

National Environmental Education Policy

Draft Policy Assignment for
ENVSC-3202
Environmental Policies and Regulations

Prepared by: Mohsin Gul Sher (0383-BH-ENV-10)

Submitted to: Mr. Rizwan Rasheed



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Abbreviations

NEP	National Environmental Policy
EE	Environmental Education
SD	Sustainable Development
PD	Professional Development
DESD	Decade of Education for Sustainable Development
UNESCO	United Nations Education, Scientific and Cultural Organization
ESD	Education for Sustainable Development
SAARC	South Asian Association of Regional Countries
TVE	Teaching Vocational Education
NGO	Non- governmental Organization
CBO	Community- based Organization

1 Abstract

The concept of putting environmentally sustainable development into practice, involves challenges that are as diverse as the make-up of our population. In light of our present state of environmental decay, this policy is just in time to cure the Environmental illiteracy of another generation. Environmental education is most important to the youth of Pakistan, because we are the ones who need to be educated, and who will inherit Pakistan. This policy will help ensure that we are properly tooled and equipped to make the best environmental decisions.

Definitions

Environment:

"The environment is here used to embrace the physical, biological, physiological, social, economic, political, cultural, aesthetic, ethical, spiritual - a totality of all the forces which impact on life as we know it, life of which human beings are one group of many lifeforms, but the only creatures which can speak about the environment... In practice, however, they are all interconnected."

Dr Joyce Glasgow, **Citizenship in a Sustainable Future**; Presentation to NEEC Vision-Setting Workshop, (1997)

Environmental Education:

"Environmental education seeks to develop a population that is aware of and concerned about the environment, and which has the knowledge, skills, attitudes and commitment to work individually and collectively toward achieving and maintaining a balance between quality of life and quality of the environment."

Volk, Hungerford and Tomera (1982) in **Metamorphosis for Environmental Education: A Core Course Guide for Primary/Elementary Teacher Training**, Sue Staniforth & Leesa Fawcett (1994)

Sustainable Development:

"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 & Development Report**' (1987)

2 Introduction-National Education Policy: Glaring Omission of Environmental Education

2.1 Background

A cursory glance at the National Education Policy (NEP), Pakistan, 2009, may have a reader beguiled into thinking that the policy is a comprehensive document, eliciting and encompassing fine details in all areas of the education sector, respectively. It appears to reflect a faithful portrayal of its shortcomings and failures, successfully identifying major underlying problems, making recommendations, and highlighting the requirement of a paradigm shift in line with a *VISION* for the country's education system in the 21st Century. However, a closer study of the document reveals that the policy is lacking in more than one areas of concern in the given sector (Secretariat, 2009). One such glaring omission in the document is lack of attention toward the '*ENVIRONMENT*'. The United Nations General Assembly has declared 2005-2014 the UN Decade of Education for Sustainable Development (DESD), identifying two goals for the decade:

- 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;
- To give an enhanced profile to the important role of education and learning in sustainable development.

Sustainable Development (SD) requires balancing environmental, societal, and economic considerations in the pursuit of development and an improved quality of life. It has been acknowledged that there is no 'single route' to sustainable development, and visions for sustainability will be different in different societies. This paradigm shift requires reorientation of education systems. UNESCO (1997) emphasizes the role of education in shaping attitudes, values, and behavior, while developing the capacities, skills, and commitments needed for building a sustainable future.

Education for Sustainable Development (ESD) is a vision of education that seeks to empower people to assume responsibility for creating a sustainable future. ESD strives for an equal opportunity for all to benefit from education, and learn the values, behaviors, and lifestyles required for a sustainable future and for positive social transformation. The values held in a society help define how personal decisions are made and how national legislation is written (UNESCO, 1997). Various approaches to ESD encourage people to understand the complexities of, and synergies between, the issues threatening planetary sustainability and understand and assess their own values and those of the society to which they belong in the context of sustainability. If ESD is to be an effective tool for a sustainable future, it must address the way we think about sustainable development in particular and about education in general. In this context, dissemination of Environmental Education (EE) is considered the best means for achieving the goal of ESD (Arif, 2010).

With respect to the aforementioned backdrop of declarations enunciated by the UN/UNESCO, NEP, Pakistan, 2009 fails to not only address but also to redress the issues of ESD in the country's perspective.

2.2. Major Deficiencies and Paradigmatic Solutions

2.2.1 The document spells out the *purpose* of the Policy in terms of a National Strategy for guiding education development in the country. It reviews previous performance, eliciting deficiencies and reforms in the domains of curriculum development, textbook/learning materials, and provision of missing facilities. This introductory material makes no specific reference to the absence of the critical component of ‘Environmental Education’ within the overall system of education in the country; nor do the opening paragraphs address the current issue of global concern i.e. ESD in the 21st Century.

2.2.2. A realistic portrayal of the current status of education in Pakistan has been demarked in comparison with other SAARC countries. Equity in Education successfully relates to serious issues of gender, ethnic minorities, provinces, regions, and rural-urban divides. The implications of these issues with regards to ‘Sustainability and Equitable Development’ are recognized. However, this recognition with associated serious implications for sustainability and sustainable economic development is not addressed with reference to ESD. Addressing ESD can help to not only relieve, but also provide holism for redeeming the education system.

2.2.3. While recognizing the fact that no other system in a State, except the National Education System, shares the ideals, objectives, and purpose of a State, the document fails to recognize the importance of ESD for meeting these ideals and initiating sustainable progress in the country. Eliciting Government initiatives, attention is given to quality education and focus on sustainable economic development in the global competitive milieu. However, quality in education for economic development must take into consideration the environmental aspect, since all economy is environment dependent and social as well as economic progress is unachievable without dissemination of EE for ESD.

2.2.4. It is correctly brought to light that an education system cannot remain in isolation in the global context. The convincing evidence of education’s contribution to both economic and social development is mentioned. The priorities i.e. access and improvement in quality of education, are earmarked for attaining economic and social goals. Policy action including, universal and free education, equity/elimination of social exclusion, quality improvement, promotion of innovation in economy, research based education at higher level, and challenges and opportunities related to globalization are enunciated for widening access in the system. Once again, the policy document overlooks not only the importance, but also the urgency for incorporating EE into mainstream education programs. EE essentially means quality improvement, since the quality of the environment is equivalent to the quality of life. The policy seems oblivious to the linkage between acquisition of its goals and environmental awareness for capacity building leading to an enhanced quality of life.

2.2.5. Quality improvement in areas of teacher training, curriculum, textbooks, assessment approaches, learning environment and facilities including relevance of education to practical life/labor market have all been mentioned. The vision for the teacher in the policy encompasses student-centered teaching, cross-curricular competencies, modern pedagogical techniques to foster inquiry, interaction and lateral thinking. The section on Curricular Reform enlists ‘the variations within the geographical breadth of the country’ and ‘the local context’. Policy action for attaining standards in the learning environment enlists ‘service to the society’. The one and only mention of environmental education within curricular reform is its inclusion as part of Early

Education. Quality improvement in areas of teacher training, curriculum, textbooks, assessment approaches, learning environment and facilities including relevance of education to practical life/labor market have all been mentioned. Yet, quality in textbooks and learning materials, improving student assessment and attaining standards in the learning environment are sectors completely de-linked with ESD (Heritage, 2002).

The immediate concern for inclusion of environmental element into teacher training programs is gravely missing. The quality of an education system is reflected in the quality of its teachers. The quality of teaching does not mention personal initiative by the teacher vis-à-vis the environment. While the section on Curricular Reform enlists ‘variations within the geographical breadth of the country’ and ‘the local context’, policy action enumerated does not take the two points into account with regards to ESD. The pertinent relationship is not drawn between the local resources and the local environment from which these are made available. While policy action raises a point related to introduction of service to society, it is also one of the core themes of EE i.e. citizenship. However, National Education Policy is oblivious to sensitizing the most important stakeholder i.e. citizenry, toward its local environment.

2.2.6. Reorientation and provision of greater facilities for industrial development for meeting the needs and requirements of a changing economy have been suggested by improving Technical Vocational Education (TVE) in the country. An urgent national requirement for TVE is reorientation of the education system with inclusion of ESD for addressing environmental issues, related, from variety in skill training, to green productivity, to tapping traditional knowledge. Ironically, NEP, in this sector, addresses the biggest environmental issue of over population in terms of an ‘endowment’ in the labor market. High population growth cannot be considered an ‘endowment’ unless there is job specific and market driven human resource development. Policy actions as proposed by NEP with respect to ‘local conditions’ are not specific with regards to local environmental conditions. All TVE is environment dependent, since it is the environment that dictates the necessity of provision of facility in the face of availability of resource.

2.2.7. The Main theme for VISION 2030 is ‘Accountability of Personnel’. Albeit an excellent vision statement, this vision does not refer to EE. The essential elements earmarked lack any reference to the environmental component. The local resources mentioned do not take into account the environment from which these are made available. The quality of teaching does not mention personal initiative by the teacher vis-à-vis the environment. The vision for the teacher encompasses modern pedagogical techniques to foster inquiry, interaction and lateral thinking without disseminating EE. The setting and achieving of objectives is not possible without EE. A high performing system fuelled by data/information that is timely, valid and accurate, is impossible to achieve without EE. The vision statement for the future not only ignores education for sustainable development but is also not in line with the global aspirations as enunciated by the United Nation’s Declaration (Arif, 2010).

3 The Vision Framework

3.1. The Role of Environmental Education in Achieving a Sustainable Future

Environmental Education for Sustainable Development can help Pakistan achieve the vision of a sustainable society, with its pre-requisite: a sustainable natural environment. Environmental Education for Sustainable Development, as envisioned as *a holistic, integrative force which will enhance Pakistanis internally, as a precursor to external action; which will work through the formal education system, and through non-formal learning to encourage environment-friendly action at the individual, business enterprise, national and community levels. Elements include appreciation of nature, respect for all living things, understanding of human interdependence with the finite, natural environment, and recognition that human society – including the economy – can be integrated with the environment in a mutually beneficial and sustainable manner (Cooke, 1997).*

Action in the area of Environmental Education for Sustainable Development is expected to create: *citizens – individually and collectively, in both the private and public spheres – who are prepared to participate in creating and maintaining a sustainable Pakistan.*

3.2. Goals of Environmental Education for Sustainable Development

Based on the vision of Environmental Education for Sustainable Development and its role in developing a sustainable society, five broad goals are identified:

- To disseminate the knowledge, know-how and skills needed to improve the understanding and management of natural resources including agriculture, energy and industrial production, and of the built environment, thereby contributing to sustainable production and consumption patterns;
- To change values, ethics, attitudes, behaviours and lifestyles so as to facilitate improved management of natural resources including agriculture, energy and industrial production, and of the built environment; thereby helping to bring about sustainable production and consumption patterns;
- To ensure an informed public – including individuals and groups in the private and public sectors which will support actions emerging from different sectors aimed at an improved environment and sustainable human development;
- To ensure an informed policy and decision-making directorate which will take a lead role on environment and sustainability issues, and which will interact with the public to develop and maintain sustainable practices;
- To ensure systems capacity which will sustain long-term support for initiatives on environmental education for sustainable development.

3.3. Principles to Guide Environmental Education for Sustainable Development

Environmental Education for Sustainable Development embodies the following basic principles:

3.3.1. Agent for Positive Change

Environmental Education for Sustainable Development seeks social, cultural and value change at an individual and systemic level. It recognizes contextual socio-economic problems, and its programmes and messages promote positive behaviour, a sense of responsibility, national identity, social justice, as well as gender, class and economic equity.

3.3.2. Life-long

Learning is a life-long activity. The learning continuum extends beyond the formal system, and strategies for environmental education embrace people at the workplace, in the home and the community.

3.3.3. Holistic

Environmental Education for Sustainable Development assumes an educational process which is learner centered and holistic, with consideration given to spiritual, physical and emotional as well as cognitive aspects of development. It recognizes the potential for teachers and students to learn from each other.

3.3.4. Integrative

Environmental Education for Sustainable Development promotes the integration of content and processes related to society, the natural environment and the economy, within an interdisciplinary context; enabling individuals to make connections between the personal, local, national, regional and global.

3.3.5. Systemic

Environmental Education for Sustainable Development treats critical issues as well as their causes and interrelationships, systemically, taking account of their social and historical contexts. Fundamental issues relating to development and the environment, including population, health, peace, human rights, democracy, hunger, degradation of flora and fauna, are considered in this manner.

3.3.6. Empowering

Environmental Education for Sustainable Development is empowering and promotes opportunities for democratic participation at all levels.

3.3.7. Relevant

Environmental Education for Sustainable Development relates to the lives and livelihoods of learners and the society in general. It is issues and field based. By extension, it promotes and applies links between learning and real life, including the development of skills and the inclusion of hands-on activities. It analyses traditional practices and programmes which work well, and affirms them. Environmental Education for Sustainable Development educators practice the principles that they teach (Fatimah, 2010).

3.3.8. Action-oriented

Learning is a precursor to action, at the personal level, in the community, the nation and the world. Environmental Education for Sustainable Development encourages self-motivation, and is pro-active rather than reactive.

3.3.9. Dynamic

Environmental Education for Sustainable Development recognizes and keeps pace with knowledge creation. It encourages research and data collection to enable planning, guide educational activities and develop research competencies. In doing so, environmental educators make maximum use of the most appropriate technology.

3.3.10. Respectful

Environmental Education for Sustainable Development encourages respect for and care of country, taking advantage of learning possibilities offered by culture, heritage, the use of oral traditions and traditional knowledge systems.

3.3.11. Temporal

Environmental Education for Sustainable Development looks to the future, learns from the past and considers the present.

3.3.12. Ethical

Environmental Education for Sustainable Development helps develop ethical considerations, including consideration for all forms of life on the planet, with a view to creating improved standards of environmental behaviour.

3.4. Learning Outcomes for Citizenship in a Sustainable Future

The National Environmental Education Action Policy is guided by a vision of a Pakistan's future in which social, environmental and economic components of sustainability are harmonized. Within this context, Environmental Education for Sustainable Development has a crucial role in enabling citizens to participate in a sustainable future by providing the knowledge, skills, values and action orientation for sustainable living (Centre, 2001).

The following learning outcomes – in the areas of knowledge, skills, values/attitudes, and action – will establish broad parameters for Environmental Education for Sustainable Development. The outcomes listed are generic, and relate to both the formal education system and programmes for non-formal learning. The implementation of particular programme elements will require specialized elaboration of these outcomes.

3.4.1. Knowledge

Knowledge relates to the acquisition of information or understanding. The following are identified as important knowledge elements for Pakistani citizens:

1. The planet earth as a finite system made up of inter-connected ecosystems and system elements;
2. The earth's resources – air, soil, water, minerals, their distribution and role in supporting humans and other living organisms;
3. Human impact on the quality of the environment, locally, nationally and globally;
4. Human systems – built, social, political, and economic – and their inter-relationship with natural systems;
5. Traditional practices, knowledge and belief systems and their impact on the natural world;
6. Pakistan's economic dependence on its natural resource base;
7. The dependence of human health and well-being on a sound economy and healthy environment;
8. The effect of resource distribution on societies and the rate and character of economic development from a historical as well as a current perspective;
9. The role of science, information and technology in the development of societies and the impact of technology on the environment;
10. Local, national and global environment and sustainable development issues;
11. Strategies and actions for responsible citizenship within local, national and global communities;
12. Processes of planning, policy-making, regulations and action for sustainability by the international Concepts related to equity, social justice and individual and collective rights and responsibilities, in context of the environment and sustainable development;
13. Concepts related to sustainability;
14. Knowledge of the importance and role that various sectors of society can play in a sustainable future, including the public and private sectors, communities, non-government organizations (NGO)s, women, youth, aged, disabled etc.

3.4.2. Skills

Skills are broadly defined as attributes developed and used in undertaking tasks or solving problems. There are two basic types of skills: Intellectual Skills which deal with enquiry, identification and decision making; and social skills which deal with the quality of human interactions. The following are broad skills areas identified as being important to Environmental Education for Sustainable Development.

1. Literacy and numeracy as a basis for other skill acquisition and learning;
2. Capability to use technology-based tools and resources in addressing questions;
3. Ability to use communication, enquiry, problem-solving and action, and critical thinking skills;
4. Competence to utilize inter-disciplinary approaches to problem-solving;
5. Capacity to gather and organize information and evaluate evidence and to see patterns;
6. Ability to apply definitions of fundamental concepts – environment, community, technology etc – to local, national and global experiences;
7. Ability to assess the nature of bias and evaluate different points of view;
8. Capacity to test new information against personal experience and belief;
9. Ability to reflect on and put into practice learning based on experience;
10. Ability to anticipate possible future action based on information and experience;
11. Capability to develop cooperative strategies for appropriate action and competence at consensus building and cooperative resolution of conflict;

12. Ability to participate actively and constructively in local, regional, national and global communities;
13. Ability to consider life options including career planning based on a sustainable future;
14. Competence to use tools developed within the context of environmental and sustainable development programmes.

3.4.3. Values/Attitudes

Values/Attitudes are defined as those sensitivities that affect and direct judgement. Those important in

Environmental Education for Sustainable Development include:

1. Appreciation of the resilience, fragility and beauty of nature and the interdependence of life forms;
2. A sense of responsibility and stewardship, and appreciation that one person can make a difference;
3. Appreciation of the dependence of human life on the resources of a finite planet;
4. Appreciation of the role of human ingenuity, culture, tradition and individual creativity in ensuring survival and the search for appropriate and sustainable progress;
5. A sense of self-worth, empowerment and rootedness in one's culture and community. National pride. Respect for other cultures. Recognition of the interdependence of the human community;
6. A global perspective and a concern for disparities and injustices, commitment to human rights, social equity, and peaceful resolution of conflict;
7. Personal commitment to a sustainable lifestyle and to participation in change at the personal, community and national levels;
8. Respect for diversity and difference;
9. Value for education, resulting in a personal willingness to invest time and resources in this area.

3.4.4. Action/Participation

The development of a willingness to act in furtherance of the knowledge, skills and values developed, is the vital fourth step in learning. Specific action outcomes include:

1. Reinforcing and enhancing a culture of civic action;
2. Participating in democratic change and responsible stewardship of the local environment;
3. Developing the ability to act in ways that reflect appropriate knowledge, skills and values/attitudes for sustainable citizenship;
4. Taking individual and collective action as a contribution to sustainable development.
5. Adopting whole, sustainable lifestyles and livelihoods as a way of being in the world.

4. Priority Themes in Curriculum Design

4.1. Fairness and accuracy

EE materials should be fair and accurate in describing environmental problems, issues, and conditions, and in reflecting the diversity of perspectives on them.

- i. Factual accuracy
- ii. Balanced presentation of differing viewpoints and theories.
- iii. Openness to inquiry
- iv. Reflection of diversity

4.2. Depth

EE materials should foster awareness of the natural and built environment, an understanding of environmental concepts, conditions, and issues, and an awareness of the feelings, values, attitudes, and perceptions at the heart of environmental issues, as appropriate for different developmental levels.

- i. Awareness
- ii. Focus
- iii. Concepts in context
- iv. Attention to different scales

4.3. Emphasis on skills building

EE materials should build lifelong skills that enable learners to address environmental issues.

- i. Critical and creative thinking
- ii. Applying skills to issues
- iii. Action skills

4.4. Action orientation

EE materials should promote civic responsibility, encouraging learners to use their knowledge, personal skills, and assessments of environmental problems and issues as a basis for environmental problem solving and action.

- i. Sense of personal stake and responsibility
- ii. Self-efficacy

4.5. Instructional soundness

EE materials should rely on instructional techniques that create an effective learning environment.

- i. Learner-centered instruction
- ii. Different ways of learning
- iii. Connection to learners' everyday lives
- iv. Expanded learning environment
- v. Interdisciplinary
- vi. Goals and objectives
- vii. Appropriateness for specific learning settings
- viii. Assessment

4.6. Usability

EE materials should be well designed and easy to use.

- i. Clarity and logic
- ii. Easy to use
- iii. Long-lived
- iv. Adaptable
- v. Accompanied by instruction and support
- vi. Make substantiated claims
- vii. Fit with national, state, or local requirements

5 Major Target Groups

The **National Environmental Education Policy** recognizes that the commitment and genuine involvement of all social groups is critical to the effective implementation of objectives, policies and actions set forth in the Plan. It identifies the following as major target groups, for whom relevant and appropriate messages and programmes can be designed, implemented and monitored:

5.1. Youth – the age group 0 – 25 years, to be found in educational institutions, clubs, groups and on the street, Environmental and sustainable development decision-makers of the future.

5.2. Educators – including teachers within the formal sector, trainers and animators at all levels, who need to be addressed in terms of awareness, knowledge, teaching skills, and willingness to encourage action.

5.3 Decision Makers – including policy and decision-makers in local and central government, the private sector, organized labour and the social arena.

5.4. Opinion Makers – Persons who influence public opinion, including the media, specifically talk show hosts and columnists, popular heroes including entertainers and sporting stars, religious leaders and politicians at the local and national levels.

- 5.5. Masses** – the mass of Pakistanis, including the young, unemployed and marginalized men and women who could potentially become involved in community mobilization.
- 5.6. Vulnerable Groups** – including the elderly, the physically and mentally disabled, children, and occupants of squatter communities and other high risk human settlements.
- 5.7. Consumers** – a group with a range of income and education levels, largely concerned with price, nutrition, health and safety issues, potential for leverage on issues of ‘green’ products and services.
- 5.8. Women** – a large and varied group with responsibilities at the workplace, in the home, caring the young and the elderly, taking budgeting, purchasing, hygiene, waste management decisions.
- 5.9. NGOs/CBOs** – groups with single subject or broad thematic mandates, often working in specific communities, whose programmes require communication with and participation of community members.
- 5.10. The Workforce** – Pakistani men and women who work as professionals and business people; trained workers at various levels; or unskilled labour.
- 5.11. Resource Users** – farmers, fishermen, charcoal burners, tourism industry workers, whether business owners or employees; individuals, or persons grouped in interest groups.
- 5.12. Legal Fraternity** – including the judiciary, lawyers, and the security forces.
- 5.13. The Media** – mainstream and alternative print, radio and television, Web Pages on the Internet, advertisers and entertainment media including music, drama, art and dance.
- 5.14. The General Public** – an amorphous group, generally equivalent to the society, which is the target for general campaign messages, but which must be broken down into its constituent parts for effective delivery of most messages.

6 Sectoral Guidelines

6.1. Teacher Professional Development

Efficient and effective delivery of Environmental Education for Sustainable Development throughout the formal education system requires consistent attention to teacher professional development. Fundamental elements of a systemic approach include the development of enabling policies, capacity development amongst teacher educators, and the development of coordinated professional development activities. Environmental Education for Sustainable Development holds teachers to the highest standards of professional development. Effective educators learn and impart knowledge, but also skills, values, and an action-orientation, using learner-centered teaching methodologies not currently widespread. Professional development fosters educators’

ability to reflect on social structures and relations, within institutions and the wider community, adopting research as part of their practice and promoting related action (Ramsey, 2005).

Programmes must enable on-going development of teachers' understanding and ability in Environmental Education for Sustainable Development, with continuous reinforcement and practice in a variety of situations. Programmes must be flexible, responding to the defined needs of teachers, and paying attention to the progression from initial through continuing professional development. Teachers at all levels of the system and every discipline; principals, supervisors and other senior personnel must be active participants in successful change.

Such an extensive adjustment requires the understanding and commitment of policy makers, planners and implementers, including administrators and teacher trainers. It extends to curriculum planners, both at the level of pre-service and in-service training, and within the school system itself. It encompasses the production of resource material to support teacher trainers and teachers themselves. It also requires that consideration be given to ways of encouraging teachers and other educators to become willing and committed participants in the process of change.

Emerging focus on a school-based approach, which involves students, teachers and administrative and support staff in learner-centered education, and which creates room for teachers to interpret curricula with local conditions in mind, offers an opportunity not to be missed. The approach also offers the chance to enhance links between schools, and the communities in which they are sited – through inter-relations with parents, community members and groups, and the working world (Unit, 2000).

6.1.1. Outcomes

Actions aimed at policy development and implementation will achieve the following:

- a) Increased awareness and support for Environmental Education for Sustainable Development policy initiatives amongst leaders and decision-makers;
- b) A Government policy which is broadly supportive of Environmental Education for Sustainable
- c) Development and specifically supportive of teacher professional development in EE for SD, and which is developed through a participatory approach;
- d) Institution/school policies which support professional development in Environmental Education for Sustainable Development;
- e) An accepted framework of concepts and teaching strategies for professional development in
- f) Environmental Education for Sustainable Development;
- g) Required support/capacity to implement a policy on professional development in Environmental
- h) Education for Sustainable Development;
- i) The systematic delivery of EE for SD at all levels of teacher training;
- j) The development of tools by which progress in EE for SD Professional Development can be measured.

6.1.2. Actions

- a) Persuade and influence bodies working in the area of professional development to advocate for a policy on Environmental Education for Sustainable Development, including professional development;

- b) Launch an awareness-building campaign among key decision-makers towards a policy on professional development in Environmental Education for Sustainable Development;
- c) Obtain public endorsement of the **National Environmental Education Policy**;
- d) Research Environmental Education for Sustainable Development policies in other jurisdictions;
- e) Establish on-going policy development mechanisms with processes for bottom-up input;
- f) Develop an accepted framework of concepts and teaching strategies for professional development in
 - g) Environmental Education for Sustainable Development;
 - h) Facilitate the development of institution/school policies on professional development in Environmental Education for Sustainable Development;
 - i) Develop a framework for instituting professional development in Environmental Education for
 - j) Sustainable Development at all levels of teacher professional development, within a defined period;
 - k) Identify an existing body which can serve as a focal point and through which to plan the systematic delivery of EE for SD at all levels of the teaching system;
 - l) Create a central research node through which to ensure EE for SD PD remains state of the art;
 - m) Development standards and performance measurements on EE for SD PD.

6.2. Curriculum Development and Implementation

Curriculum developers must be encouraged to better understand Environmental Education for Sustainable Development and ways of effectively and systematically integrating it into revised curricula. The development of an integrative Environmental Education for Sustainable Development curriculum framework, indicating learning outcomes and teaching strategies from early childhood to post-secondary levels, is an important step towards broad-based understanding (Simmons, 2005).

There are few tools to help classroom teachers implement curricula in ways appropriate to their specific situations. This gap highlights the need to develop and reproduce instructional resources which can help teachers implement Environmental Education for Sustainable Development teaching strategies and content. These resources would be appropriately delivered through professional development programmes.

6.2.1. Outcomes

Actions aimed at policy makers seek to achieve the following:

1. Policy statements/directives, issued from the Ministry of Education, the Ministry of the Environment and other relevant Ministries, recognizing Environmental Education for Sustainable Development as a central aspect of curriculum development;
2. School-based policies and practices which promote Environmental Education for Sustainable Development.

6.2.2. Actions

Overall Policy:

1. Urge immediate preparation of a written endorsement, from the political directorate, that Environmental Education for Sustainable Development be integrated into formal education curricula -Early Childhood through to Post-Secondary - and permeate all disciplines;
2. Research and write a policy document on Environmental Education for Sustainable Development in formal education, based on consideration of other relevant models;
3. Build awareness among the political directorate, and promote the institution of a policy on
4. Environmental Education for Sustainable Development in formal education which would guide curriculum development and provide directions for implementing changes, including changes in professional development;
5. Recommend immediate amendment to National Education Policy –including the Mission and Vision Statements – which reflect the national curriculum

School-based Curriculum Policy & Planning:

1. Build support for school-based curriculum planning and innovation;
2. Build awareness among stakeholders involved in school-based planning, including non-government organizations, community based organizations, special interest groups and community members;
3. Examine and draft guidelines to incorporate Environmental Education for Sustainable Development in school-based planning;
4. Implement school-based Environmental Education for Sustainable Development policy and planning guidelines in selected schools, building on existing policy and programme initiatives.

6.3. National Public Awareness

To attract the attention of citizens, messages must be relevant to the target groups; benefits of action must be clear; and citizens must have access to the means to act in the ways suggested. Effective message delivery strategies, appeals to self interest, clear connections between environmental degradation and personal or community problems, and references to local culture, must be used. The importance of having necessary support systems in place, including a culture of governance which recognizes the public's right to information, must be emphasized. Capacity development opportunities are another vital element of the mix, particularly in respect of training and resource material to reach specific groups.

There is also scope for filling existing gaps and taking advantage of opportunities. Groups not currently being served include a variety of influential Pakistanis – both the professionals who influence policy-making and programme development; and the marginalized who influence success or failure through their attention or inattention (Yencken, 2008).

6.3.1. Outcomes

Actions will seek to ensure the following:

1. More environmentally literate citizens, living sustainable lifestyles, able to make links with and contribute to sustainable communities and nation;
2. More environmentally aware professionals and workers actively seeking to “green” the workplace.
3. More environmentally-aware law enforcement officers and judiciary.

6.3.2. Actions

Develop public awareness campaigns, which promote citizen environmental literacy and citizen participation in sustainable living, using a multi-disciplinary team with environmental/sustainable development, communications, marketing, CBO and behavioural science expertise;

1. Identify collaborative opportunities with organizations promoting relevant campaign issues and establish sustainable development as an overarching theme for public awareness campaigns focusing on the environment.
2. Prioritize environment and sustainable development themes based on urgency of problems, public interest and ease of access to remedial action. Potential sub-themes with immediate public impact include solid waste management, watershed management and coastal/marine management;
3. Prioritize target groups identified as youth, consumers, the masses, resource users, the workforce, business/industry, women, and vulnerable groups.
4. Emphasize popular and traditional culture in message delivery; and radio as a critical medium;
5. Create an awareness programme focusing on enforcement officers, and judiciary.
6. Develop a range of specific EE for SD programmes, which target environmental issues in a variety of workplaces.

6.4. Community Learning

It must also be recognized that many of Pakistan’s urban and rural communities have generated survival initiatives against environmental degradation, from which national and global communities can draw valuable lessons. Mechanisms which draw participatory and integrative lessons of community into the frame of regional and national development planning, must therefore be developed. National processes and mechanisms for dealing with communities must themselves undergo reform. Many effective community intervention techniques have been developed, based on the work of non-government and community-based organizations within rural and inner-city areas. Properly documented, these can provide useful lessons and tools (Cooke, 1997).

The specific role of community learning is to provide community members with relevant information and tools to facilitate action on issues relating to the environment and sustainable development.

6.4.1. Outcomes

Actions will result in the following:

1. Delivery agents, including local government authorities, government agencies and NGOs, sensitive to community needs and trained in appropriate community-based education techniques;
2. A cadre of trainers/facilitators at the community and national levels, able to implement, and train others in, participatory planning, community-based vision setting, action planning and performance monitoring, related to Environmental Education for Sustainable Development;
3. Development of appropriate resources and methods, to support community-based learning programmes;
4. Community persons knowledgeable about and willing to comply with enforceable environmental legislation.

6.4.2. Actions

1. Research and design programmes and materials to train trainers and other delivery agents;
2. Develop a cadre of non-formal educational professionals enabled to deliver Environmental Education for Sustainable Development programmes in community animation, vision-setting, participatory planning and decision-making techniques – including consensus building and conflict resolution;
3. Based on the experience of the model community learning programme, develop a manual describing procedures and activities for community learning with respect to Environmental Education for Sustainable Development.
4. Train delivery agents, particularly government and NGO, in delivery methods, based on the manual.
5. Specifically, focus on environment/sustainable development content, research methods, and community intervention approaches;
6. Develop, and make available to the communities, a simplified version of current environmental legislation and procedures for reporting and taking action against offenders.
7. Research existing community learning programmes to determine relevance to Environmental Education for Sustainable Development
8. Develop model community learning programmes and materials for testing, including approaches to community visioning, sustainable programming and implementation;
9. Develop the capacity to monitor, evaluate and revise the model programmes;
10. Develop programme messages, with linked actions, which reflect environmental and sustainable development issues with personal and community relevance;
11. Identify a community initiative or initiatives within which to test the model learning programmes;
12. Establish wide ranging partnership networks to support the model programmes;
13. Identify appropriate technical, human, financial, training and other resources appropriate to the needs of specific groups who are involved in the model programmes;
14. Using participatory methods, develop sustainable development indicators and train community members in monitoring these indicators;
15. Develop a national community learning strategy, based on experience gained in the model programmes;
16. Develop an incentives scheme for communities which demonstrate good practice in sustainable living;

17. Develop a Local Initiatives Fund to help communities continue to innovate in areas relevant to community learning for Environmental Education for Sustainable Development.

6.5. Resources & Practices

6.5.1. Outcomes

Actions to enhance resource development, production and utilization will achieve the following:

1. High quality, locally relevant resource material which communicate environment and sustainable development messages and actions;
2. A range of available resource materials which target environment and sustainable development themes, audiences and levels;
3. More individuals and organizations with capacity to develop and produce meaningful and effective Environmental Education for Sustainable Development resources;
4. Enhanced utilization of Environmental Education for Sustainable Development resource materials.

6.5.2. Actions

1. Research, develop and maintain a centralized data-base/directory of local, regional and international
2. Environmental Education for Sustainable Development resources Distinguish between school-based and non school-based resources;
3. Promote awareness of available resources through existing mechanisms – newsletters, publishers’ catalogues, web-pages, professional associations;
4. Promote development of an Environmental Education for Sustainable Development Directory for teachers;
5. Explore opportunities for incorporating Environmental Education for Sustainable Development imperatives into existing electronic networks, or creating a new Environmental Education for
6. Sustainable Development network;
7. Support the development and maintenance of Environmental Education for Sustainable Development ‘learning centres’ in each parish, using existing information infrastructure such as libraries or science resource centres;
8. Provide training in information management for parish-based resource centres, to NGOs, CBOs and other partners;
9. Develop a skills bank of Environmental Education for Sustainable Development development experts;
10. Create ‘hot-lines’ which teachers, students and the general public can call for information on Environmental Education for Sustainable Development resources.

7 Related Work

Surveys of young people in several countries report generally low levels of factual knowledge relating to environmental issues. More detailed investigations of students' ideas about specific environmental phenomena (e.g. the greenhouse effect) find there to be considerable misunderstanding of the science of such issues. Examples include students confusing ideas about phenomena such as the greenhouse effect and ozone depletion, or displaying poor understanding of processes such as melting or recycling.

Across several studies, the main sources of young people's environmental information are found to be television and school. Other sources include the print media, family and friends, environmental experiences and environmental nongovernmental organisations (NGOs). There is some evidence to suggest that students' environmental knowledge and information sources can be affected by gender, age, socioeconomic grouping, geographical location and schooling.

The one and only mention of environmental education within curricular reform is its inclusion as part of early education. The NEP is oblivious to sensitising the most important stakeholder, i.e. citizenry, toward its local environment. The NEP analyses problems and issues hampering the development of education in Pakistan, and outlines a wide range of reforms and policy actions to be taken and pursued in a coordinated federal-inter-provincial process. It is an excellent declaration of intent. However, education is a living process and so is the environment since it is dynamic and subject to change. The direct relationship between the two requires a correlation to be drawn and worked upon if the system of education in the country is to see dynamism (Secretariat, 2009). The pertinent question that arises in the face of the NEP 2009 is: how does the Government of Pakistan propose to tread the road to sustainable development without addressing the issue of sustainability and without incorporating the environmental aspect into mainstream education?

National Environmental Education Action plans of Australia, United States and India, provided sufficient guidance for developing Environmental Education Policy for Pakistan. India faces similar environmental problems as Pakistan and has a low literacy rate. Substantial policy points from India compliment policy needs for environmental education in Pakistan.

8 Conclusion and Way Forward

It is important to remember that the development of the **National Environmental Education Policy** is not an end point, but a step forward in a dynamic process towards achieving the sustainable Pakistan foreseen in the Vision Framework.

Given resource constraints and varied levels of awareness and commitment, it is inevitable that some of the programme areas identified will receive more attention than others. This, in itself, will create a constantly changing scenario, which underlines the need for periodic review. In addition, the very concept of Environmental Education for Sustainable Development is evolving.

By the time **Agenda 21** has been developed and adopted in 1992, the concept had evolved into Environmental Education for Sustainable Development, and Chapter 36 of **Agenda 21** had put education and awareness firmly on the world's agenda. Now, at the international level, Environmental Education for Sustainable Development is being re-cast as 'education for sustainability' (Heritage, 2002).

The Secretariat charged with implementing this Plan will have to stay current with the evolving national and international views on the role of education and public awareness in caring the environment and creating a sustainable society. It will also need to ensure that there is a continuing focus on concepts and programmes which are relevant to Pakistanis. These, along with periodic reviews of progress on the actions recommended in the **National Environmental Education Policy**, should ensure continued progress towards the expected results, and contribute to the development of citizens working for a sustainable future (UNESCO, 1997).

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