Introduction to Education for Sustainable Development (ESD)

1 June 2009
National Institute for the Development of Teachers and Education Personnel

UNESCO Regional Workshop on Thematic Issues in Education for Sustainable Development (ESD) under the Mobile Training Team (MTT) Project
Why are we talking about sustainability?
Our Planet is in Trouble
History has entered the planetary phase of civilization in which humanity and the biosphere are entwined in a common fate. There are many signs of this transition.
The laws of nature and biology

The boundaries of the planet

The trajectories of current trends

Human nature, human systems ...
Aspects of the Global Transformation

- Speed
- Scale
- Complexity
We are consuming more and more, faster and faster...

Source: International Geosphere – Biosphere Programme 2004
As a planet, the human race now consumes 30% more biological resources than the earth can produce in one year.

Source: http://www.globalfootprintnetwork.org/
... with some long term consequences
If sustainability is the ability of any system to keep going over time . . . . . . what does this mean for us as a species..... and what will that require of us?

Source: Gary Larson, Far Side.
The Hope Graph
A Symbolic Representation

Objective:
Strive to PUSH this point forward and up
... implement Sustainability FASTER ...
... and REDUCE the amount of loss and damage

The Time of Our Lives

Unsustainable Technologies & Practices
Sustainable Technologies & Practices

1880 1920 1960 2000 2040

Poverty gap
Pollution
Destruction of natural habitat
Fossil fuel use

Innovation
Empowerment
Renewables
Conservation
Awareness

Systainability Asia 2009
How do we build the capacity of people to be...

Civic and spiritual leaders
Active participatory citizens
Cultural creators
Responsible consumers
Ethical entrepreneurs
Interdisciplinary researchers

... and meet the ‘hope graph’ transition and push the sustainability trajectory upward?
Is E D U C A T I O N... part of the solution...?
...or part of the problem?

'Sustainability is about the terms and conditions of human survival, and yet we still educate at all levels as if no such crisis existed.

The content of our curriculum and the processes of education, with a few notable exceptions, has not changed.’

- Prof David Orr *Ecoliteracy* (1992)
“If one listens carefully enough, it may even be possible to hear the Creator groan every year in late May when another batch of smart, degree-holding, but ecologically illiterate *Homo sapiens*, who are eager to succeed, are launched forth into the biosphere.”

David Orr (Earth in Mind, 1994)
‘Crisis of education...’

“The fact that we see (social and environmental decay) as disconnected events or fail to see them at all is... evidence of a considerable failure that we have yet to acknowledge as an educational failure. It is a failure to educate people to think broadly, to perceive systems and patterns, and to live as whole persons”.

-David Orr  *Earth in Mind*, 1995
Sustainability asks us
to look at the world
differently ... and to
look at the mission or
purpose of education
differently.
Education is first and foremost a holistic conversation about how to live . . .

. . . and in our time the great question now before us is how we will shall live in light of the ecological fact that we are bound together in the community of life, on one small and fragile planet, one and indivisible.
Purposes of education

Has been . . .

- **Vocational** - preparing for economic life
- **Socialisation** - reproduction of culture, promotion of citizenship

Is currently . . .

- **Liberal** - developing individual's potential

Needs to be . . .

- **Transformative** - education for change, for a better world

Sustainable World

Source: Sterling, Stephen: Learning, Sustainability and Change.
## Levels of learning and change

<table>
<thead>
<tr>
<th>Level of Change</th>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First order change</strong></td>
<td>Effectiveness/efficiency</td>
<td>‘Doing things better’</td>
</tr>
<tr>
<td><strong>Second order change</strong></td>
<td>Examining assumptions</td>
<td>‘Doing better things’</td>
</tr>
<tr>
<td><strong>Third order change</strong></td>
<td>Paradigm change</td>
<td>‘Seeing things differently’</td>
</tr>
</tbody>
</table>

**Source:** Sterling, Stephen: Learning, Sustainability and Change.
The System Iceberg

- **Mental Models**: What assumptions, beliefs and values do people hold about the system?
- **Systemic Structures**: What has influenced the patterns? (i.e. policies, laws, physical structures)
- **Patterns of Behaviour**: What's been happening? What are the trends? What changes have occurred?

"What is seen" and "Events" are visible above the surface, while "What is generally unseen" is below the surface, representing the GREAT SEA of LIFE.

Structure influences the behaviour of the system

- **Mental Models**: What assumptions, beliefs and values do people hold about the system?

  - **Systemic Structures**: What has influenced the patterns? (i.e. policies, laws, physical structures)
    - What are the relationships among the parts?

  - **Patterns of Behaviour**: What’s been happening? What are the trends? What changes have occurred?

  - **Events**: What happened? What is seen

  - **What is generally unseen**: Leverage

“Education for Sustainable Development is an evolving concept that encompasses a new vision of education seeking to empower people to assume responsibility for creating and enjoying a sustainable future.”

1987 The Brundtland Commission...

**Sustainable Development** = Development that meets the needs of the present without compromising the ability of future generations to meet their needs.

1992 The Rio Earth Summit...

Agenda 21 - Action Plan/ "Blueprint for Sustainable Development"
(40 chapters, 300 pages)
Chapter 36: *Promoting Education, Public Awareness and Training*
Background/History cont’d...

2000 UN Millenium Summit

- Halve Extreme Poverty
- Universal Primary Education
- Empowerment of Women/ gender equality
- Reduce <5 mortality by 2/3
- Reduce maternal mortality by 3/4
- Reverse spread of diseases, esp. HIV/AIDS, Malaria
- Ensure Environmental Sustainability
- Form a Global Development Partnership for aid, trade, debt relief

Millenium Development Goals by 2015

Millenium Development Goals by 2015
1. Promotion and improvement of basic education;

2. Reorienting existing education at all levels to address sustainable development;

3. Developing public understanding and awareness of sustainability;

4. Training the workforce with knowledge and skills to perform their work in a sustainable manner.
"Our biggest challenge in this new century is to take an idea that seems abstract -- sustainable development -- and turn it into a reality for all the world's people."

Kofi Annan, UNSG, 2001
ESD is an Integrated Approach

“Education for Sustainable Development integrates concepts and analytical tools from a variety of disciplines to help people better understand the world in which they live.”

Sustainability Asia 2009
The Sustainability “Stool”

Education for Sustainable Development

Developing Systems Thinkers

Economic Principles

Social Principles

Environmental Principles
Sustainable Production & Consumption

Fresh Water Management

Biodiversity

Conservation & Protection
Key Themes (cont’d)…

- Health Promotion
- Human Rights
- Peace & Int’l Understanding
- Imp. of Info. & Comm. Technology for ESD
- Gender Equality
- Poverty Alleviation
ESD's Key Attributes

- Education that is interdisciplinary and holistic
- Education that is values-driven
- Education that promotes critical thinking and problem solving skills
- Education that centered on a systems thinking approach

Education that uses multi-method approaches

Education that encourages and stresses participatory decision-making responsibility

Education that is locally relevant and culturally appropriate

Essential Skills for Sustainable development

- The ability to communicate effectively (both orally and in writing).
- The ability to think about systems (both natural and social sciences).
- The ability to think in time - to forecast, to think ahead, and to plan.
- The ability to think critically about value issues.
- The ability to see issues and problems from multiple perspectives.

The ability to separate number, quantity, quality, and value.

The capacity to move from awareness to knowledge to action.

The ability to work cooperatively with other people.

The capacity to use these processes: knowing, inquiring, acting, judging, imagining, connecting, valuing, and choosing.

The capacity to develop an aesthetic response to the environment.

What type of ESD . . . . ?

. . . Some distinctions

- **Education “about” Sustainability – Accommodating**… is an awareness lesson or theoretical discussion (emphasis on content, information, knowledge… easily integrated into curricula and existing paradigms … may not change values and behaviours).

- **Education “for” Sustainability – Adaptive – Learning for change** … is the use of education as a tool to achieve sustainability (includes knowledge, values and skills … reorientation of curricula but within existing paradigms… values contradictions between theory and practice)

- **Education “as” Sustainability – Transformative – Learning AS Change** … schools Role Model sustainable practices, values & behaviours… provide transformative, holistic learning experiences… participative, collaborative, shared leadership / decision-making.
Learning with a sustainable perspective

**Reflective and Deep Thinker**
Makes sense of and understands the complexity of environmental concepts and the interdependence of ideas underpinning sustainability

**Ethical and responsible citizen**
Empathetic to others and able to make ethical decisions about environmental, social and economic issues, events and actions

**Autonomous Learner**
Self-directed and motivated, with an on-going interest in learning about the world that they live in.

**Connected Learner**
Engaged, interested and enthusiastic about exploring the world around them and capable of working with others

*Source:* Adapted from the Productive Pedagogies, Education Queensland
Shifts in curriculum, content and process

FROM:
- Curriculum as top-down ‘product’
- Fixed knowledge
- Abstract knowledge
- Teaching/instruction
- Few learning styles
- Passive learning

TOWARDS:
- Curriculum as experience/situated learning
- Provisional knowledge
- Real world knowledge
- Participative learning
- Multiple learning styles
- Reflective/active learning

Source: Sterling, Stephen: Learning, Sustainability and Change.
ESD requires a Whole Institution Approach

Values, Principles and Practices reflected in every aspect of school’s activities

- Community partnerships
  - And participation

- The university ethos, culture and environment

- The mission/vision, purpose and shared values

- All institutional policies and guidelines

- Behavior of students, Teachers and staff

- Teaching/learning process, methodology, and pedagogy

- Curricula & learning material in all disciplines
Reflecting on what we do now . . . And looking to the future . . .

- What is of value that we need to keep?
- What might need modification?
- What do we probably need to abandon?
- What new ideas, principles, methodologies, working methods, or policies are needed?

Source: Sterling, Stephen: Learning, Sustainability and Change.
Our ESD Change Agent Challenge

- Economic growth and increased consumption patterns tend to characterize the aspirations of a large proportion of the planet’s society.

- ESD aims to challenge these aspirations by encouraging us to imagine a different future and reflect on how our values, beliefs and current behaviour might affect our collective ability to realize such a future.

- To do this requires that we also change our view of the purpose of education.

- The transformative aspect of ESD makes the concept difficult for many to grasp. Thus, there is a need for proponents of ESD to establish for themselves an understanding of the concept and decide how they will communicate this to those in a higher position of responsibility.
Thank you for your attention!