ○ Fresh water ○ Natural disasters ○ Pollution Discussion points ○ What other environmental issues are important for your context? ○ Which environmental issues are a priority for sustainable development in your context?	Identify and prioritize knowledge areas relevant to environment and sustainable development, e.g.: ○ Knowledge of environmental issues and sustainable alternatives ○ Knowledge of natural cycles (e.g. the carbon cycle) ○ Resilience and fragility of ecosystems (and ecosystem services) ○ Knowledge of health of ecosystems at local and global levels to inform decision-making ○ Effects of human development patterns on ecological systems ○ Prevention of damage to ecosystems and prevention of biodiversity loss, pollution and other risks ○ Knowledge of the relationship between environment, society, culture and economy and its impacts on ecosystems and ecosystem services How can these be developed through ESD?	Identify and prioritize environmental values needed for sustainable development e.g.: ○ Protection of ecological integrity and care for the community of life ○ Ethical actions needed to restore damaged ecosystems ○ Prevention of harm ○ Precautionary principle ○ Respect and care for life and the community of life (human and non-human) ○ Respect for future generations How can these be developed through ESD?	○ Relating experience and intuition to evidence and analysis and other sources of knowledge ○ Thinking creatively about questions, problems and alternative options ○ Thinking in terms of systems, relationships and cycles ○ Futures thinking Social Skills, Self-confidence and Empathy ○ Understanding of and appreciation for the self and the self in relation to others ○ Social and work habits such as responsibility and adaptability, entrepreneurship, management of change, and accountability. ○ Tolerance, teamwork, negotiation and leadership. ○ Abilities to assess and respect differing interests, and the creative and peaceful resolution of conflicts.

Dimensions of Sustainable Development	ESD Knowledge (indicative not comprehensive)	ESD Attitudes and Values (adapted from Earth Charter)	ESD Skills (relevant to all four dimensions of SD)
Economy ○ Overconsumption ○ Sustainable consumption ○ Poverty and equity ○ Rural development ○ Urbanization ○ Migration Discussion points ○ What other economic issues are important for your context? ○ Which economic issues are a priority for sustainable development in your context?	Identify and prioritize knowledge areas relevant to economy and sustainable development, e.g.: ○ Changes to dominant theories and practices of growth and development ○ Different economic models ○ Internalities and externalities ○ Economic injustice ○ Debates about the possibility of continued growth on a finite planet ○ Impacts of overconsumption ○ Impacts of poverty How can these be developed through ESD?	Identify and prioritize economic values needed for sustainable development e.g.: ○ Eradication of poverty as an ethical, social, and environmental imperative ○ More equitable distribution and sharing of wealth and resources ○ Safeguarding of the Earth's regenerative capacities, human rights and community well-being in production and consumption patterns How can these be developed through ESD?	Responsible use of technology ○ Skills to use technology in learning and sustainable development actions and solutions ○ Skills to make connections between responsible use of technology and the economy, society and the environment. ○ Skills to select and use appropriate and sustainable technologies ○ Skills to assess the impacts of different technologies in relation to sustainable development principles and practices ○ Skills to work within the limits of natural systems ○ Numeracy and scientific skills that foster new sustainable development technologies and assessments Discussion point ○ What other skills need to be developed to strengthen sustainable development?
Culture ○ Cultural heritage ○ Cultural values ○ Cultural preservation ○ Cultural renewal ○ Cultural critique ○ Indigenous knowledge ○ Religion and belief systems Discussion points ○ What other cultural issues are important for your context? ○ Which cultural issues and values are a priority for sustainable development in your context?	Identify and prioritise cultural knowledge areas relevant to sustainable development e.g. ○ Cultural issues, value systems, heritage, beliefs, etc. that exist and are valuable/needed for sustainable development ○ Links between local and global cultures for sustainable development ○ Cultural preservation and/or cultural critique needed for sustainable development How can these be developed through ESD?	Identify and prioritise cultural values needed for sustainable development e.g. ○ Respect for the Earth and life in all its diversity ○ Care for the community of life ○ Care for others and their well-being ○ Principles of equity and respect for others ○ Human dignity, bodily health, and spiritual well-being ○ Tolerance, non-violence, and peace How can these be developed through ESD?	

Integrating knowledge, skills and values of society, environment economy, and culture in sustainable development practices

How can all of the above be integrated in sustainable development practices for active and informed citizenship in ESD programmes?

- What local /national/global issues and sustainable development questions need to be investigated? What alternatives already exist, and how can these be practiced?
- What alternative practices and futures can be planned for, envisioned and practiced?
- What planning is needed to implement sustainable development practices?
- What monitoring and evaluation processes should be implemented to review the implementation of sustainable development practices and alternatives?

These questions provide a pedagogical process that helps to integrate the knowledge, skills and values of culture, society, environment and economy for sustainable development.

Identify some priority sustainable development practices and actions for your context

Module 2

Reviewing national policy using the *ESD Lens*

Undertake an integrated ESD national policy review

Module 2

National policy *Review Questions* and *Review Tools*

This section of the *ESD Lens* addresses the following national policy review questions:

- *Review Question:* What are the links between national development policies and ESD?
- *Review Question:* How does ESD influence the aims of education?
- *Review Question:* How does ESD influence national education policies?

These review questions are supported by the following *Review Tools*:

- *ESD Lens Review Tool 3:* ESD in national development policies
- *ESD Lens Review Tool 4:* ESD and the aims of education
- *ESD Lens Review Tool 5:* ESD in national education policies

This section of the *ESD Lens* aims to develop greater synergies between national development goals, the aims of education, and national educational policies. The *ESD Lens* review might show that in order for ESD to be fully integrated into society, there may be a need to integrate ESD principles into national development policies, or to change the current aims of education to include ESD principles, or it may be necessary to change aspects of national educational policy. It may be necessary to do all three to ensure that ESD is appropriately integrated into the national policy environment. The policy wheel diagram below (Diagram 4) shows the interlinked nature of the policy environment.

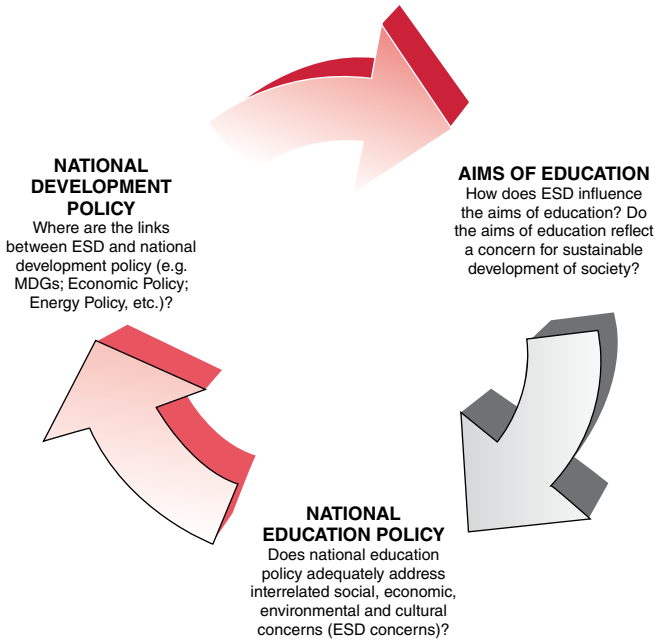


Diagram 4: The policy 'wheel'

Review Question:
What are the links between national development policy and Education for Sustainable Development?

Objective

To examine what ESD opportunities exist in national development policy and how these development policies view the role of education in a sustainable development perspective

Who should be involved in this review?

National education and development policy-makers; national development partners; education and development stakeholders

Orientation

In promoting the well-being of all the people in a country, development processes draw upon the resources or assets a country possesses. For example, most developing countries depend on natural resources for development options, whereas more developed countries tend to rely on infrastructure and knowledge-based resources for their livelihoods. Development policies are usually focused on those resources that are considered key for the future and consider the global marketplace as a conditioning factor. Development policies now increasingly include some considerations of sustainable development – but to very different degrees. The inclusion of ESD aspects in national development policies can help to provide the tools and perspectives needed for realizing sustainable development. Education and learning need to be seen as processes that can enhance both the design and implementation of policy. Education and learning also provide feedback on policy, thus helping to test and improve policy with informed stakeholders. Sustainable development requires joined-up policy across sectors that often treat policies separately. This means that SD presents organisational challenges, requiring people to co-operate across sectors and communicate across barriers. Writing ESD elements into policies that involve resource use, human development and environmental management can help to create linkages across different policy sectors.

Review process

Start by reading through *ESD Lens Review Tool 3*. Obtain copies of current national policies and strategies for the areas listed below, as relevant, and involve people who have a key interest and knowledge in these areas in the review process. In the review, ask participants to identify how national policies are/are not promoting the different interlinked dimensions of sustainable development and to identify the links between them (use *Review Tool 3*). Ask them to identify the role of education in the policies, and what ESD opportunities may exist.

Some policies that you may want to include in the review are:

- Economic Development
- Sustainable Development
- Poverty Reduction Strategy
- Health
- Culture
- Population
- Environment
- Community Development
- Education
- Employment and Training

Once the relevant policies have been identified, organise them into a policy hierarchy, and identify those that are most important to the goals of ESD. Regional and sub-regional policies can also be included in the review process. If there are too many policies, then deal with those that are most significant for ESD first, and review the others later, or in an ongoing process over a longer period of time.

Use the definition of ESD provided in the *Bonn Declaration* to guide your decision making (see the section on Education for Sustainable Development in the previous section); alternatively, use your action plan developed from *ESD Lens Review Tool 2*. Identify policy resources relevant for integrating ESD into development policies. Most important is the review of interlinkages.

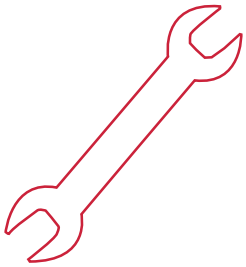
Different areas of the policy review task could be undertaken simultaneously by different groups with the relevant knowledge of specific policies. Put the reviews on flip charts and collate them on a wall. This will allow for feedback and will help to identify contradictions and tensions in policy, which are important spaces for new policy development or for policy changes. It will also be possible to identify which areas of policy are most powerful and which are relatively marginal in a national perspective. The national policy review can also be interrogated in terms of links to global developments and issues, to see whether national policy is responding adequately to issues such as climate change, biodiversity loss, poverty alleviation, international human rights, or food insecurity, for example.

Follow-up steps

- Review the results with a group of colleagues.
- If you are using a group process for review, then make time for responses to discuss the patterns, tensions and policy issues that arise.
- Make time to discuss the new opportunities for policy change and for ESD.
- Develop an agenda for taking forward some of the key outcomes and discussions.
- Discuss other policy forums where ESD issues can be raised.
- Discuss the possibility of forming networks, a list of experts/contacts, etc.
- Also consider looking into the possibility of commissioning a more in-depth policy review based on national sustainable development priorities for policy coherence.

Action planning

- Decide on two or three priority action points to take this review work further. Fill them in at the end of this *ESD Lens* document in the Section on *ESD Lens Action Plan*.



ESD Lens Review Tool 3: ESD in national development policies

This tool can be used to review national development policies to find out what is the role of education in relation to national development policy, and what opportunities there are for ESD development. Through a review of who is already allocating resources to the implementation of these policies, concrete opportunities for the integration of ESD into these policies might be possible.

For use by: National and/or local stakeholders (multi-sectoral) interested in integrating ESD into policy and practice.

Practical hint: There are many national development priorities, so select the most significant ones for ESD, and divide the task of policy review amongst working groups with expertise linked to the policies under review before comparing outcomes and deciding on action plans together.

Inter-linked dimensions of SD	Name of policy and/or strategic plan	The role of education	ESD opportunities	Resources
	In this column enter the names of all the policies, strategies, plans and stakeholders relevant to the different dimensions of SD	In this column, write down what the various policies/plans and/or key stakeholders say about the role that education is expected to play.	In this column note down any gaps and opportunities that appear on the basis of your analysis/ discussions	In this column, write down what resources are supporting these policy statements, and what else might be needed.
Society	e.g. Social Welfare and Care policy covering health, housing, social services, etc.	e.g. The role of education in social cohesion; citizenship; mediation of conflicts in society	e.g. Global citizenship aspects of migration, understanding refugee communities, etc.	

Inter-linked dimensions of SD	Name of policy and/or strategic plan	The role of education	ESD opportunities	Resources
Environment (Ecology)	e.g. National environment plan covering key goals for environmental protection, national parks, roles of key agencies, etc.	e.g. Educational institutions need to promote water and energy conservation and local biodiversity	e.g. Schools' contributions to national efforts to adapt to and mitigate the effects of climate change and increase local community resilience	
Economy	e.g. National Five Year Plan covering economic strategies, employment and training goals, support and development of key industries, regions, etc.	e.g. Role of education in developing skills for working in rural industries to maintain the vitality of rural communities, limiting migration to large cities	e.g. develop educational prize/award for ideas for sustainable/ social enterprise	
Culture	e.g. National Cultural Policy covering heritage; tourism; media; support for arts; etc;	e.g. Learning about cultural heritage; participating in cultural activities etc.; prior learning embedded in culture	e.g. cultural traditions, songs, narratives celebrating nature and environment Mobilising prior knowledge	
Reviewing the Inter-linkages	To what extent are these dimensions linked? What tensions exit between them? What needs to be done to create greater policy synergy across sectors?			Can multiple resources be allocated to ensure synergies?

Review Question:
How does Education for Sustainable Development influence the aims of education?

Objectives

To review how ESD can influence the aims of education

Who should be involved in this review?

National education and development policy-makers; national development partners; education and development stakeholders

Orientation

National statements of the aims of education often reflect wider policy priorities. Re-orienting the aims of education to include an ESD focus can also have the effect of supporting sustainable development policies more widely, as highlighted in *ESD Lens Review Tool 3*.

Two examples of ESD aims for education might be:

- 'To understand and value the interdependence of social, environmental, economic and cultural dimensions of sustainable development at local, national and global levels"
- 'To develop attitudes, skills and capabilities that are conducive to achieving a sustainable future'

National aims of education, although often quite abstract and general, are very important in helping to set the vision and goals of a society. Any project of social re-orientation has to include an educational aspect as it is recognised that changes in society require the development of new knowledge, values, attitudes, skills and capabilities (as explored in *ESD Lens Review Tool 2*). In social and educational change, it is always important to consider how to build on and adapt existing traditions and knowledge, while including new knowledge and developments. These are often in tension, and require recognition and valuing of pluralism and diversity, as well as power-knowledge relationships.

Review process

In *ESD Lens Review Tool 2* the links between economy, society, environment and culture were considered in relation to knowledge, values and attitudes and skills that are central to ESD. Use this framework and the outcomes *ESD Lens Review Tool 2* to guide a review of the aims of education.

Obtain written copies of documents that include statements of the national aims of education. There may be several different documents that address this in different ways and policy is not always consistent. Documents produced by different ministries or groups may stress different aspects of educational aims and there can be a marked difference between aims considered appropriate for primary, secondary and higher education.

The process suggested in *Review Tool 4* is as follows:

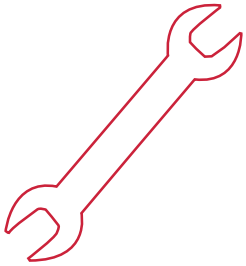
- Identify the main aims of education, as articulated in national policy statements.
- Analyse these for their knowledge, skills, values and attitudinal assumptions.
- Consider how they might be changed or improved through considering ESD knowledge, skills and values (as reflected in *ESD Lens Review Tool 2*).
- Once the analysis is done, rephrase the aims of education by including ESD knowledge, skills and values (from your analysis in *ESD Lens Review Tool 2*).

Follow-up steps

- Consider reformulating the aims of education to reflect the ESD priorities of your context (identified in *Review Tool 2*).
- Identify what process needs to take place to formally make such changes to the aims of education. What planning needs to be conducted in order for this to happen? How does this need to be integrated into formal education review cycles and systems?
- Consider a more in-depth review of educational aims in relation to national priorities and sustainable development issues affecting the country.

Action planning

- Decide on two or three priority action points to take this review work further. Fill them in at the end of this *ESD Lens* in the Section on *ESD Lens Action Plan*.



ESD Lens Review Tool 4:
ESD and the aims of education

This *Review Tool* focuses on national education aims, as expressed at different levels of the education and training system.

For use by: National and/or local stakeholders (multi-sectoral) interested in integrating ESD into policy and practice.

Practical hint: Use this tool with one particular level or section of the education system (e.g. higher education) or identify working groups that can focus on different levels or sections of the education system (e.g. basic education; secondary education; higher education; adult education, etc.). Extend the table as needed.

National statements of aims of Education and their sources (select key quotes)	Dimensions of SD emphasized: Economy; Society; Environment; Culture	Educational aspects emphasized: ESD knowledge, values, attitudes, skills (see *Review Tool* 2)	Existing and/or potential aspects of ESD: how can ESD be strengthened?	Rephrase the aims of education from the perspective of ESD
e.g. National Education Ministry: 'Education aims to equip the entire population for life in the 21st Century'	e.g. Future perspective identified, but undefined.	e.g. Knowledge, values, attitudes and skills – could be spelt out more clearly	e.g. The reference to life in the 21st century could include SD and ESD elements	e.g. Education aims to equip the entire population for life and a sustainable future
e.g. Aims for primary education: 'Aims to provide access for all to quality primary education laying the foundation for a strong lifelong learning society'	e.g. Social equity aspects of educational access emphasized; quality education left undefined	e.g. Quality education could be defined as comprising all these elements	e.g. Quality education could be defined in relation to aspects of ESD (knowledge, skills and values, and integrated application of these in active citizenship and sustainability practices).	e.g. Aims to provide access for all to quality primary education laying the foundation for a strong lifelong learning society and active citizenship

National statements of aims of Education and their sources (select key quotes)	Dimensions of SD emphasized: Economy; Society; Environment; Culture	Educational aspects emphasized: ESD knowledge, values, attitudes, skills (see *Review Tool* 2)	Existing and/or potential aspects of ESD: how can ESD be strengthened?	Rephrase the aims of education from the perspective of ESD
e.g. Aims for secondary education; 'Aims to prepare all learners for working life and responsible citizens aware of rights and duties'	e.g. Vocational aims of education emphasized – economic; but also the social dimension of citizenship is mentioned	e.g. Emphasizes knowledge for work but also values and attitudes of citizenship (rights and duties)	e.g. Links between environmental and social citizenship in ESD can be spelled out – also global citizenship	e.g. Aims to prepare all learners for working life and responsible citizenship aware of rights, duties and sustainable development
e.g. Aims for higher education: 'Aims to develop economic and social well-being of the nation'	e.g. Contribution to society and economy all mentioned	e.g. Professionals could require all these elements – in order to make the needed contribution to society	e.g. In ESD, learning needs to include care for the environment in addition to social and economic factors	e.g. Aims to develop economic and social well-being of the nation while respecting ecological integrity
Add others as needed and relevant				

Review Question:
How does Education for Sustainable Development influence national education policies?

Objective

To examine how ESD is integrated, and can be integrated into all aspects of educational policy

Who should be involved in this review?

National education and development policy-makers; national development partners; education and development stakeholders; also, teachers, principals and communities at school level.

Orientation

Education policies, strategies and policy guidance documents provide direction and set the priorities and orientations of education. To incorporate ESD into them, specific policies, strategies and policy guidance documents may need to be revised. These include policies related to curriculum organisation, teaching and learning strategies, assessment and evaluation, classroom learning materials, school-community relations and the professional development of teachers. All these policies are designed to influence the indirect effects that learning systems have through the knowledge, values, attitudes and skills that they pass on to students to be used in the world. All of these policies provide guidance to the learning system (i.e. the system of education and training in a particular context). To integrate ESD into national education policies, it is necessary to consider them within a systems perspective, so that ESD is not only dealt with in one aspect of policy, but across the national policy system.

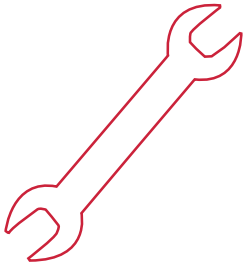
Review process

- This *Review Tool* should be used with one or more major national education policies (e.g. the main policy influencing curriculum; the main policy influencing school management and organisation; and the main policy governing learner safety and well-being).

- For ease of use, divide reviewers into groups, each to address a particular aspect of the *ESD Lens Review Tool 5*, before reporting back to plenary.

Follow-up steps and action planning

- Use the review to decide on how ESD can be better integrated into education policy.
- Decide on three key action points, and add them to your *ESD Lens Action Plan* at the end of this document.



ESD Lens Review Tool 5:
ESD in national education policies

This *Review Tool* should be used with a selection of two or three major national education policies (e.g. curriculum policy; school management policy; learner well-being policy).

For use by: National and/or local stakeholders (multi-sectoral) interested in integrating ESD into policy and practice; and/or principals and teachers in schools.

Practical hint: The work can be done in groups, where different groups are responsible for reviewing different policies.

Policy area (to be adapted to different education sectors – basic, secondary, higher, etc.)	Name of policy	What does the policy say?	Related support services and resources for schools	What can be done by whom to integrate ESD?
	In this column, enter the names of any policy or curriculum documents that contain advice on the various aspects of education in column 1.	In this column, write down what the document actually says about ESD. Does it address a systemic approach to ESD (i.e. does it include culture, environment, society and economy aspects)?	In this column, list the different sorts of support services and resources available to schools to help them meet the challenges of such advice.	In this column, list the different stakeholders and what needs to be done to integrate ESD.
Curriculum organization	e.g. National education plan	e.g. Includes systemic approach to ESD knowledge, skills and values	e.g. Curriculum planning committees Curriculum advisors	e.g. Curriculum advisors need to give schools more support for a systemic approach to ESD implementation
Teaching and learning strategies	e.g. National education plan			
Classroom learning materials	e.g. National education plan			

Policy area (to be adapted to different education sectors – basic, secondary, higher, etc.)	Name of policy	What does the policy say?	Related support services and resources for schools	What can be done by whom to integrate ESD?
	In this column, enter the names of any policy or curriculum documents that contain advice on the various aspects of education in column 1.	In this column, write down what the document actually says about ESD. Does it address a systemic approach to ESD (i.e. does it include culture, environment, society and economy aspects)?	In this column, list the different sorts of support services and resources available to schools to help them meet the challenges of such advice.	In this column, list the different stakeholders and what needs to be done to integrate ESD.
Assessment and evaluation	e.g. Guidelines on assessment and examinations	e.g. ensure that ESD questions are included in examinations	Examination boards Curriculum advisors	e.g. provide training for examination boards and for teachers on how to examine ESD aspects
School-community relations	e.g. National Schools Act			
Professional development of teachers	e.g. National teacher education policy			
Design, construction and management of school buildings including management of waste, toilets, energy and water	e.g. Requirements for school design in standard tender documents	e.g. Include a sustainable purchasing policy clause into the standard tender documents	e.g. School management boards	e.g. Produce a booklet/ information resource providing guidance on sustainable purchasing for contractors
Health and well-being of children (including food)	e.g. Guidelines for school health and nutrition	e.g. Encourage purchasing of local, nutritious food and community service provisioning	e.g. School catering staff; Community members	Train catering staff or community members to produce healthy meals for children.
School transport	e.g. National Schools Act	e.g. More sustainable means of transport are preferred		

Module 3

Reviewing quality learning outcomes using the *ESD Lens*

Undertake a review of ESD and quality learning outcomes

Module 3

Review Question: How can Education for Sustainable Development enhance quality learning outcomes?

Objectives

To review how ESD can help to deliver quality learning outcomes.

To review how ESD can address existing quality concerns.

Who should be involved in this review?

National policy-makers, teachers, curriculum developers, examination officials, textbook writers, and stakeholders interested in ESD.

Orientation

The *Bonn Declaration* (UNESCO, 2009)[1] indicates that "education should be of a quality that provides the values, knowledge, skills and competencies for sustainable living and participation in society and decent work".

> *'Quality has become a dynamic concept that has constantly to adapt to a world whose societies are undergoing profound social and economic transformation. Encouragement for future-oriented thinking and anticipation is gaining importance. Old notions of quality are no longer enough ... despite the different contexts there are many common elements in the pursuit of a quality education, which should help equip all people, women and men, to be fully participating members of their own communities, and also citizens of the world.' (UNESCO, 2003)*[2]

The worldwide debate around quality education partly stems from educational research on poor student achievement, and complements the key focus on Education for All (EFA). However, the quality debate also arises from wider concerns about the extent

1 *Bonn Declaration* (UNESCO 2009). http://unesdoc.unesco.org/images/0018/001887/188799e.pdf.
2 Ministerial Round Table on Quality Education, UNESCO, 2003, p.1.

to which learning systems are currently preparing participants for a future in a rapidly changing world. In these ways, both rich and poorer countries are addressing some very similar issues. How does ESD fit into and interact with these concerns?

Some key quality education concerns

- Usable knowledge, skills, values and capabilities for living a good, healthy and sustainable life
- Achievement of literacy (including scientific literacy), numeracy and life skills and diverse knowledge competencies and abilities to apply these in a variety of contexts
- Appropriateness and relevance of learning and qualifications for the present and future
- Capacity-building in education for progression and for transfer of knowledge to diverse contexts (e.g. of primary students to secondary school; from school to community, etc.)
- Developing the individual's potential and social values
- Support from the family, the community and the wider society

ESD Lens Review Tools 6 and 7 will consider how ESD can enable the delivery of quality education in a number of interacting ways. Enhancing education quality is a key objective of the DESD and the Education for All initiative. Here is one view of quality education that shows these connections:

> *A quality education must reflect learning in relation to the learner as individual, family and community member and part of a world society. A quality education understands the past, is relevant to the present and has a view to the future. Quality education relates to knowledge building and the skilful application of all forms of knowledge by unique individuals that function both independently and in relation to others. A quality education reflects the dynamic nature of culture and languages, the value of the individual in relation to the larger context and the importance of living in a way that promotes equality in the present and fosters a sustainable future (Pigozzi, 2003:5).*

Quality education not only relates to specific curriculum content (e.g. the relevance of curriculum) but also to more generic features of learning such as transferable skills. One way in which ESD helps to deliver quality education is through the development of knowledge, skills, values and capabilities that are relevant to the whole of life. *Learning: the Treasure Within*[3] proposed that the aims of education be built on four pillars of learning:

3 Delors, J. (Chairman) (1996). *Learning: The Treasure Within*, Report to UNESCO of the International Commission on Education for the Twenty-first Century, UNESCO Publishing, Paris. The *Highlights* to the report are available on-line at http://www.unesco.org/delors/delors_e.pdf.

- Learning to know – knowledge, values and skills for respecting and searching for knowledge and wisdom
- Learning to do – knowledge, values and skills for active engagement in productive employment and recreation
- Learning to live together – knowledge, values and skills for international, intercultural and community cooperation and peace
- Learning to be – knowledge, values and skills for personal and family well-being

The all-encompassing scope of ESD, and its aim to equip individuals and societies with skills and capacities to transform attitudes and lifestyles, suggests that a fifth pillar of learning can be added:

- Learning to transform oneself and society[4] – knowledge, values and skills for a sustainable future.

These five pillars offer a foundation for education to provide both essential learning tools (such as literacy, oral expression, numeracy, and problem-solving) and basic learning content (such as knowledge, skills, values, and attitudes) required by human beings to be able to survive, to develop their full capacities, to live and work in dignity, to participate fully in development, to improve the quality of their lives, to make informed decisions, to show empathy for others and practice social justice, and to continue learning.[5]

Review process

ESD Lens Review Tool 6 draws on the five pillars of learning discussed above, to provide an interesting way of reviewing quality learning outcomes. It also provides some ideas for what can be included in monitoring and evaluation of quality learning outcomes. These ideas can be further developed into a concrete strategy for monitoring and evaluation of ESD (note that the *ESD Lens* does not provide for monitoring and evaluation of ESD, but the *ESD Lens* review process and tools can inform the development of monitoring and evaluation indicators and foci).

Following on from *ESD Lens Review Tool 6*, use *ESD Lens Review Tool 7* to consider some of the key quality concerns in your educational context, and consider how ESD can help to address these quality concerns. Use this activity to develop additional indicators for monitoring and evaluating quality learning outcomes.

These two *Review Tool* activities should also help to define the meaning of quality in your educational context. Use these two reviews to prioritise areas where ESD can help to address quality concerns.

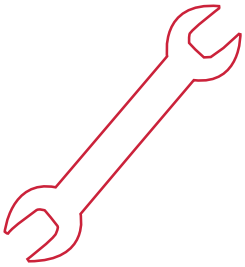
4 UNESCO Bangkok.
5 These outcomes of education were listed in *World Declaration on Education for All*, Jomtien, 1990, Art. 1, para. 1.

Follow-up steps

- Once the review is complete, consider what needs to be done to ensure that ESD can contribute to quality learning outcomes. Consider, for example, what teacher education programmes need to be developed, and how existing monitoring and evaluation instruments need to be adjusted, how learning materials may need to be changed, what changes will be needed to the curriculum, etc.
- Develop an action plan and align it with existing curriculum, teacher education, evaluation and assessment review processes.

Action planning

- Decide on two or three priority action points to take this review work further. Fill them in at the end of this *ESD Lens* in the Section on *ESD Lens Action Plan*.



ESD Lens Review Tool 6: ESD and quality learning outcomes

This *Review Tool* uses the framework for education in the 21st century proposed by the Delors Report as a way of thinking about quality learning outcomes. These 'pillars' should not be viewed as separate, but need to be integrated. The review should therefore include all of them.

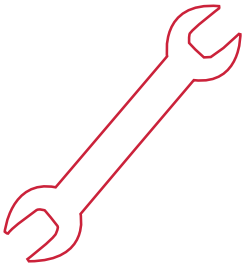
For use by: National and/or local stakeholders (multi-sectoral) interested in integrating ESD into policy and practice; and/or principals and teachers in schools.

Pillars of Learning	How ESD can help deliver quality outcomes	Review existing learning outcomes. Are there any gaps from an ESD perspective?	Develop indicators for monitoring and evaluation that will show if these quality learning outcomes are being achieved
Learning to know	ESD engages formal, non-formal and informal education; addresses content while taking context into account; includes global issues and local priorities; and is cross-disciplinary. No single discipline can claim ESD as its own, but all disciplines can contribute to ESD. *Review Question:* How these perspectives enhance quality learning outcomes?	e.g. Existing learning outcomes are very content focussed, and do not allow for content-and-context approaches.	e.g. Curriculum allows for a balance of content and context coverage.

Pillars of Learning	How ESD can help deliver quality outcomes	Review existing learning outcomes. Are there any gaps from an ESD perspective?	Develop indicators for monitoring and evaluation that will show if these quality learning outcomes are being achieved
Learning to do	ESD is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences; it promotes a shift from mental models to sustainability practices through which these mental models and concepts are explored and reviewed. It includes entrepreneurship and creativity development. *Review Question:* How can participation in sustainability practices and learning experiences based on local needs, perceptions and conditions be integrated into learning outcomes?	e.g. Existing learning outcomes do not encourage learners to participate in sustainability practices – only knowledge of issues is promoted.	e.g. Curriculum includes learner participation in local sustainability practices, informed by local and global knowledge.
Learning to live together	ESD is based on the principles of inter- and intra-generational equity, social justice, fair distribution of resources and community participation (amongst others), which underlie sustainable development. *Review Question:* How can these principles enhance quality learning outcomes?	e.g. Existing learning outcomes do not include inter- and intra-generational equity. e.g. Existing learning outcomes do not allow for community participation.	e.g. Curriculum includes intra- and inter-generational equity. e.g. Curriculum includes opportunities for community participation.

Pillars of Learning	How ESD can help deliver quality outcomes	Review existing learning outcomes. Are there any gaps from an ESD perspective?	Develop indicators for monitoring and evaluation that will show if these quality learning outcomes are being achieved
Learning to be	ESD promotes life-long learning; it accommodates the evolving nature of the concept of sustainability; ESD emphasises the importance of values in learning. *Review Question:* How can a learning to learn (i.e. life-long learning skills) approach and abilities to continually revise understandings of sustainability be included in learning outcomes?	e.g. Existing learning outcomes do not include ongoing review of changing views of sustainability – sustainable development is presented as a 'fixed thing'.	e.g. Curriculum includes opportunities for learners to review their understandings of sustainability in different contexts.
Learning to transform oneself and society	ESD builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, adaptable workforce and quality of life; ESD is facilitated through participatory and reflective approaches. *Review Question:* How can these approaches be integrated into learning outcomes?	e.g. Existing learning outcomes do not include reflective approaches.	e.g. Curriculum includes opportunities for developing reflection skills.
	Discussion Point: What procedures should be put in place to make sure that this review of quality learning outcomes is fed into curriculum review cycles? Who should be involved? How can the indicators for monitoring and evaluation be integrated into other 'normal' monitoring and evaluation programmes.		

NOTE: This *Review Tool* can be applied to individual subjects, to review the extent to which these subjects are promoting quality learning outcomes within an ESD perspective.



ESD Lens Review Tool 7:
ESD and education quality concerns

This *Review Tool* draws on the review process in *ESD Lens Review Tool 6*, to consider how ESD can contribute to addressing some of the key quality concerns in education.

For use by: National and/or local stakeholders (multi-sectoral) interested in integrating ESD into policy and practice; and/or principals and teachers in schools.

Key Quality Concerns	Details of problem areas that arise in your context	Possible contribution of ESD to solution
Usable knowledge, skills, values and capabilities for living a good, healthy and sustainable life.	e.g. Employers report that students' learning does not transfer to the workplace; families do not see how primary education can contribute to livelihoods; education system is promoting over-consumption.	e.g. Set up ESD schemes with employers linking sustainability in business to curriculum; trial aspects of the primary curriculum providing locally relevant information on sustainable livelihoods and opportunities; introduce learning programmes on consumption reduction.
Achievement of literacy (including scientific literacy), numeracy and life skills and diverse knowledge competencies and abilities to apply these in a variety of contexts.	e.g. Low achievement scores in literacy and numeracy tests; high proportion of citizens cannot do their own paperwork; scientific literacy skills are outdated.	e.g. Link teaching of literacy and numeracy to real life sustainability problems in the community; include literacy for citizenship as part of ESD and Citizenship curriculum; introduce science curriculum that deals with complexity.
Appropriateness and relevance of learning and qualifications for the present and future.	e.g. Students do not see their qualifications as equipping them for the future challenges that they hear about through the media; learning packages and delivery do not mesh with student life-styles and commitments.	e.g. Involve students in negotiations on curriculum and delivery; conduct local sustainability reviews as part of learning that help to identify future issues and/or employment/business-related opportunities; provide sustainability qualifications for the future in different trades and professions.

Key Quality Concerns	Details of problem areas that arise in your context	Possible contribution of ESD to solution
Capacity-building in education for progression and for transfer of knowledge to diverse contexts (e.g. from primary students to secondary school; from school to community, etc.).	e.g. Resources not available or courses in place to train secondary teachers for all those pupils who have recently entered primary education. School knowledge activities are too narrow to allow for transfer to different contexts.	e.g. Link with local NGOs to develop low-cost ESD-based community colleges using existing infrastructure, taking on the task of preparing citizens for future challenges and developing sustainable livelihood strategies; implement problem-solving teaching methods to allow for experience of knowledge transfer.
Developing the individual's potential and social values.	e.g. Educational outcomes measured exclusively in terms of academic achievement and not taking into account the personal and social development and varied achievements of individuals. Educational outcomes always individualised.	e.g. Work with ESD citizenship ethos that everyone's participation in sustainable development is a very important part of the whole.
Support from family, community learning and wider society.	e.g. schooling does not take account of knowledge from parents and the community; schooling seen as undermining local and indigenous knowledge and creating barriers between generations. Wider society not interested in sharing new knowledge and research outcomes with schools.	e.g. set up commission involving NGO and civil society stakeholders to work on creative ways to use local and family knowledge in curricula. Develop programmes to encourage scientists to meet with schools and share latest innovations.
Other quality concerns specific to your context?		

Module 4

Reviewing practice using the *ESD Lens*

Undertake a review of ESD and different aspects of teaching practice (including teacher education practice)

Module 4

Practice *Review Questions* and *Review Tools*

The practice of education is a complex, multi-layered process that takes place at macro, meso and micro levels of an education and training system. To review all of the possible educational practices at all of these levels is an impossible and very extensive task.

For the purposes of the *ESD Lens* review process, key areas of practice have been chosen for their importance in the strategic re-orientation of education towards sustainability. Most importantly, the practice review questions and tools can be adapted for use at different levels in the education system, and for different subject areas/ learning areas, and/or for use by different educational stakeholders (e.g. primary school teachers, teacher educators, or textbook writers – amongst others).

Users of the practice review questions and tools are therefore encouraged to first identify which group will be working with the *Review Tools*, and then consider how the tool could be adapted for use with this group. However, in many cases, the same tools can be used (without much adaptation) for different user groups involved in educational practices.

This section of the *ESD Lens* addresses the following practice questions:

- *Review Question:* How can ESD support improved teaching and learning?
- *Review Question:* How can ESD be integrated into curriculum subjects?
- *Review Question:* How can learning materials be improved through ESD?
- *Review Question:* How does ESD influence the assessment of student learning?
- *Review Question:* How does ESD help to create sustainable schools?
- *Review Question:* How does ESD influence teacher education?

The review questions are supported by the following *ESD Lens Review Tools:*

- *ESD Lens Review Tool 8:* ESD and teaching and learning strategies
- *ESD Lens Review Tool 9:* ESD integration into curriculum subjects
- *ESD Lens Review Tool 10:* ESD and learning materials
- *ESD Lens Review Tool 11:* ESD and assessment of learning
- *ESD Lens Review Tool 12:* ESD and sustainable schools
- *ESD Lens Review Tool 13:* ESD and teacher education

All of these *Review Tools* can be used by teachers in schools. There are 70 million teachers in the world, all of whom need to begin to review their teaching practices to include ESD. The *ESD Lens* document therefore encourages teachers and school managers to use these *ESD Lens Review Tools*, and to feed what they are doing into national ESD policy processes, making policy from practice possible. Policy-makers, on the other hand, are encouraged to use these tools too, since they provide useful insight into how ESD can play out on the ground, in schools, classrooms and teacher education institutions. National ESD co-ordinating committees and forums should

give attention to both the policy and the practice dimensions of ESD. These tools facilitate this interaction and multi-stakeholder engagement with ESD at macro, meso, and micro levels.

Review Question:
How can ESD support improved teaching and learning?

Objective

To consider how different teaching and learning strategies can be used to facilitate transformative learning.

Who should be involved in this review?

Teachers, curriculum developers, examination officials, textbook writers, curriculum advisors, and national policy-makers and stakeholders interested in ESD. Individual classroom teachers, or teacher clusters can also use the tool on their own.

Orientation

Education for Sustainable Development seeks to achieve a broad range of objectives relevant to all areas of the curriculum - knowledge, values and attitudes, thinking and decision-making skills, and active and informed citizenship, and capabilities for participating in and learning from sustainability practices. Achieving these objectives means providing opportunities for students to investigate questions, issues and problems of concern to local and global society and to develop action competence for participating in sustainability practices of their choice. Through ESD, students will have opportunities to clarify and extend their understanding of sustainable development principles, practices, concepts and issues through analysis and to use different sources and types of information. They will also learn how to work in groups to explore alternative perspectives, confront tensions and conflicts, reach their own reasoned conclusions, and make plans that seek to improve human well-being and the environment through practical projects and activities (see *ESD Lens Review Tool 2* and *ESD Lens Review Tool 6*).

This active approach to teaching and learning involves linking traditional teacher-centred approaches, which are very good at teaching students basic concepts and information, with learner- and practice-centred approaches. ESD encourages transformative learning approaches i.e. learning processes that are oriented towards change. Ordinary teaching methods such as the use of drama or stories can be either non-transformative (they promote the status quo), or they can be used in more critical, active ways that are also change-oriented. ESD encourages the use of methods that strengthen transformative learning, for example, action competence approaches.

Action competence approaches involve students in exploring knowledge of the nature and scope of problems (e.g. health and sanitation issues), how they arose, who and what is affected by the problems and what the alternatives are. They also consider values that are needed for change, develop visions of alternative futures and predict what change might be possible in a given context while developing social, critical and creative thinking skills. These approaches involve students in experiences of real-life situations where they develop decision-making capacities. Action competent students are also able to evaluate, reflect on and restructure their actions within an ongoing process of learning and change. ESD requires a combination of teaching strategies that together allow for transformative learning.

Review process

Review Tool 8 provides a three-step process for undertaking a review of teaching and learning strategies appropriate to achieving the objectives of ESD. This review may be undertaken for teaching and learning in education generally, in a particular subject area, or for particular "bands" of education, e.g. Pre-Primary, Primary, Lower Secondary and Upper Secondary.

- Begin by selecting the focus area of education where teaching and learning approaches are to be reviewed. i.e. level of education and subject areas (e.g. geography teaching methods in primary school). The review can also be done in the context of an integrating theme or topic which draws from different subjects (e.g. the theme of water).
- Column 1 is a list of teaching and learning strategies, ranging from predominantly teacher–centred approaches to more learner-centred ones. Review the list of strategies given and add any other innovative strategies which are used in the level or subject area under review.
- Provide examples from your own context and/or ideas of how these teaching strategies can be used for ESD in Column 2.
- Provide suggestions on how some of these methods can be used in combination in an ESD transformative learning process in Column 3.

Follow-up steps

- Decide what needs to be done to strengthen the use of ESD teaching and learning strategies.

Action planning

- Decide on three or more key actions that need to be taken to integrate these approaches into teacher education and learning materials. Add these into the *ESD Lens Action Plan* at the end of this document.

ESD Lens Review Tool 8:
Teaching and learning strategies

This *Review Tool* encourages a balance between teacher-centred and learner-centred approaches, and how different approaches can be combined in an ESD learning process.

For use by: Subject teachers or clusters of teachers / phase or grade specific teacher groups or individual teachers wanting to review their own practice.

Practical hint: Decide on a subject area to review before starting. Use with *ESD Lens Review Tools 2* and *6*.

Teaching and learning strategies and approaches for: _____ (phase/subject area)	Examples from your own context and how to use them in subject teaching	How can these strategies can be combined for transformative learning
Classroom exposition: students individually or in groups undertake to research and report on some issue to the class.		Learning process: Step 1:
Teacher-led and student-led story-telling: stories that raise relevant issues.		Step 2:
Guest speakers: from different social, environmental, cultural or economic sectors talking about relevant and topical sustainable development issues and problems/solutions.		Step 3:
Teacher-guided class discussion: e.g. debate with two teams.		Step 4:
Student group discussion: with facilitator and agenda decided by students.		Step 5 etc.
Experiential learning: undertaking some task in the community /local environment, including feedback.		
Educational drama: students enact drama relevant to some ESD issue and then discuss.		
Analysis of photographs, pictures, tables, graphs, maps, etc: students work in groups categorising information – then report back.		

Teaching and learning strategies and approaches for: _____ (phase/subject area)	Examples from your own context and how to use them in subject teaching	How can these strategies can be combined for transformative learning
Study of films, videos or computer programmes: students collectively devise elements of proforma for reviewing and fill out individually.		Note: Try to actively develop language and numeracy skills while dealing with ESD.
Enquiry learning: students choose a topic to research in groups, allocate tasks and compile results.		
Values clarification and analysis: students discuss controversial decisions, identify values involved and defend their own conclusions.		
Simulation and role-play: students take on roles of different groups in conflict, and then discuss issues.		
Future problem-solving: students discuss future problems (e.g. water supply) and draw spidergrams of possible solutions.		
Fieldwork: Learning outside the classroom; e.g. trip to look at local rubbish disposal site and review later.		
Community citizenship projects: class plans with local community members and takes on project.		
List other approaches …….. e.g. case studies, critical media analysis, peer-to-peer teaching, etc.		

Review Question:
How can ESD concerns be integrated into curriculum subjects or learning areas?

Objective

To review the extent to which ESD is integrated into various curriculum subjects or learning areas.

Who should be involved in this review?

Teachers, curriculum developers, examination officials, textbook writers, curriculum advisors, and national policy-makers and stakeholders interested in ESD.

Orientation

The formal curriculum is made up of several related elements including: the aims and objectives of education and of particular subject areas, the selection and sequencing of knowledge, the teaching and learning approaches that are chosen, the examples and learning materials teachers choose to use, the ways in which learning is monitored and assessed and the whole institutional learning environment. Through the different *ESD Lens Review Tools*, all of these are addressed.

Education for Sustainable Development is not a new body of content or new subject to be added to the often already over-crowded curriculum. Certainly, topics, issues and problems related to sustainable development – such as over-consumption, overcoming poverty, climate change, transport, water and sanitation, peace and human rights – need to be studied by students everywhere as part of their preparation to take their place as informed and responsible citizens in local, national and global society.

A single disciplinary approach cannot provide students with an appreciation and understanding of all the issues encompassed by the interrelated social, environmental, economic and cultural aspects of sustainable development (see *ESD Lens Review Tools 2* and *6*). Indeed, just as problems in the real world increasingly cannot be solved by specialists working by themselves in their discrete disciplines, students also cannot learn about sustainable development unless they can draw on all subject areas. Students need opportunities to consider such issues from interdisciplinary perspectives. A UNESCO report recommends integrating studies of sustainable development into both individual subjects and through interdisciplinary learning:

> *A basic premise of education for sustainability is that just as there is a wholeness and interdependence to life in all its forms, so must there be a unity and wholeness to efforts to understand it and ensure its continuation. This calls for both interdisciplinary inquiry and action. It does not, of course, imply an end to work within traditional disciplines. A disciplinary focus is often helpful, even necessary, in allowing the depth of inquiry needed for major breakthroughs and discoveries.1*

As indicated in this *ESD Lens* document, Education for sustainable development is based upon an integrated set of key principles related to social equity, economic vitality, cultural diversity and environmental integrity. These principles provide the basic understandings needed to make decisions about complex sustainable development issues. In coming to such decisions, students draw upon, and integrate, concepts from a wide range of disciplines – ecology, geology and geography; economics, finance and law; history, cultural studies, sociology and the arts; etc. This cross-curricular focus of Education for Sustainable Development means that learning in all subjects needs to advance student understanding of sustainable development principles and concepts as relevant to each subject area in the curriculum. Here are a sample set of key concepts relevant to ESD (see *Review Tool 2*) including:

- Interdependence
- Diversity
- Human Rights
- Global Equity and Justice
- Values and Lifestyle Choices
- Conservation
- Economic Vitality
- Democracy and Civic Participation
- The Precautionary Principle

Review process

Before using *ESD Lens Review Tool 9*, reviewers are encouraged to complete *ESD Lens Review Tool 2* and *6*, to develop a clear vision of what needs to be prioritized for ESD in their own context, addressing the inter-related social, cultural, economic and environmental dimensions of ESD. Bear in mind that not all of the concepts are necessarily relevant to all levels of the curriculum, and may appear in syllabuses as different, perhaps simpler terms.

Decide which level of education will be reviewed, as required in *ESD Lens Review Tool 9*. Different levels can be reviewed at the same time by different groups if the tool is being used in a workshop situation.

This *Review Tool* will help you establish the extent to which ESD is already integrated into the curriculum, and to identify what changes or improvements are possible.

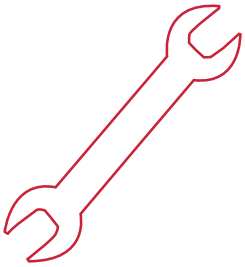
1 UNESCO (1997). op.cit., para 89.

Follow-up steps

- Once this is done, reflect on the extent to which ESD is integrated into the different subjects or disciplines, and identify what can be changed or improved.
- Also consider how inter-disciplinary approaches can be strengthened and developed (e.g. with overlapping topics, or similar concepts, etc.).

Action planning

- Decide on three or more actions that need to be undertaken to take this review forward. Add them to the *ESD Lens Action Plan* at the end of this document.



ESD Lens Review Tool 9:
ESD integration in the curriculum

This *Review Tool* focuses on the extent to which ESD is integrated into the curriculum. Use with the results of *ESD Lens Review Tools 2* and *6*.

For use by: Classroom teachers, curriculum planners, heads of departments, curriculum advisors, national policy-makers and stakeholders interested in ESD.

Practical hint: For this review, subject groups could be formed, and each subject group could undertake their review and report back to plenary. This is a good whole school activity. The activity can also be used by national curriculum departments who are undertaking curriculum reviews.

Level of education to be reviewed : Select: Pre-Primary ___ Primary ___ Lower Secondary ___ Upper Secondary ___ OR Specific Grade ___					
Subject area / learning area	Syllabus or curriculum document	Objectives		Concepts, topics or examples	
	In this column, enter the names of any syllabus or curriculum documents relevant to ESD.	In this column identify how the learning objectives reflect ESD (1st column) and what gaps exist (2nd column) (social, cultural, economic, environmental)		In this column, list the concepts, topics and examples that reflect ESD (1st column), and what gaps exist (2nd column)	
Agricultural Studies					
The Arts	e.g. Art, music and dance guidelines				
Commerce and Business Studies					
First Language Studies (Mother tongue instruction)					
Second Language Studies (additional language/s)	e.g. English language syllabus		e.g. Integration of oral culture (storytelling)		

Level of education to be reviewed : Select: Pre-Primary ___ Primary ___ Lower Secondary ___ Upper Secondary ___ OR Specific Grade ___					
Subject area/ learning area	Syllabus or curriculum document	Objectives		Concepts, topics or examples	
	In this column, enter the names of any syllabus or curriculum documents relevant to ESD.	In this column identify how the learning objectives reflect ESD (1st column) and what gaps exist (2nd column) (social, cultural, economic, environmental)		In this column, list the concepts, topics and examples that reflect ESD (1st column), and what gaps exist (2nd column)	
Health and Physical Education					e.g. over-consumption
Home Economics/ Consumer Studies					
Manual Arts, Design and Technology (including ICT)					
Mathematics					
Religious Education					
Science	e.g. Science syllabus				
Social Studies					
Add others … (e.g. Tourism studies) etc.)					

Review Question:
How can learning materials be improved through Education for Sustainable Development?

Objectives

To review existing learning materials for ESD content and pedagogy.

Who should be involved in this review?

Teachers, curriculum developers, examination officials, textbook writers, curriculum advisors and national policy-makers and stakeholders interested in ESD.

Orientation

This learning materials review can contribute greatly to the variety and relevance of learning materials. ESD can also inform the design of new materials, and a wider perspective of what constitutes materials for learning. The problems and issues in the wider community, including local news reports, can all be seen as resources for learning. The buildings in the learning context and their relationship with their environment can also be a learning resource. Many of these resources are non-paper-based and invite more active and participatory learning methods.

Schools and teachers in some countries lack access to basic learning materials such as textbooks while others have a great variety of educational resources available and from which to select, when teaching for the objectives of Education for Sustainable Development. All, however, have access to cultural and local resources. Available materials may include: textbooks, library books, collections of photographs, charts and maps, films and videos, CD-ROMs and the Internet, and so on. There is a widening body of examples available freely online that can be adapted to local contexts or used for inspiration.

Another key ESD perspective is the linking of resources to wider sources of learning. Available resources in towns and cities such as museums and art galleries can be used as the basis for analysis and to start questioning in ESD matters. Botanical gardens are a rich source of ideas and experiences for ESD and often have resources available, as do NGO organisations. Business organisations, government departments and civil society organisations involved in sustainable development activities can also provide useful learning materials. Business documents, mission

statements and Corporate Social Responsibility reports can be useful for discussing economic aspects of sustainability. Visits to small and craft-based businesses are also important, as is using any available subsistence and farming communities as sources of information and points of learning about sustainable livelihoods and/or local markets and production processes. Local government documents and plans are useful learning resources, and they often produce materials for educational purposes. A further technique for ESD learning resources could be the production of learning resources by students themselves, for use in the community. This is where the knowledge gained in schools and colleges can be seen to be useful and relevant in informing various social and/or environmental issues. All these approaches address the quality concerns of the relevance of education to well-being and livelihoods. The guidance of a knowledgeable, qualified, interested and skilful teacher is very important to support student learning with materials from an ESD perspective.

Review process

Before starting the review process using *ESD Lens Review Tool 10*, decide on the level of education and subject area under review. List the types of materials available in column 1. Use *ESD Lens Review Tool 2* and *6* to help you reflect on the content of the materials and if they adequately reflect ESD knowledge, skills and values. The *Review Tool* encourages you to use printed and commercially available materials, and culturally and locally available learning materials and resources.

Follow-up steps

- Develop a second grid or chart for identifying the production of new resources that are currently lacking.
- Using the review from *ESD Lens Review Tool 10*, and the list of new resources needed, develop a comprehensive plan for improving the development and use of learning materials that focus on ESD contents and issues.
- Develop an action plan which integrates ESD learning materials into the normal provisioning systems for learning materials to make sure that teachers can access them (e.g. this might involve workshops with educational publishers, or with the Ministry responsible for learning materials provisioning. It may also involve teacher education/training programmes to strengthen the use of learning materials for ESD purposes).

Action planning

- Identify three or more actions that need to be taken to take this review forward. Fill them in to the *ESD Lens Action Plan* at the back of this document.

ESD Lens Review Tool 10:
ESD and learning materials

This *Review Tool* should be used with the outcomes of *ESD Lens Review Tools 2* and *6*. It reviews Learning Materials, for their ESD content and pedagogy.

For use by: Textbook writers, national curriculum/book selection committees; teachers choosing books; and National ESD forums or co-ordinating committees

Practical hint: If a national materials review is being done, then divide the task into different groups. Teachers in schools may also want to divide the task into groups.

A. Teaching and learning resources (printed and commercially available)	Does the treatment of topics in available learning resources reflect knowledge, skills and values of ESD (see *Review Tool 2*)?	Do available learning resources have a transformative learning focus, developing decision-making and citizenship?	Do the available learning resources link to context, and do they encourage research and enquiry-based learning?
Textbooks			
Story books			
Library books			
Charts and posters			
Collections of photographs			
Maps			
Statistical information			
Newspapers and magazines			
Laboratory equipment			
Fieldwork equipment			
Computer programmes and CD-Roms			
Internet access to World Wide Web			
Role-plays and educational games			
Films and videos			
Add others			

B: Teaching and learning resources (culturally and locally available)	How can cultural and locally available resources be used to develop knowledge, skills and values of ESD? (see *Review Tool 2*)?	How can cultural and locally available resources be used to strengthen active, transformative learning, decision making and citizenship objectives?	How do the contextually available cultural and environmental resources develop formal curriculum content, and how can they be used for research and enquiry-based learning?
List available cultural resources (e.g. stories; museum resources; indigenous knowledge resources; guest speakers, etc.)	e.g. Indigenous knowledge of sustainability practices	e.g. Indigenous knowledge sustainability practice demonstrations	
List available environmental resources: (e.g. nature reserves, local wetlands, etc; building sites etc.)	e.g. Knowledge of environmental impact Knowledge of ecological systems and services		e.g. Undertake a mini-environmental impact assessment
Other			

Review Question:
How does ESD influence assessment of student learning?

Objectives

To consider how assessment practices can be changed through considering ESD.

Who should be involved in this review?

Teachers, curriculum developers, examination officials, textbook writers, curriculum advisors, and national policy-makers and stakeholders interested in ESD.

Orientation

This review focuses on ESD and the assessment of student learning: ESD can contribute to forms of assessment that value a variety of learning outcomes and ranges of academic ability. The kinds of learning comprised in ESD allows for an extended portfolio of assessment techniques that recognize achievements in citizenship and practical applied learning and skills. Assessment refers to the process of monitoring student learning achievements for the purposes of diagnosing their learning strengths and difficulties, reporting to parents, and providing a certificate of achievement for use by potential employers and other educational institutions. Frequently, assessment requirements are used to guide the curriculum and learning experiences in order to ensure that students have the best chance of success. These different purposes give rise to two different types of assessment – formative and summative assessment.

ESD assessment needs to be integrated into both formative and summative forms of assessment. The question 'Does ESD seek to assess different things or to assess the same things differently?' is also an important question to consider when thinking about ESD and assessment. ESD assessment should be oriented towards improving educational quality. Assessment of ESD learning achievements can be quantitative (as in including ESD aspects in tests that are scored); alternatively, assessment of ESD learning achievements can be qualitative (as in using criteria to judge the quality of an ESD community project activity, or students' development of action competence).

Assessing ESD objectives requires imaginative re-thinking of assessment and curriculum planning and learning activities undertaken. These more challenging activities normally require qualitative, criterion-referenced assessments. For example,

to assess transformative learning and the development of action competence, the following criterion-referenced qualitative questions might be useful:

Has the student:

- Contributed to identification of a problem or issue that needs to be addressed?
- Investigated the issue using a range of different knowledge resources?
- Found up-to-date, relevant information on the issue?
- Developed a vision of what an alternative future might look like in relation to the issue?
- Proposed realistic strategies for what needs to be done?
- Helped with decision-making on what to do next?
- Been able to work co-operatively with colleagues?
- Contributed activity to the dialogue and discussions on the issue?

Besides these educational processes, ESD assessment also covers the degree of integration of cultural, social, economic and environmental perspectives in relation to any issue or topic (e.g. over-consumption). If this is taken into account, the assessment framework would include a question such as:

Has the student:

- Identified social, economic, environmental and cultural aspects of the issue/topic?
- Identified why and how these different aspects are contributing to the issue/topic?
- Been able to decide what aspect of the issue/topic requires the most attention in the problem-solving process?

From these examples, it is clear that ESD-related assessments need to consider students' abilities to participate in inquiries and action-related projects or processes, as well as an assessment of different ways of working with knowledge. These provide examples of how ESD assessment begins to retrospectively inform curriculum activities.

ESD can also help to inform existing ways of teaching and assessment, and bring a new perspective to existing practice. For example, when assessing knowledge, an ESD perspective might ask how such knowledge can be applied. When assessing skills, an ESD perspective might ask how the skills are informed by values and whether the students can act in an ethically informed manner using their skills (e.g. decision-making skills). When assessing values, ESD might ask what values are being assessed, and what is the end result (e.g. the values of competitiveness – are they contributing to sustainability thinking or not?).

Review process

Use *ESD Lens Review Tool 11* to review existing forms of assessment practice, and to consider which new forms of assessment are needed for ESD. Discuss whether the forms of assessment that are being proposed are contributing to quality learning outcomes (as discussed in *ESD Lens Review Tool 6*).

Follow-up steps

- Following the review, consider what needs to be done to change assessment practices and how this could be done. Develop an action plan based on the discussions.

Action planning

- Identify three or more things that need to be done to take this assessment review further. List them in the *ESD Lens Action Plan* at the end of this document.

ESD Lens Review Tool 11:
ESD and assessment

This *Review Tool* should be used with the outcomes of *ESD Lens Review Tool 2, 6* and *8*. It considers how assessment practices can be changed to accommodate ESD.

For use by: Assessment and examination boards and committees; Teachers; Subject Committees; Curriculum Advisors; National ESD committees or forums.

Practical hint: Indicate which subject area will be reviewed. The task can be done in subject groups or phase groups, or it can be used at a national level for macro assessment policy development.

Types of assessment	Explain how these assessment strategies need to be adapted to assess ESD Knowledge and ESD Objectives – see *Review Tools 2* and *6*	Explain how these assessment strategies can be used to assess ESD approaches to learning (e.g. ESD skills; transformative learning) – see *Review Tool 2* and *8*	Explain how these assessment strategies can be used to asses ESD values (e.g. citizenship; respect for people and the environment, etc.) – see *Review Tool 2*
Regular in-class tests			
End of term tests/ examinations			
End of course/school tests/examinations			
Formative continuous assessment			
Assessment of practical/project work			
Peer and self-assessments			
Other			

Assessment techniques			
Multiple choice test			
Map or diagram interpretation			
Vocabulary tests			
True-false tests			
Short answer tests (paragraph answers)			
Comprehension tests			
Lecturette or short oral presentation			
Debate performance			
Performance in a role-play			
Structured essay			
Unguided essay			
Field trip report			
Library and/or Internet research essay			
Poster, artwork or creative presentation			
Project portfolio			
Other (e.g. construction and model building)			
	Discussion Point To what extent do these assessment approaches assess *Q*uality *L*earning *O*utcomes as proposed in *ESD* (see *R*eview *T*ool 6) – *L*earning to know, *L*earning to do, *L*earning to be, *L*earning to live together, and *L*earning to transform oneself and society?		

Review Question:
How does ESD help to create sustainable schools?

Objectives

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

Who should be involved in this review?

Teachers, school managers, parents, and other community-based stakeholders interested in the school.

Orientation

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

Many education systems around the world have policy frameworks for promoting sustainable school operations and curricula. These are known by many names – "Sustainable Schools", "Schools for a Sustainable Future", "Green Schools", "Eco-Schools", "Enviro-Schools", etc. Whatever term is used, the focus of such policy frameworks is to provide guidance to schools on strategies they can employ to ensure that both the formal and non-formal curriculum provides a model for students of what a sustainable society could be like, promoting a whole systems approach to sustainability in the school. ESD can support schools to become sustainable schools. A whole systems approach to ESD proposes that a "sustainable school" should pay attention to planning activities in five areas:

- The lessons provided in the formal curriculum should reflect ESD objectives and principles
- Policies and procedures to support cultural sustainability
- Policies and procedures to support social sustainability

- Policies and procedures to support economic sustainability
- Policies and procedures to support environmental sustainability (see the Sustainable Schools Audit in *ESD Lens Review Tool 12*)

The first of these refers to the formal curriculum while the remaining four refer to the learning system or non-formal curriculum of school ethos and operational procedures. What is important is that these are seen as interrelated aspects. For example, policies and procedures that support economic sustainability should also strive to support environmental sustainability, and social and cultural aspects of sustainability. These should be based on ESD values and principles.

There may be national policy and curriculum guidance documents that are available to support sustainable school initiatives (e.g. human rights policies that influence social sustainability practices in schools). There may also be comprehensive ESD policy guidance documents in schools, or a collection of broader documents related to ESD in the curriculum, such as school-community engagement, issues of gender, multiculturalism, anti-racism, school environmental policies, and policies and guidelines that govern the management of school buildings and grounds. If such policies do not exist, they can be developed, using *ESD Lens Review Tool 12*, and other tools such as School Sustainability Audits (contained in *ESD Lens Review Tool 12*) or the development of school sustainability projects to demonstrate school-community sustainable development links and partnerships (e.g. in producing local, healthy food for learners to enhance nutrition and healthy eating, as well as local sustainability of production and consumption).

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

Review process

Establish an audit team in the school. The review or audit team should comprise a mix of stakeholders, e.g. school administrators, teachers, students and members of the community. Alternatively, it may be undertaken by students as a class project.

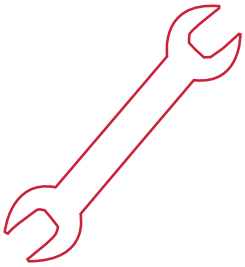
Review Tool 12 can be adapted or changed for different socio-economic or school contexts, or for different countries. It merely provides some starting ideas on how a more comprehensive sustainability audit of a school can be done.

Follow-up steps

- Once this review is complete, develop a school sustainability action plan, and ensure that it is integrated into the other policies and strategies of the school.
- Develop a monitoring and evaluation process to monitor ongoing progress in relation to the school sustainability action plan. Multiple stakeholders can be involved in this process, including learners and parents.

Action planning

- Decide on three or more actions that are needed to take the school sustainability audit forward. Add these to the *ESD Lens Action Plan* at the back of this document.



ESD Lens Review Tool 12:
ESD and sustainable schools

This *Review Tool* focuses on a whole system approach to ESD in schools. It encourages schools to undertake an audit to identify areas for improvement in key areas of ESD that include curriculum aspects of ESD, cultural aspects of ESD, environmental aspects of ESD, and economic aspects of ESD. This can help schools to set targets for change and improvement. Start by developing a common vision of what a sustainable school might look like.

For use by: School Management Teams; Teachers; Students; Parents and the wider school community.

Practical hint: Establish a School Sustainability Working Group (including teachers, parents, learners and school management) to undertake the review and to report back to the whole school. Goal setting based on the audit should be done by the whole school and should be approved by school management.

Curriculum and whole school development areas for review	Area for review (consult school policies and practices in the review, and other *ESD Lens Review Tools* completed)	Evidence of contributions to a whole system approach to ESD in the school (use the results of *ESD Lens Review Tools 2, 6, 7, 8,9, 10, 11*)	Comments and ideas for improvement and further development of school policies and practice
Formal Curriculum	Curriculum organization	ESD elements in the curriculum	
	Teaching and learning strategies	ESD elements in the curriculum	
	Classroom learning materials	ESD Learning Materials available	
	Assessment practices	Assessment adapted to include ESD	
	Professional development of teachers	Teacher ESD programmes	

Curriculum and whole school development areas for review	Area for review (consult school policies and practices in the review, and other *ESD Lens Review Tools* completed)	Evidence of contributions to a whole system approach to ESD in the school (use the results of *ESD Lens Review Tools 2, 6, 7, 8, 9, 10, 11*)	Comments and ideas for improvement and further development of school policies and practice
Learning System / Whole School Review	Design and construction of school buildings and grounds	Social / Economic / Environmental / Cultural dimensions	
	Use and conservation of energy	Economic / Environmental dimensions	
	Use and conservation of water	Economic / Environmental dimensions	
	Use and conservation of paper	Economic / Environmental / Cultural dimensions	
	Waste management	Environmental / Economic dimensions	
	School transport	Economic / Environmental / Social dimensions	
	School food	Economic / Social / Cultural dimensions	
	Gender equity	Social / Cultural dimensions	
	Child-friendly schooling	Social dimension	
	Support for students with learning or physical difficulties	Social dimension	
	Student involvement in local community service projects	Social / Cultural dimension	
	Community involvement in school decision-making	Social dimension	
	Student involvement in school decision-making	Social dimension	
	Engagement in local economy and sustainable livelihoods and sustainable lifestyles	Economic / Environmental / Cultural dimensions	
Add others			

Sustainable Schools Audit

The Formal Curriculum	Excellent 4	Good 3	Fair 2	Getting started 1
1. There is a written policy that clearly states the aims and objectives of Education for Sustainable Development in our school.				
2. There is effective co-ordination of Education for Sustainable Development as a cross-curricular theme.				
3. We take every opportunity to introduce issues of sustainable development into all subjects.				
4. We have a good supply of teaching materials on issues of sustainable development for all grades.				
5. We regularly evaluate the effectiveness of our teaching about sustainable development.				
Formal Curriculum Sub-Score				

Social Sustainability	Excellent 4	Good 3	Fair 2	Getting started 1
6. The prevailing ethos of the school and the curriculum is sensitive to issues of gender equity.				
7. Students are given opportunities and skills to participate constructively in helping to solve local community problems.				
8. The prevailing ethos of the school and the curriculum adequately prepares students for life as citizens of a global community.				
9. The special needs of all students, especially those with physical or learning disabilities are catered for.				
10. All staff are skilled in conflict resolution strategies as a support for positive student behaviour.				
Social Sustainability Sub-Score				

Ecological Sustainability	Excellent 4	Good 3	Fair 2	Getting started 1
11. The school uses recycled materials whenever possible and has an active and comprehensive recycling policy.				
12. The school actively promotes and practices energy efficiency.				
13. The school purchases and uses resources with a view to minimising harm to the planet.				
14 School buildings and surroundings provide an aesthetically pleasing environment in which to live and learn.				
15. The school actively promotes attitudes of care and responsibilities for nature.				
Ecological Sustainability Sub-Score				

Economic Sustainability	Excellent 4	Good 3	Fair 2	Getting started 1
16. A spirit of co-operation and sharing – not competition – is modelled in the allocation of resources in the school.				
17. Students learn small business skills through opportunities to organise school and community projects.				
18. Students have opportunities to participate in decisions about how resources are allocated in the school.				
19. A culture of maintenance ensures that all school buildings and equipment are kept in good repair and maintained in good condition.				
20. The school's fund-raising activities reflect ethical principles.				
Economic Sustainability Sub-Score				

Cultural Sustainability	Excellent 4	Good 3	Fair 2	Getting started 1
21. The school ethos fosters self-esteem, mutual regard and humane social relationships.				
22. The prevailing ethos of the school and the curriculum adequately prepares students for life in a multicultural society.				
23. The school plays an active role in building support for cultural diversity both within the school and its wider community.				
24. The school plays an active role in the community and the community in the school.				
25. The prevailing ethos of the school demonstrates that people matter and that everyone has a contribution to make to sustainable development.				
Cultural Sustainability Sub-Score				

Transfer five sub-scores to the table below and calculate a total score out of 100. Higher the score better the school's orientation towards ESD. Lower scores indicate what changes can be made and will inform future action plans and priorities.

The Formal Curriculum	
Social Sustainability	
Economic Sustainability	
Ecological Sustainability	
Cultural Sustainability	
TOTAL	

Review Question:
How does ESD influence teacher education?

Objectives

To review the extent to which ESD is integrated into teacher education practices.

Who should be involved in this review?

Teacher educators, national ministries of education responsible for teacher education, national ESD co-ordinating committees or forums.

Orientation

There are approximately over 70 million teachers in the world – and each one is a key agent of education for sustainable development. For this reason, appropriately focused teacher education is an important part of Education for Sustainable Development. In relation to the topics dealt with in this *ESD Lens*, ESD in teacher education is essential for the following reasons:

- Policy development and planning will not be effective if teachers do not know how to carry it out, or do not have the motivation to do so.
- Practitioners are a key source of practical, contextualised knowledge on ESD and often are the source of creative developments which can be more widely shared.
- As ESD does stress the use and relevance of the locality, it is very important that teachers learn strategies for relating learning more fully to the specific opportunities available where a school is situated.
- Teachers need to know the basics of ESD in order to fulfil various social objectives for education such as peace and social cohesion.
- Teachers need to be informed by ESD in order for them to make a contribution to cultural understanding, environmental sustainability, conservation and protection.
- Teachers need to understand ESD in order to help their schools become sustainable schools.

In relation to pre-service teacher education, UNESCO's *Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability* argue that:

> *Institutions of teacher education fulfil vital roles in the global education community; they have the potential to bring changes within educational systems that will shape the knowledge and skills of future generations. Often education is described as the great hope for creating a more sustainable future; teacher education institutions serve as key change agents in transforming education and society so that such a future is possible.*

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

ESD helps to improve teacher training programmes both in the opportunities provided for reflective practice and in the enriched interactive dimensions in a number of related ways as shown in the *ESD Lens*.

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

Review process

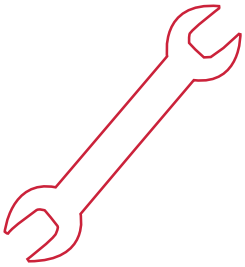
ESD Lens Review Tool 13 can be used at national, institutional or programmatic levels. Decide which level you are targeting before starting the review. Fill in existing practice related to ESD in teacher education programmes, and ESD teacher capabilities, and identify possible initiatives or changes. *ESD Lens Review Tool 13* can also be used at a macro-review level, i.e. to start a more in-depth review of a country's teacher education system and policies. If used at this level, it will need to be complemented with more in-depth research and review processes. For immediate impact, it can best be used at a teacher education programme level (i.e. in a college or university). Learning from this can inform wider, macro-review processes.

Follow-up steps

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

Action planning

- Identify three or more actions for taking the teacher education review forward, and fill them in to the *ESD Lens Action Plan* at the end of this document.



ESD Lens Review Tool 13:
ESD and Teacher Education

This *Review Tool* focuses on the extent to which ESD is integrated into teacher education.

For use by: Teacher Educators; National Ministries of Education responsible for Teacher Education; National ESD Co-ordinating Committee/Forum

A. Teacher Education Programmes	Existing practice in relation to each of the review questions	Possible Initiatives/ Changes
Are all teachers exposed to the importance of ESD? Is ESD seen as a whole-of-curriculum priority, and are cross-curricular and thematic possibilities developed at a policy, institutional and/or programmatic level in teacher education?		
Is ESD infused into all core courses in pre-service teacher programmes (e.g. in studies in education; curriculum theory; curriculum planning; applied curriculum studies for teaching different subjects)?		
Is ESD infused into the range of elective courses in pre-service teacher education programmes so that teachers can develop advanced understandings of aspects of ESD and skills if they wish?		
Are continuous professional development programmes in ESD available for teachers to build their commitment and capabilities to implement and develop ESD?		

B. ESD capabilities	Existing practice in relation to each of the review questions	Possible Initiatives / Changes
Are teachers developing an appreciation of the importance of ESD to national development and education goals?		
Are teachers developing an understanding of the philosophy, objectives and characteristics of ESD?		
Are teachers developing an understanding of the contribution of Education for Sustainable Development to quality education?		
Are teachers developing an understanding of how child development and learning theories may inform, enhance and strengthen ESD?		
Are teachers developing an understanding of how to implement ESD as a cross-curricular theme?		
Are teachers developing an understanding of the relevance of all subjects to ESD and how integrating ESD into subject teaching can enrich subject teaching?		
Are teachers developing strategies for engaging with community and local knowledge in relation to globally and universally knowledge of issues?		
Are teachers developing the skills to use a variety of teaching and learning approaches to achieve the wide range of ESD objectives?		

Module 5

ESD Lens Action Planner

Use with *ESD Lens* introduction, orientation and *Review Questions* as indicated in the document

Module 5

ESD Lens Action Plan

This ESD Lens action plan allows you to consolidate action plans coming out of each of the *ESD Lens Review Tools*. It can help to set targets.

ESD contextualisation and understanding	List 3-5 action points after completing the different *ESD Lens* Review Processes	By when should this be completed? Who should be involved
Has a national *ESD Lens* Review Process been planned (*ESD Lens Review Tool 1*)?		
Does a common understanding exist on what ESD involves? (*ESD Lens Review Tool 2*)		

ESD Lens national policy review	List 3-5 action points after completing the different *ESD Lens* Review Processes	By when should this be completed? Who should be involved?
Is the relationship between ESD and national development policies clearly understood? (*ESD Lens Review Tool 3*)		
Is ESD adequately reflected in the aims of education (*ESD Lens Review Tool 4*)		
Is ESD adequately reflected in national education policy? (*ESD Lens Review Tool 5*)		

ESD Lens learning outcomes review	List 3-5 action points after completing the different *ESD Lens* Review Processes	By when should this be completed? Who should be involved?
How can ESD contribute further to quality learning outcomes? (*ESD Lens Review Tool 6*)		
How can ESD help to address existing quality concerns in education? (*ESD Lens Review Tool 7*)		

ESD Lens practices review	List 3-5 action points after completing the different *ESD Lens* review processes	By when should this be completed? Who should be involved?
How can ESD contribute to new teaching and learning strategies that support transformative learning? (*ESD Lens Review Tool 8*)		
How can ESD concerns be further integrated into curriculum subjects or learning areas? (*ESD Lens Review Tool 9*)		
How can ESD thinking be further integrated into learning materials development and use? (*ESD Lens Review Tool 10*)		
How can ESD be further integrated into assessment practices? (*ESD Lens Review Tool 11*)		
How can ESD help to further the development of sustainable schools? (*ESD Lens Review Tool 12*)		
How can ESD be further integrated into teacher education? (*ESD Lens Review Tool 13*)		

Other aspects that could be added to the ESD Lens *Action Plan*

- What resources are needed to take this action plan forward? How can the action plan be integrated into existing resource and review structures and cycles?
- When will the next *ESD Lens* review take place, and how will this inform the next cycle of national curriculum / education review?
- How can this *ESD Lens* review process be extended?
- Where can this *ESD Lens* review process be reported? (e.g.. into education reporting processes such as EFA reporting, or into national development reporting such as national reporting to the Commission on Sustainable Development, or in to National Sustainable Development Strategy reports).
- Is there a need to review existing structures for ESD at a national and/or local level that can facilitate ongoing ESD reviews and action planning?

Key resources on Education for sustainable development

UNESCO documents

UNESCO (2002). *Education for Sustainability. From Rio to Johannesburg: Lessons Learnt from a Decade of Commitment*. Report presented at the Johannesburg World Summit for Sustainable Development, UNESCO, Paris. [Available at http://unesdoc.unesco.org/images/0012/001271/127100e.pdf].

UNESCO (2005). *International Implementation Scheme for the UN Decade of Education for Sustainable Development*. [Available at http://unesdoc.unesco.org/images/0014/001403/140372e.pdf].

UNESCO (2005). *UN Decade of Education for Sustainable Development: Links between the Global Initiatives in Education*, UNESCO, Paris. [Available at http://unesdoc.unesco.org/images/0014/001408/140848m.pdf].

UNESCO (2005). *Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability*, UNESCO, Paris. [Available at http://unesdoc.unesco.org/images/0014/001433/143370E.pdf].

UNESCO (2005). *Teaching and Learning for a Sustainable Future*, UNESCO, Paris. (CD-ROM and website [Available at http://www.unesco.org/education/tlsf].

UNESCO World Conference on Education for Sustainable Development: Bonn Declaration, [Available at http://unesdoc.unesco.org/images/0018/001887/188799e.pdf].

DESD Regional Strategies

Regional Strategy of Education for sustainable Development for Sub-Saharan Africa (SSAESD). [Available at http://www.dakar.unesco.org/news/pdf07/observatory_strat.pdf].

Regional guiding framework of education for sustainable development in the Arab Region. [Available at http://unesdoc.unesco.org/images/0016/001619/161944m.pdf].

Estratégia Latinoamericana para la Década de Éducación para el Desarrollo Sostenible. [Available at http://www.oei.es/decada/portadas/estrategiaregional.htm].

Asia-Pacific.Regional Strategy. [Available at http://www.unescobkk.org/fileadmin/user_upload/esd/documents/esd_publications/working-paper.pdf].

Pacific Education for Sustainable Development Framework. [Available at http://unesdoc.unesco.org/images/0014/001476/147621E.pdf].

United Nations Economic Commission for Europe (UNECE) (2005). *UNECE Strategy For Education For Sustainable Development*. CEP/AC.13/2005/3/. [Available at http://www.unece.org/env/documents/ 2005/cep/ac.13/cep.ac.13.2005.3.rev.1.e.pd].

Other documents

Adams, W. (2006). *The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century*, IUCN, Gland. [Available at http://cmsdata.iucn.org/downloads/iucn_future_of_sustanability.pdf].

Cohen, J., James, S. and Blewitt, J. (2002). *Learning to Last: Skills, Sustainability and Strategy*, Learning and Skills Development Agency, London. [Available at https://crm.lsnlearning.org.uk/user/order.aspx?code=021168&src=XOWEB].

Curriculum Corporation and Australian Government Department of the Environment and Heritage, Australia (2005). *Educating for a Sustainable Future: A National Environmental Education Statement for Australian Schools*. [Available at http://www.environment.gov.au/education/publications/pubs/sustainable-future.pdf].

Earth Charter Commission (2000). *The Earth Charter*. [Available at http://www.earthcharterinaction.org/invent/images/uploads/echarter_english.pdf].

Government of Canada (2002). *A Framework for Environmental Learning and Sustainability in Canada*, Government of Canada, Ottawa. [Available at https://www.ec.gc.ca/education/44E5E9BB-53D2-4A44-9822-E3CF32CE5E12/EC-ELS-E.pdf].

Henderson, K and Tilbury, D. (2004). *Whole-School Approaches to Sustainability: An International Review of Sustainable School Programs*, Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability. [Available at http://www.aries.mq.edu.au/pdf/international_review.pdf].

Hesselink, F., Van Kempen, P. and Wals, A. (2000). *ESDebate: International Debate on Education and Sustainable Development*, IUCN CEC, Gland. [Available at http://www.hect.nl/publications/ESDebate2.pdf].

Hren, B. and Birney, A. (nd) *Pathways: A Development Framework for School Sustainability*, WWF (UK) Godalming, Surrey. [Available at http://assets.wwf.org.uk/downloads/pathways.pdf].

Manitoba Education and Training (2000). *Education for a Sustainable Future: A Resource for Curriculum Developers, Teachers, and Administrators*, Manitoba Education and Training, School Programs Division, Winnipeg. [Available at http://www.edu.gov.mb.ca/k12/docs/support/future/sustaineducation.pdf].

Parliamentary Commissioner for the Environment, New Zealand (2004). *See Change: Learning and Education for Sustainability*, New Zealand Government, Wellington. [Available at http://www.pce.parliament.nz/assets/Uploads/Reports/pdf/See_change_report.pdf].

School Development through Whole School Approaches to Sustainability Education: *The SEEPS Project* (Sustainability Education in European Primary Schools). [Available at http://www.education.ed.ac.uk/esf/index.html].

Sustainable Development Communications Network (2000). *Introduction to Sustainable Development*. [Available at http://www.sdgateway.net/introsd/default.htm].

Southern African Development Community Regional Environmental Education Programme. UNDESD ESD Consultation Reports and other materials [Available at http://www.sadc-reep.org.za].

Sterling, S., Maiteny, P., Irving, D. and Salter, J. (2005). *Linkingthinking: New Perspective on Thinking and Learning for Sustainability*, WWF (Scotland), Godalming, Surrey. [Available at http://assets.wwf.org.uk/downloads/linkingthinking.pdf].

Tilbury, D. and Wortman, D. (2004). *Engaging People in Sustainability*, IUCN, Gland. [Available at http://www.iucn.org/dbtw-wpd/edocs/2004-055.pdf].

Tilbury, D., et al (2005). *A National Review of Environmental Education and its Contribution to Sustainability in Australia*, Volumes 1-5, Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability. [Available at http://www.aries.mq.edu.au/projects/national_review/index.php#Vol1].

UNEP (2006). *Mainstreaming Environment and Sustainability into African Universities*. [Available at: http://www.unep.org/training].

United Nations (2002). *Johannesburg Declaration on Sustainable Development*. [Available at http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm].

United Nations (2002). *World Summit for Sustainable Development Implementation Plan*. [Available at: http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf].

United Kingdom Department for Education and Skills (2005). *Learning for the Future: The DfES Sustainable Development Action Plan 2005/06*. [Available at http://www.dfes.gov.uk/aboutus/sd/docs/SDAP%202006%20FINAL.pdf].

UNESCO has launched the series "ESD Learning & Training Tools" to increase the availability of teaching, training, learning and resource materials on Education for Sustainable Development (ESD) issues. This series provides governments, communities and individuals with a deeper understanding of the benefits of a "sustainability approach" and how education can contribute to it, along with practical tools to carry out ESD actions.

The *ESD Lens* is a guiding tool for reviewing and improving educational policy and practice using ESD perspectives. It seeks to assist Member States and stakeholders in undertaking a rapid review of existing education plans and strategies for formal basic education systems; to identify gaps and provide recommendations to address them. It also provides a checklist of steps to be undertaken to assess education plans, strategies and programmes from ESD perspectives.

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