Rwanda Environment Management Authority (REMA)

GUIDELINES FOR INFUSING EDUCATION FOR SUSTAINABLE DEVELOPMENT INTO SCHOOLS IN RWANDA

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Guidelines for infusing Education for Sustainable Development into Schools in Rwanda

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" There are solutions to the major problems of our time; some of them even simple. But they require a radical shift in our perceptions, our thinking, our values."

(Fritjof Capra, 1996)

Sustainable living must be the new pattern for all levels: individuals, communities, nations and the world. To adopt the new pattern will require a significant change in attitudes and practices of many people. We will need to ensure that education programmes reflect the importance of an ethic for living sustainably.

(IUCN/UNEP/WWF, 1991)

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FOREWORD

Nowadays, there are several crucial questions and issues facing people in all societies throughout the world. These include:

- how to preserve and protect the environment, reduce pollution and manage natural resources in a sustainable way;
- how to reduce the inequalities that exist between different people in all parts of the world and protect their human rights;
- how to develop peaceful and harmonious communities by promoting understanding between people who are different from one another.

Rwanda has realised the need to embrace Education for Sustainable Development (ESD) as an opportunity to continuously build its citizens capacity for utilizing its natural resources in support of improved livelihoods. It is in this framework that the Government of Rwanda through Rwanda Environment Management Authority (REMA) has developed a National Environmental Education for Sustainable Development (EESD) Strategy upon which these guidelines are based.

The guidelines recognise that schools have the potential to become models for sustainability. School teachers' consideration of lifelong living and sustainability approaches when preparing their lessons is recommended.

ESD is therefore a holistic process capable of addressing the environment and development issues the world is facing today. These guidelines are designed to help schools to develop their thinking along such lines and contribute to sustainable living by involving youth at the very early age.

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Rwanda Environment Management Authority

LIST OF ABBREVIATIONS AND ACRONYMS

CBOs :   Community Based Organisations

DEOs :   District Education Officers

DESD: Decade of Education for Sustainable Development

EDPRS: Economic Development and Poverty Reduction Strategy

EESD   Environmental Education for Sustainable Development

ESD: Education for Sustainable Development

HIV/AIDS : Human Immunodeficiency Virus/Acquired Immune Deficiency
            Syndrome

ICT :   Information and Communication Technology

IIS: International Implementation Schemes

IUCN: International Union for Conservation of Nature

IWRM :   Integrated Water Resource Management

MINEDUC: Ministry of Education

MINELA: Ministry of Environment and Land

MINIRENA : Ministère des Ressources Naturelles (Ministry of Natural
            Resources)

NCDC :   National Curriculum Development Centre

NGOs :   Non Governmental Organizations

NTEAP :   Nile Transboundary Environmental Action Project

REMA :   Rwanda Environment Management Authority

SD: Sustainable Development

SIDA :   Swedish International Development Cooperation Agency

UN: United Nations

UNESCO: United Nations Education Science and Cultural Organization

UNEP: United Nations Environment Programme

WWF: World Wildlife Fund for Nature

CHAPTER 1: INTRODUCTION

Education is an essential tool for achieving sustainability. People around the world recognize that current economic development trends are not sustainable and that public awareness, education, and training are key to moving society toward sustainability.

Sustainable development issues in Rwanda are complex and interlinked. In all of this, environment is important for development because of the links between: Environment and Livelihoods; Environment and Health; Environment and Vulnerability; Environment and Economic growth. These factors are the key pillars of vision 2020 and key priorities of EDPRS (Economic Development and Poverty Reduction Strategy) in Rwanda.

Livelihoods of the poor are often directly dependent on natural resources, and therefore the income dimension of poverty is determined by the quality of the natural environment. Health is an important income determinant of human well-being and the quality of water, air and settlements has a profound impact on health. In addition, the poorest are the most vulnerable to the impacts of disaster and emergencies- floods, droughts, epidemics and civil wars increase the levels of poverty as the poor do not have the safety nets to cushion against such crises.

1.1. What is Sustainable Development?

Original descriptions of sustainable development are credited to the Brundtland Commission: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). It has generally been accepted that achieving sustainable development will require balancing environmental, societal, and economic considerations in the pursuit of development and an improved quality of life.

The well-being of these three areas is intertwined, not separate. For example, a healthy, prosperous society relies on a healthy environment

to provide food and resources, safe drinking water, and clean air for its citizens. The sustainability paradigm rejects the contention that casualties in the environmental and social realms are inevitable and acceptable consequences of economic development. Thus, sustainability is a paradigm for thinking about a future in which environmental, societal, and economic considerations are balanced in the pursuit of development and improved quality of life.

A number of ideals and principles underlying sustainability have been identified. These include intergenerational equity, gender equity, just and peaceable societies, social tolerance, environmental preservation and restoration, poverty alleviation and natural resource conservation. Agenda 21 identified education as an essential tool for achieving sustainable development and highlighted four areas of action for education. These are (1) improve basic education, (2) reorient existing education to address sustainable development, (3) develop public understanding, awareness, and (4) trainings.

1.1.1. Principles of Sustainable Development

Many governments and individuals have pondered what sustainable development means beyond a simple one-sentence definition. The *Rio Declaration on Environment and Development* fleshes out the definition by listing 18 principles of sustainability. Some are listed below:
  - People are entitled to a healthy and productive life in harmony with nature;
  - In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process, and cannot be considered in isolation from it.
  - Environmental issues are best handled with the participation of all concerned citizens Nations shall facilitate and encourage public awareness and participation by making environmental information widely available;
  - The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the

knowledge of indigenous people are needed too. Nations should recognize and support the identity, culture and interests of indigenous people;

- Peace, development and environmental protection are interdependent and indivisible. The "Rio principles" give us parameters for envisioning locally relevant and culturally appropriate sustainable development for our own nations, regions, and communities. These principles help us to grasp the abstract concept of sustainable development and begin to implement it.

Detailed principles of SD are listed in annex 3.

The diagram below shows the pillars of Sustainable Development and their interrelationship.
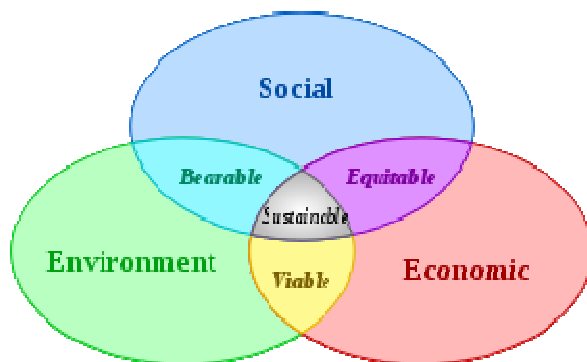
1.2. Education for Sustainable Development (ESD)

Education is held to be central to sustainability. Indeed, education and sustainability are inextricably linked. ESD carries with it the inherent idea of implementing programs that are locally relevant and culturally appropriate. All sustainable development programs including ESD must take into consideration the local environmental, economic, and societal conditions. As a result, ESD will take many forms according to school situations.

Sustainable development encompasses environment, economics, and society. Therefore, students and people in general need basic knowledge from the natural sciences, social sciences, and humanities to understand the principles of sustainable development, how they can be implemented, the values involved, and ramifications of their implementation. Knowledge based on traditional disciplines supports ESD.

Education for Sustainable Development (ESD) is a model of education that seeks to empower people to assume responsibility for creating a sustainable future. Central to ESD is the concept of culture as an essential underlying theme. It has been acknowledged that there is no "single route" to sustainable development. Further, it is clear that understandings of, and visions for, sustainability will be different for each of us and that we will need to work together to negotiate the process of achieving sustainability. There are many different stakeholders in sustainable development (i.e., governments, businesses, educational institutions, media, youth, etc). Each of these sectors has a different vision of sustainable development and how it can contribute. Some are interested in environmental preservation and protection, some have economic development interests while others may be more interested in social development. In addition, how each nation, cultural group and individual views sustainable development will depend on its own values. The values held in a society help to define how personal decisions are made and how national legislation is written.

Achieving sustainable development will require balancing environmental, societal, and economic considerations in the pursuit of development and an improved quality of life. Ideals and principles underlying sustainability include intergenerational equity, gender equity, just and peaceable societies, social tolerance, environmental preservation and restoration, poverty alleviation and natural resource conservation. Education for Sustainable Development paves the way for this "rethinking".

ESD theories advocate for a holistic approach to learning whereby learners must be allowed to construct their knowledge and understanding through active participation where they have the opportunity to discover facts, ideas and meanings. First-hand experience through fieldwork for learners is central to the methodology of ESD

1.2.1. Core Characteristics of Education for Sustainable Development

If ESD is to be an effective tool for engaging people in negotiating a sustainable future, making decisions and acting on them, it must first address the way we think about sustainable development and about education in general. Essential to ESD are the following skills (Adapted from Tilbury, D. and Wortman, D (2004), Engaging People in Sustainability):

- Envisioning – being able to imagine a better future. The premise is that if we know where we want to go, we will be better able to work out how to get there.;
- Critical thinking and reflection – learning to question our current belief systems and to recognize the assumptions underlying our knowledge, perspective and opinions. Critical thinking skills help people learn to examine economic, environmental, social and cultural structures in the context of sustainable development;
- Systemic thinking – acknowledging complexities and looking for links and synergies when trying to find solutions to problems.
- Building partnerships – promoting dialogue and negotiation, learning to work together;
- Participation in decision-making – empowering people.

These skills should be learnt and applied according to the cultural contexts of different groups and stakeholders.

1.2.2. Education for Sustainable Development and Learning Goals

Educating children and youth for sustainable development provides the skills, perspectives, values and knowledge to live in a sustainable way and must be interdisciplinary i.e. integrating concepts and analytical tools from a variety of disciplines to be reoriented to include the changes needed to promote sustainable development.

The ESD foundations offer a framework within which to establish learning goals and concrete learning objectives. While it is very important to establish these goals, it is vital to remember that the learners themselves play a major part in determining what is actually learned. This is affected by their motivation, past knowledge, skills, attitudes, ideas, expectations, and so forth. Also impacting on a learning experience will be the quality of the school educators, their support team and the resources available as well as external factors such as national curricula and government policy.

CHAPTER 2: BACKGROUND AND CONTEXT OF ESD IN RWANDA

2.1. United Nations Decade for Sustainable Development

In recognition of the importance of ESD, the United Nations General Assembly declared 2005-2014 the UN Decade of Education for Sustainable Development (DESD). UNESCO was requested to lead the Decade and to develop an International Implementation Scheme (IIS) for the Decade. The IIS identifies two goals for the Decade:

(1) to provide an opportunity for refining and promoting the vision of, and transition to, sustainable development – through all forms of education, public awareness and training

(2) to give an enhanced profile to the important role of education and learning in sustainable development.

The objectives of the DESD are to:

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

2.2. Rwanda's Vision 2020

Rwanda's Vision 2020 is aimed at raising Rwanda to middle income (900 USD) status over a period of 13 years now. It is also concerned about sound political, economic and environmental governance, transformation of rural economy, development of industry services, human resources development, promotion of the private sector, and regional and international economic integration.

The Vision stipulates that Rwanda is committed to reaching "Universal Education for All", which is one of the most important Millennium Development Goals. However, there is clearly a need to educate and train people at all levels: primary, secondary and tertiary, with special attention paid to the quality of education. This has been declining, due in a large part to low calibre teaching staff and therefore, the government will organise intensive teacher training programs. To promote efficiency and continuous upgrading of skills, appropriate programs will be launched in the national institutions aimed at on-the-job training, in-service training and distant learning

Absolutely crucial for achieving VISION 2020 will be to properly link education policies, with sector development policies.

2.3. Rwanda Education Policy

The Rwanda Education policy objectives provide a framework for capacity building for Rwandese people for sustainable development i.e:
- Ensure that education is available and accessible to all Rwandese people;
- Improve the quality and relevance of education;
- Promote the teaching of science and technology with a special focus on ICT;
- Promote trilingualism in the country;
- Promote an integral, comprehensive education orientated towards the respect of human rights and adapted to the present situation of the country;
- Inculcate in children and sensitize them to the importance of environment, hygiene and health and protection against HIV/AIDS;
- Improve the capacity for planning, management and administration of education;
- Promote research as a mobilizing factor for national development and harmonies the research agenda.

ESD is closely aligned to environmental education and every learning activity can be considered highly relevant to the development of ESD programmes in schools. Although schools will place different emphases on the different aspects of ESD, depending on their site, the learners, the educators or their available resources, sustainable development ideas will need to be incorporated in their programmes for the education offered to be considered targeting ESD.

2.4. Environmental Policy

The National Environment Policy, the Organic Law No. 04/2005 and the consequent formation of REMA whose mandate is to oversee the management of environmental issues in the country together with the Country Environment Sector strategy of MINIRENA (presently known as MINELA) provide an auxiliary of the Government's commitment to conserve the environment with principles of sound environmental management all of which that point to ESD as follows:

- Every individual has the right to live in healthy and balanced environment and share responsibility for its maintenance.
- Any development activity in Rwanda shall be based on sustainable management and equitable resource use.
- Security of land and resource tenure shall be the basis of sustainable natural resource management.
- An integrated and multi-sectoral systems approach to resource planning and environmental management shall be instituted.
- REMA will promote public participation of its community and clients in the protection and sound management of environment.
- Special attention shall be paid to educational and sensitization programmes in environment at all levels, with more involvement of women and youth.
- The use of environmentally sound and socially acceptable technologies shall be promoted.

- International and regional cooperation in the management of environmental resources shared by two or more states shall be recognised and given consideration.

Following the international and National trends and realising the need for a comprehensive approach of ESD, Rwanda decided to develop a national ESD strategy which is currently in the process of finalisation.

2.5. The National Education for Sustainable Development Strategy

This strategy will guide the implementation of ESD programmes projects and activities within the Decade. The stakeholders are expected to mainstream ESD concerns into their respective plans and activities with an emphasis on improving the quality of education, reorienting education towards sustainable development, enhancing public awareness and capacity building.

2.6. Why Should Youth and Schools Embrace Education for Sustainable Development?

The need to embrace ESD is an opportunity for Rwandan schools to continuously build its citizen's capacity towards healthy measures for utilizing the country's resources to lead productive livelihoods and improve their quality of life.

Implementation of ESD in schools is also an opportunity for Rwanda to develop and implement an education system and programme, which develop values that promote viable, alternative approaches to sustainable development. These guidelines will build on the existing Environmental Education Initiatives in order to guide and give direction to the provision of Education for Sustainable Development in secondary schools.

ESD can be used as the focal point for learner-centred research projects, collaboration between schools, and exchange programs between

students from the various schools as well as teacher knowledge exchanges about how to incorporate ESD into 'Integrated Studies' courses or others with similar goals.

CHAPTER 3: GUIDELINES FOR INFUSING ESD IN SCHOOLS

3.1. Introduction

The UN Commission on Sustainable Development has called for education to be more than a theoretical discussion of sustainability at this critical juncture in time. Education has to be reoriented to involve transforming institutional programs, practices, and policies. Institutions involved in reorienting education to address sustainability must "practice what they preach" and go through the processes necessary to make progress towards becoming model institutions.

Simply increasing basic literacy, as it is currently done in most countries, will not advance sustainable societies. Indeed, if communities and nations hope to identify sustainability goals and work toward them, they must focus on skills, values, and perspectives that encourage and support public participation and community decision making.

Integrated Water Resources Management (IWRM) defined as a process which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems can be used as a model example in inculcating ESD in natural resource management.

3.2. Purpose of the Guidelines

These guidelines are intended to assist teachers at secondary schools to achieve greater sustainability when planning their courses. These guidelines aim to show teachers how they can begin to explore some of these issues in the secondary school curriculum through their everyday activities.

The aim of these guidelines is to develop a general framework that allows tackling the issue of education for sustainable development in a systematic and consistent manner. These guidelines will help to adjust specific educational goals in order to address sustainability. Teachers and school authorities are expected to mainstream ESD into their lessons and activities with an emphasis on improving the quality of education, reorienting education towards sustainable development.

3.3. The Guidelines

3.3.1. Development of Curricula

In reorienting education to address sustainability throughout the formal education system, program developers need a balance between looking forward to a more sustainable society with looking back to traditional ecological knowledge. This balance can be achieved using ESD principles.

ESD is more than a knowledge base related to environment, economy, and society. It also addresses learning skills, perspectives, and values that guide and motivate people to seek sustainable livelihoods, participate in a democratic society, and live in a sustainable manner. ESD also involves studying local and, when appropriate, global issues. Therefore, five components of a reoriented education (i.e., knowledge, skills, perspectives, values, and issues) must all be addressed in a formal curriculum to address sustainability (R. McKeown, 2002).

Sustainable development has three pillars, namely, Society, Environment, and Economy. In all of this, an underlying dimension is Culture ("a way of being, behaving, relating, believing and acting that people live out through a process of change and exchange with other cultures" - UNESCO).
Therefore, there is a need to understand ways of creating, storing and transmitting knowledge, values and beliefs – and integrate these into the curriculum of schools and education.

3.3.2. Developing an Education for Sustainable Development Strategy for the School

All students need to acquire the necessary skills, knowledge base, values and attitudes to be active global citizens in creating a sustainable society. Directors of schools should be truly concerned if they want school teachers and students to be actively involved in promoting ESD. School policies must therefore be continuously established to set fourth actions.

Policies that foster ESD can include the following attempts:
- Encouraging cooperation among teachers of different subjects to work together in organising learning experiences for students both in course work and extra curricula activities;
- Familiarising school teachers of all subject areas with updated information on world emerging issues with special consideration of their local environment, e.g. water management issues;
- Encouraging cooperation with other organisations outside schools to help with ESD activities.

3.3.3. Recommended Teaching Methodologies and Techniques

a. **Activity-based learning/teaching**: this method actively engages students for it allows them to choose and plan their own activities. Teachers must develop the programmes that are centred around students' action both in and out of classes. The teacher should encourage the curiosity of the students and provoke them to ask "why?"

Survey activities in real environmental settings, for example, help students identify the origin of pollution of the rivers in their surrounding receiving industrial, agricultural and domestic effluent. After examination of water samples, students can be helped to proceed to the thinking and discussion of how to prevent

pollution of the rivers. These activities can finally lead to action plans to help solve some community problems.

b. **Field trips:** outdoor activities allow students to have direct contact with the environment. This helps students to learn to observe, investigate and appreciate important environmental concepts. Beside nearby rivers and lakes, school can visit watershed areas, supply water plants, waste dumping sites and museums. Teachers need to give orientation before the trips so the students know what to do during the trips and later in class discussions, experiments or summary.

c. **Group investigation or group work**: in groups, students can learn to help each other in planning, observing, listening, recording, sharing ideas and experiences, learning to be tolerant to others' opinions and making conclusions.

d. **Problem solving approach**: this encourages learners to identify and recognize problems and study real situations and search for relevant information, make a summary, suggestions or proposals for implementation.

e. **Discussion**: this is important for enhancing thinking abilities. It can be used together with all other teaching methods and all other kinds of activities. It is advisable that teachers prepare key questions for students' discussions.

3.3.4.   Infusion Approach

The country has not yet set the independent subject for ESD, nor does not indicate the systematic contents as ESD. Since the daily classes at school are normally based on the studies guidance submitted by the

government, there are few possibilities for ESD to find a niche. Therefore, relations of each subject and ESD become important and it is possible to conduct ESD in every subject at school. Under the current system, it will be necessary to carry out ESD within other subjects and need to develop a programme which can simultaneously achieve the objectives of each subject and ESD.
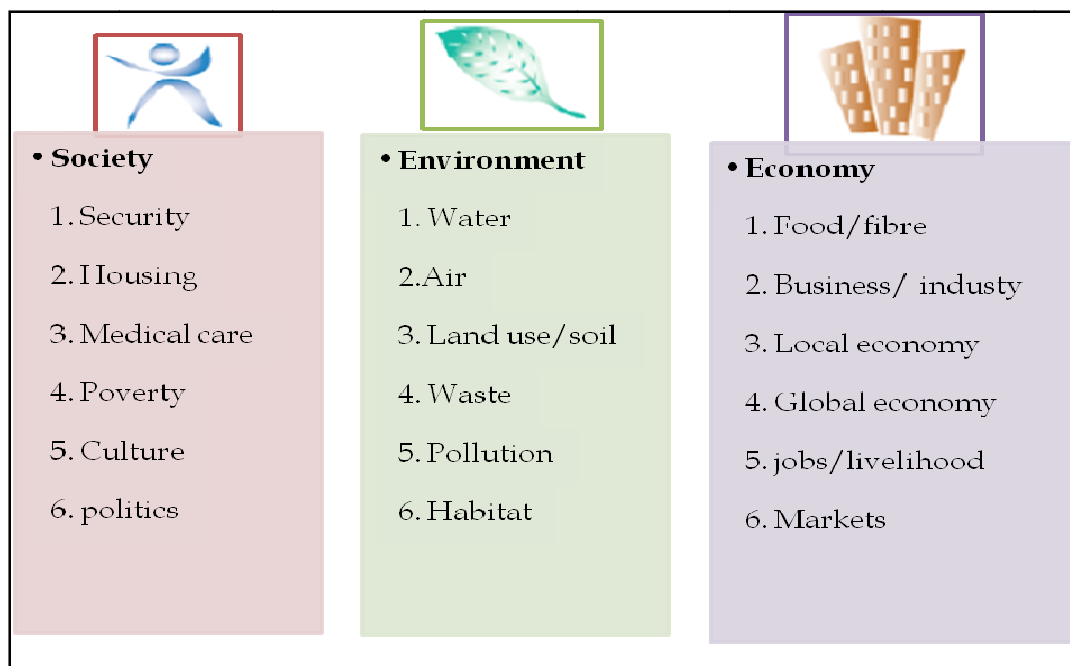
Integration of ESD into individual subjects maybe based upon student's experience, in order to nurture the scientific view as well as the power of execution which leads the solution of societal problems, the ultimate objective of ESD.

A paradigm shift is to encourage teachers of each school subject to re-examine their course content in order to use, examples and cases, some details, including learning activities that are related to understanding of natural and socio-cultural environments. An example in Rwanda is the current move for integration of gender equity, environmental protection and HIV AIDS in general paper for secondary schools can be used.

ESD encourages theme teaching and team teaching in different educational settings. Themes will be derived from the three ESD pillars and may include: poverty, wasteful consumption, and gender inequality, violation of human rights, environmental degradation, conflict management, and waste management among others.

Example of an ESD integrated language lesson:

Students are invited to choose one word from each column of the table bellow and make a meaningful paragraph:

• **Society**	• **Environment**	• **Economy**
1. Security	1. Water	1. Food/fibre
2. Housing	2. Air	2. Business/ industy
3. Medical care	3. Land use/soil	3. Local economy
4. Poverty	4. Waste	4. Global economy
5. Culture	5. Pollution	5. jobs/livelihood
6. politics	6. Habitat	6. Markets

By choosing numbers:

  4. from Society – "Poverty"

   3. from Environment – "Land use/soil"

   6. from Economy – "Markets"

one student can make the following paragraph, in a language lesson:

"*A young farmer inherits a garden plot. The previous owner had not cared for the plot; the soil had lost fertility and was eroded by rainwater. The young farmer kept most of the harvest from the garden plot to feed his family. The produce market in town suffered because many farmers did not have surpluses to sell, because their land was also eroded.* "

(Adapted from "Brain Program #12: 666" in *Jump Start Your Brain* by Doug Hall. Warner Books: New York. 1995. pp. 254-258.

The above paragraph is an example of how unsustainable use of resources can affect the environment, society, and economy. Therefore ESD is practised to reverse such situations.

3.3.5. Co-curricular activities

Through various students' club activities, ESD can be promoted. Usually, students who have similar interests will belong to the same clubs, thereby learning to manage all kinds of plans and activities by themselves under the patronage of the teachers. Nature conservation, anti AIDS, Human Rights clubs play a vital role in enriching students' knowledge on thematic issues and such knowledge can be disseminated to other students in the school and to the public at large as well.

3.3.6. Teaching Materials

When we take up ESD in schools, a good number of issues can be dealt within the framework of existing subjects but some may include content that can be adopted neither in science nor in social studies and the different perspective for teaching material may be required.

It is necessary to select materials which interests the students and leads them to think about issues. Use of audiovisual materials information from newspapers, TV, magazines, books, statistics, reports from local governments, regional and international bulletins and other sources gives teachers the benefit of grasping the whole picture of real time changes.

3.3.7. Involvement of and Feedback to Local Communities

Education for Sustainable Development is an essential part of a larger conversion regarding quality of life for all the inhabitants of Earth. ESD is extremely important for adults as well as for children and it is naturally regarded significant as one of modern themes in lifelong learning. The influence of ESD over the local communities is a key element of the success of education.

The relationship between ESD at school and the community is important because of the following points:
-   What the children learn is expected to increase the opportunity for the whole family and the citizens in the community including adults to study SD concerns;
-   Teachers should participate in local events to effect communication with the people living there for this is significant for making teaching references from local sources in as far as ESD is concerned.

The emphasis should be on education to provide life and occupational skills. The philosophy behind the ESD approach is to use the school as the centre of learning for the community and to use the community as a learning resource of the school. This henceforth yields a positive impact in enhancing the potential of many students and communities, reinforcing their self-sufficiency and improving their quality of life.

3.3.8. Training of Teachers

Educators must demonstrate a basic understanding of the goals, theory, practice, and history of the field of ESD. This knowledge provides a solid foundation on which educators can build their own practice.

Continuous professional development of teachers/educators both in content and pedagogy from pre-service to continuing education which may redefine and enlighten the role of the teacher/educator towards sustainability goals should be carried out.

Beside pre-service education, the Faculty of Education at different universities should be approached to give in service trainings for teachers who want to upgrade the knowledge and skills in ESD. The faculty with its direct responsibility of searching for the best ways to provide people with education they need can certainly lead in disseminating and coordinating many ESD activities within universities and among schools and the public.

CHAPITER 4: CHALLENGES FOR ESD IN SCHOOLS

The very concept of ESD challenges the way most people think about the world today. 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.

One of the great challenges of ESD is to have students and teachers understand the interrelatedness of the environment, society, and economy and have this interrelatedness be evident in their teaching and their lives as community members. Since ESD is an instrument for imparting healthy personal and social attitudes towards environment and development, it must be concerned with human communities and how they interact with their local environment.

Addressing ESD requires teachers to think about their profession from a different perspective and learn skills that perhaps, teachers in previous eras did not learn or use. As a result, the new generation of teachers will require practice and support as they learn new approaches to education.

CHAPTER 5: CONCLUSION

The Government of Rwanda recognizes the development challenges facing the country. Being party to many international agreements and conventions such as the DESD 2005-2014, Rwanda is keen and aware of her responsibilities to implement measures that promote sustainable development through different modes of education. For this, ESD is an opportunity for the country to continuously build its citizen's capacity towards healthy measures for utilizing the country's resources to lead productive livelihoods and improve quality of life.

In the face of emerging issues and development challenges, the needs of the present generations in Rwanda are indeed, not fully met and a good number of policies and actions aimed at meeting these needs have been developed. It therefore becomes paramount to develop guidelines for infusing ESD in schools to give a direction to the provision of ESD in the education sector to begin with, as ESD implementation remains a responsibility of all sectors of the economy

Values taught in school need to reflect the larger values of the society, environment and economy that surround the school. Where appropriate, the opinions of community members can be solicited. Then, a full range of values influenced by local traditions, religions, media, and culture will be revealed, and considered for relation to and inclusion in ESD. In addition, curriculum developers will play a central role in ensuring that new values, which will help students, teachers and communities to reach goals of sustainability, are included in the curriculum.

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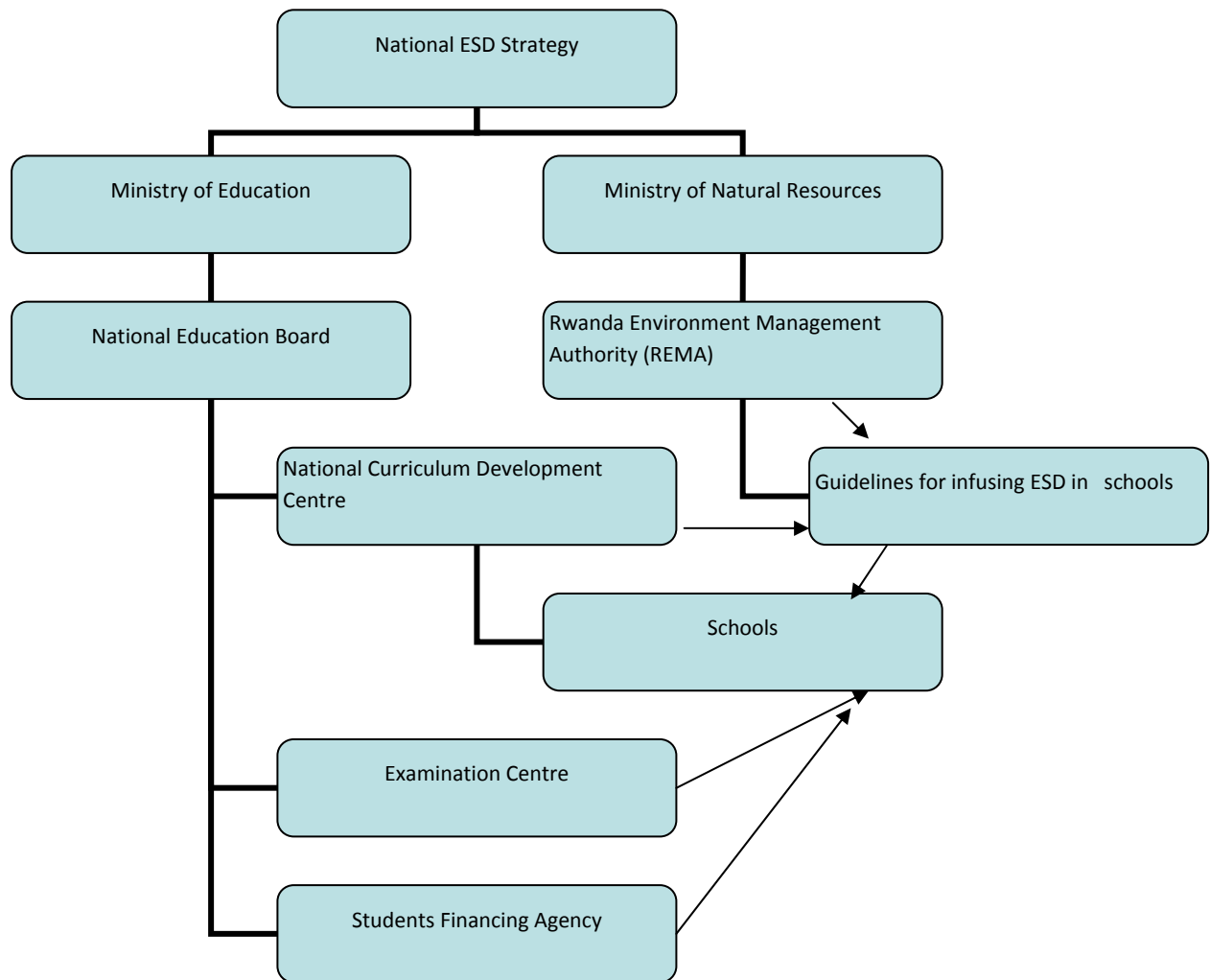8. http://www.esdtoolkit.org/discussion/default.htm

ANNEXES

Annex 1. Principles of Sustainable Development

Many governments and individuals have pondered what sustainable development means beyond a simple one-sentence definition. The *Rio Declaration on Environment and Development* fleshes out the definition by listing 18 principles of sustainability. Some are listed below:

- People are entitled to a healthy and productive life in harmony with nature;
- Development today must not undermine the development and environment needs of present and future generations;
- Nations shall develop international laws to provide compensation for damage that activities under their control cause to areas beyond their borders;
- Nations shall use the precautionary approach to protect the environment. Where there are threats of serious or irreversible damage, scientific uncertainty shall not be used to postpone cost-effective measures to prevent environmental degradation;
- In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process, and cannot be considered in isolation from it. Eradicating poverty and reducing disparities in living standards in different parts of the world are essential to achieve sustainable development and meet the needs of the majority of people;
- Nations should reduce and eliminate unsustainable patterns of production and consumption, and promote appropriate demographic policies;
- Environmental issues are best handled with the participation of all concerned citizens Nations shall facilitate and encourage public awareness and participation by making environmental information widely available;
- Nations shall enact effective environmental laws, and develop national law regarding liability for the victims of pollution and other environmental damage. Where they have authority, nations shall

assess the environmental impact of proposed activities that are likely to have a significant adverse impact;
- Nations should cooperate to promote an open international economic system that will lead to economic growth and sustainable development in all countries;
- Environmental policies should not be used as an unjustifiable means of restricting international trade.
- The polluter should, in principle, bear the cost of pollution;
- Nations shall warn one another of natural disasters or activities that may have harmful transboundary impacts;
- Sustainable development requires better scientific understanding of the problems. Nations should share knowledge and innovative technologies to achieve the goal of sustainability.
- The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognize and support the identity, culture and interests of indigenous people;
- Warfare is inherently destructive of sustainable development, and Nations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment;
- Peace, development and environmental protection are interdependent and indivisible. The "Rio principles" give us parameters for envisioning locally relevant and culturally appropriate sustainable development for our own nations, regions, and communities. These principles help us to grasp the abstract concept of sustainable development and begin to implement it.

Annex 2. . ESD guidelines flow chart

National ESD Strategy

Ministry of Education

Ministry of Natural Resources

National Education Board

Rwanda Environment Management Authority (REMA)

National Curriculum Development Centre

Guidelines for infusing ESD in   schools

Schools

Examination Centre

Students Financing Agency

Annex 3. The UN Decade of Education for Sustainable Development 2005 – 2014

"The ultimate goal of the Decade is that education for sustainable development must be more than just a slogan. It must be a concrete reality for all of us - individuals, organization, governments - in all our daily decisions and actions, so as to promise a sustainable planet and a safer world to our children, our grandchildren and their descendants. The principles of sustainable development must find themselves in children's schooling, higher education, non-formal education and community-based learning activities. This means that education will have to change so that it addresses the social, economic, cultural and environmental problems that we face in the 21st century."

> Director-General of UNESCO, Koïchiro Matsuura on the occasion of the launching of the Decade of Education for Sustainable Development (DESD) in New York on 1 March, 2005.

Learning our Way to Sustainability

Sustainable development is seeking to meet the needs of the present without compromising those of future generations. We have to learn our way out of current social and environmental problems and learn to live sustainably.

Sustainable development is a vision of development that encompasses populations, animal and plant species, ecosystems, natural resources and that integrates concerns such as the fight against poverty, gender equality, human rights, education for all, health, human security, intercultural dialogue, etc.

Education for sustainable development aims to help people to develop the attitudes, skills and knowledge to make informed decisions for the benefit of themselves and others, now and in the future, and to act upon these decisions.

The **United Nations Decade of Education for Sustainable Development (2005-2014)**, for which UNESCO is the lead agency, seeks to integrate the principles, values, and practices of sustainable development into all aspects of education and learning, in order to address the social, economic, cultural and environmental problems we face in the 21st century.

Education for Sustainable Development is a dynamic and expansive undertaking that **envisions a world** where every person has the chance to benefit from educational opportunities and to learn the lifestyles, behaviours and values necessary to create a sustainable future.

This vision translates into **four objectives** for the Decade, to:

- Facilitate networking, linkages, exchange, and interaction among stakeholders in ESD
- Foster an increased quality of teaching and learning in education for sustainable development
- Help countries to make progress toward and attain the Millennium Development Goals (MDGs) through ESD efforts
- Provide countries with new opportunities to incorporate ESD into education reform efforts

Annex 4. Executive Summary of Rwanda EESD Strategy and Action Plan

The Government of Rwanda recognizes the development challenges facing the country. Being party to many international agreements and conventions such as the DESD 2005-2014, Rwanda is keen and aware of its responsibilities to implement measures that promote sustainable development through different modes of education. Towards this, the government sees Education for Sustainable Development (ESD) as an opportunity to continuously build its citizens' capacity towards healthy measures for utilizing the country's resources to lead productive livelihoods and improve quality of life.

In order to enhance the delivery of its mandate in promoting Sustainable Development, REMA recognizes the need to have a clear strategy for Environmental Education for Sustainable Development (EESD) through the Environmental Education and Mainstreaming Unit. It therefore became paramount to develop an implementation strategy to guide and give direction to the provision of EESD in all sectors of the economy.

A background is given consisting of the social, economic and ecological context of the country inclined towards aspects of ESD, the definition of operational terms and the government's policies on education. A SWOT analysis established gaps in the prevailing education policies with regard to Sustainable development concerns. A situation analysis revealed that the education system had missed out on building important values, knowledge and skills that recognize the importance of sustainable development. ESD provides an excellent opportunity for Rwanda to fill the existing gaps. This EESD strategy presents the goal, objectives and the corresponding strategic activities.

The strategy has prioritised areas of intervention by all stakeholders including government, private sector and civil society organizations. Specific objectives of the strategy include: Education and awareness to increase public participation in sustainable development, Capacity build future leaders to have the commitment, Expertise and leadership to ensure sustainable development; Integrate Environment and

Sustainability issues in the School Curriculum to improve the quality of learning and make it relevant to the needs of the society; Capacity build the media to report and communicate sustainable development by providing Information required to address pertinent sustainable developmental challenges; Enhance the quality and relevance of Technical and Higher education to respond to local sustainable development challenges

The flagship programmes include: Promotional Programme on EESD: EESD in Primary and Secondary schools, Training Programme for the Media on EESD Reporting, Mainstreaming EESD into Technical and Higher Education programmes.

To enhance the implementation of EESD, a five year Action Plan and implementation framework has been developed.