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ENVIRONMENTAL POLICY OF ETHIOPIA

I. THE RESOURCE BASE AND THE NEED FOR A POLICY

1.1 The Natural Resource Base and the Rural Environment

Natural resources are the foundation of the economy. Smallholder peasant agriculture, in some areas including forestry, is the dominant sector accounting for about 45 per cent of the GDP, 85 per cent of exports and 80 per cent of total employment. Agriculture has also been the main source of the stagnation and variability in GDP growth caused in the main by policy failures and exacerbated by recurrent drought, civil war, natural resource degradation, and poor infrastructure.

Renewable natural resources, i.e. land, water, forests and trees as well as other forms of Biodiversity, which meet the basic needs for food, water, clothing and shelter have now deteriorated to a low level of productivity. In many areas of highland Ethiopia, the present consumption of wood is in excess of unaided natural sustainable production. Estimates of deforestation, which is mainly for expansion of rainfed agriculture, vary from 80,000 to 200,000 hectares per annum.

The burning of dung as fuel instead of using it as a soil conditioner is considered to cause a reduction in grain production by some 550,000 tonnes annually. In 1990, accelerated soil erosion caused a progressive annual loss in grain production estimated at about 40,000 tonnes, which unless arrested, will reach about 170,000 tonnes by 2010. Livestock play a number of vital roles in the rural and national economy but according to one estimate some 2 million hectares of pasture land will have been destroyed by soil erosion between 1985 and 1995. Land degradation is estimated to have resulted in a loss of livestock production in 1990 equivalent to 1.1 million tropical livestock units (TLUs), and, unless arrested, will rise to 2.0 million TLUs or to 10 per cent of the current national cattle herd by 2010.

In economic terms, soil erosion in 1990 was estimated to have cost (in 1985 prices) nearly Birr 40 million in lost agricultural production (i.e. crop and livestock) while the cost of burning dung and crop residues as fuel was nearly Birr 650 million. Thus in 1990 approximately 17 per cent of the potential agricultural GDP was lost because of physical and biological soil degradation.

The permanent loss in value of the country's soil resources caused by soil erosion in 1990 was estimated to be Birr 59 million. This is the amount by which the country's soil "capital" should be depreciated in the National Accounts or which should be deducted (as capital depreciation) from the country's Net National Income (NNI).

The Ethiopian Forestry Action Program (EFAP) estimated the full value of forest depletion in 1990 to have been about Birr 138 million or some 25 per cent of the potential forestry GDP of Birr 544 million.

Despite the presence of mineral resources in quantities and qualities suitable for exploitation, they currently contribute only about 2 per cent of the GDP. Only 1 per cent of the potential of Ethiopia's vast water resources for irrigated agriculture and hydropower generation have been developed. The energy sector is one of the least developed in the world with 90 per cent of needs being met from biomass fuels, particularly wood, charcoal and animal dung. The genetic diversity of Ethiopia's domesticated plants and its unique flora and fauna is increasingly being eroded because the long history of disruptive interventions by the state and the weakening of local management in the face of an expanding population and the increasing needs of agriculture.

1.2. The Urban Environment

The current urban proportion of the population is relatively low at only 15 per cent although the annual rate of growth is 5.4 per cent and this rate is likely to rise to 30 per cent by the year 2020.

The current stock of urban housing is both insufficient and of very poor quality. About 31 per cent of households in Addis Ababa have no sanitation facilities, while in other urban areas the proportion is about 48 per cent. The serious deficiencies in sanitation services and the inadequacy of sewerage infrastructure and random defecation in urban areas have created dangerous health and environmental problems. Rivers and streams in the vicinity of Addis Ababa and other large urban centres have become open sewers and are one of the main sources of infections resulting in diarrhoea and other diseases. Privacy is almost impossible as many latrines are shared among many people and even simple doors are often absent.

1.3. Natural and Cultural Heritage

Ethiopia's rich natural and cultural heritage permeates every facet of daily life and provides a powerful and socially cohesive force in the national consciousness. It can also provide a major attraction for tourists and is an important element in the development of a tourist industry. However, much of this heritage and culture is under threat through neglect, decay, removal or destruction as well as through the less visible and tangible impacts of changing socio-cultural values, foreign ideas and imported technologies.

1.4. The Need for A Policy on Natural Resource and the Environment

The Government of the Federal Democratic Republic of Ethiopia (FDRE) has established a macro economic policy and strategy framework. Sectoral development policies and strategies have been, or are currently being, formulated. Environmental sustainability is recognized in the constitution and in the national economic policy and strategy as a key prerequisite for lasting success. However, there is as yet no overall comprehensive formulation of cross-sectoral and sectoral issues into a policy framework on natural resources and the environment to harmonize these broad directions and guide the sustainable development, use and management of the natural resources and the environment. Therefore, given the current stage of the country's political and policy development, the time is opportune for developing a comprehensive environmental policy on natural resources and the environment.

II. THE POLICY GOAL, OBJECTIVES AND GUIDING PRINCIPLES

2.1 The Overall Policy Goal

The overall policy goal is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

2.2 Specific Policy Objectives

The Policy seeks to:

- a. Ensure that essential ecological processes and life support systems are sustained, biological diversity is preserved and renewable natural resources are used in such a way that their regenerative and productive capabilities are maintained and where possible enhanced so that the satisfaction of the needs of future generations is not compromised; where this capability is already impaired to seek through appropriate interventions a restoration of that capability;
- b. Ensure that the benefits from the exploitation of non-renewable resources are extended as far into the future as can be managed, and minimize the negative impacts of their exploitation on the use and management of other natural resources and the environment;
- c. Identify and develop natural resources that are currently under-utilized by finding new technologies, and/or intensifying existing

uses which are not widely applied;

- d. Incorporate the full economic, social and environmental costs and benefits of natural resource development into the planning, implementation and accounting processes by a comprehensive valuation of the environment and the services it provides, and by considering the social and environmental costs and benefits which cannot currently be measured in monetary terms;
- e. Improve the environment of human settlements to satisfy the physical, social, economic, cultural and other needs of their inhabitants on a sustainable basis;
- f. Prevent the pollution of land, air and water in the most cost-effective way so that the cost of effective preventive intervention would not exceed the benefits;
- g. Conserve, develop, sustainably manage and support Ethiopia's rich and diverse cultural heritage;
- h. Ensure the empowerment and participation of the people and their organizations at all levels in environmental management activities; and
- i. Raise public awareness and promote understanding of the essential linkages between environment and development.

2.3. The Key Guiding Principles

Underlying these broad policy objectives are a number of key principles. Establishing and clearly defining these guiding principles is very important as they will shape all subsequent policy, strategy and programme formulations and their implementation. Sectoral and cross-sectoral policies and environmental elements of other macro policies will be checked against these principles to ensure consistency.

The Key Guiding Principles are:

- a. Every person has the right to live in a healthy environment;
- b. Sustainable environmental conditions and economic production systems are impossible in the absence of peace and personal security. This shall be assured through the acquisition of power by communities to make their own decisions on matters that affect their life and environment;

- c. The development, use and management of renewable resources shall be based on sustainability;
- d. The use of non-renewable resources shall be minimized and where possible their availability extended (e.g. through recycling);
- e. Appropriate and affordable technologies which use renewable and non-renewable resources efficiently shall be adopted, adapted, developed and disseminated;
- f. When a compromise between short-term economic growth and long-term environmental protection is necessary, then development activities shall minimize degrading and polluting impacts on ecological and life support systems. When working out a compromise, it is better to err on the side of caution to the extent possible as rehabilitating a degraded environment is very expensive, and bringing back a species that has gone extinct is impossible;
- g. Full environmental and social costs (or benefits foregone or lost) that may result through damage to resources or the environment as a result of degradation or pollution shall be incorporated into public and private sector planning and accounting, and decisions shall be based on minimizing and covering these costs;
- h. Market failures with regard to the pricing of natural, human-made and cultural resources, and failures in regulatory measures shall be corrected through the assessment and establishment of user fees, taxes, tax reductions or incentives;
- i. Conditions shall be created that will support community and individual resource users to sustainably manage their own environment and resources;
- j. As key actors in natural resource use and management, women shall be treated equally with men and empowered to be totally involved in policy, programme and project design, decision making and implementation;
- k. The existence of a system which ensures uninterrupted continuing access to the same piece(s) of land and resource creates conducive conditions for sustainable natural resource management;
- l. Social equity shall be assured particularly in resource use;
- m. Regular and accurate assessment and monitoring of environmental conditions shall be undertaken and the information widely

disseminated within the population;

- n. Increased awareness and understanding of environmental and resource issues shall be promoted by policy makers, by government officials and by the population, and the adoption of a "conservation culture" in environmental matters among all levels of society shall be encouraged;
- o. Local, regional and international environmental interdependence shall be recognized;
- p. Natural resource and environmental management activities shall be integrated laterally across all sectors and vertically among all levels of organization;
- q. Species and their variants have the right to continue existing, and are, or may be, useful now and/or for generations to come;
- r. The wealth of crop and domestic animal as well as micro-organism and wild plant and animal germplasm is an invaluable and inalienable asset that shall be cared for; and
- s. The integrated implementation of cross-sectoral and sectoral federal, regional and local policies and strategies shall be seen as a prerequisite to achieving the objectives of this Policy on the Environment.

III. SECTORAL ENVIRONMENTAL POLICIES

3.1 Soil Husbandries and Sustainable Agriculture

The Policies are:

- a. To foster a feeling of assured, uninterrupted and continuing access to the same land and natural resources on the part of farmers and pastoralists so as to remove the existing artificial constraints to the widespread adoption of, and investment in, sustainable land management technologies;
- b. To base, where possible, increased agricultural production on sustainably improving and intensifying existing farming systems by developing and disseminating technologies which are biologically stable, appropriate under the prevailing environmental and socio-cultural conditions for farmers, economically viable and environmentally beneficial;

- c. To promote the use of appropriate organic matter and nutrient management for improving soil structure, nutrient status and microbiology in improving soil conservation and land husbandry;
- d. To safeguard the integrity of the soil and to protect its physical and biological properties, through management practices for the production of crops and livestock which pay particular attention to the proper balance in amounts of chemical and organic fertilizers, including green manures, farm yard manures and compost;
- e. To promote effective ground cover as one of the most important factors in soil erosion control, taking advantage of the wide range of sustainable agronomic, pastoral and silvicultural approaches used in various areas of Ethiopia as potentially flexible alternatives to mechanical soil conservation systems;
- f. To promote in drought-prone and low rainfall areas water conservation which is as important as physical soil conservation for more secure and increased biomass production, including crop production;
- g. To ensure that, for reasons of cost and acceptability, improvements in land husbandry are made with an appreciation of existing husbandry systems, technologies and knowledge;
- h. To ensure that, given the heterogeneous environment of the Ethiopian highlands, agricultural research and extension have a stronger focus on farming and land use systems and support an immediate strengthening of effective traditional land management systems;
- i. To promote, for the relatively more environmentally uniform Ethiopian lowlands, a long-term approach to agricultural research programmes to develop appropriate farming and land management systems that yield high outputs;
- j. To ensure that planning for agricultural development incorporates in its economic cost-benefit analysis the potential costs of soil degradation through erosion and salinization as well as soil and water pollution;
- k. To ensure that inputs shall be as diverse and complementing as the physical, chemical and biological components of the soil require, and shall not focus solely on a quick and transitory increase in plant nutrients to the long-term detriment of soil structure and microbiology;

- l. To institute the stall feeding of domesticated animals through a combination of providing agricultural residues, on-farm produced forage and fodder as well as the cutting and carrying of grass and browse from meadows and hillsides in order to encourage revegetation of grazing lands and the reduction of soil erosion;
- m. To develop forestry on the farm, around the homestead and on eroding and/or eroded hillsides in order to increase the stock of trees for fuel wood, construction material, implements and crafts, for forage and for other tree products ;
- n. To shift the emphasis in crop breeding from single line plant varieties and animal breeds to multiple lines involving as many different but adapted lines as possible in order to increase both plasticity in adapting to environmental variations, and resistance to pests and diseases;
- o. To use biological and cultural methods as well as resistant or tolerant varieties or breeds, pheromones or sterile male techniques in an integrated manner as a pest and disease management method in preference to chemical controls;
- p. To safeguard human and environmental health by producing adequate regulation of agricultural (crop and livestock) chemicals;
- q. To use the precautionary principle in assessing potentially damaging impacts when taking decisions that affect social and economic conditions, natural resources and the environment, especially in the pastoral areas, which are perhaps the least studied in the country;
- r. To ensure that new technical recommendations are compatible with existing pastoral and agricultural systems, agro-ecological conditions and the prevailing socio-economic environment; and
- s. To undertake full environmental, social and economic impact assessments of all existing irrigation schemes in the rangelands and wherever needed establish programmes of correcting their negative environmental, social and economic impacts.

3.2. Forest, Woodland and Tree Resources

The Policies are:

- a. To recognize the complementary roles of communities, private entrepreneurs and the state in forestry development;
- b. To encourage all concerned individuals and communities as well as

the government to actively involve in the planning and implementation of forestry programmes to ensure sustainability, minimize cost, and forestall conflict;

- c. To ensure that forestry development strategies integrate the development, management and conservation of forest resources with those of land and water resources, energy resources, ecosystems and genetic resources, as well as with crop and livestock production;
- d. To ensure that afforestation with exotic species be restricted to backyard woodlots, to peri-urban plantations and to plantations for specific industrial and other projects; otherwise until reliable information and knowledge on exotic species are available afforestation shall use local species as these are in tune with the environment and thus ensure its well-being;
- e. To assist the natural process of afforestation of uncultivable areas by controlling felling and grazing and by planting judiciously selected local species, as well as by other affordable interventions.
- f. To adhere to the principle that "sustainable forest management" is achieved when social acceptability and economic viability have been achieved and the volume of wood harvested in a given period is about equal to the net growth that the forest is capable of generating;
- g. To pursue agricultural and other policies and programmes that will reduce pressure on fragile woodland resources and ecosystems; and
- h. To promote changes in agricultural and natural resource management systems which will limit the need for free grazing of animals in protected forest areas.
- i. To find substitutes for construction and fuel wood whenever capabilities and other conditions allow, in order to reduce pressure on forests.

3.3. Genetic, Species and Ecosystem Biodiversity

The Policies are:

- a. To promote in situ systems (i.e. conservation in a nature reserve, farmer's fields, etc.) as the primary target for conserving both wild and domesticated biological diversity; but also promote ex situ systems (i.e. conservation outside the original or natural habitat) in gene banks, farms, botanical gardens, ranches and zoos as

supplementary to in situ conservation;

- b. To promote in situ conservation of crop and domestic animal biological diversity as well as other human made and managed ecosystems through the conscious conservation of samples of such ecosystems, even when change as a whole is taking place;
- c. To ensure that the importation, exportation and exchange of genetic and species resources is subject to legislation, e.g. to ensure the safeguarding of community and national interests, the fulfilling of international obligations, quarantine, etc. Above all biological material which is self-regenerative and impossible to control once allowed to get out of control may result in the most insidious and damaging form of pollution which is biological pollution, thus the importation and use of biological material including those genetically engineered should be under stringent regulations;
- d. To ensure that factors such as the level of vulnerability, uniqueness, importance and economic and environmental potential of the genome be taken into account in determining priorities in conservation;
- e. To ensure that the conservation of genetic resources in situ maintains a dynamic system of genetic variability in an environment of constant selection pressure that is normally present in the natural or human made ecosystem as the case may be;
- f. To promote the involvement of local communities inside and outside protected areas in the planning and management of such areas;
- g. To ensure that the conservation of biological diversity outside the protected area system be integrated with strategic land use plans, local level plans and sustainable agricultural and pastoral production strategies;
- h. To include in protected areas as wide a range of ecosystems and habitats as possible and where appropriate to link them by corridors of suitable habitats along which species can migrate;
- i. To ensure that pricing policies and instruments support conservation of biological diversity;
- j. To ensure that park, forest and wildlife conservation and management programmes which conserve biological diversity on behalf of the country allow for a major part of any economic benefits deriving therefrom to be channelled to local communities affected by such programmes; and

- k. To recognize that certain animal and plant species are vermin or pests or may be a reservoir of disease to humans, crops and livestock, and to control them.

3.4. Water Resources

The Policies are:

- a. To ensure that the control of environmental health hazards be a necessary condition in the design, construction and use of dams and irrigation systems;
- b. To recognize that natural ecosystems, particularly wetlands and upstream forests, are fundamental in regulating water quality and quantity and to integrate their rehabilitation and protection into the conservation, development and management of water resources;
- c. To ensure that any proposed introduction of exotic species into water ecosystems be subject to detailed ecological studies and environmental impact assessment;
- d. To promote the protection of the interface between water bodies and land (e.g. lake shores, river banks and wetlands);
- e. As most large and medium scale irrigation potential is located in the rangelands of the lowlands occupied by pastoralists, to consider the opportunity costs of irrigating important dry season grazing areas of the pastoralists for crop production in any cost benefit analysis of such irrigation projects;
- f. To involve water resource users, particularly women and animal herders, in the planning, design, implementation and follow up in their localities of water policies, programmes and projects so as to carry them out without affecting the ecological balance;
- g. To subject all major water conservation, development and management projects to the environmental impact assessment process and to include the costs and benefits of protecting watershed forests, wetlands and other relevant key ecosystems in the economic analysis of such water projects; and
- h. To promote, through on-site training, effective water management techniques at the farm level for improved performance of medium to large-scale irrigation schemes.
- i. To promote, to the extent possible, viable measures to artificially

recharge ground and surface water resources.

- j. To recycle waste water when it has been found to be safe for health and the environment or when it has been made safe without entailing high cost.

3.5. Energy Resource

The Policies are:

- a. To adopt an inter-sectoral process of planning and development which integrates energy development with energy conservation, environmental protection and sustainable utilization of renewable resources;
- b. To promote the development of renewable energy sources and reduce the use of fossil energy resources both for ensuring sustainability and for protecting the environment, as well as for their continuation into the future;
- c. To make institutions and industries which consume large amounts of wood fuel establish their own plantations or make contractual arrangements with plantations to meet their wood requirements;
- d. To encourage Government leases for private entrepreneurs to plant fuel woodlots in peri-urban areas;
- e. To ensure that feasibility studies for hydroelectricity facilities and other significant generating facilities include rigorous environmental impact assessments to allow informed decision-making that maximizes benefits to the community and to the country at large and eliminates or at least minimizes damage to the natural resources base and/or to environmental well-being;
- f. To review current institutional, pricing and regulatory arrangements in the energy sector to suggest reforms that will better meet community energy needs and maximize the opportunities for private commercial and community sector initiatives to develop and market environmentally sound energy sources;
- g. To recognize that water resources play an important role to meet Ethiopia's energy demand and that, by generating power cause no pollution on the environment;
- h. To focus extension programmes on farm and homestead tree planting to ensure that each homestead grows enough trees to satisfy its wood requirements; and

- i. To locate, develop, adopt or adapt energy sources and technologies to replace biomass fuels.

3.6. Mineral Resources

The Policies are:

- a. To adopt as mineral resources are depleted sooner or later, that the long-term usability of the land be safeguarded from the outset so that with due care during and following the mining activities, it can still be used for agriculture and/or other economic activities;
- b. To encourage and support artisanal and small-scale miners to practice mining which is organized and responsible so as to be consistent with environmental laws, rules and regulations to safeguard the well-being of the land and its other natural resources;
- c. To advise and train mining communities in methods of environmental protection and reclamation of abandoned mining areas;
- d. To strengthen the capacity of the state sector mining agencies to regulate and administer environmental protection in view of the increased role of the private sector and of possible foreign investment in large-scale mining;
- e. To implement continuous programmes of education for the public and industry, environmental monitoring, and the provision of technical advice and assistance in environmental management during mining operations;
- f. To provide technical and material assistance to artisanal miners to improve environmental protection and output efficiency;
- g. To use conditions of contract to ensure that licensed mining operations prepare pre-development environmental impact studies, adopt sound environmental management practices during operations, and undertake appropriate mitigation and reclamation measures both during and after operations;
- h. To prepare and enact specific mining environmental protection legislation; and
- i. To establish a guarantee system for enforcing measures that should be taken by the licensee for the restoration of the land to its previous conditions or to the best improved level that the prevailing

ecological conditions allow.

3.7 Human Settlements, Urban Environment and Environmental Health

The Policies are:

- a. To incorporate rural urban migration, human settlement and environmental health concerns which arise from urbanization created by social and economic development into regional, wereda and local level planning and development activities;
- b. To integrate harmoniously, human-produced and natural elements in the development and management of urban areas in order to maintain the natural ecosystems;
- c. To ensure that improved environmental sanitation be placed highest on the federal and regional agendas for achieving sustainable urban development;
- d. To promote the construction by individual families of their own houses and create conducive conditions for communities and individual families to make improvements to their immediate habitats as well as to provide human and domestic waste disposal facilities;
- e. To recognize the importance of and help bring about behavioural change through education and public awareness of environmental sanitation problems in trying to achieve demand-driven community led programmes of improved urban environments as well as the sustainable use and maintenance of sanitation facilities;
- f. To bring about a sound partnership between the government and communities in the development of an integrated sanitation delivery system, and to foster the supplementary role of NGOs;
- g. To ensure that housing and sanitation technologies and regulatory standards are set at a level and cost that are within reach of the users and flexible enough to be adaptable to the very varied socio-economic, epidemiological, climatic and physical site conditions which are found in urban areas;
- h. To give priority to waste collection services and to its safe disposal;
- i. On the one hand to recognize the importance of adequate water supply as an important component in achieving a sustainable and healthy urban environment, and on the other hand to recognize the

minimization of the need for water as an important factor in the choice of sanitation technologies;

- j. To construct shared VIP latrines in the low income and very high density housing areas of Addis Ababa and the older towns with frequent emptying by tankers integrated with programmes on user education, health and hygiene, with follow up maintenance and cleaning, all implemented as a component of a broader urban environmental upgrading programme including storm water drainage;
- k. To ensure the construction of family latrines in lower density urban and peri-urban areas as a conditionality of the house plot lease and to integrate this with health and hygiene awareness programmes;
- l. To create conducive conditions for families, housing groups and communities to construct latrines and for private entrepreneurs to undertake latrine emptying as well as waste collection and disposal services;
- m. To undertake studies which identify suitable sanitary landfill sites in the major cities and towns of Ethiopia;
- n. To plan and create green spaces within urban areas, including community forests and woodlands for fuel wood as well as for recreational amenity, providing habitats for plants and animals and ameliorating urban micro climates;
- o. To promote the development of sewerage systems and sewage treatment facilities in urban centers; and
- p. To the extent possible to recycle liquid and solid wastes from homesteads and establishments for the production of energy, fertilizer and for other uses.

3.8. Control of Hazardous Materials and Pollution From Industrial Waste

The Policies are:

- a. To adhere to the precautionary principle of minimizing and where possible preventing discharges of substances, biological materials or their fragments from industrial plants and personal or communal appliances or any other external sources that could be harmful, and to disallow the discharge when they are likely to be hazardous;
- b. To adopt the "polluter pays" principle while endorsing the

precautionary principle since pollution is likely to occur, and ensure that polluting enterprises and municipalities and wereda councils provide their own appropriate pollution control facilities;

- c. To establish clear linkages between the control of pollution and other policy areas including water resources, agriculture, human settlements, health and disaster prevention and preparedness;
- d. To provide adequate regulation of agricultural (crop and livestock) chemicals and micro-organisms;
- e. To ensure that pollution control is commensurate with the potency, longevity and potential to increase or reproduce of the pollutant;
- f. To establish safe limits for the location of sanitary landfill sites in the vicinity of wells, bore holes and dams, and issue regulations to enforce them;
- g. To review and develop guidelines for waste disposal, public and industrial hygiene and techniques to enable the cost-effective implementation of defined standards of control, and to issue regulations to enforce them;
- h. To formulate and implement a country-wide strategy and guidelines on the management of wastes from the medical, agriculture and other sectors that may use potentially hazardous biological organisms, their fragments or chemicals, and to issue the necessary regulations to enforce them;
- i. To establish a system for monitoring compliance with land, air and water pollution control standards and regulations, the handling and storage of hazardous and dangerous materials, mining operations, public and industrial hygiene, waste disposal, and water quality;
- j. To maintain an up-to-date register of toxic, hazardous and radioactive substances, and to make the information available on request;
- k. To maintain regular environmental audits to ensure the adoption of environmentally sound practices in all public and private development activities including industrial and mining operations;
- l. To enforce the exhaustive labelling and detailing of the contents usage and expiry date of foods, drugs, cosmetics, other chemicals, and when any of the contents are poisonous or dangerous in any other way, the fixing of strikingly visible labels to that effect;

- m. To promote waste minimization processes, including the efficient recycling of materials wherever possible;
- n. To create by law an effective system of control, distribution, utilization and disposal after use or expiry of chemicals, biological organisms or fragments of organisms that could be hazardous but are required for use;
- o. To prohibit from importation to and from transit through Ethiopia hazardous materials, organisms or fragments of organisms as agreed by African states in Bamako;
- p. To hold as legally liable an employer who deploys employees in using or handling hazardous materials without adequately training them on how to deal with the hazard and without adequate equipment to protect each one of them for physical harm or disease that is caused by working conditions whether the harm or disease starts in the place of work or away from it;
- q. To foster better understanding of the dangerous effects of chemicals and organisms and their fragments through the provision of information in a form understandable to users, and provide or enforce the provision of information on the appropriate methods and technologies for the treatment and disposal of wastes.

3.9. Atmospheric Pollution and Climate Change

The Policies are:

- a. To promote a climate monitoring programme as the country is highly sensitive to climatic variability;
- b. To recognize that even at an insignificant level of contribution to atmospheric greenhouse gases, a firm and visible commitment to the principle of containing climate change is essential and to take the appropriate control measures for a moral position from which to deal with the rest of the world in a struggle to bring about its containment by those countries which produce large quantities of greenhouse gases;
- c. To recognize that Ethiopia's environmental and long-term economic interests and its energy prospect coincide with the need to minimize atmospheric inputs of greenhouse gases as it has a large potential for harnessing hydro-, geothermal and solar energy, none of which produce pollutant gases in significant amounts and to develop its energy sector accordingly;
- d. To actively participate in protecting the ozone layer since, as the

highlands of Ethiopia already have a thin protective atmosphere and are liable to suffer agricultural losses and adverse health effects from exposure to ultraviolet rays;

- e. To recognize that the continued use of biomass for energy production makes no net contribution to atmospheric pollution as long as at least equal amounts of biomass are produced annually to compensate this and to maximize the standing biomass in the country through a combination of reforestation, agroforestry, the rehabilitation of degraded areas, a general revegetation of the land and the control of free range grazing in the highlands and to seek financial support for this from industrialized countries for offsetting their carbon dioxide emission;

3.10. Cultural and Natural Heritage

The Policies are:

- a. To promote the perception of heritage conservation as part of, and integrated with, Ethiopia's general social and economic development;
- b. To recognize that the country's heritage conservation should not be seen as the responsibility of government alone and to encourage communities to play a leading role in assessing and nominating places or items of heritage significance and in conserving them;
- c. To promote a sustainable heritage conservation and management programme that seek to understand all the elements of the system, their interrelationships and the ways in which each contributes to social and economic development; and
- d. To ensure that the environment of heritage sites is so managed as to protect the landscape, the monuments, and the artefacts or the fossils as the case may be.

IV. CROSS-SECTORAL ENVIRONMENT POLICIES

4.1. Population and the Environment

The Policies are:

- a. To integrate population planning, resources management and the rehabilitation of and care for the environment to achieve a sustainability of life styles;

- b. To give attention to the education and care of children, especially in the context of development and the sustainable use of natural resources since virtually all values and the discipline of work are established during childhood;
- c. To tackle simultaneously the issues of poverty, health, education and empowerment as these are interlinked with those of population growth, availability and access to resources and the well-being of the environment;
- d. To undertake a comprehensive and country-wide assessment of the human carrying capacity of the natural resources and the environment to identify potential areas for voluntary resettlement;
- e. To ensure a complete empowerment of women especially to enable their full participation in population and environmental decision making, resource ownership and management; and
- f. To promote off-farm and on-farm income generating programmes which aim at the alleviation of poverty, especially, among women whether they have access to land or not and among men who have no access to land.

4.2. Community Participation and the Environment

The Policies are:

- a. To ensure that all phases of environmental and resource development and management, from project conception to planning and implementation to monitoring and evaluation are undertaken based on the decisions of the resource users and managers;
- b. To reorient management professionals employed in natural resource and environmental extension programmes to embrace participatory development, and to strengthen their communication skills so as to more effectively disseminate both the results of scientific research and the practical experience of local farmers;
- c. To develop effective methods of popular participation in the planning and implementation of environmental and resource use and management projects and programmes;
- d. To develop the necessary legislation, training and financial support to empower local communities so that they may acquire the ability to prevent the manipulated imposition of external decisions in the name of participation, and to ensure genuine grassroots decisions in

resources and environmental management;

- e. To authorize all levels of organization to raise funds locally from the use of natural resources to fund the development, management and sustainable use of those resources;
- f. To greatly increase the number of women extension agents in the field of natural resource and environmental management; and
- g. To ensure information flow among all levels of organization including the Federal and Regional States and the people at the grassroots level by developing a two way mechanism for data collection and dissemination.

4.3. Tenure and Access Rights to Land and Natural Resources

The Policies are:

- a. When taking decisions to recognize that the constitution now ensures that the user of land has the right to a secure and uninterrupted access to it and to renewable natural resources on it (e.g. trees, water, wildlife and grazing);
- b. To recognize and protect wherever possible the customary rights of access to and use of land and natural resource which are constitutionally acceptable, socially equitable and are preferred by local communities.

4.4. Land Use Plan

The Policy is:

To ensure that Federal, Regional and Community Strategic Land Use Plans (SLUP) define broad land use and land user categories together with generalized resource management recommendations which can then be used to guide the formulation of detailed local resource use and management plans by individuals or communities as the case may be.

4.5. Social and Gender Issues

The Policies are:

- a. To ensure that formal and informal training in environmental and resource management include methodologies and tools for analysis and elimination of inequities;
- b. To make environmental awareness and public education

programmes include both men and women in all social, economic and cultural groupings of society;

- c. To subject all policies, programmes and projects to impact assessments in order to maximize equity for economic, ethnic, social, cultural, gender and age groups, especially the socially disadvantaged; and
- d. To facilitate the participation of women across all sections of society in training, public awareness campaigns, formal and informal education and decision making in environment and resource management.

4.6. Environmental Economics

The Policies are:

- a. To ensure that environmental costs and benefits, used in the development planning process including programme and project preparation consider environmental gains and losses include the values of benefits foregone which are thus costs;
- b. To recognize that estimating environmental costs and benefits is often imprecise both because of the lack of accurate information and because of the lack of standardized methodologies, and to account for these costs using the best available information and methodologies;
- c. To recognize that environmental impacts have long time spans, usually to be reckoned in decades, and to lengthen the time frame in economic analysis accordingly;
- d. To initiate a pilot project on the application of environmental accounting in Ethiopia;
- e. To explicitly consider in 5-, 10-, 50- and 100-year time perspectives the economic costs and benefits to the environment in the planning of all major development programmes, projects and activities;
- f. To assess and charge the appropriate level of user and access fees and performance bonds, for example, to parks, for use of closed grazing areas, for water use and consumption, and for logging in order to sustainably maintain the resource or the environment, and identify the appropriate target groups and assess and provide subsidies, taxes or tax concessions to achieve the sustainability of the use of natural resources and the environment (e.g. soil conservation works, installing pollution treatment facilities); and

- g. To develop the capacity of government agencies to analyze the impact of user fees and incentives and to monitor contracts, leases, concessions and performance bonds used for achieving sustainable resource management and environmental protection.

4.7. Environmental Information System

The Policies are:

- a. To adhere to the principle that the right to live in a clean and healthy environment carries with it the right to be informed about environmental issues and to develop an appropriate information system;
- b. To create by law a system for the protection of community intellectual property rights.
- c. To make available environmental information as a legal right to all interested parties except where the release of such information would compromise national security, community intellectual property rights or individual intellectual property rights;
- d. To base information generation on an identification of user needs, i.e. it be demand-driven;
- e. To ensure that all environmental data collection and analysis as well as information dissemination are coordinated and as far as possible standardized but not centralized;
- f. To ensure that there be a central point or agency at which it is possible to have access to widely used information and to ascertain the type and location of any specialized data and information.
- g. To provide clear legislation and guidelines on environmental data and information generation, collection and dissemination specifying the nature of restrictions required;

4.8. Environmental Research

The Policies are:

- a. To develop strategic environmental research which aims at identifying the social, economic and technical factors which influence resource management;

- b. To promote the training and the improvement of the working conditions of researchers so that they become technically competent and familiar with the agro-ecological and socio-economic conditions of the potential end users;
- c. To put in place an appropriate information exchange system and institutional structure which facilitate closer interaction among farmers, pastoralists, government professionals, development NGO's, and researchers;
- d. To support research on appropriate technologies for environmental management and sustainable development through a partnership between scientists and potential end users so as to benefit from the universal knowledge of the former in science and technology and the unique knowledge of the latter in the very often site specific conditions under which the technology is to be used;
- e. To co-opt existing traditional systems of research and learning into a new system which incorporates both modern and traditional components;
- f. To allocate funds to support strategic, applied and adaptive research programmes and projects; and
- g. To establish Science and Technology Associations in all communities to identify and support their traditional systems of research and development and provide a channel for feedback of information concerning the suitability or otherwise of research outputs;

4.9. Environmental Impact Assessment (EIA)

The Policies are:

- a. To ensure that environmental impact assessments consider not only physical and biological impacts but also address social, socio-economic, political and cultural conditions;
- b. To ensure that public and private sector development programmes and projects recognize any environmental impacts early and incorporate their containment into the development design process;
- c. To recognize that public consultation is an integral part of EIA and ensure that EIA procedures make provision for both an independent review and public comment before consideration by decision makers;
- d. To ensure that an environmental impact statement always includes

mitigation plans for environmental management problems and contingency plans in case of accidents;

- e. To ensure that, at specified intervals during project implementation, environmental audits regarding monitoring, inspection and record keeping take place for activities where these have been required by the Environmental Impact Statement;
- f. To ensure that preliminary and full EIA's are undertaken by the relevant sectoral ministries or departments, if in the public sector, and by the developer, if in the private sector;
- g. To create by law an EIA process which requires appropriate environmental impact statements and environmental audits for private and state development projects;
- h. To establish the necessary institutional framework and determine the linkages of its parts for undertaking, coordinating and approving EIAs and the subsequent system of environmental audits required to ensure compliance with conditionalities;
- i. To develop detailed sectoral technical guidelines in EIAs and environmental audits;
- j. To ensure that social, socio-economic, political and cultural conditions are considered in environmental impact assessment procedures and included in sectoral guidelines; and
- k. To develop EIA and environmental audit capacity and capability in the Environmental Protection Authority, sectoral ministries and agencies as well as in the regions.

4.10. Environmental Education and Awareness

The Policies are:

- a. To promote the teaching of environmental education on a multi-disciplinary basis and to integrate it into the ongoing curricula of schools and colleges and not treat it as a separate or additional subject, though this should also be done at the tertiary level;
- b. To target the public, particularly those involved in public and private sector activities that have significant environmental impacts, for environmental education and awareness programmes;
- c. To formulate environmental awareness programmes in such a way

as to make them address specific environmental problems of particular localities in view of the extreme variability of environmental conditions and problems in Ethiopia;

- d. To recognize the important role the mass media play and to effectively use them in creating and promoting environmental awareness in view of the physical problems of access and communications in Ethiopia;
- e. To strengthen existing higher level training and education institutions so that they can offer programmes and courses in sustainable resource and environmental management for economists, planners, lawyers, engineers, sociologists and medical practitioners as well as for natural resource and environmental scientists;
- f. To provide in-service training in such specialized subjects as environmental economics, environmental law, environmental monitoring, geographical information systems (GIS), pollution monitoring and control, and hazardous waste management;
- g. To encourage the local development of environmental awareness associations and programmes specific to particular agro-ecological zones and support them with scientific inputs;
- h. To develop environmental awareness programmes for urban environments for dissemination by the mass media and foster the development of urban environmental awareness associations; and
- i. To initiate, encourage and support the involvement of local community and religious leaders in programmes to promote environmental awareness.

V. POLICY IMPLEMENTATION

5.1. Institutional Framework, Responsibilities and Mandates

The Policies are:

- a. To give political and popular support to the sustainable use of natural, human-made and cultural resources and environmental management for effectiveness at the federal, regional, zonal, wereda and community levels;

- b. To ensure that legally established coordination and management bodies from the federal down to the community level handle the sectoral and cross sectoral planning and implementation issues identified as the responsibilities of concerned line ministries commissions, authorities and bureaus, as applicable to the level of organizations, including those of the relevant federal executive organs as well as regional and municipal governments, elected councillors, non-governmental organizations, community representatives, representatives of professional or other environmental associations and the private sector;
- c. To use to the maximum, whenever possible, existing institutional structures;
- d. To determine institutional arrangements for the formulation of conservation and natural resource development and management strategies, legislation, regulation, monitoring and enforcement using the following criteria:
 - (i) conformity with the Constitution, especially with respect to the decentralization of power;
 - (ii) harmonization of sectoral interests;
 - (iii) integration of environmental planning with development planning;
 - (iv) minimization of incremental financial requirements;
- e. To avoid conflicts of interest by assigning responsibilities to separate organisations for environmental and natural resource development and management activities on the one hand, and environmental protection, regulation and monitoring on the other;
- f. To ensure that enforcement of government laws and regulations with respect to environmental protection remain the responsibility of federal and regional courts and administrations; nevertheless, where government's own development activities are controlled by laws and regulations, the monitoring of such laws and regulations to ensure compliance of specific ministries and other government entities should be carried out by the government organization responsible for environmental protection and regulation.

5.2. Legislative Framework

The Policies are that the Law should:

- a. To provide a framework for encouraging participation by the people of Ethiopia in the development of federal and regional policies, laws and plans for the sustainable use and management of the natural,

human-made and cultural resources and the environment;

- b. To enable the creation of programmes that motivate the peoples of Ethiopia into restoring, protecting, managing and sustainably using the natural, human-made and cultural resources and the environment of the country;
- c. To ensure agreement with the constitution and the prevailing, political, social, cultural and economic policies, laws and practices and to harmonize these with the principle of sustainable development;
- d. To be consistent with Article 44 of the Constitution and assure all people living in the country of their fundamental right to an environment adequate for their health and well-being;
- e. To create the conditions for formulating, reviewing and updating sectoral regulations on, and procedures for, the restoration, protection, management and sustainable use of the natural, human-made and cultural resources and the environment; and
- f. To provide a broad framework for both punitive and incentive measures.

5.3. Monitoring, Evaluation and Policy Review

The Policies are :

- a. To ensure that individual programme and project monitoring becomes the responsibility of the appropriate federal and/or regional implementing and/or mandated agencies;
- b. To ensure that the monitoring of the overall impacts of the implementation of the Federal Environmental Policy on the country's renewable natural resources and environmental support systems, and that the compilation of recommendations for any modification that is required, should be consistent with the institutional arrangement specified in the CSE and also be responsive to popular opinion;
- c. To ensure that the Environmental Protection Authority carries the overall monitoring of the Policy implementation and is responsible for proposing modifications, in consultation with the mandated line ministries and/or the opinion of stakeholder communities and groups, and for having them approved by the Inter-Ministerial Environmental Protection Council;

- d. To ensure that line ministries and regional and lower level bureaus and branches of bureaus monitor the overall impact of the implementation of this Federal Environmental Policy on those sectors and elements for which they have the legal mandate;
- e. To ensure that, starting with the Community Environmental Coordinating Committee and aggregating upwards through the appropriate level offices of Water Resources, Mines and Energy, Agriculture, and Economic Development and Cooperation, reviews of the status of natural resources and the environment, including evaluation of the implementation of this Federal Environmental Policy, are completed annually at the appropriate levels; and to ensure that the Environmental Protection Authority will be responsible for prompting the compilation of the reports and for reporting on the process;
- f. To ensure that, at least annually, meetings held by communities at the village level with their Community Environmental Coordinating Committees then successively from the Wereda and the Regional Environmental Coordinating Committees through to the Environmental Protection Council, evaluate these reviews and make their recommendations; the Environmental Protection Authority will be responsible for prompting that the evaluation takes place and for reporting on the process.