

Natural Resources and Education for Sustainable Development

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Abstract

People depend on natural resources for their survival. The Earth's ecological cycle cleans the air we breathe, recycles and purifies the water we drink, provides us with food and fuel. The diversity of natural resource also provides enormous economic and community benefits through the use of biological resources in forestry, farming, fishing, recreation and other activities. However, the dimensions of our current resource use are to have access to their fair share of scarce resources are endangered. Thus, sustainable development that dimension of natural resource is important. Sustainable Development is "ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs". One of the most effective ways of ensuring we appreciate the importance of sustainable development is through the environmental education process. The aim of this study is to examine environment and sustainable development concept on the world and environmental education for sustainable development is to provide for sustainability.

Key words: Natural Resource and Sustainable Development, Education for Sustainable Development, Environmental Education for Sustainable Development.

Introduction

Human wealth is based on the use and consumption of natural resources, including materials, energy and land. Continued increase in resource use and the related environmental impacts can have a multitude of negative effects leading to ecological crises and security threats. The sustainable use and management of natural resources have therefore come into focus and have been the subject of many policy discussions over more than a decade, beginning with the summit in Rio de Janeiro in 1992 (EEA, 2005). Sustainability concept is recognized and widely accepted by scientist in this summit. As a result, governmental agencies and other stakeholders have increasingly involved science when dealing with the trade-offs associated with the maintenance environmental values involved in the management of natural resources.

Natural Resources and Its Importance in Sustainable Development

Human activities are having an increasing impact on the integrity of ecosystems that provide essential resources and services for human well-being and economic activities. Managing the natural resources base in a sustainable and integrated manner is essential for sustainable development. In this regard, to reverse the current trend in natural resource degradation as soon as possible, it is necessary to implement strategies which should include targets adopted at the national and, where appropriate, regional levels to protect ecosystems and to achieve integrated management of land, water and living resources, while strengthening regional, national and local capacities. This would include actions at all levels as set out below (UN, 2002).

The problem with strong sustainability is the implicit suggestion that today's natural resource base will necessarily be of significant interest to future generations. On the contrary, conserving today's natural resource base does not ensure that tomorrow's natural resource base is secure. Likewise, drawing down today's natural resource base does not necessarily mean that tomorrow's natural resource base will be put in jeopardy (Taylor, 2002). This problem to try to understand need to examine our common future (WCED, 1987). According to the Brundtland Report, the problems facing the planet are two-fold. Environmental dimension of this problem: failure to manage the natural resource, resulting in desertification, deforestation, acid rain, global warming, ozone depletion and pollution.

This report says

“But the results of the present profligacy are rapidly closing the options for future generations. Most of today's decision makers will be dead before the planet feels; the heavier effects of acid precipitation, global warming, ozone depletion, or widespread desertification and species loss. Most of the young voters of today will still be alive. In the Commission's hearings it was the young, those who have the most to lose, who were the harshest critics of the planet's present management.” (WCED, 1987)

This established the idea of global sustainable development through its focus on the integration of thinking about the environment. According to it sustainable development can be defined as a development path along which the maximisation of human well-being for today's generations does not lead to declines in future well-being. Attaining this path requires eliminating those negative externalities that are responsible for natural resource depletion and environmental degradation. It also requires securing those public goods that are essential for economic development to last, such as those provided by well-functioning ecosystems, a healthy environment and a cohesive society. Sustainable development also stresses the importance of retaining the flexibility to respond to future shocks, even when their probability, and the size and location of their effects, cannot be assessed with certainty (OECD, 2001).

One of the important developments, which support environmental dimensions of sustainable development vision, has come into effect with the 1992 Rio Earth Summit. At this summit conclusions regarding sustainable development were declared in a declaration called “Agenda 21”. In spite of not being legally bounding, with this declaration the countries' political responsibilities about the environment are defined. In agenda 21, some basic principles about the sustainable development, which focus on the natural resource and environmental dimensions are: (Türkiye Ulusal Jeodezi ve Jeofizik Birliği, 2003):

- Humankind is at the centre of the sustainable development. S/he has the right to have a healthy and efficient life in accordance with nature.
- On condition that they are not disturbing other countries' environment, all countries have the right to use their natural resources according to their own politics.
- A development right which meets the current and forthcoming generations' is necessary so that environment and development should be acknowledged.
- Environmental protection should be seen as a complementary part of development process.
- In terms of ecosystem protection and development, countries shall cooperate in global association spirit. In environmental protection countries have common but different levels of responsibility.
- National authorities, in terms of “the one who pollutes pays it” principle, should make the environmental costs international and the use of economic devices improved

- As to activities which have effects beyond borders, the activist country should inform the related countries in time and provide them with necessary information.

It is important to emphasise the Johannesburg Earth Summit because it is discussed solution to environmental problems in terms of sustainable development. The conference aimed to emphasise the most important environmental issues and the need to improve environmental management in Africa. It will aim to contribute to the development and implementation of new and innovative environmental management policies and approaches for Africa as well as to provide a platform for discussing and presenting new methods, tools and technologies. The biggest shift that occurred was the explicit acknowledgement of social development (in addition to economic development and environmental protection) as a core component in the Johannesburg Declaration's definition of sustainable development. Although the Rio Declaration (and other agreements since then) certainly referenced poverty eradication and other aspects of social development, it primarily emphasized the need to balance environment and development (Osofsky, 2003).

Education for Sustainable Development

Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues. While basic education provides the underpinning for any environmental and development education, the latter needs to be incorporated as an essential part of learning. Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviours consistent with sustainable development and for effective public participation in decision-making. To be effective, environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human (which may include spiritual) development, should be integrated into all disciplines, and should employ formal and non-formal methods and effective means of communication (CMEC).

Chapter 36 of the Agenda 21 first described education for Sustainable Development. This chapter identified four major thrusts to begin the work of Education for Sustainable Development: (1) improve basic education, (2) reorient existing education to address sustainable development, (3) develop public understanding, awareness, and (4) training. It is look at each of the four components; (McKeown, 2002).

Improve basic education: Simply increasing basic literacy, as it is currently taught 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. To achieve this, basic education must be reoriented to address sustainability and expanded to include critical-thinking skills, skills to organize and interpret data and information, skills to formulate questions, and the ability to analyze issues that confront communities.

Reorienting Existing Education: The term "reorienting education" has become a powerful descriptor that helps administrators and educators at every level (i.e., nursery school through university) to understand the changes required for Education for Sustainable Development. An appropriately reoriented basic education includes more principles, skills, perspectives, and

values related to sustainability than are currently included in most education systems. Hence, it is not only a question of quantity of education, but also one of appropriateness and relevance. Education for Sustainable Development encompasses a vision that integrates environment, economy, and society. Reorienting education also requires teaching and learning knowledge, skills, perspectives, and values that will guide and motivate people to pursue sustainable livelihoods, to participate in a democratic society, and to live in a sustainable manner.

Public Understanding and Awareness: Sustainability requires a population that is aware of the goals of a sustainable society and has the knowledge and skills to contribute to those goals. The need for an informed voting citizenry becomes ever more important with the increase in the number of democratic governments. An informed voting citizenry, which lends support to enlightened policies and government initiatives, can help governments enact sustainable measures. Citizens also need to be knowledgeable consumers who can see beyond the “green wash” (i.e., public-relations efforts that highlight the activities of corporations that are more environmentally responsible while ignoring or hiding the major activities that are not). In today's world, people are surrounded by media (e.g. television, radio, newspapers, magazines) and advertisements (e.g. bill boards, banners on World Wide Web sites, and logos on clothing). As a result, people must become media literate and able to analyze the messages of corporate advertisers.

Training: Training was also stressed in Chapter 36. The world needs a literate and environmentally aware citizenry and work force to help guide nations in implementing their sustainability plans. All sectors - including business, industry, higher education, governments, nongovernmental organizations (NGOs), and community organization – are encouraged to train their leaders in environmental management and to provide training to their workers.

Environmental Education for Sustainable Development

Environmental Education for Sustainable Development's long history includes the well-known Earth Summit in Rio de Janeiro in 1992 and the World Summit on Sustainable Development in Johannesburg in 2002. More recently, the United Nations Educational, Scientific and Cultural Organization (UNESCO) declared the decade spanning January 2005 to December 2014 to be the United Nations Decade of Education for Sustainable Development (Combes, 2007). In this declaration, education for sustainable development (ESD) has been established as an offshoot of Environmental Education and is defined by a broader effort encompassing three strands of education: environment, society, and economy. Although Education for Sustainable Development has its own set of goals, a shared objective between Environmental Education and Education for Sustainable Development is to motivate behaviour change toward more environmentally friendly lifestyles (Darner, 2009).

Environmental Education for Sustainable Development is an imperative of our times. It is a prerequisite for the achievement of sustainable development. It is an important tool for efficient management, democratic and quality decision-making. Environmental Education for Sustainable Development enables individuals, groups and communities to judge in favour of environment and sustainable development based on their critical thinking. This kind of education requires integration of knowledge from all relevant sectors (environment, economy, society) with a special emphasis on applying this knowledge in order to provide all citizens with better quality of living. Hence its other name – education for life and survival (The Republic of Serbia Ministry of Environmental Protection, 2008).

Environmental Education for Sustainable Development teaches individuals how to make decisions that consider the long-term future of ecology and use of natural resource. In 2002, the United Nations declared 2005–2014 the Decade for Education for Sustainable Development (ESD) and highlighted the difference between environmental education and Education for Sustainable Development. Environmental education “is a well-established discipline, which focuses on humankind’s relationship with the natural environment and on ways to conserve and preserve it and properly steward its resources.” Education for sustainable development, on the other hand, “encompasses environmental education but sets it in the broader context of socio-cultural factors and the socio-political issues of equity, poverty, democracy and quality of life.” (Venkataraman, 2009)

Environmental education for sustainable development needs the following major objectives (Ministry of the Environment Bureau of Education and Public Relations, 2001):

1. Developing full awareness and stimulating public interest in mutually related economic, social, political and ecological issues.
2. Enabling each human being to acquire knowledge and skills necessary to improve the state of the environment.
3. Creating novel behavioural patterns as well as shaping individual, group, and social attitudes, values and beliefs which carry concerns for the quality of the environment.

Conclusion

The environmental dimension of the sustainable development is necessary for the continuation of the living life on the earth. Therefore, all countries in the World should follow a particular environmental policy. However, in this matter people should also be informed. Peoples’ fulfilling of their responsibilities leads to a good deal of development by which the natural life is affected positively like decreasing of energy consumption and preventing environmental pollution. The thing, which is necessary for peoples’ awareness is, to provide them as citizens who are environmentally aware, active and participant about environment beginning from primary school.

References

- Academy of Finland, (2005), Research Programme on Sustainable Use of Natural Resources (SUNARE) 2001-2004, Evaluation Report, http://www.aka.fi/Tiedostot/Tiedostot/Julkaisut/6_05%20Sunare.pdf, accessed 10/04/2009.
- Combes, B. (2007), UN Decade of Education for Sustainable Development, 5th International Seminar and Training Course for Eco-Kids Instructors for Environmental Education for Sustainable Development based on Kids’ ISO 14000 Programme, Paris, France, 6-8 November 2007.
- Council of Ministers of Education Canada (CMEC), Educating for Sustainability, The Status of Sustainable Development Education in Canada, <http://www.cmec.ca/Publications/Lists/Publications/Attachments/9/environment.en.pdf>, accessed 14/03/2009.
- Darner, R. (2009), Self-Determination Theory as a Guide to Fostering Environmental Motivation, *The Journal of Environmental Education*, 40(2), 39-49.
- European Environment Agency (EEA). (2005), Sustainable use and management of natural resources, *EEA Report*, No 9, 4-65, ISBN 92-9167-770-1, EEA, Copenhagen.
- McKeown, R. (2002), *Education for Sustainable Development Toolkit*, Ph.D. Thesis, Portland: Portland State University,

Ministry of the Environment Bureau of Education and Public Relations, (2001). Through Education to Sustainable Development, National Environmental Education Strategy, ISBN 83-86564-51-2, Poland.

Organisation for Economic Co-operation and Development (OECD). (2001), Sustainable Development: Critical Issues, *Policy Brief*, 1-8.

Osofsky, H. M. (2003), Defining Sustainable Development After Earth Summit 2002, *Loyola of Los Angeles International and Comparative Law Review*, 26, 111-125.

Republic of Serbia Ministry of Environmental Protection, (2008). First Framework Action Plan Environmental Education For Sustainable Development, Task Force for the Implementation of the UNECE Strategy for Education for Sustainable Development, <http://www.unece.org/env/esd/Implementation/NAP/SerbiaDraftNAP.pdf>, accessed 17/04/2009.

Taylor, J. (2002), Sustainable Development A Dubious Solution in Search of a Problem, *Policy Analysis*, No:449, 1-49.

Türkiye Ulusal Jeodezi ve Jeofizik Birliği (Turkish National Union of Geodesy And Geophysics), (2003). Türkiye Ulusal Meteorolojik ve Hidrolojik Afetler Programı(TUMEHAP), <http://www.hgk.mil.tr/uyekurulus/tujjb/tujjb/programlar.htm>., accessed 12/04/2009.

Union Nations. (2002), World Summit on Sustainable Development, Plan of Implementation of the World Summit on Sustainable Development, Johannesburg, South Africa, from 26 August to 4 September 2002.

United Nations. (1987), Our Common Future: Report of the World Commission on Environment and Development, <http://www.un-documents.net/ocf-ov.htm>, accessed 10/04/2009.

Venkataraman, B. (2009), Education for Sustainable Development, *Environment*, 51(2), 8-10.