



# Environment and Natural Resources as a Core Asset in Wealth Creation, Poverty Reduction, and Sustainable Development in Ethiopia

Shibru Tedla  
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## Executive Summary

The natural resources base (land, water forest, wildlife and biodiversity), which is the basis of Ethiopia's economic development and food security of the people, is under intense pressure from population growth and inappropriate traditional farming and management practices. The livelihoods of the farming communities that provides over 85 percent of the total employment and foreign exchange earnings and approximately 47 percent of the GDP are facing severe constraints related to intensive cultivation, overgrazing and deforestation, soil erosion and soil fertility decline, water scarcity, shortage of livestock feed, and fuel wood crisis. These factors often interact with one another resulting in a reinforcing cycle of "poverty, food insecurity and natural resources degradation trap".

Securing food and a livelihood is inextricably linked to the exploitation of natural resources including land; however, the soils are being degraded at an alarming rate, and there is very little, if any, replenishing of soil nutrients taken by crops in the traditional agricultural system; thus affecting nearly half of the agricultural land. This results in soil loss of 1.5 to 2 billion tones annually, with monetary value of US\$1 to 2 billion per annum. Large parts of woodlands are increasingly threatened by shifting cultivation, growth of livestock, expansion of agriculture, and an increasing demand for fuel wood and construction by the urban sector. Recurrent famine is commonplace despite the immense potential for irrigated agriculture; only one percent of the estimated annual surface water of 110 billion cubic meters is used for irrigation and hydropower.

Ethiopia has laid down development strategies in line with the principles of the Millennium Development Goals (MDG), and plans to reduce the level of poverty significantly. This could only be achieved through better management of the natural resource base (land, water, forest, and biodiversity). Scarcity of land with increased population density and the frequent reallocation of land by peasant associations all over Ethiopia in the past, created a strong feeling of tenure insecurity among land users. The way in which landownership is assigned and secured can determine (a) a household's ability to produce its subsistence and generate market surplus; (b) its social economic status; (c) its incentive to exert non observable efforts, make investments, use resources sustainably; (d) and its ability to self-insure and /or access financial markets and better access to social services.

The links between poverty and the environment are quite apparent in Ethiopia. As rural and village populations grow, markets for wood become prevalent. Cutting wood from remnant forest generates income for peasant families who now burn crop residues and animal dung and less wood in their households. Removing crop residues, diverting dung from fields breaches the nutrient cycle and leads to degradation of the soil structure and leaves fields more vulnerable to erosion. The loss resulting from use of cow dung and crop residues for fuel is equivalent to 500,000 Mts of grain per annum. Improving access to efficient alternative supply sources of domestic energy improves the health and safety of women and children, reduces the burden of fuel wood collection, and also helps reduce the pressure on forests and soil nutrients. This will have the additional advantage of reducing indoor pollution that has serious impact on health of women who spend a lot of time indoors attending to domestic chores

The national economy is led by agricultural development that revolves around intensification of marketable farm products - both for domestic and export markets, and by both small and large farmers, including a shift to higher-valued crops. The lead role is played by the private sector, which includes millions of small farmers; but given the early

stages of transition to market agriculture, a range of public investments and services is needed to help jump-start the process, as envisaged in the PASDEP.

The disincentives that prevent farmers from investing and benefiting from their natural resources assets include (i) access to cultivable land is the most important factor for rural development and is a key issue in determining the livelihood strategies of the rural poor. There are still prevailing concerns in land security and tenure that impact on environmental management comprising (i) smallholders are not confident in the prevailing security of tenure arrangements; (ii) even though there is a positive change in recent years, the capacity of the local government (at Wereda and Kebele levels) to exercise sustainable environmental management is still far from what is expected to bring about sustainable development; (iii) information communication and advocacy regarding environmental issues despite the gravity of the problem is at its infancy; and (iv) absence of an incentive scheme for positive initiatives and parallel disincentive scheme for activities negative to the environment.

A joint governance of the natural resource by the government and the community is being exercised. Authority, responsibility and accountability are shared among different institutions, likely to include one or more government agencies, local communities, private landowners and other stakeholders. Despite the fact that there are policy frameworks and institutional mandates, the level of coordination and integration is far below of what is expected. This is much more so at regional and Wereda levels because of insufficient capacities and inadequate institutional arrangements. To register success stories in the management of natural resources and bringing sustainable development in Ethiopia is therefore, the result of the capacities created to enable relevant stakeholders effectively plan and implement projects addressing their felt and expressed needs at different levels. Realization of these in turn demands genuine participation of the local communities from the very onset of inception, identification, project formulation, and implementation stages.

Policy and legal issues that need further research and debate in relation to environmental and natural resources sustainable management include: (i) the inadequacy or ineffectiveness of environmental laws and procedures; (ii) redistribution of farm lands vis-à-vis the small land holding of the households and the pressure from the landless young rural communities; (iii) standardization of land valuation and compensation methods and procedures; (iv) using land rights as collateral for loans for investment; (v) institutional, technical and legal capacities of enforcing appropriate land use planning and proper use based on the land capabilities in a watershed approach; (vi) creating strong institutions and developing human and logistic capacity is required to create an efficient, affordable and sustainable land administration at the district and sub-district levels, the reality at Wereda and Kebele levels; and (vii) establishment of a research institute to address the problems on land administration and use to recommend solutions.

Sustainable local-level environmental action plan development and implementation requires active participation of the public throughout the entire process. However, most of the rural communities and local administration as well as the development practitioners are not well informed about the existing policy and legal frameworks of the country. They should be adequately informed and empowered about their rights and responsibilities in the pursuit of sustainable natural resource management in line with the existing policy and legal frameworks put in place in the country.

Well functioning markets, with appropriate and achievable standards and conditions that protect the farming community and environmental exploitation, are critical issues to equitable and sustainable development. Equitable trade of agricultural produces and value adding to primary products, has the potential to lift millions of farming communities

out of poverty in Ethiopia and subsequently invest on their lands. The new approaches to rural development, i.e., differentiated growth strategies according to agro-climatic factors, potential plant species, and market access, is a commendable start towards strategic environmental management. The major focus is on expanding the production, utilization and market opportunities of high value and including trees crops: 'A Value Chain Strategy'. However, many small farmers who tend to be illiterate and poorly connected with market systems lack the information and bargaining power to benefit fully from market transactions. As a result, they receive a smaller share of the consumer price of their products than they should; they have difficulty getting access to inputs, and in addition they pay higher prices for them.

The government of Ethiopia has a key primarily responsibility of ensuring that the benefits of economic growth are equitably distributed across society. It has to establish enabling environment that markets function efficiently and that the playing field is level for all participants, including the smallholders and traders. However, policies and institutions that best suit these responsibilities are not in place.

The memory of redistribution of land in the last three decades is one of the greatest sources of land tenure insecurity and anxiety among the rural population; current federal and regional land laws restrict inheritance of rural land to family members who are resident in rural areas while the country's succession law does not put any restriction to which one can bequeath their property and rights; this undermines investment on land.

Rural landholders cannot exercise their right nor could they discharge their obligations if they do not have adequate knowledge of their rights and responsibilities. Similarly, the judiciary and land administrators cannot uphold land laws and regulations and enforce them unless they are familiar with the laws, regulations and procedures. Other stakeholders such as investors, land renters, financial institutions and utility companies, municipal and township administrators need to know land laws and regulations as well to properly carryout their functions and discharge their responsibilities. To this end, concerted efforts need to be taken by regional states to create adequate public awareness on their land administration, land use, land valuation and compensation laws and regulations using various media and fora.

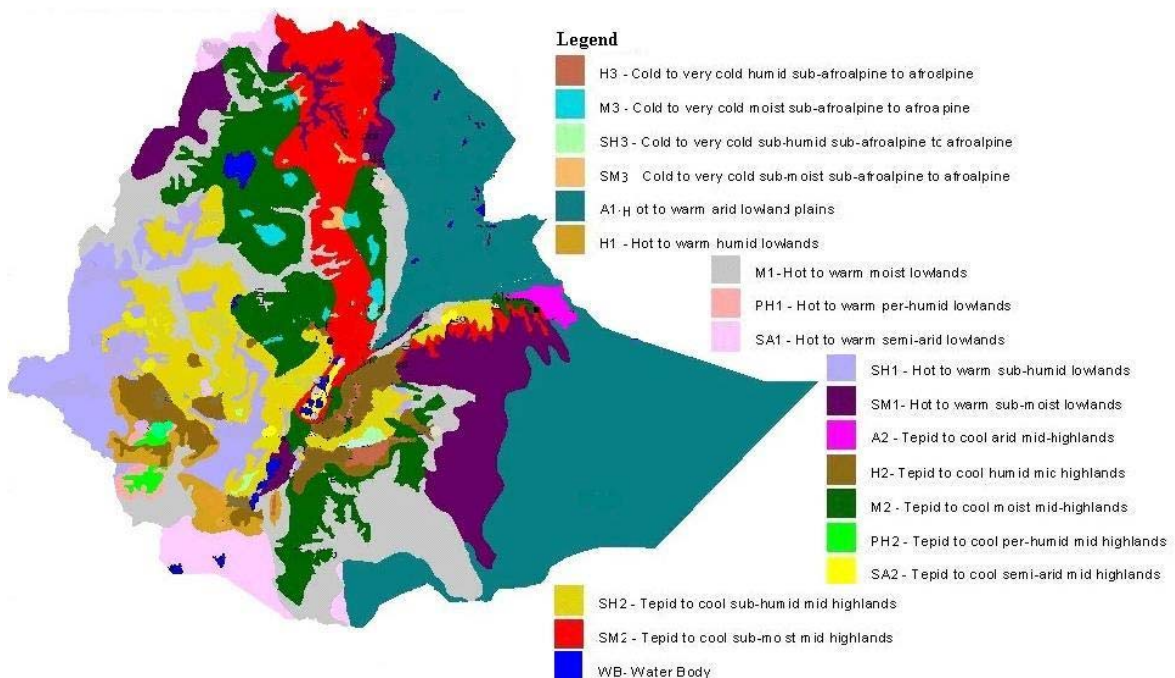
Natural resource accounts (NRA) and environmental indicators are widely recognized as providing a framework for information and analysis needed to support macroeconomic policy analysis for sustainable economic development. The national resources accounts are particularly important since they constitute the primary source of information about the whole economy and could widely be used for policy analysis and decision making. Despite this fact, NRA and environmental indicators are not instituted to date in Ethiopia. There are several emerging issues that are taking centre stage in the development scene, among which are HIV/AIDS; expansion of the malaria infection area; the spread of invasive alien plant species including *Parthenium hysterophorus* (Parhenium weed), *Lantana camara*, *Prosopis juliflora*, *Eichhornia crassipes* (water hyacinth) that are altering the ecological relationships among native species and are affecting the ecosystem function, economic value of ecosystems, and human health; climate change inducing spread of disease, draught and floods; imposition to accept GMOs that Ethiopia will not accept in order to avert risk; carbon trading that has become an attractive option to environmental management, especially since biofuel production could be a part of the process; gender and environmental issues; concerns raised around the flower industry; and conflict and insecurity in resource use, especially in the pastoral areas of Ethiopia.

In conclusion, the key strategic issues that are necessary and need to be properly assessed and addressed in order to make the environment and natural resources as core assets in wealth creation, poverty reduction, and sustainable development in Ethiopia include, among others, creating an enabling policy environment; promoting appropriate and good governance; strengthening human capacity at all levels; promoting effective interventions for smallholder market development; improving the extension approach and technology acquisition; revisiting the land tenure laws and resettlement programmes; improving institutional responsibilities; strengthening local level community base organization; empowering the local community; mainstreaming gender issues; enhancing private sector participation and strengthening public-private partnerships.

## 1. INTRODUCTION TO THE COUNTRY AND STUDY

Ethiopia's natural resources base, its land, water, forests, wildlife and biodiversity are the foundation of any economic development, food security and other basic necessities of its people. Smallholder agriculture is the dominant sector that provides over 85 percent of the total employment and foreign exchange earnings and approximately 47 percent of the Gross Domestic Product (GDP) (EEA, 2005). The country's population is estimated at around 77 million and well over 85 percent live in rural areas. The average population growth rate peaked to slightly over 3 percent in the 1990s and the population is expected to reach 83 million by 2110 (Alemneh Dejene, 2003). The rate of population growth is expected to decline close to 2 percent by 2030 when the country's population is estimated to reach anywhere between 120 million to 130 million, depending on the rate of urbanization. This has strong implication on the sustainability of the natural resources base and the efforts to attain national food security.

Ethiopia has diverse agro-climatic Zones. It has 18 major agro-ecological zones (AEZs) and 49 sub-agro-ecological Zones that are grouped under six major categories (Figure 1) (MoA, 2000). These agro-ecological classifications have important implications for strategies in development of appropriate technologies for agricultural and rural development and natural resources management (NRM).



**Figure 1. Major Agro-ecological Zones of Ethiopia**

Approximately 66 percent of the total land area of 1.12 million km<sup>2</sup> is potentially suitable for agriculture and only 14 percent is currently under cultivation and the largest use of the land (over 50 percent) is for livestock grazing. Securing food and a livelihood is inextricably linked to the exploitation of natural resources including land in rural Ethiopia. However, the soils are being degraded at an alarming rate and the problem of soil erosion is widespread. The major form of soil erosion is water caused. Soil erosion is the most visible form of land degradation affecting nearly half of the agricultural land and resulting

in soil loss of 1.5 to 2 billion tones annually, equivalent to 35 tones per hectare and monetary value of US\$1 to 2 billion per year (Ethiopian Soil Science Society, 1998; Hurni, 1992; NFIA, 1998). Many studies attribute water erosion, particularly on cropland, as a major cause for such a high level of soil erosion in Ethiopia (Hurni, 1988; Sonneveld, 2003); while others have pointed out that the significant role of livestock (overgrazing) in fuelling the soil degradation process is a cause, since it is integrated into a smallholder farming system (Alemneh Dejene, 2003). There is very little if any replenishing of soil nutrients taken by crops in the traditional agricultural system; thus resulting in loss of soil fertility.

Ethiopia's remaining forest reserves are estimated at less than 3 percent (National Conservation Strategy, 1990; Environmental Protection Authority, 1997). Woodlands estimated at 5 million ha and bush lands totalling 20 million ha are found in the moist western part of Ethiopia and in the pastoral and the agro-pastoral Zones of the lowlands. Large parts of these woodlands are increasingly threatened by shifting cultivation, growth of livestock, expansion of agriculture, and an increasing demand for fuel wood and construction by the urban sector (Ethiopian Forestry Action Plan, 1994). If these trends continue by 2010 there will be little natural forest left except for minor stands in the remote parts of the country (Ethiopian Forestry Action Plan, 1994).

Ethiopia has a vast water resource potential and the Ethiopian highlands are the source of many of the international rivers (such as the Blue Nile and Wabi Shebelle) draining into the neighbouring countries. Yet only 1 percent of the estimated annual surface water of 110 billion cubic meters is used for irrigation and hydropower. It also has groundwater resources estimated at 2.6 billion cubic meters and many springs and small streams that can be used for water harvesting during the rainy seasons. The country's irrigation potential is estimated at 3-4 million hectares (excluding water harvesting and underground water) but only 160,000 hectares are currently under irrigation (EPA, 1997).

Environmental sustainability is central to sustainable economic growth and to efforts to reduce poverty and social inequality. The country relies heavily on the services provided by its forests, biodiversity, agricultural soils, and water resources. However, these services are also fragile and in an apparent state of deterioration, thus requiring the country's full attention to achieve long-term development goals.

The country recognizes the importance of the environment and natural resources to social and economic well-being and has signed on to several environmental declarations beginning with the 1992 Rio Summit and extending to the Johannesburg Summit in 2002. It has also designed and enacted its own environmental and natural resources policies and legislations and established appropriate institutions to implement these policies.

## **2. ENVIRONMENTAL AND NATURAL RESOURCES AS KEY ASSETS FOR RURAL ECONOMIC GROWTH AND LIVELIHOOD IMPROVEMENT**

### **2.1 Natural resources are a core component of livelihood in achieving MDGs and PRSPs**

Ethiopia has laid down development strategies in line with the principles of the Millennium Development Goals (MDG). The goals and targets of the MDG have been reflected in its Poverty Reduction Strategy Programme documents (PRSP), in its Sustainable Development and Poverty Reduction Programme (SDPRP) and Plan for Accelerated and



Sustained Development to End Poverty (PASDEP). PASDEP represents the second phase of the PRSP process that begun under the Sustainable Development and Poverty Reduction Programme (SDPRP) and covered three years, 2000/01-2003/04. PASDEP comprises Ethiopia's guiding strategic framework for the following five-year period 2005-2010 (MoFED, 2006).

According to a survey conducted by Ministry of Finance and Economic Development (MoFED), the poor and vulnerable in Ethiopia encompass 55 percent of the total population. Under this situation, the country is required to register economic growth rate of about 6.5 percent per annum over the next few years. Level of poverty has to be reduced also by a factor of 4.5 percent per annum in order to meet the MDG goals and targets (MoFED, 2006). This could only be achieved through better management of the natural resource base of direct relevance to agricultural production; 85 percent of the population's livelihood depends directly on agriculture.

Natural resources (land, water, forest, wildlife and biodiversity) are key assets for rural economic growth and generating a livelihood for millions of communities living in the rural and resource for those living in peri-urban. As an important asset, it constitutes a main vehicle for investment, wealth accumulation and transfer between generations. In many areas of the world, appreciation of land with increased population density is also a source of corruption, land conflicts, and lack of transparency. For these reasons, the distribution of land and other productive assets will affect not only productive outcomes in rural areas but also the ability of the farming communities to make investments, and accumulate assets by improving productivity.

The frequent reallocation of land by peasant associations all over Ethiopia during the past regime, and in the Amhara Region of recent created a strong feeling of tenure insecurity among land users. Even when the distribution was stopped, large areas of communal land were brought under cultivation by individuals who were either landless or took advantage of the situation. The way in which landownership is assigned and secured can determine (a) a household's ability to produce its subsistence and generate market surplus; (b) its social economic status; (c) its incentive to exert non observable efforts, make investments, use resources sustainably; and (d) its ability to self-insure and /or access financial markets; better access to social services.

Low levels of infrastructure have resulted in underdeveloped markets, high transaction costs and coordination failures. The benefits of exchanges cannot be realized and the economy remains trapped in a largely subsistence-oriented structure.

Population increment has a negative impact on subsistence agriculture. As population grows most of the best land will be brought under cultivation first, and then the additional population would have to seek their livelihood by expanding into uncultivated, poorer lands. Meanwhile there would be pressure to use existing cultivated lands more intensively and without respite. Cultivation in the marginal lands faces risks of diminished rainfall, less resilient soils, and a weakened pupation that might be more susceptible to disease.

In Ethiopia a large family size is closely associated with poverty. It is apparent that high fertility rate reduces average income per capita; in addition, the more the pregnancies the higher the morbidity and mortality. Large family size undermines education of children especially girls; families with large number of children are unable to invest in health and nutrition (MoFED, 2006).

The links between poverty and the environment are quite apparent in Ethiopia. The country's natural resources base, its land, water, wildlife, forests and trees are the foundation of its economic development, food security and other basic necessities of its people. Smallholder agriculture is the dominant sector that provides over 85 percent of the total employment and foreign exchange earnings and approximately 47 percent of the GDP. This has implication on the sustainability of the natural resources base and the efforts to attain national food security given that nearly half of the current population is classified as undernourished with a daily consumption per head of 1 765 kcal, well below the required energy supply level of 2 600 per day (FAO, 2001). However, of recent (in 2004/05) the national average level of calorie consumed per adult is higher (2,746.4 K/cal per adult per day) than the level indicated during the previous two surveys, in 1995/96 and 1999/2000, when the calorie intake per adult per day was estimated at 1,954 and 2606, respectively (MoFED, 2006).

The setting of rural poverty in Ethiopia and environment presents a dismal picture. As rural and village populations grow, markets for wood become prevalent. Cutting wood from remnant forest generates income for peasant families who now burn crop residues and animal dung and less wood in their households. Removing crop residues diverting dung from fields breaches the nutrient cycle and leads to degradation of the soil structure and leaves fields more vulnerable to erosion. Loss as a result of use of cow dung and crop residues for fuel is equivalent to 500,000 Mts of grain per annum (MoARD, 2006).

Improving access to efficient alternative supply sources of domestic energy improves the health and safety of women and children, reduces the burden of fuel wood collection, and also helps reduce the pressure on forests and nutrient cycle in soils that is breached by dung burning for domestic energy. This will have the additional advantage of reducing indoor pollution that has serious impact on health of women who spend a lot of time indoors attending to domestic chores.

The national economic policy at the macro-level is known as the Agricultural Development-led Industrialization (ADLI). Central to this policy is improving the productivity of peasant agriculture. In the implementation of ADLI and the National Conservation Strategy (NCS), the government will give priority to (a) rectifying policy failures, which have caused or exacerbated market failures resulting in unsustainable management of natural resources as well as environmental damage; and (b) allowing local communities to participate in decision making on natural resources management/utilization (Shibru Tedla and Kifle Lemma, 1999).

The Ethiopian Government's agenda is to implement its poverty reduction strategy through the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), which is based on the Ethiopia's Agricultural Development-Led Industrialization Strategy (MoFED 2006). PASDEP is Ethiopia's guiding strategic framework for the five-year period 2005-2010. The PASDEP carries forward important strategic directions pursued under the SDPRP – related to human development, rural development, food security, and capacity-building -but also embodies some bold new directions. Foremost among them is a major focus on growth in the five-year period – with a particular emphasis on greater commercialisation of agriculture and the private sector -and a scaling-up of efforts to achieve the Millennium Development Goals.

The agricultural strategy will revolve around a major effort to support the intensification of marketable farm products - both for domestic and export markets, and by both small and large farmers. Elements of the strategy include the shift to higher-valued crops; a focus on selected high-potential areas, facilitating the commercialisation of agriculture, supporting the development of large-scale commercial agriculture where it is feasible; and better integrating farmers with markets – both locally and globally. The majority of these

responses will have to come from the private sector, (which includes millions of small farmers); but given the early stages of transition to market agriculture, a range of public investments and services is needed to help jump-start the process. The instruments to achieve this under PASDEP will include (i) constructing farm-to-market roads; (ii) development of agricultural credit markets, (iii) specialized extension services for differentiated agricultural Zones and types of commercial agriculture; (iv) the development of national business plans and tailored packages for specialized export crops (such as spices, cut flowers, fruits and vegetables) (MoFED, 2006).

Rapid population growth remains a major barrier to poverty reduction, and squarely addressing the population challenge is one of the seven central pillars of the PASDEP. At the moment growth of about 2 million persons per year puts tremendous strains on Ethiopia's resource base, the economy, and the ability to deliver services. It is much more difficult to make progress in reducing poverty, creating sufficient employment, or in raising agricultural productivity enough to keep up with food needs, with this continuing massive addition of people each year.

## **2.2. Sustainable Livelihoods Framework and Natural Resources**

'A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base' (Chambers and Conway, 1992).

Rural poverty has been accepted as both a major cause and result of degraded soils, vegetation, forests, water and natural habitats. The importance of environment-poverty links for the natural resource, health and vulnerability dimensions of the livelihoods of the poor is evident in empirical research. Rapid deforestation and biodiversity losses are depriving people of valuable forest resources, such as fuel wood, food and medicine. Projections of rural population growth, agricultural expansion and intensification and poverty in the next few decades suggest a potentially serious conflict between natural resource sustainability and poverty in rural areas (MoFED, 2006).

The Ethiopian government is not alone in its effort to improve livelihood of the rural poor. MERET - Managing Environment Resources to Enable Transitions to more sustainable development is part of World Food Programme (WFP) Country programme aiming at enabling development, improving livelihood and food security opportunities for the most vulnerable and in particular women headed households through the sustainable use of the natural resources base (MoARD, 2006). The main current MERET drives include (i) participatory planning and watershed development, (ii) improved work norms and technical standards for a wide range of community and household-based soil and water conservation measures, (iii) new technologies for soil and water conservation (SWC) and sustainable land management (SLM) particularly for moisture stressed areas, (iv) income generation activities (IGAs) and experience sharing, (v) awareness about food security-environmental nexus, (vi) large scale capacity building for community-based participatory watershed development (CBPWD), and (vii) dialogue with government and partners on sustainable land management (SLM), capacity building and food security (MoARD, 2006).

The major challenge will be the devising of ways and means for sustainable livelihoods; a commendable approach has become current in recent thinking; and that is the 'Sustainable Livelihood Approaches'. Sustainable livelihoods approaches are based upon evolving thinking about poverty reduction and how to change the record of decades of limited success in poverty alleviation policies (Figure 2). The SLA is 'a way of thinking

about the objectives, scope and priorities for development, in order to enhance progress in poverty elimination' (Ashley and Carney, 1999). It is a development *objective* and an *approach* to poverty eradication based on core principles of people-centred, participatory, sustainable activities.

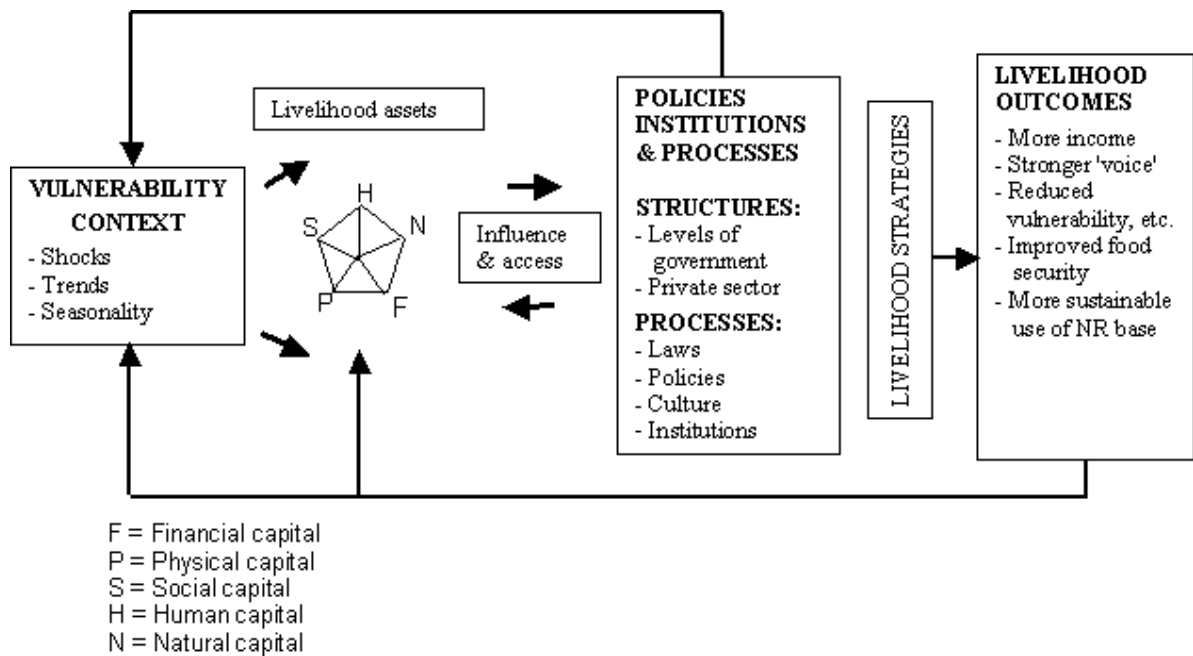
The SL principles embody a commitment to poverty eradication based on accumulated best practices and policies in development. SL is a people-centred approach that aims to identify means to meet local needs and opportunities to support local capacity that are not dominated by individual sectors or disciplines. In pursuing this objective the framework adopts a responsive and participatory approach that links local perspectives into higher level processes of policy design; builds on partnerships between sectors; and builds local capacity to maintain sustainable livelihoods (DFID, 2005). The following are the principles underlying the SLA.

- *People-centred*: 'focusing on what matters to people';
- *Holistic*: 'identify constraints and opportunities regardless of the sector, geographical space or level at which they occur';
- *Responsive and participatory*: 'poor people themselves must be key actors';
- *Multi-level*: 'the micro-level informs the development of policy' and 'macro-level structures and processes support people';
- *Conducted in partnership*: 'with both the public and the private sector';
- *Sustainable*: 'economic, institutional, social and environmental sustainability; and
- *Dynamic*: 'recognize dynamic nature of livelihood strategies, respond flexibly, and develop long-term commitments'.

## **2.3 Policy and Legal Incentives, Guidelines and Programmes in Place**

### **2.3.1 Policies and Laws**

The Constitution, as the supreme law of the country, in its article 52, sub article 2 (d) sets that the right to ownership of land is exclusively vested in the state and in the people. The move towards decentralized, participatory, local management of natural resources in the past two decades has highlighted the important role of the local community as a unit for natural resource management. In many countries, the failures of centralized control of natural resources and forfeiture of communities' critical assets to their livelihoods have resulted in marginalization and impoverishment of local communities.



**Figure 2: Sustainable Livelihoods Framework**

*Adapted from: Carney et al 1999 (Source: www.livelihoods.org)*

The Government of Ethiopia has established the Environmental Protection Authority to coordinate all activities related to environment and environmental problems. The major policy measures that have been taken to address the aforementioned environmental problems include:

- Environmental Policy of Ethiopia (issued in April, 1997);
- Federal and Regional conservation strategies (issued in 1997);
- National action plan to combat desertification and mitigate the effects of drought (issued in 1997);
- Environmental Organes Establishment Proclamation (Proc. No. 295/2002);
- Environmental Impact Assessment Proclamation (Proc. No. 299/2002);
- Environmental Pollution Control Proclamation (Proc. No. 300/2002),
- The Forest Conservation, Development and Utilization Proclamation (Proc. No. 94/1994)
- The Federal Rural Land Administration and Land Use Proclamation (Proc. No. 456/2005)

Examples of strategies that address issues in environmental management include:

- Plan for Accelerated and Sustainable Development to End Poverty (MoFED, 2006)
- The Water Resources Management Policy including the Water Sector Strategy (issued in 2001) and the Water Sector Programme of 2002);
- Plan for Accelerated and Sustainable Development to End Poverty (MoFED, 2006):
- Various environmental impact assessment, pollution control, and environmental quality manuals that have been produced by EPA since 2002.

The Water Resources Management Policy including the Water Sector Strategy (issued in 2001) and the Water Sector Programme of 2002 also cover soil and water conservation

measures to reduce soil erosion and reservoir siltation; local community participation in watershed management and water conservation measures and practices; recognition of wetlands as a key feature in watershed management.

The Forest Conservation, Development and Utilization Proclamation (Proc. No 94/1994) stipulates community-based forest management as a strategy for forest conservation in the country. It also elaborates that the Regional Agriculture and Rural Development Bureau (RARDB) shall conclude agreements with appropriate parties to strengthen forest protection, development and management. Empowering communities in the management of natural resources is fully in line with rural development strategies and decentralization processes being undertaken in Ethiopia and clearly stated that the delineation, demarcation, development, protection, rehabilitation and management of protected areas shall be done with the participation of the local communities.

The Federal Rural Land Administration and Land Use Proclamation (Proc. No. 456/2005) focuses on tasks of land management to be taken up by the regions. All proclamations (federal and regional) describe the rights and obligations of users of rural land, including traditional subsistence farmers, and of recent (Proc. No. 456/2005) private commercial farmers as well.

In principle, the proclamation is a positive move; the possibility to enforce it in practice is yet to be seen. Some rules for proper use of land are defined in a simplified but yet rather rigid way. For example, the rule that “degraded lands of any slope shall be closed from human and animal interference” would preclude future exploitation on a more sustainable basis (cut and carry). Others are very general and need further specification, e.g. “users should protect and develop the productive capacity, and biodiversity in rural wetlands shall be conserved”.

A meaningful intervention in land use rights has been initiated by several regional states, Amhara , Tigray, Oromia and Southern Nations, Nationalities and People's Regional State (SNNPRS) where the proclamation stipulates that “a book of ownership shall be prepared by the relevant organ....peasants (individual or in communal holding) have the obligation to have a book of ownership....redistribution of land shall not be effective unless otherwise the land distribution does not affect the productive capacity, requested by the community, supported by the study and decided by law”.

The Federal Land Proclamation (Proc. No. 456/2005) demonstrates the government's concern about land degradation and its commitment to combating the problem. Most importantly in the current context, it defines obligations of rural land users, and land use restrictions. Thus, protection of land becomes an obligation and failure to protect can lead to loss of title. Free grazing in areas with soil and water conservation (SWC) is prohibited and appropriate SWC measures are required for all lands of <30 percent slope. Cultivation on slopes of 31-60 percent slope requires bench terraces. Closure of degraded lands, and compensation for prior users is provided for. A minimum holding size is referred to, but is to be determined by the Regions.

Under these policies, laws and strategies, local governments and communities have been given broad and new responsibilities to address environmental problems. Of all government measures taken, the shift to decentralization is an important aspect of the transition to democracy. The new emphasis on local control of environmental problems recognizes that local governments and their communities have the best understanding of local problems, issues, and needs. By decentralizing decision-making authority, environmental actions can be tailored to meet the specific needs of a community or region. The concept of sustainable development that emerged as a multi-faceted

development approach strives to strengthen local economies, while respecting the limits of the natural environment to function and sustain human activities over time.

Local level communities should start a new way of thinking and acting about their future, in pursuing a new approach to community development that simultaneously seeks to protect the environment, alleviate poverty and disease, improve the quality of life, and secure a strong and vibrant local economy. This has already begun in limited localities and those who spear headed the thinking have been recognized at a national level (Personal communication with Negusu Aklilu, Coordinator, Forum for the Environment).

### **2.3.2 Guidelines and Programmes**

The Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) pursues initiatives under SDPRP and ADLI but with important enhancements to capture the private initiative of farmers and support the shift to diversification and commercialisation of agriculture. It is realized in PASDEP that, "parallel to this shift to commercialised agriculture, improvement of pro-poor subsistence farming still needs to take place as the main welfare improvement for several million households still depends on achieving higher yields of basic food grains. Both approaches need to be pursued with measures to manage the natural resource base and protect the environment."

Countrywide safety net programme has been prepared with the help of the World Bank; however of recent this has not been possible because of varying regional priorities. Distribution of food aid should be minimised as much as possible, and be replaced with cash aid, in order not to distort food cereal prices, which inhibits investments in agriculture and maintains low agricultural productivity. Cash for work is becoming disfavoured as a result of recent hikes in food commodity prices. Many activities of natural resource management and watershed treatment (soil and water conservation, water harvesting, construction of feeder roads) are now financed through the Safety Net Programme. Reportedly, the programme is more or less replacing the previous Employment Generation Schemes (EGS) (MoFED, 2006).

The Ethiopian Government and its development partners (UN agencies, bilateral and multilateral agencies, etc.) have established a joint forum-Coalition for Food Security in Ethiopia Technical Group-as an urgent food security action group. It comprises two elements (i) access to improved land (voluntary settlement), and (ii) food security programme (productive safety-net). The government of Ethiopia is to contribute 40 percent and its partner development agents 60 percent of the multi-billion dollar package.

A key issue in all these policies, laws guidelines and programmes is how to get some action on the ground by agencies at the Wereda level using a collaborative and not a "legal enforcement" approach. The major constraint appears to be lack of capacity for implementation at all levels.

## **2.4. Perverse Incentives which Prevent People from Being Able to Benefit from their Natural Resources Assets**

### **2.4.1 Land tenure issues**

The Constitution, as the supreme law of the country, in its article 52, sub article 2 (d) sets that the right to ownership of land is exclusively vested in the state. Access to cultivable land is the most important natural resource for rural development and is a key factor in determining the livelihood strategies of the rural poor. Two most important aspects of land tenure that affect rural development are access to land and security of tenure. The ownership, management and productive use of cultivable land is a key determinant of economic growth and has a direct, though complex, effect on how other natural resources

such as water, forests, pasture and biodiversity are used. The role of land tenure issues is one of the key contentious issues in the current rethinking of poverty-environment-agriculture linkages in Ethiopia.

Review of the current rural land policy in Ethiopia shows that, among other things, there is public ownership of all lands, peasants and pastoralists have free usufruct rights, use is guaranteed by law but no clear policy on compensation; there are restricted land transfer rights, and unclear land use rights. Literature also shows that among the problems of the current rural land tenure are inadequate access to land, inequitable distribution of land, tenure insecurity, diminution and fragmentation of holdings, inefficient use of land, and inappropriate land administration (Yigremew Adal, 2002).

#### **2.4.2 Capacity of local government and community**

Local Sustainability means that an area is designed built and operates in a way that uses energy and natural resources efficiently and equitably, for both present and future generations of humans and other species. Sustainable communities meet their current needs without compromising the environment and depletion of the natural resource base for future generations. Farming communities make day-to-day decisions affecting the sustainability of both their community and the environment. That is why world leaders included them in Agenda 21, the global action plan signed at the 1992 Earth Summit held in Rio de Janeiro.

The section dealing with the powers and responsibilities of cities and counties is known as Local Agenda 21, which aims at integrating economic development, community development, and environmental protection. This cannot be achieved without the direct involvement of local government. Building sustainable communities requires a proactive, localized, and highly participatory approach that depends upon the unique role and capabilities of local government. Even though there is a positive change in recent years, the capacity of the local government (at Wereda and Kebele levels) is still far below of what is expected to bring about sustainable development capacity.

#### **2.4.3 Information dissemination and enforcement of environmental laws**

Information communication and advocacy regarding environmental issues in view of the gravity of the problem in the country and its devastating consequences is at its infant stage. Coupled with the great desire by all stakeholders to remove the shackles of extreme poverty, any development activity that comes to the rescue of the poor people by contributing to the macro economy is highly welcome. However it should not be carried out with an enormous expense on environmental resources. This necessitates environmental communication and advocacy organizations to strengthen the tradition of public meetings, public debates and public lectures to a range of target groups, including policy and decision makers. Lobbying and advocacy, particularly on environmental issues, is by and large very poor in the country, seen in light of the magnitude of the degradation of natural resources.

The Ethiopian government has established different institutions pertaining to conservation and sustainable utilization of natural resources. Government both at the Federal and Regional levels have issued several proclamations to curb natural resource degradation and bring sustainable development; however, the enforcement of environmental laws is wanting. Even though Ethiopia is one of the very few countries in Africa that have legal framework for SEA (Strategic Environmental Assessment), a comparison of extent of law enforcement in a number of selected African countries, it is put in the last but one category of countries that have an incomplete regulatory and institutional framework to implement the laws (Alemneh Dejene, 2003).



#### **2.4.4 Status of incentive schemes for positive initiatives and disincentive schemes for activities negative to the environment.**

There have been lots of sporadic initiatives that have positively contributed to environment and development in the country both at the individual and institutional levels. For example Forum for Environment (FfE) has already launched a national Green Award Programme, which is designed to serve this purpose. To this end, FfE has established focal points in all regional capitals, which mostly are NGOs active in the field. Efforts are also underway to convince the private sector to be part of this process by contributing to the awards given to outstanding players.

There are limited disincentive mechanisms in place for negative activities on the natural resources, even though commodities such as charcoal could be confiscated as a preventive measure for further destruction of forest resources. Despite the fact that there are policy and legislative frameworks to protect the natural resources, there are no clear and applicable articles in the laws in holding an offender or polluter pay for and correct or restore damages that inflicted upon the physical environment.

### **3. NATURAL RESOURCE GOVERNANCE AT THE CORE OF SUSTAINABLE DEVELOPMENT AND LIVELIHOOD IMPROVEMENT**

#### **3.1. Governance of Natural Resources**

Governance is about power, relation-ships and accountability. It thus has a major influence on the achievement of management objectives (**effectiveness**), the sharing of relevant responsibilities, rights costs and benefits (**equity**), and the generation and sustenance of community, political and financial support for wise and sustainable use (**sustainability**)."

The term "governance" means different things to different people. Among the many definitions of "governance" that exist, the one that appears the most appropriate from the viewpoint of natural resource management is "the manner in which power is exercised in the management of environmental and natural resources for development of the community and the nation at large. The concept of governance in this context is concerned directly with the management of the natural resources, involving the local community members, the relevant government institutions and the private sector. Good governance in natural resource management is about the institutional environment in which local communities interact among themselves and with government agencies/officials/development partners for sustainable management of the natural resources and equitable benefit sharing mechanism from the resources.

The natural resource governance in Ethiopian is joint governance by the government and the community using the land, for example the smallholder is expected to utilize land in an environmentally friendly manner; if that is not the case the land could expropriated by government. Authority, responsibility and accountability are shared among a variety of parties, likely to include one or more government agencies, local communities, private landowners and other stakeholders. The parties recognize the legitimacy of their respective entitlements and chose or are required to collaborate.

In 1991 Ethiopia adopted a federal structure of government with 9 Regional States, the City Administration of Addis Ababa and the Dire Dawa Administrative Council. Many fiscal and administrative powers of the central government were devolved to the Regions. Within each Region there is a four-tiered structure of Government: Region, Zone, Wereda and Rural Farmers Association (Kebele). The area of the Farmers Association may be sub-divided into smaller areas for the administration of natural resources (e.g. Development Team).

The ministries at the federal level are generally mirrored at the Regional level and to a lesser extent at the Wereda level. Ministries at Regional level are referred to as "Bureaus" and at Wereda levels to "departments" The most relevant ministries/bureaus for environment and natural resources management include:

- Agriculture and Rural Development;
- Water Resources;
- Finance and Economic Planning;
- Federal Environmental Protection Authority and Regional Environmental Protection, Land Administration and Use Authorities;
- National Disaster Prevention and Preparedness Agency and Regional Food Security Programme Coordination and Disaster Prevention Offices

Despite the fact that there are so many institutions that are directly or indirectly involved in environment and natural resources management, the level of coordination and integration far from satisfactory, this is even worse at regional and Wereda levels.

### **3.2 Improvement of Natural Resources Governance to Improve Rural People's Livelihoods and Reduce Risks**

In recent years, there has been increasing concern about good governance issues in the development debate to improve the rural people's livelihood and reducing the risk of environmental degradation. This has been reflected in the PASDEP objectives, priorities, and approaches to its operational programmes.

In Ethiopia, relatively few case studies of governance practices in sustainable natural resources management are available. There are several traditional communal resource management practices in Ethiopia, including among others, rangeland management in the Afar and Somalia Regions; community based decision-making on utilization/management of grazing land, water (wells, flood and pond water); forest management in Degagogot Forest in the Gurage highlands; grass and shrub resource management in Dessie Zuria (Wello); management of guassa grass in Menz (North Shewa highlands); and wetland resource management in Illubabor (Southern Ethiopia)(Shibru Tedla, 2004).

One good example of such good governance that was instituted recently is the Bale Eco-Region Sustainable Management Programme (BERSMP) operating through establishing the **WAJIB** (an abbreviation meaning *Forest Dwellers' Association* in Afaan Oromo) in order to protect and rehabilitate the forests of Adaba and Dodola around the Bale Mountains.

Empowering communities in the management of natural resources is being practiced in line with rural development strategies and decentralization processes being undertaken in Ethiopia. The purpose of the project is to support the government and local communities in the sustainable management of natural resources in the Bale Ecoregion(s), while contributing to sustainable livelihoods and the local and national economy (FARM Africa, 2003).

The new emphasis on local control of environmental problems recognizes that local governments and their communities have the best understanding of local problems, issues, and needs. By decentralizing decision-making authority, environmental actions can be tailored to meet the specific needs of a community or a region. Local communities usually have rich and vast accumulated indigenous knowledge that are relevant to their localities. However, the knowledge is neither properly identified/assessed and documented nor its utility scrutinized for possible promotion as a solution in addressing

local problems. In order to restore the missing link, one very fundamental step is to put a standard working instrument or manual that would help the community to unleash their power in the effort of formulating and managing environment related projects. In doing so, it is also possible to realize the genuine participation and hence local ownership and sustainability of projects. Genuine way of involving communities at every steps of the project processing cycle need to be developed to ensure the real ownership and leadership of communities in development endeavours.

In spite of the fact that the Environmental Protection Authority (EPA) and the respective regional Environmental Protection and Land Use Administration Authorities (EPLUAA) are mandated to develop environmental management policies and manuals, no such standard documentation is developed in discharging their responsibilities. In order to address this gap, EPA and the Institute of Development Research (IDR) of Addis Ababa University (AAU) have developed Guide to Implementing Local-level Environmental Action plan Development (LEAD) to support local governments and communities to fulfil their environmental responsibilities and bring about sustainable development in their localities (Belay Simane, 2006).

The guide presents how LEAD could be launched at community level, describes how to assess environmental issues and set environmental priorities, and explains how to implement selected actions and monitor and evaluate results. Presumably, it is also useful reference document for environmental experts, NGOs, and other stakeholders that are involved at community level.

The main purpose of developing this standard environmental management training manual is to assist local communities and authorities to develop their own local Agenda 21 strategies or local environmental plans. A series of trainings to local governments and development agents are envisaged to enhance coordination of environmental management efforts as well as to integrate environmental management to development activities. It is also envisaged to serve as a tool in bringing about a synergetic implementation of policies, strategies, programmes, and international conventions at a grass root level.

### **3.3 Policy and Legal Rhetoric Put in Place**

#### **3.3.1 Environmental policy and legislations**

Rebuilding Ethiopia's natural assets is a pre-requisite for sustainable social and economic development, and good management of the country's land resources that provide a range of basic ecosystem functions and services considered essential for sustaining the social and economic wellbeing of the country's inhabitants. Past and present non- sustainable use practices have contributed to the degradation of the country's natural resource assets, thus putting such ecosystem functions and services at risk. Poverty, food insecurity, ill health, malnutrition, land conflicts over scarce land, water and fuel resources, as well as increased vulnerability to natural disasters, are the direct results of inappropriate and or absence of development policies and programmes that in turn led to under evaluation and failed to adequately invest, in sustainable management of country's ecosystem resources.

Natural resource management legislation suffered in the past and continues to suffer at present from a number of serious shortcomings, because (i) they were/are often of purely sectoral nature; (ii) they lack a broad framework that is inclusive of cross-sectoral impact of activities; (iii), there are no means of ensuring a harmonized approach to the drafting and implementation of laws. These in turn lead to jurisdictional conflicts between institutions, and or the task being neglected because none of the institutions felt responsible (Shibru Tedla and Kifle Lemma, 1999). However, an attempt to bring about

such integration and coordination appear to have been made through a law (Proc. No. 262/1984) which established the Organization of the National Committee for Central Planning (ONCCP) of the now defunct socialist government. The proclamation charged the ONCCP with the responsibility of policy formulation and issuance of activities regarding environmental management (Shibru Tedla and Kifle Lemma, 1999).

Over the last five decades, Ethiopia has enacted a range of laws aimed at protecting the environment. However, these laws had limited contribution in preventing and avoiding environmental problems. The inadequacy or ineffectiveness of all these laws in relation to environmental management and protection can be attributed to several factors. Many of the laws do not have regulations and procedures to implement them on the ground (Figure 3). For instance, the laws impose a general duty of care to prevent harm on human beings and certain components of the environment. The advantage of such a law is that it provides basic standards against which conduct can be measured. Although, such obligations are useful as a broad statement of policy, and in some cases intended to cover those responsibilities not specifically regulated, they are not, however, readily suitable for enforcement. Among the reasons identified as causing this inability to enforce legislation could be found in such commonly cited problems as lack of funds, skilled manpower, material and equipment.

Since 1943, the general trend and subsequent approaches towards the development of environmental laws in Ethiopia exhibited a rule oriented approach, for instance, the 1948 Penal Code of Ethiopia Prohibits activities that will have adverse impact upon certain components of the environment and public health. On the other hand, relevant conditions that would help the persons and enterprises to comply with their respective obligations have not been regulated, and from the practical point of view, the said measure did not help halt or even slow down the problem.

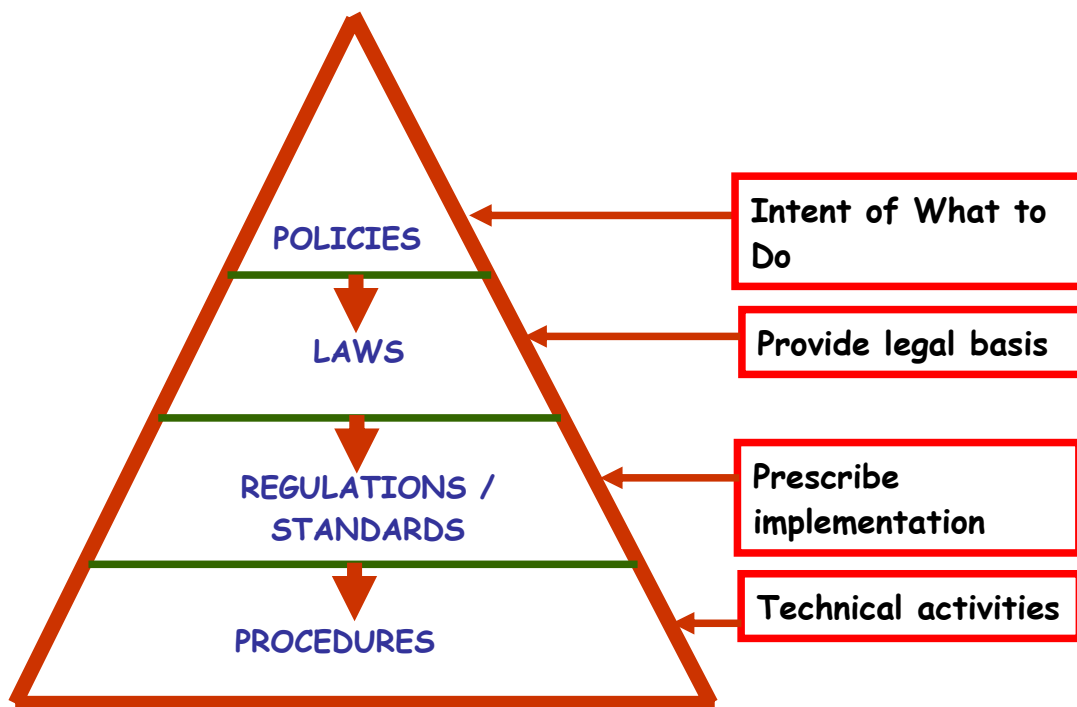
The other feature of the laws is that they are primarily concerned to regulate the allocation and exploitation of resources for either production or consumption; they did not emphasize on sound management and rational uses. Furthermore, the criminal and administrative fines have not been revised and no longer have a deterrent effect. Generally, criminal sanctions and administrative fines may not be effective where the magnitude of penalty is modest compared to the gains that accrue from non-compliance. Obviously, people may not change their behaviour unless they see a benefit associated with obeying the law or a cost associated with disobeying it.

To be effective, therefore, the magnitude of penalty provided under the laws should have been regularly revised to conform to the actual environmental cost incurred on the current and the upcoming generations. Consequently, this failure not only reduces the deterrent value of the penalties but also imposes an unacceptable environmental cost on the society. The other drawback of the laws attributes to their limitation in holding an offender or polluter pay for and correct or restore damages that inflicted upon the physical environment.

### **3.3.2 Redistribution of land**

The memory of redistribution of land in the last three decades, i.e. during the Derge regime and early in EPRDF rule, is one of the greatest sources of land tenure insecurity and anxiety among the rural population (Solomon Bekure, et al., 2006). While the federal land proclamation is unclear on this issue, regional laws have taken a bold step to ban forced redistribution of rural land in their revised proclamation (Amhara National Region Proclamation No, 46/2000, Zikre Hig, Bahir Dar). Redistribution will occur only if more than 65 percent of landholders agree to effect redistribution or when a project that benefits the community requires taking of land, e.g. if an irrigation dam is built, those

downstream that benefit from the irrigation scheme may contribute land for allocation to upstream landholders affected by the resulting water body. However, the guarantee provided in the federal constitution and federal and regional land laws, that anyone of age 18 and above has a right to get rural land free, seems to imply redistribution can occur. Such right can only be guaranteed only in sparsely populated areas and or in uncultivated mountain areas; the latter for perennial tree (fruit tree or otherwise) production alone. It is not possible to exercise this right in areas that are fully settled and utilized without effecting redistribution of land. This provision should, therefore, be qualified to apply only to areas where unutilized land is available (Rural Land Administration and Use Proclamation; Proc. No. 456/2005).



**Figure 3. Relationship - Environmental Policy, Legislation, Regulations**

### 3.3.3 Valuation and compensation of rural land

The fear of unfair valuation of land and lengthy and inadequate compensation for land taken under the powers of eminent domain can create a high degree of tenure insecurity and anxiety among rural landholders. Addressing such fear in valuation and compensation laws and, more importantly, in applying these laws in a fair and equitable manner is essential to enhance tenure security.

Lack of standardized valuation and compensation methods and procedures are causing different valuations by different land taking agencies, resulting in different compensation values for similar lands. Land taking by regional governments for expansion of cities and towns and for lease to investors in agriculture and industry is rising rapidly. The federal laws on rural land expropriation and compensation, having been crafted by the agencies that are taking land seem to disfavour those that are losing the land and are a disincentive to investment on the land by farmers; despite the possibility that urban

centres would provide better opportunities for non-land based livelihoods to the displaced farmers.

A negative aspect of rural land taking by federal and regional agencies is that households who are evicted are farmers who face difficulty in starting a new livelihood if they do not get another piece of land to farm because this is the only skill they have. Or else other alternative livelihood mechanisms should be in place. To date there are no government mechanisms in place to train them in new skills and provide them with social, financial and management advice in starting new livelihoods. Few are those that find new employment in the enterprises developed on their old farms. Some evictees squander the compensation they receive not knowing what to do with it. This needs serious attention by both the federal and regional governments. At present there are a few NGOs who provide opportunities for acquisition of new skills, thus enabling smallholders to start new livelihoods.

In view of this complex problem, a rural land and valuation and compensation study is underway under ELTAP<sup>1</sup>. This study will analyse the current practice both in valuation methodology and compensation procedures and payments, comparing and contrasting with international practice and make recommendations on how the issues mentioned above could be addressed in a fair and equitable manner. It is expected that this report will be ready and discussed with the appropriate authorities soon, within a year.

#### **3.3.4 Land use rights as collateral for investment on the land**

Land is the primary means for generating livelihood for most of the poor in rural areas, and a key asset and resource for those living in peri-urban areas. As an important asset, it constitutes a main vehicle for investment, wealth accumulation and transfer between generations. However, the land laws do not allow land rights being used as collateral for loans. The rationale provided for this seems to be protecting rural land holders from exploitation by loan sharks and land speculators and also to stem the tide of rural to urban migration. That the regulation restricts access of rural land holders to institutional credit is a disincentive to exert non observable efforts, make investments, and use resources sustainably on their land.

An overwhelming majority of rural landholders are wise enough not to gamble with the future of their families' livelihood. The countrywide survey conducted by the Ethiopian Economic Policy Research Institute (EEPRI) found out that only 4.5 percent of landholders are willing to sell their land if given the opportunity and 90 percent indicated that they will not consider selling whole or part of their holdings (EEPRI, 2002). However, researchers have reservations on the said result because they believe that the tools used in gathering the information were inappropriate and in addition the personnel who administered the questionnaires were not experienced enough to manage retrieval of such valid information on a sensitive issue as land use right/ holding security.

#### **3.3.5 Inheritance**

Current federal and regional land laws restrict inheritance of rural land only to family members who are resident in rural areas while the country's succession law does not put any restriction to which one can bequeath their property and rights. Such restrictions are introducing distortions in child/parent relations and conservation of natural resources. Anecdotal reports indicate that city-dwelling children are beginning to reduce support to aging parents, residing in the countryside, knowing that they will not bequeath their

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<sup>1</sup> An intervention programme entitled "Ethiopia – Strengthening Land Tenure and Administration" (ELTAP) under ARD, INC, a firm based in Burlington, Vermont to implement a programme intervention aimed at increasing tenure security and enhancing rural land use rights.

parents' property. Aging farmers are showing tendencies of cutting trees and paying less attention to conservation measures, knowing that when they die, their children and relations will not benefit from these resources (Solomon Bekure, et al, 2006). It is apparent that there is no solid evidence on the ground concerning inheritance; relevant research institutions should make a study to determine the effects of inheritance restrictions on family relationships and on conserving natural resources.

### **3.3.6 Leasing land**

Although regional land laws permit leasing of rural land, there are serious restrictions limiting the benefits of leasing. First, landholders cannot rent 100 percent of their land; they rent only that amount of land that does not displace them from the land; i.e. they should reserve enough land that yields sufficient output to sustain their family. Such restriction adversely affects the disadvantaged such as the old, widowers and orphans who are not able to work their land. Furthermore, it limits the efficient reallocation of land resources from those who want to earn their livelihood from off-farm employment opportunities and still retain their land resources as a safety net in case the off-farm employment sources are not sustainable. The land laws also put a limit on the number of years that smallholders can rent out their land, particularly to other small scale farmers (less than 15 years). Allowing longer-term leases (e.g. 30-99 years) encourages renters to engage in long term investment and development. Lifting and/or easing such restrictions will facilitate the creation of land use right markets that assign economic value to and thus convert landholdings into valuable assets. A study on the effects of such restrictions on the rural economy is required to provide knowledge and inform policy formulation and decisions.

### **3.3.7 Land use planning and obligations of landholders**

The law states in its land use planning and proper use statement that a guiding land use master plan, which takes into account soil type, land form, weather condition, plant cover and socio economic conditions and which is based on a watershed approach shall be developed by the competent authority and implemented. However, enforcement of this is far from reality due to various institutional, technical and capacity constraints.

The provisions on obligations of landholders to use land properly are not explicitly explained. In the law, it is only stated that when the land gets damaged as a result of improper use, the user of the land shall lose his/her use right. Defining what is meant by 'improper use of land' and 'damaged land' need clarity for the different farming systems and agro-ecologies so that landholders and other stakeholders understand the terms and discharge their obligations properly. The other drawback of the law attributes to its limitation in holding an offender pay for and correct or restore damages that inflicted upon the physical environment.

### **3.3.8 Institutional capacity**

Enacting good land laws is not enough to result in fair and efficient land administration; one needs to establish a simple, workable, and sustainable land administration system that is updated as changes in land rights take place on the ground. There is need for a long term vision of establishing such a system. Significant political will and investment in creating strong institutions and developing human and logistic capacity is required to create an efficient, affordable and sustainable land administration at the district and sub-district levels. Currently only the Amhara Region is creating this capacity by establishing the Environmental Protection, Land Administration and Use Authority (EPLAUA) that reports directly to the Office of the President of the Region. It is provided with considerable autonomy and financial resources to carryout its mandate. Tigray Regional State has also established such an EPLAUA; however it reports to the region's Bureau of Agriculture and Rural Development. It has very limited autonomy and is under-resourced.

The Oromia and SNNPR regions are even less endowed in both authority and resources. Their Land Administration and Land Use Department is a small unit of the Region's Agricultural and Rural Development Bureau. They have no autonomy and get very limited resources to carry out their respective mandates

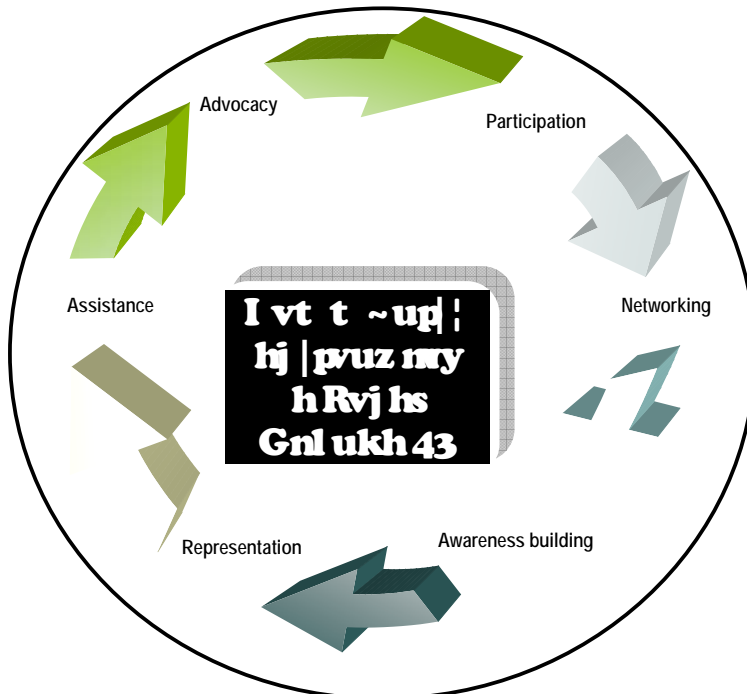
**3.3.9 State of systematic research findings on land policy and Its implementation**

Although Rural Land Administration and Land Use Proclamation (Proc. No. 456/2005) mandates the establishment of a system of study that focuses on identification of problems on land administration and use to recommend solutions, no institution is engaged in such systematic study. Interested institutions and individuals on an ad hoc basis take up studies on land policy and implementation issues. Interest in such research is virtually non-existent in MoARD, and there is neither government nor academic institution that has a focused and systematic research programme on this topic. It will be useful to give the mandate to one of the country's research institutions and fund it adequately to carry out such activities effectively. One of the think tanks in the country could house such a research programme; for example the Institute of Development Research, Ethiopian Development Research Institute, Economic Policy Research Institute, Forum for Social Studies and Bahir Dar University that is beginning a B.Sc. programme in land management, are good candidates for such an undertaking.

**3.4 Community information and involvement**

Rural landholders cannot exercise their right nor could they discharge their obligations if they do not have adequate knowledge of their rights and responsibilities. Similarly, the judiciary and land administrators cannot uphold land laws and regulations and enforce them unless they are familiar with the laws, regulations and procedures. Other stakeholders such as investors, land renters, financial institutions and utility companies, municipal and township administrators need to know land laws and regulations as well to properly carryout their functions and discharge their responsibilities. To this end, concerted efforts need to be taken by regional states to create adequate public awareness on their land administration, land use, land valuation and compensation laws and regulations using various media and fora.

The rural community and local administration should be adequately informed and empowered on their rights and responsibilities in the pursuit of sustainable natural resource management in line with the policy and legal frameworks put in practice in the country.





**Figure 4. Schematic Representation of Community Action Adopted from Belay Semane (2006)**

Sustainable local-level environmental action plan development and implementation requires active participation of the public throughout the entire process. Successful public outreach requires two-way communication. First, public outreach requires informing and educating communities about the scope and goals of the efforts, environmental issues and priorities, and actions for addressing priorities. Second, sustainable local-level environmental action plan development and implementation involves soliciting the ideas, concerns, and opinions of the public to help ensure that the priorities and solutions developed by the competent authorities reflect the community interest. Effective public outreach helps to “build community” by informing people and getting them involved in issues that affect their lives. Educating the public is not an end in itself but rather a means toward increasing citizens’ voices in decision-making processes (Belay Simane, 2006).

Environmental resources are the foundation of social and economic development because they are the sources of goods and services needed for poverty reduction and economic growth. Their over exploitation coupled with their under utilization has so far reduced their contribution to Ethiopia’s overall development. National economic development programmes, national environmental regulatory systems and international environmental obligations must, therefore, be harmonized to enhance the role of the local community and their right for adequate information about their rights, obligations and the governance structure of any natural resources development initiatives. This will enhance a favourable environment, as envisaged in the MDG 7, to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and enhance the quality of life of its present generation of citizens without compromising that of its future generations.

International initiatives such as ‘New Partnership for Africa’ (NEPAD) are addressing this issue. NEPAD in its agricultural programme has four pillars, namely (i) extending the area under sustainable land management and reliable water control systems, (ii) improving rural infrastructure trade related capacities for market access, (iii) increasing food supply and reducing hunger, and (iv) agricultural research technology dissemination and adaptation.

Participatory Rural Appraisal (PRA) is "a family of approaches and methods to enable rural people to share, enhance and analyse their knowledge of life and conditions, to plan and to act" (Chambers, 1995). PRA techniques typically involve local people in the identification of an issue, such as land degradation, the assessment of its impact on their livelihoods and the selection of the most appropriate means of addressing the problem identified. The participatory approach seeks to involve all groups in society – men and women, young and old, rich and poor. Different perceptions by different groups of people can then be taken into account in selecting the most appropriate solutions.

#### **4. MARKET CHAINS AND VALUE ADDING ON NATURAL RESOURCES**

##### **4.1. Engaging the Rural People in the Market**

Overcoming rural poverty and improving peoples livelihood security within the context of Ethiopia’s economy is one of the key sustainable development challenges. The

development policy of the country looks towards strategies of pro-poor growth, market driven development, and business investment to overcome poverty and livelihood insecurity. However, such strategies require significant institutional change, enormous capacity development and great effort where 85 percent of the population is resource dependent communities. The continuing scale of rural poverty has led the government to refocus on agriculture as a driver of development and growth. However, there are enormous challenges in fulfilling these objectives, which include enabling appropriate technological development and uptake; ensuring products meet increasingly stringent quality, safety and ethical standards, and not degrading the natural resource base. Such development of agriculture is key to livelihood security and developing new market access opportunities.

Well functioning markets, underpinned by standards and conditions that protect against human and environmental exploitation, are key to equitable and sustainable development. Equitable trade of agricultural produces and value adding to primary products has the potential to lift millions of farming communities out of poverty in Ethiopia. This will follow special approaches to rural development, i.e. differentiated growth strategies according to agro-climatic factors, potential plant species, and market access. The major focus will be on expanding the production, utilization and market opportunities of high value crops and trees through collaborations with industries, pharmaceutical companies, exporters and traders. The MoARD should be engaged in training activities directed towards enhancing smallholder productivity and sustainability to improve the livelihood of farmers. These activities should be guided by a *value-chain strategy*. The goal of this strategy should be to stimulate economic growth and investment on the natural resources by:

- (a) Developing new market opportunities for products;
- (b) Increasing utilization and consumption of value-added products; and
- (c) Enhancing productivity and quality of products through new technologies.

In view of the diverse agro-climatic conditions, different farming system and cultures and the rich biodiversity resources of the country, though challenging; it is possible to find new market opportunities in both national and global markets. The activities to engage the rural people in the market so that larger proportions of income from natural resources are trapped at the community and family levels will include:

- (a) Assessment of the market structure and consumer preferences;
- (b) Developing market information systems for products;
- (c) Assessment of economic potentials of adapted old crops as well as new crops and products based on the agro-ecology;
- (d) Assessment of the market value of quality traits of the produces; and.
- (e) Linking smallholder farmers to high-value urban and export markets that can raise rural incomes and enhance export competitiveness.

Market strengthening in the Ethiopian smallholder farmers' perspective relates to improving both the functioning of local markets so farmers capture greater benefits and improving integration with regional and global markets for commercial agriculture. At times of surplus production, the price of commodities collapses discouraging the farmers of continued use to improved technologies. Particular interventions include a better market information system that collects and disseminates information on prices and demand for food crops, livestock, and cash crops; the development of market infrastructure, especially in small-to-medium sized towns which can serve as growth poles; and the development of agricultural cooperatives and other marketing institutions, e.g. commodity exchange, warehouse receipts.

Many small farmers – who tend to be illiterate and poorly, connected with market systems - lack the information and bargaining power to benefit fully from market transactions. As

a result they receive a smaller share of the consumer price of their products than they should, have difficulty getting access to inputs, and pay higher prices for them. A major effort of the Ethiopian government in the coming five years will involve organization and support for farmers' cooperatives to strengthen the power of small farmers to participate in the liberalized market environment, with a target of 70 percent of farmers being in cooperatives by 2010 (MoFED, 2006).

With respect to commercial agriculture, it is expected that the private sector will take the lead, but the government will help with ensuring the flow of information on international markets and opportunities; establishing a level playing field; making necessary infrastructure available ; facilitating access to land, and providing selected direct support for getting access to new technologies.

#### **4.2 The Smallholder Market Development**

International Development Enterprises (IDE) has developed a *unique approach* to the development of smallholder-oriented markets. The approach is called *Poverty Reduction through Irrigation and Smallholder Markets* (PRISM). PRISM is an integrated approach to rural economic development that focuses on smallholders, agriculture, and private-sector development as keys to effective and sustainable poverty reduction. It sees the smallholder as a rational, capable, and proactive entrepreneur who, given the right conditions, is able to take advantage of market opportunities and invest her/his way out of poverty. PRISM seeks to harness micro-irrigation and market opportunities as motor forces for smallholder wealth creation (IDE Ethiopia, 2007). The PRISM approach is based on three pillars: water control, supply chains and market access.

**Water control:** Water is often a key constraint to smallholder productivity. The livelihoods of the large majority of small-scale farm families are dependent on rain fed-agriculture. Their options to diversify into irrigated-agriculture are constrained by lack of appropriate and affordable water control technologies. In the PRISM approach, smallholder farmers are supported to get access to water lifting, water-storage and water-distribution technologies that are low-cost, simple and adaptable. *PRISM uses small-plot irrigation as an entry point to facilitate pro-poor agricultural markets in which smallholders are active and profitable participants.*

**Private supply chains for delivery of inputs and outputs:** Experience shows that smallholder farmers must have regular access to a series of inputs and services, such as seeds, fertilisers, agro-chemicals, low cost irrigation technologies, credit, transport, etc. These inputs and services are better delivered by the private sector. The private sector comprises exporters, importers, distributors, local manufacturers, whole sellers, retailers, installers and advisors. Usually, in remote areas with predominantly poor farmers, this private sector is missing or underdeveloped. This bottleneck can be overcome through *supply chain development* interventions. A supply chain is a set of linkages between actors where there are no binding or sought-after formal or informal relationships, except when the goods, services and financial arrangements are actually transacted (Kit, Faida MaLi and IIRR, 2006)

**Market access:** A primary cause of the persistent poverty faced by the rural poor is that they have limited interaction with markets. With less than one dollar per person per day, they cannot afford to purchase agricultural inputs or invest in production technologies, resulting in low land and labour productivity that does not rise much above subsistence levels. Consequently, they have little or no surplus production to sell to the market. The poor farmers' access to market is also constrained by many other factors, such as lack of market information on product demand and price, inadequate or no entrepreneurial skills, poor road network and transport services. Often, small farmers get low price for their produce due to low product quality, their weak bargaining power and/ or market glut at harvest time due to excess supply. PRISM views smallholders as entrepreneurs and

supports them to actively participate in markets by helping them produce marketable high value crops and access profitable and reliable markets. These supports will be extended through *market development* interventions.

PRISM consists of a conceptual framework and a set of tools for facilitating a pro-poor market environment in which smallholders are active and effective participants. The Key elements of the PRISM approach are presented in Figure 5 and summarized as follows:

**Situation Assessment** to gather information about the environment in which the smallholder markets will be developed.

**Assessment of Market Opportunities** to select promising agricultural market opportunities, analyse their value chains, and identify constraints faced by smallholders and the medium and small enterprises (MSEs) in the value chain.

**Design Interventions** that will address value chain constraints by strengthening the capacity of MSEs to deliver affordable products and services to smallholders.

**Project Implementation** generally involves Business Development Services such as market linkage creation, technology development, demand creation, and capacity building.

**Monitor, Evaluate, and Learn** as a source of information for project operations, as a means of documenting project impacts, and as a tool for project learning.

The PRISM approach is being researched in the Rift Valley about 150km south of Addis Ababa, and elsewhere jointly by two non-government organizations, the International Development Enterprises (IDE) and the Ethiopian Society for Appropriate Technology (ESAT). One major output of the research endeavour will be the identification of nodes for intervention for smooth functioning of the PRISM approach to rural development.

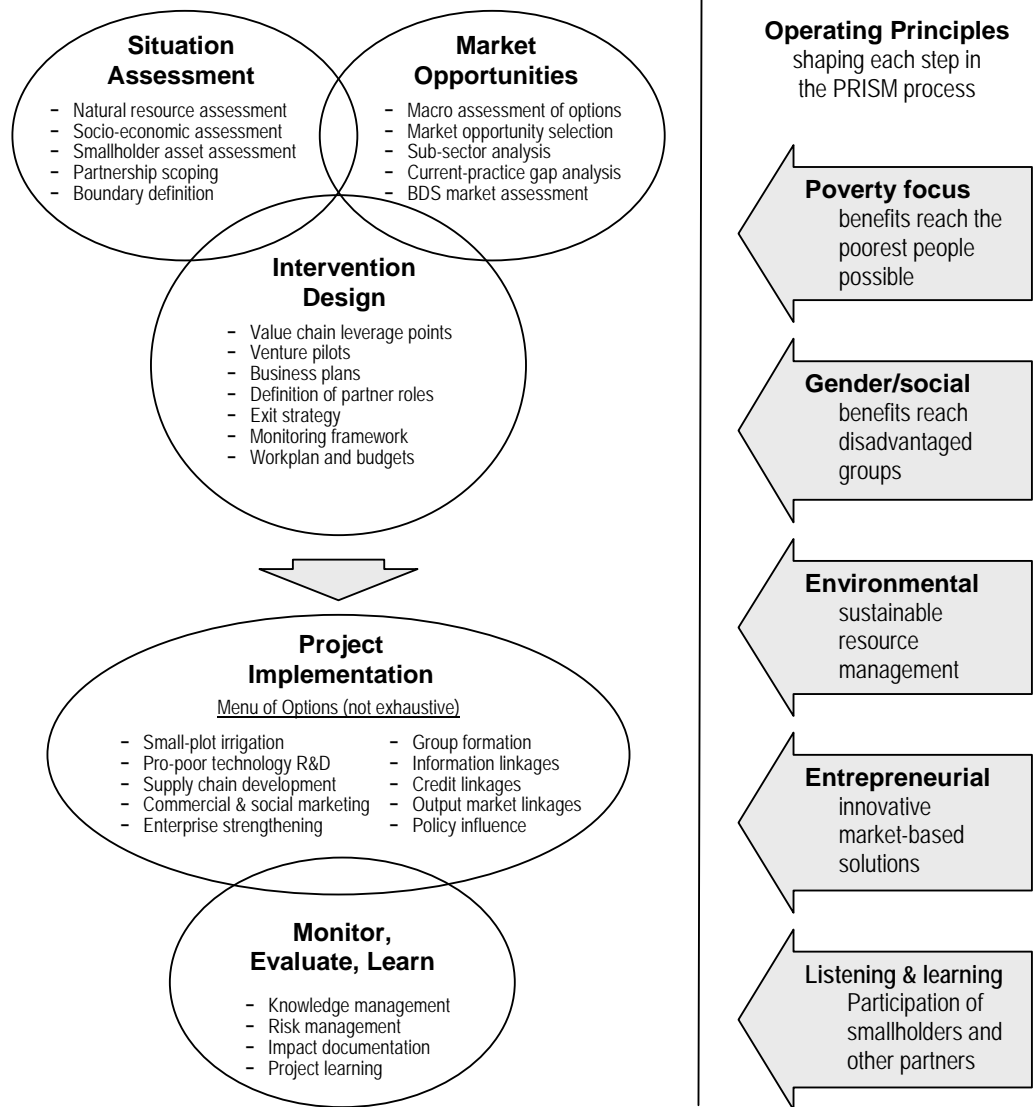
#### **4.3 The Policy, Institutions and Structures**

A key responsibility of government is ensuring that the benefits of economic growth are Equitably distributed across society. In a market-oriented economy, the government has the obligation to see to it that markets function efficiently and that the playing field is level for all participants. This requires mobility of factors of production, free flow of information regarding prices and technology, and competition among buyers (for outputs) and sellers (for inputs). Market regulation by the government should ensure that the operating rules do not discriminate between individual participants or interest groups. This implies wide publicity for legislation and administrative rules and their fair and transparent application.

Given the role of government as economic development manager, policies and institutions that best suit these responsibilities need to be followed. Once those policy choices are made, however, good governance is required to make sure that implementation is effective and consistent.

- Public officials at all levels must be answerable for government policy, rules and regulations, and responsive to the entity from which their authority is derived. Criteria should be established to measure the performance of public officials, and oversight mechanisms set up to make sure the standards are met. The accountability of public sector institutions should be facilitated by evaluation of their economic and financial performance in addition to their effort to natural resources conservation. Economic accountability relates to the effectiveness of policy formulation and implementation, and efficiency in resource use. Financial accountability covers accounting systems for expenditure control, and internal and external audits.

- All community members, beneficiaries and groups affected by a project need to participate at all levels of project planning and implementation so that the government can make informed choices with respect to their needs, and social groups can protect their rights. All development activities should be community based. The community should not be only the ultimate beneficiaries of development, but are also the agents of development. Since development is both for and by people, they need to have access to the institutions that promote it (e.g., representative bureaucracies). At the grass roots level, participation implies that government structures are flexible enough to offer beneficiaries, and others affected by programmes and projects, the opportunity to improve the design and implementation of public programmes and projects. This increases “ownership” and enhances results.
- A country's legal environment must be conducive to development. A government must be able to regulate itself via laws, regulations and policies, which encompass well-defined rights and duties, mechanisms for their enforcement, and impartial settlement of disputes. Predictability is about the fair and consistent application of these laws and implementation of government policies. Besides legal and regulatory frameworks, consistency of public policy is also important. Government policies affect the investment climate directly, and economic actors require reasonable assurance about the future behaviour of key variables such as prices, the exchange rate, and employment levels. However, consistency does not mean rigidity. A country's legal environment must be conducive to development. A government must be able to regulate itself via laws, regulations and policies, which encompass well-defined rights and duties, mechanisms for their enforcement, and impartial settlement of disputes. Predictability is about the fair and consistent application of these laws and implementation of government policies. Besides legal and regulatory frameworks, consistency of public policy is also important. Governments do need to respond flexibly to changing circumstances and to make midcourse corrections, as necessary. Also, when governments change, the successor administration will, understandably, want public policy to reflect its priorities, rather than those of its predecessor. Barring such situations, though, consistency in the broad directions of government policy is valuable (with modifications being limited, as far as possible, to fine-tuning). Predictability can be enhanced through appropriate decentralized institutional arrangements.
- Transparency by availing information to the general public and clarity about government rules, regulations, and decisions is also equally important to sustainable natural resources management. Access to accurate and timely information about the economy and government policies can be vital for economic decision making by the private sector. On grounds of efficiency alone, such data should be freely and readily available to economic agents. While this is true across all areas of the economy, it is especially relevant in the case of those sectors that are intrinsically information intensive, such as marketing.



**Figure 5: The PRISM Approach to Smallholder Market Development**

**Source: IDE Ethiopia, 2007**

#### **4.4 Strategic Environmental Assessment (SEA)**

Strategic Environmental Assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made. In principle, environmental assessment can be undertaken for individual projects such as a dam, motorway, airport or factory ('Environmental Impact Assessment') or for plans, programmes and policies ('Strategic Environmental Assessment'). The purpose of the SEA is to ensure that environmental consequences of certain plans and programmes are identified and assessed during their preparation and before their adoption. The public and environmental authorities can give their opinion and all results are integrated and taken into account in the course of the planning procedure. SEA will contribute to more transparent planning by involving the public and by integrating environmental considerations. This will help to achieve the goal of sustainable development. In view of this understanding and definition, one could conclude that there is no SEA used in

practical and functional terms where the different sectors (programmes) responsibly integrate environmental aspects of direct relevance to the sector. However, there are environmental assessment tool is in place to evaluate individual projects.

The Government of Ethiopia has pursued a policy of geographically differentiated growth approach in its programme (MoFED, 2006). Ethiopia consists of at least three very different sorts of economic and agro-climatic Zones: the traditionally settled semi-arid highlands, potentially productive semi-tropical valley areas, and the hot semi-arid lowlands, each of which require different responses to maximize their potential. The PASDEP will distinguish between them, particularly in agriculture, but also in the private sector development agenda. There will be a particular focus on rural growth poles, and tapping areas of high potential – such as productive river valleys, areas with potential for multi-cropping, and for integration into markets (MoFED, 2006).

The instruments to achieve this include focused infrastructure investments, especially in roads, telecommunications and connection to the electricity grid; intensified efforts to strengthen the flow of development finance, capacity, and administrative capacity in selected areas; and control of tsetse fly and malaria in low-lying areas.

## **5 ENVIRONMENT AND NATURAL RESOURCES IN NATIONAL ACCOUNTING, PRSP'S AND MDG PERFORMANCE**

Natural Resource Accounts (NRA) and environmental indicators are widely recognized as providing a framework for information and analysis needed to support macroeconomic policy analysis for sustainable economic development. Over the past decade or so, many countries, Ethiopia not included, have begun to seek environmentally sustainable strategies for development. South Africa, Namibia, Botswana and Swaziland are some of the countries worth mentioning in Africa in this respect. One approach to operationalize sustainable development has been in the area of national economic accounting through incorporating aspects of sustainability indicators into the System of National Accounts (SNA) by superimposing the Natural Resource Accounts (NRA) on the conventional national accounts series. The national accounts are particularly important since they constitute the primary source of information about the whole economy and are widely used for policy analysis and decision making in all countries.

The NRA are designed to correct these shortcomings and there by stakeholders with indication of how the economy really functions by making explicit the role of natural capital such as forests, water resources, fishery, minerals, etc. Apart from natural resources, the accounts once constructed can be used in the management of transboundary resources such as rivers that cross national boundaries. Hence, NRAs are extensions of the System of National Accounts that record the quantities and values of stocks of natural resources as well as utilization and degradation of resources.

As a monitoring framework, the NRA can provide aggregate physical indicators and an improved indicator of macroeconomic performance, environmentally adjusted domestic product (EADP). The EADP deducts from GDP or Net Domestic product (if allowance is made for the consumption of fixed capital which is not the case for Ethiopia) net depletion of and degradation of natural capital and thus provides a more accurate indicator of whether or not we are "living off our capital" (produced and non-produced). Through providing a record of physical and monetary indicators (values) for specific resource variables such as soil erosion, water wastage (pollution), and losses of biological diversity and linking these variables with causes and with the conventional indicators (GDP). NRA in addition serves as a monitoring technique in planning and policy formulation. It also provides the environmental and natural resource database for the application of

economy-wide models (techniques) to be used for analysis at national level as well as sectoral and project level economic management.

The emphasis on the NRA compared to other sources of data on the environment is their direct linkage with economic accounts for integrated environmental economic analysis. The advantage of a direct linkage over separate micro or sectoral level analyses of economic and environmental problems is that it forces economists to recognize the links and to take into account potential trade-offs between economic and environmental goals.

Naturally, policy analysis and decision making take place on three relatively distinct levels: the local or field or firm level; the sectoral or industry level; and the national (macroeconomic) level. Policy makers at national level are responsible for multi-sectoral strategic planning that requires setting national priorities and policies of all sectors based on weighing alternatives and trade-offs. The contribution of NRA is proved to be significant at national (macroeconomic) and sectoral levels. This is extremely important when allocating resources like water or land among competing needs like crops, livestock, and wildlife based tourism.

Natural resource degradation (renewable) has become the most threatening problem in today's Ethiopia. In 1990 it was estimated that as a result of soil erosion and soil fertility losses, loss in grain production amounted to 40,000 tonnes per annum. Unless the loss was arrested, it could amount to 170,000 tonnes per annum by 2010; and 80 percent of the crop losses due to land degradation result from breaches in the nutrient cycle (EPA, 1997). The problem is even more compounded when one sees it in the face of Ethiopia's daunting challenge to reduce poverty down to half its current level by the year 2015 via recording fast growth, an annual average GDP growth rate of at least 7percent per annum (MoFED, 2006).

Anteneh Kebede (2005) did his MSc thesis on Shashmene forest applying the principles of resource accounting. This was the first effort of resource accounting in with the environmental policy of Ethiopia which states that renewable natural resources should be used in such a way that their regenerative and productive capacity is maintained; and the national accounts should 'Incorporate the full economic, social and environmental costs and benefits of natural resource development into the planning, implementation and accounting process by a comprehensive valuation of the environment and the services it provides and by considering the social and environmental costs and benefits which cannot be measured in monetary terms' (EPA, 1997).

It is widely recognized that poverty and under development aggravate the problem of environmental degradation unless conscious action is taken to reconcile the quest for fast growth and sound environmental management being guided by the signals developed on the basis of information generated through the NRA process. The NRA are well placed as alternative approaches to efficient natural resource management while at the same time promoting growth by integrating environmental concerns in conventional economic policy analyses and decision making criteria. This will also facilitate the implementation of the Ethiopian Conservation Strategy through providing a macro-link to micro (sector/firm/local) level interventions by the Ethiopian Environmental Protection Authority.

It is also recognized that macro-policies (tax policy, external trade policy, interest rate policy) have had impacts on the environment in general and degradation of renewable natural resources in particular and hence on sustainable development. Thus, the impact of macro policies on economic activity and the environment can be monitored based on information generated through the NRA framework. Analysis of rent recovery and of the beneficiaries of rent is also essential. In this regard, the ability of the economy to extract economic rents through taxation of natural resource based industries like timber



harvesting, coffee, and water use for domestic, industry and irrigation could be marked (identified).

The allocation of these proceeds for optimal use in the economy in Ethiopia is largely the responsibilities of the Ministry of Finance and Economic Development (MoFED). The recommendations in natural resource rich countries in the main is that these proceeds be allocated on building the future productive capacity of the economy in general, and human resource development in particular, to ensure the revenues are being used in a manner that promotes sustainable development. For instance, the Sustainability Budget Index (SBI) has been used as a sustainability indicator in the allocation of resources in mineral resource rich countries like Botswana.

The NRA framework could help support the Government's current shift in emphasis towards the development of economic and social infrastructure (rural road, education, and health) in the allocation of annual development finance. Hence, information generated through the NRA framework would help coordinate the decisions of MoFED and concerns of the Environmental Protection Authority (EPA).

Another area of application and utility of the NRA framework in Ethiopia is the monitoring of resource pricing such as water. The observed irony with regard to Ethiopia's water resources (rich in water resources and yet low utilization rate and wastage) has been already indicated. In many developing countries including Ethiopia, the market price for natural resources such as water or water effluent treatment does not reflect the true financial cost let alone the economic cost including the damage cost from untreated water.

The NRA could also be used in assessing various kinds of trade-offs between economic efficiency and equity in the course of exploitation of natural resources. The issue of who benefits from resource exploitation is important for the monitoring of equity considerations, which is also related to sustainability as poverty alleviation and sustainability are often linked. Thus, exploitation of water (irrigation) and forest resources requires special consideration in the context of Ethiopia. Ethiopia's future plight being largely tied to irrigation development (especially small scale irrigation) to stand up to the challenges of poverty reduction, the equity aspect of water use seems to attract greater attention more than any time in the past. Smallholder farmers are at the centre of the stage in this regard given the Governments relentless effort in the fight against poverty. Thus, the designing of water use (irrigation) strategies need to be supported by criteria developed on the basis of NRA database.

The stakeholders in this endeavour are the Ministry of Water Resource Development, Ministry of Finance and Economic Development (MoFED), the National Bank of Ethiopia (NBE), and the EPA among others. The NRA framework could provide criteria that would serve as a benchmark for coordinating decision making among these actors.

Given the already existing wide saving-investment gap and the accumulation of foreign debt in Ethiopia, encouragement of foreign direct investment export promotion are top on the agenda of the Federal Democratic Republic of Ethiopia (FDRE). The impact of this policy orientation on sustainable development could be assessed within the NRA framework. The Ethiopian Investment Authority and the Export Promotion Agency within the Ministry of Trade and Industry (MoTI) are important actors whose activities have to be coordinated on the basis of information generated through the NRA.

## **6. ANALYSIS OF THE IMPORTANT EMERGING ISSUES WITH RESPECT TO THE ENVIRONMENT AND NATURAL RESOURCES**

There are several emerging issues that are taking centre stage in the development scene, of which the most important are the following.

**HIV/AIDS:** One of the major emerging issues in the country that affect the livelihood of the society is vulnerability to HIV/AIDS. This issue particularly has high impact on women and they are the most affected category of the society. Young women are vulnerable to HIV infection for both biological and social factors. Physiological differences make transmission of the virus through sexual contact more efficient from men to women than vice versa. Over 80 percent of the cases of HIV/AIDS in Ethiopia are between the ages of 20 and 49, the most economically productive age groups of the population. The highest prevalence for HIV/AIDS occurs between 20-29 for females and 20-39 for males.

The main driving forces for the prevalence of HIV/AIDS in Ethiopia include economic and socio-cultural factors. Some of the major underlying factors that fuel the spread of the disease include poverty, low level of literacy, stigma and discrimination, gender disparities and the existence of commercial sex, population movement including rural/urban migration, and harmful traditional practices. There are many cultural factors that accelerate the spread of the disease. Known risk factors include the presence of sexually transmitted infections (STIs), multiple sexual partners, and harmful traditional practices such as female genital mutilation, uvulectomy, blood letting, skin cutting, and piercing practices. Therefore, it is necessary that these harmful traditional practices be addressed in the context of the HIV/AIDS. The suggestions are therefore to mainstream HIV/AIDS in environmental and relevant sector policies, strategies and programmes, and conversely HIV/AIDS strategies and initiatives should take into account environmental factors

**Malaria:** Even though there is an encouraging and integrated effort to control malaria by the Government and NGOs, people living in the malaria areas were suffering from the disease and the situation has brought about an economic burden as a sequel of decreased participation of the population in production. The recent expansion of the malaria infection area is attributed to climatic change as its expansion is expected to increase as global warming progresses. In addition the situation has put additional burden to the already constrained health services. The outpatient visits, hospital admissions and death rates are increasing from time to time. Hence, malaria is putting high burden on socio-economic situation of the community and on the health services. On the other hand, malaria is the prime mover of the use of DDT in Ethiopia. DDT is known to be a persistent organic pollutant with a serious public health and ecological consequence. Environmental management is also an important component of integrated malarial control strategy.

**Invasive Species:** Invasive alien plant species such as *Parthenium hysterophorus* (Parthenium weed), *Lantana camara*, *Prosopis juliflora*, *Eichhornia crassipes* (water hyacinth) are altering the ecological relationships among native species and are affecting the ecosystem function, economic value of ecosystems, and human health in Ethiopia. For example, water hyacinth replaces existing aquatic plant, and develops floating mats of interlocked water hyacinth plants, which are colonized by semi-aquatic species. As succession continues floating mats dominated by large grasses either drift away or become grounded. This process can lead to rapid profound changes in wetland ecology, e.g. shallow areas of water often being converted to swamps (Wittenberg and Cock, 2001). Parthenium weed in Ethiopia originally appeared in the major food-aid distribution centres, and there is a strong implication that it was imported from sub-tropical North America as a contaminant of grain food aid during the 1980s. The weed is expected to continue expanding its range, causing great losses in agricultural production. *Prosopis juliflora* has become a major threat to irrigated agriculture in the Awash Valley; it was apparently introduced as a biological measure of soil and water conservation. *Lantana camara*, a South American plant, is one of the moist invasive and widespread tropical

weeds in the Old World that spread throughout the tropics in a variety of hybrid forms as garden ornamental. It has threaded grazing hills especially in the Borkena River catchment (Wittenberg and Cock, 2001).

**Climate change and adaptation:** The early impacts of climate change have already appeared, negatively affecting agricultural production, biodiversity, natural resources integrity and the health of the people as a result of expansion of malaria zone. Variations due to climate change have made disease such as malaria more common as mosquitoes could find more breeding grounds in newly damp environments and temperature increases in areas previously uninfested localities. The rains have been erratic as a consequence crops failed and livestock perished in many parts of Ethiopia in recent years. In addition floods have become more frequent with total destruction of homes and livelihoods in areas such as Dire Dawa, around Lake Tana and the Omo Valley. And this is all blamed on climate change.

It is also believed that further impacts are inevitable, no matter what happens to future global greenhouse gas emissions. For countries like Ethiopia with poor economy and infrastructure, the burden will be too heavy to bear. In addition, the decisions that are being made today vis a vis infrastructure development, health, water management, agriculture, and biodiversity will have lasting consequences. It is therefore mandatory to begin planning now for the impacts of climate change in the future.

**Genetically Modified Organisms (GMOs):** One of the main objectives of the National Science and Technology Policy (1993) is to build the country's science and technology capability to maximize its contribution towards realizing the national development objectives. The policy accords priority to promote agriculture, natural resources, including biodiversity resources and environmental protection and water resources developments. Besides, the draft Biotechnology Policy and Strategy, which focuses at enhancing agricultural and industrial production, productivity and product quality as well as improve health; protect and rehabilitate the environment has been tabled and await government approval. However, the biosafety issues related to new and emerging issues notably, genetic engineering has not been addressed explicitly. Federal Environmental Protection Authority has drafted national biosafety framework law and guidelines.

Ethiopia is not willing to accept the use of GMOs for the simple reason that the prevailing GMO liability regime is not acceptable; if the producers are prepared to face the consequences of use of GMOs, Ethiopia is apparently ready to use GMOs. It is a matter of risk aversion; producers should accept liability, this is standard in any trade relationship. The Cartagena Protocol on Biosafety covers members of the European Union. The US apparently does not like the authorization regime, which it believes is too stringent and time consuming.

**Carbon-trading:** Carbon trading becomes an active commercial transaction for Ethiopia, alike other east African countries. This opportunity may induce political will to maintain the forests for carbon sequestration as well as establishment of new plantations in the context of CDM in the implementation of Kyoto Protocol. Carbon trading projects are expected to be implemented as of next year, in 2008. The Kyoto Protocol recognizes the sequestration of carbon by trees as one of the ways to reduce GHG emissions. One of the more promising approaches is to establish plantations of trees on cleared lands because there is little or no sequestration that all or most of the carbon embodied in the wood in these new trees is newly sequestered carbon eligible to carbon credits.

World Vision, an international NGO, has agreed to establish plantations at Humbo (South-western Ethiopia); the World Bank is the client. The agreement for carbon trade has already been signed between the two parties. The Ethiopian Society for Appropriate

Technology (ESAT), a local association, is in the process of entering into agreement with a British carbon trading firm to establish plantations in the Choke Mountain Range (North-western Ethiopia), a major watershed of the Abay (Blue Nile).

Carbon trading in Ethiopia may be combined with biofuels; i.e. the use of biofuel trees such as castor and *Jatropha* for carbon trading. A German company- Flora Eco Power- is investing in the Oromia Regional State to stimulate food and biofuel production (castor beans) in the region; Flora Eco Power will join four other firms.

**Gender and environment:** Women play significant role in environmental protection and management but their contribution to the conservation of the environment is not visible. They also lack decision-making power. Lack of decision-making power and their invisibility have excluded them from social, economic and political processes that affect their lives. Regarding pollution, the majority of rural women in Ethiopia are exposed to indoor pollution. Because of forest depletion, particularly rural women, suffer from absence of forest nearby obliges them to travel long distance to fetch firewood. The unavailability of water sources within the proximity will also compound the burden on women and girl. This situation increases burden on rural women and reduce their contribution to the development. On the other hand a significant number of women depend directly on natural resource for their livelihood. Therefore, the gender analysis is of particular interest to the realization environmental policy objectives in Ethiopia.

**Flower Industry:** People are getting increasingly aware of the social and environmental issues revolving around the flower sector, queries were being raised; there has since been extensive media coverage about social and ecological issues around the flower industry. In order to address this issue Forum for the Environment (FfE) has taken the lead in providing forum for discussion by all stakeholders, the main objective being 'Laying the Foundation for Bringing about Corporate Social and Ecological Responsibility in the Floriculture Sector in Ethiopia'

A strategic alliance initiated by FfE is already formed with five other civil society organizations, namely, Confederation of Ethiopian Trade Unions (CETU), Ethiopian Women Lawyers' Association (EWLA), Ethiopian Wildlife and Natural History Society (EWNHS), Organization for Social Justice in Ethiopia (OSJE) and Panos Ethiopia. The parties discussed various issues ranging from the experiences in other countries, how to strategically approach the social and ecological issues regarding the industry, and eventually contribute to the process of making the industry socially and ecologically responsible.

Commercial floriculture is still new industry in Ethiopia, but it has emerged as a major non-traditional export sector (Hortinews. 2007). The flower industry at present employs more than 20,000 and is established on about 1000 hectares; it is expected to expand fast and cover over 3000ha within a couple of years. It has become a major player in the export trade, coming after coffee, oil seeds and hides; it is expected to overtake coffee in the coming few years as a major foreign exchange earner.

**Conflict and insecurity:** In conflict-stricken areas, famine vulnerability is often amplified and resiliency weakened. Violent conflict often results in the destruction of public goods, such as public forests, markets, schools, health clinics, and government buildings that contribute to economic and social resiliency. Insecurity means that people will avoid farming in certain areas, even if lands are fertile, because they fear attack. Scarcity of resources that are vital to livelihoods, such as grazing land and water, can result in violent conflict as communities fight to ensure their survival. This is a common occurrence amongst pastoral people in the North, Northeast (Afar Region), in the East (Somali Region) and in the South (Oromia and SNNPR).

## 7 KEY RECOMMENDATIONS AND CONCLUSIONS

The natural resources base (land, water, forest, wildlife and biodiversity) is fundamental to the survival and livelihood of the majority of people in rural Ethiopia. However, these resources are under intense pressure from population growth and inappropriate farming and management practices. The farming communities, who constitute 85 percent of the total population and depend on these resources, face severe constraints related to intensive cultivation, overgrazing and deforestation, soil erosion and soil fertility decline, water scarcity, livestock feed, and fuel wood crisis. These factors often interact with one another and bring a downward spiral of declining crop and livestock productivity, food insecurity, high population growth rate and environmental degradation. The net result is that a re-enforcing cycle is set trapping more and more of the rural population in poverty, food insecurity and in the degradation of natural resources. Thus, improving the natural resources base is central to any effort to arrest this “vicious cycle” and improve the productivity of small-scale farmers, who constitute the largest group of people below the poverty line.

To combat land degradation, particularly soil erosion and loss of soil fertility, activities such as the construction of terraces, soil bunds, micro-basins and cut-off drains, as well as tree planting in slope lands and in watersheds, are being carried out. However, in view of the great magnitude of the erosion and soil fertility loss that is occurring, far more and greater effort is required with respect to soil conservation and protection. Some of the key issues in order to make environment and natural resources as a core asset in wealth creation, poverty reduction, and sustainable development in Ethiopia are highlighted below.

- **Creating an enabling policy environment:** Over the last five decades, Ethiopia has enacted a range of laws aimed at protecting the environment. However, these laws had limited contribution in preventing and avoiding environmental problems. The inadequacy or ineffectiveness of all these laws in relation to environmental management and protection can be attributed to lack of integration policy framework, capacity problems, low level of commitment at local levels and absence of enforcement regulatory regimes at local community and Wereda levels. These barriers should be removed in order to establish an enabling policy environment for sustainable natural resources management.
- **Promoting good governance:** Given the role of government, as economic development manager, policies and institutions that best suit these responsibilities need to be followed. Once those policy choices are made, however, good governance is required to make sure that implementation is effective and consistent.
- **Strengthening human capacity building:** Human resources development is essential for natural resources development and management. There is need to develop a reservoir of skilled labour force and invest in people's education and training.
- **Promoting effective interventions for smallholder market development:** Demand for agricultural commodities provides the “pulling force” that drives the value chains in which smallholders participate. Smallholders can develop a comparative advantage over larger commercial growers in the value chain based on lower overhead, management, and administration costs and their ability to manage crops more intensively and with more care. They can often deliver higher unit-area yields and better quality produce than large commercial growers.
- **Improving the extension approach and technology acquisition and development:** The current extension programme relies on the “intensified package approach” and is primarily focused on accelerating production, using fertilizer and improved seed, with little consideration to farmers’ capacity and agro-ecological Zones. This has been unprofitable to farmers and inadequate to

address the core of the problems faced by most resource-poor farmers. It is vital to go beyond narrow technical treatment of specific sectoral areas and adopt a broader thematic framework (that cuts across various disciplines) that would bring the integration of key sectors to generate a positive synergy to reverse the downward spiral. Stabilizing yields, arresting the degradation of the natural resources base and reducing vulnerability to famine should also be at the centre of the extension effort since most of the smallholders live in marginal and drought-prone areas. There is need for a deliberate programme to enhance capacity and to internalize modern techniques and methods in the development and utilization of natural resources. Such programme should have as a core, enhancing the capacity of learning and training institutions. Research and development assumes particular importance in this regard. Moreover, local research and development capabilities need to be strengthened and expanded with a view to increasing the rate at which natural resources are used domestically and exported with added value.

**Revisiting the resettlement programme:** At the core of any resettlement programme, there should be a more rigorous account of environmental, economic and social factors as well as alternative and promising land use potentials. Any resettlement plan should also simultaneously consider other economically profitable and sustainable land use options. Optimising the alternative land use potential would be appropriate in terms of broad-based and sustainable development that could effectively contribute food security and poverty reduction objectives. However, the current resettlement policy is narrowly focused in moving around subsistence farmers (who are often dependent on food aid) to continue the same type of production in virgin lands thus presenting an ominous danger of recreating the catastrophic environmental conditions that has necessitated such measures in the first place.

- **Revisiting institutional responsibilities:** The overlapping and at times conflicting responsibility among the various agencies in the areas of agriculture and rural development, food security, and natural resources management has been the cause of serious constraint for effective coordination and implementation of programmes in these areas. As a result, there is a lack of clear direction on policies and priorities of each agency in contributing to this corporate objective.
- **Strengthening local level community base organization:** One of the major constraints in Ethiopia is operationalizing and translating policies enunciated at the Federal level into action at the local and community levels, particularly in the areas of natural resources management. This is due to capacity problems and the lack of strong grassroots/ community organization that are established by local people and serving their interest. Community-based organizations would play a central role not only in participation but also most importantly in the empowerment of local people as a stakeholder and in providing greater incentive to manage and utilize their natural resources in a sustainable way. Strong local and community organizations can empower local people (particularly women and the poor), mobilize labour for conservation, rehabilitation and development of land, water and forest resources (reducing the burden on rural women), build infrastructure, provide fertilizer and improved seeds, assist extension and research experts in incorporating indigenous knowledge and practice into technical messages, bring accountability to extension, research and local government officials, create awareness about family planning, and generate positive synergy to address the “vicious cycle” noted earlier.
- **Empowering the local community/ fostering local participation:** The Government is committed to the devolution of authority from Federal to Regional governments. It has made Woreda as the centre of economic development. Empowering local community, demand-driven approach to technology generation

and dissemination are the corner stones of the Government's Development and Poverty Reduction Programme (PASDEP). Deliberate actions are needed to create vehicles that will facilitate local participation in the development process. This involves community participation, especially women, in the planning and implementation of projects and programmes. It is only through consultation with the communities that their needs and aspirations can be realized.

- **Mainstreaming gender issues:** Women often face social, cultural and at times legal constraints that limit their decision-making capacity in farming and natural resources management. The traditional role of women puts gender specific constraints in fuel wood and water collection, post-harvest activities, livestock management which increases the pressure on their time and increases the demand for large families reinforcing the nexus problem. Empowering rural women is a multi-faceted task and must include several components such as access land, credit, extension, training in agriculture and natural resources management, low cost technologies and practices that ease their work burden and income generating activities outside agriculture. Reducing the pressure on women in fuel wood and water collection are the two critical components that would contribute to improving the status of women and efficient management of natural resources and its development partners are working to achieve sustainable economic and social development.
- **Enhancing private sector participation, strengthening public-private partnerships, and optimising the role of governments:** There is a need to create an enabling environment in order to encourage domestic and foreign private investment in the development of natural resources. A productive and symbiotic relationship should be developed between the public and the private sector. Governments should take lead in creating basic infrastructure and an enabling environment for private sector participation in natural resources development.
- **Mitigating environmental impact:** There is need to pay more attention to addressing the problem of environmental degradation caused in the process of all development activities. Firstly, practices leading to environmental degradation should be discontinued. Secondly, use of environment-friendly techniques and technologies should be promoted. Thirdly, new corporate behaviour based on improved performance, better and more inclusive relationships and engagement with stakeholders should be instituted through proper application environmental impact assessment.
- **Addressing health issues:** The long-term implications of health issues such as HIV/AIDS and malaria on the workforce represent another constraint that needs to be addressed. Governments and the private sector have to articulate options to effectively reduce the spread of HIV/AIDS and malaria to minimize their impact on the economy.

Success in the management of natural resources and bringing sustainable development is mainly the result of the capacities created to enable relevant stakeholders effectively plan and implement projects addressing their felt and expressed needs at different levels. Realization of these in turn demands genuine participation of the local communities from the very onset of inception, identification, and project formulation, through design to the implementation stages of all developmental projects, conservation efforts must go hand in hand with perceived benefits by communities who should manage the conservation initiatives; resource accounting should be gradually be made part of the national accounting; policies and laws guiding and or governing national resources utilization need be revisited, especially land tenure, and made as holistic as possible.

## 8. ANNEX

### 8.1 Terms of Reference of the Study

#### Environment and Natural Resources as a Core Asset in Wealth Creation, Poverty Reduction, and Sustainable Development

##### Terms of Reference

The paper to be prepared should address the following major issues:

1. **Livelihoods (wealth creation, poverty reduction):** This will explore how natural resources are a core component of people's livelihoods in the region and make major contributions to the achievement of the MDGs and PRSPs;
2. **Natural resource governance (rights, equity including gender, devolution):** Devolved governance structures are becoming an increasingly important component in the region. This will be explored in the context of natural resource governance and how this improves rural people's livelihoods and reduces risk;
3. **Market chains and value adding on Natural Resources:** Rural people need to be better able to engage in the market place so that larger proportions of income from natural resources are trapped at the community levels. This theme will analyze the incentives and perverse incentives that either support or mitigate entry into such markets;
4. **Natural resource economics and national accounting:** Natural resources are a central aspect of rural people's livelihood strategies, yet are, to a large degree not reflected in national accounting, PRSP indicators and other measures of national growth. This theme will explore how this can be improved in practical ways, including Strategic Environment Assessments (SEA), and market and trade analysis; and
5. **Emerging issues:** There are a variety of emerging issues, which have a potential important impact on the overall theme for the conference. These include Invasive species, Climate change and adaptation, GMOs, Carbon trade, "food miles", and pandemics such have HIV/AIDS, effects of globalization, and conflict and insecurity.

**The Overall theme of is** "Environment and Natural Resources *vis a vis* Wealth Creation, Poverty Reduction, and Sustainable Development". While the purpose is to understand the extent to which environmental assets (goods and services) are important to livelihoods of people in Ethiopia and the extent to which such values are integrated into macro-economic planning (PRSPs) and so support national and regional delivery on the MDGs.

**There are four main Objectives** for senior decision makers in National Planning and Conservation related Ministries to:

1. Create Awareness and understand of the importance of the environment, and in particular the natural resources in improving the livelihoods of people in Ethiopia;
2. Demonstrate the importance of the environment and natural resource base as a key asset in livelihoods (PRSPs, MDGs, performance – indicators);
3. Focus and explore linkages and possible interventions with existing instruments and facilities; and



4. Discuss and agree to actions that will need to be undertaken to improve the integration of the environmental goods and services into macro-economic planning and PRSP performance towards the achievement of the MDGs.

## **2. Content**

The report will address, but not be limited to the following major areas (the questions are meant to assist in exploring the main theme in question and are not all inclusive):

### **1. Livelihoods (wealth creation, poverty reduction):**

- a. How are natural resources a core component of people's livelihoods?
- b. What contribution do environmental and natural resource assets make to the achievement of the MDGs and PRSPs?
- c. What are the policy and legal incentive in place (or evolving) to make this happen?
- d. What are the perverse incentives (policy, law, markets) which prevent people from being able to benefit from their natural resource assets on a sustainable basis?

### **2. Natural resource governance (rights, equity including gender, devolution):**

- a. To what extent has natural resource governance being devolved to the lowest accountable bodies and to people and communities?
- b. How can improved natural resource governance improve rural people's livelihoods and reduce risk;
- c. To what extent is policy and legal rhetoric being put into practice on the ground?
- d. Is their and equitable (including gender equity) distribution of the costs and benefits of devolved natural resource governance, including equity in access and ownership rights, land and resource tenure?
- e. Are rural people and communities adequately informed about their rights and responsibilities for devolved natural resource governance, and are they in a position to take on such rights?

### **3. Market chains and value adding on Natural Resources:**

- a. How can rural people better engage in the market so that larger proportions of income from natural resources are trapped at the community and family levels?
- b. What is the policy, institutional and structural impediments for such engagement? How can these be resolved in a practical manner?
- c. How can rural people and communities' better process and value-add on natural resource based products in a manner that is socially beneficial and environmentally sustainable?
- d. What are the market chains for natural resource products? How can they be made more equitable and efficient?

### **4. Natural resource economics and national accounting:**

- a. How are natural resources reflected in national accounting, and other measures of national growth? How can this process be improved?
  - b. Does the country have indicators (and means to measure) that reflect the value of the environment and natural resources in the PRSPs and the performance of all the MDGs?
  - c. To what extent are natural resource assets reflected in national and regional marketing and trade? How can this be improved?
  - d. Is Strategic Environment Assessments (SEA) used in a practical and function manner so that the different sectors (and programmes) responsibly integrate environmental aspects of direct relevance to the sector?
5. **Emerging issues:** There are a variety of emerging issues, which have a potential important impact on the overall theme for the conference. These include Invasive species, Climate change and adaptation, GMOs, Carbon trade, “food miles”, and pandemics such have HIV/AIDS, effects of globalization, and conflict and insecurity.
- a. What are the key emerging issues in ?? {country}? How do they impact on, or are impacted by the environment and natural resource base?
  - b. What strategies and actions can be suggested to better integrate these emerging issues into national development and environmental planning processes?

## 8.2 List of Acronyms

AAU- Addis Ababa University  
 ADLI- Agricultural Development-led Industrialization  
 AEZs- Agro-ecological Zones  
 AIDS-Acquired Immunodeficiency Syndrome  
 BERSMP- Bale Eco-Region Sustainable Management Programme  
 CBPWD-Community Based Participatory Watershed Management  
 CETU-Confederation of Ethiopian Trade Unions  
 EADP- environmentally adjusted domestic product  
 DFID-Department of International Development

EEPRI-Ethiopian Economic Policy Research Institute  
 ELTAP-Ethiopia-Strengthened Land Tenure and Administration Program  
 EPA –Environmental Protection Authority  
 EPLUAA- Environmental Protection and Land Use Administration Authorities  
 ESAT - Ethiopian Society for Appropriate Technology  
 EWLA-Ethiopian Women Lawyers Association  
 EWLNHS-Ethiopian Wildlife and Natural History Society  
 FaidaMali-Faida Market Link Company Ltd  
 FAO-Food and Agriculture Programme  
 FfE- Forum for Environment  
 FRDE-Federal Democratic Republic of Ethiopia  
 GDP- Gross Domestic Product  
 GMOs - Genetically Modified Organisms  
 HIV-Human Immunodeficiency Virus  
 IDE - International Development Enterprises  
 IDR -Institute of Development Research  
 IGAs-Income Generating Activities  
 IIRR-International Institute of Rural Construction  
 K/Cal-Killo Calories  
 KIT-Royal Tropical Institute (Amsterdam).  
 LEAD-Local-level Environmental Action plan Development  
 MDG-Millennium Development Goals  
 MERET-Managing Environmental Resource to Enable Transition  
 MoA-Ministry of Agriculture  
 MoARD- Ministry of Agriculture and rural Development  
 MoFED- Ministry of Finance and Economic Development  
 MOTI - Ministry of Trade and Industry  
 MSE-Medium and Small Enterprises  
 NCS-National Conservation Strategy  
 NEPAD-New Partnership for Africa  
 NGOs-Non-Government Organizations  
 NRA- Natural Resource Accounts  
 NRM- natural resources management  
 ONCCP- Organization of the National Committee for Central Planning  
 ODJE-Organization for Social Justice in Ethiopia  
 PASDEP- Plan for Accelerated and Sustained Development to End Poverty  
 PRA- Participatory Rural Appraisal  
 PRISM- Poverty Reduction through Irrigation and Smallholder Markets  
 PRSP -Poverty Reduction Strategy Programme documents  
 SDPRP- Sustainable Development and Poverty Reduction Programme  
 SEA-Strategic Environmental Impact Assessment  
 SLA- Sustainable Livelihoods Approaches  
 SNA-System of National Accounts  
 SLM-Sustainable Land Management  
 SNNPR-Southern Nations Nationalities and Peoples Region  
 STIs-Sexually Transmitted Diseases  
 SWC-Soil and Water Conservation  
 WFP-World Food Programme

### 8.3 Time Schedule

Time Chart

| Activity  | Time-Frame Weeks Beginning 15, July 2007 |    |                                     |    |   |    |     |
|---|--|----|-------------------------------------|----|---|----|-----|
|   | I  | II | III                                 | IV | V | VI | VII |
| Document /Desk Review                               | [Patterned bar across all weeks]         |    |                                     |    |   |    |     |
| Consultations with Relevant Experts and Authorities |  |    | [Red bar across weeks III, IV, V]   |    |   |    |     |
| Report Preparation                                  |  |    | [Black bar across weeks III to VII] |    |   |    |     |

### 8.4 People Consulted With

| No | Name                   | Organization   | Position  |
|----|------------------------|--|---|
| 1  | Ato Abebe Mulat        | Ethiopia-Strengthening Land Tenure and Administration Programme (ELTAP)<br>Private Sector Consultant | Specialist Land Tenure/ Dispute Resolution      |
| 2  | Ato Ababu Anagie       | Ecosystem Unit, EPA  | Head  |
| 3  | Ato Alemayehu Tafesse  | Ministry of Water Resources  | Team Leader,                                    |
| 4  | Dr. Assefa Admassie    | Ethiopian Economic Association (EEA),<br>Ethiopian Economic Policy Research Institute (EEPLI)        | Director<br>Associate<br>Professor of Economics |
| 5  | Professor Bahru Zewdie | Forum for Social Studies   | Director<br>Professor of History                |
| 6  | Dr. Belay Simane       | Institute of Development Research (IDR),<br>Addis Ababa University (AAU)                             | Associate<br>Professor of                       |

|    |                             |   |  |
|----|-----------------------------|---|--|
|    |                             |   | Development Studies, Coordinator of the MSC Programme in Environment and Development                       |
| 7  | Dr. Berhanu Adenew          | Ethiopian Economic Association (EEA), Ethiopian Economic Policy Research Institute (EEPLI)        | Senior Researcher, Associate Professor of Economics  |
| 8  | Dr. Costantinos Berhe-Tesfu |   |  |
| 9  | Ato Dessalegn Mesfin        | Federal Environmental Protection Authority  | Deputy Director General  |
| 10 | Ms Fiona Flintan            | SOS-Sahel, Ethiopia   | Expert Gender and Social Issues in NRM   |
| 11 | Ato Getachew Adem           | Ministry of Finance and Economic development, Department of Development Planning and Research     | Head   |
| 12 | Gizachew Belay              | Abyssinia Flowers, PLC; Derba Flowers PLC, and Mulo Flowers PLC                                   | Finance and Administration Head  |
| 13 | Ato Kebede Ayele            | International Development Enterprises (IDE)-Non-Government Organization (NGO)                     | Country Director   |
| 14 | Ato Messele Fesseha         | Ministry of Water Resources   | Position: Head, Basin Development Studies and Water Utilization Control, MoWR                              |
| 15 | Ato Negusu Aklilu           | Forum for the Environment (FfE)-Civil Society   | Coordinator  |
| 16 | Ato Sintayehu Gebremariam   | United Nations Food and Agricultural Organization (FAO)   | Deputy Representative  |
| 17 | Dr Solomon Bekure           | Ethiopia-Strengthening Land Tenure and Administration Programme (ELTAP)-Private Sector Consultant | Chief of Party   |
| 18 | Professor Tekalign Mammo    | Ministry of Agriculture and Rural development (MoARD)   | Advisor to the Deputy Prime Minister with the rank of Minister of State; formerly Minister of State MoARD. |
| 19 | Dr Tekie Alemu              | Department of Economics, Economic Resource and Environment Unit, AAU                              | Assistant Professor  |
| 20 | Dr Theodros Atlabachew      | Ethiopian Tourism Commission, Department of Development and Planning                              | Head   |
| 21 | Dr Lamourdia Thiombiano     | Food and Agriculture Organization of the United Nations (FAO)                                     | Senior Soil Resource Officer,  |

|    |                         |   |   |
|----|-------------------------|---|---|
|    |                         |   | NRM Advisor   |
| 22 | Ato Tsegaye Tadesse     | FARM-Africa (NGO)                                   | Position:<br>Programme<br>Manager,<br>Participatory<br>Natural Resource<br>Management Unit<br>( PNRMU) –FARM-<br>Africa |
| 23 | Dr Yiheneh Zewdie       | World Food Programme (WFP) of the<br>United Nations | Position:<br>Expert, MERET<br>and Safety Nets<br>Section  |
| 24 | Professor Zerihun Woldu | Department of Biology, AAU                          | Professor of<br>Ecology and<br>Coordinator of the<br>Graduate<br>Programme in<br>Environmental<br>Sciences              |

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### 8.6 Sample of Consultation Template

|                    |  |  |         |
|--------------------|--|--|---------|
| Date               | 27.07.07   | Time:  | 0900hrs |
| Organisation:      | Addis Ababa University, Dept of Economics-Resource and Environment Economics Unit  |  |         |
| Mission members:   | Shibru Tedla   |  |         |
| Persons consulted: | Name:Tekie Alemu   | Position: Assistant Professor; Environmental Economist |         |
| Main topics:       | Natural Resource Accounting: State of national accounts, educational programmes, national proposals, research projects, documentation, etc.  |  |         |
| Main findings:     | <p>Ethiopia's economy is thus based on its renewable natural resources this means that virtually all the needs of the population are met by the exploitation of the renewable natural resources (soil, forests, wild life and bio-diversity);</p> <p>This, in the face of one of the fastest rate of population growth rate is a matter for concern as its implication on environmental degradation and hence sustainable development is far reaching.</p> <p>The traditional measure of a nation's rate of accumulation of wealth, as reported in the World Bank's World development indicators is Gross Domestic Savings I Gross national savings. This is calculated as a residual: GDP or GNP less public and private consumption. Gross saving represents the total amount of produced output that is set-aside for the future in the form either of foreign lending or investment in productive assets (asset building) that would help enhance the future productive capacity of the economy.</p> <p>Gross domestic savings rates can tell little about the sustainability of development because productive assets depreciate through normal wear and tear in the course</p> |  |         |



of the production process. If this depreciation (using the new SNA terminology consumption of fixed capital) is greater than gross domestic savings, then this indicates that aggregate wealth as measured by the stock of productive assets is on the decline.

Although net saving, total gross saving less consumption of fixed capital, is one step closer to a sustainability indicator, it still focuses narrowly on produced assets. What is even worse is that such an indicator (measure of depreciation) has never been established in the long-history of the Ethiopian national accounting system (nearly four decades).

The Ethiopian national account series have been and still are reported in gross term as allowances for consumption of fixed capital has never been computed for anyone sector to date. An estimate of the stock of capital, which is the basis for the computation of allowances for the consumption of fixed capital, has never been yet established in the Ethiopian national accounting system. Hence, no net saving estimate has been made available in the Ethiopian national accounting system. Net national saving estimates is the starting point for establishing measures of "genuine" saving which address a much broader conception of sustainability through valuing and incorporating changes in the natural resource base and environmental quality besides adjusting traditional measures of the nation's accumulation of wealth (gross national savings) for allowances of consumption of fixed capital on produced assets.

The starting point for the computation of "genuine" saving is just the standard demand side national account aggregates specifically that of gross domestic fixed investment in structures, machinery and equipment including inventory accumulation. Another ingredient in this computation process will be net foreign borrowing including net official transfer which is to be subtracted from gross domestic fixed investments to arrive at gross national savings which is the difference between GNP and private and public consumption expenditure over the years. Next, allowance for the consumption of fixed capital (depreciation) of produced assets will be deducted to arrive at net national saving of the nation. Finally, a real indicator of sustainable economic development, genuine saving, will be obtained by subtracting the value of renewable and non-renewable resource depletion and pollution damages from net national savings. Resource depletion is in general measured as the total rents on harvest and resource extraction.

A World Bank study on trends and rates of genuine saving in SSA revealed that genuine saving rates in this region rarely exceeded 5 percent of GNP during the

1970s followed by a sharp negative turn at the end of that decade from which they have never recovered. This same study indicated that despite slight recovery in the early 1990s, SSA's genuine negative saving has recently been near 7 percent of GNP. Nigeria and Cote d'Ivoire which altogether represent 16% of regional economic activity exert great influence on the statistics cited above with their rates of genuine dissaving approaching 20-30 percent of GNP (World Bank, 1997).

In the face of the already low level of conventional gross domestic saving rates even by SSA standards coupled "with alarmingly high rates of deforestation and soil degradation (environmental degradation in general) and given Ethiopia's endeavour to speed up economic growth to reduce poverty, the NRA technique by adjusting conventional measures for missing environmental values help establish the link between economic activities and their use of natural resources and there by convey correct signals on environmental impacts of economic activities.

Accordingly, more accurate indicators of well-being and macroeconomic performance are generated through the integration of the NRA framework with the standard national accounting system in Ethiopia. This will enhance the capacity of policy-makers and development planners to properly evaluate the complex trade-offs between economic expansion and environmental degradation. In addition to providing improved indicators of sustainable income, wealth, and welfare for optimal macroeconomic management; NRA can be easily linked to economic planning and policy analysis models for evaluating alternative development strategies in terms of their environmental impacts.

### **National Accounts**

Macroeconomic policy making in Ethiopia is highly insensitive to the realities of the natural resource depletion and degradation;

Shortcomings of current National Accounts:

- Pays little attention to the possibilities national resource scarcities
- Suffers several shortcomings as a measure of economic welfare
- Do not reflect the short and the long-term impacts of environmental degradation and natural resource depletion;
- National income accounting is very important both as an analytical and policy formulation tool;
- On the other hand, information generated from current national accounts misleads resource and environmental policies causing under investment and mismanagement, which endanger sustainable development;

|                             |   |
|-----------------------------|---|
|                             | <p>People engaged in the field:<br/> ANTENEH KEBEDE DID HIS MSc THESIS IN 2005 ON SHASHMENE FOREST APPLYING THE PRINCIPLES OF RESOURCE ACCOUNTING</p> <p><b>Educational Programme</b></p> <p>The Department of Economics of Addis Ababa University has a unit -Resource and Environmental Economics- in which natural resource accounting is covered.</p> <p>The course has the following objectives:</p> <ul style="list-style-type: none"> <li>• Show how economic techniques covered in the core courses in microeconomics, macroeconomics and quantitative methods may be applied to environmental and natural resource policy and research, with special reference to Sub-Saharan Africa.</li> <li>• Explain the role of environmental economics in the development process in general, and in the integrated management of environmental resources in particular.</li> </ul> <p>The course covers the following:</p> <ul style="list-style-type: none"> <li>• Scope and nature of environmental economics;</li> <li>• Economic development and the environment;</li> <li>• Basic issues in environmental economics</li> <li>• The economics of natural resource extraction and management</li> <li>• Environmental valuation and analysis.</li> <li>• Environmental policy instruments</li> </ul> <p>National Proposals</p> |
| Main conclusions            | Educational programmes are addressing the issue of NRA; forest study could highlight the importance of this issue   |
| Documents received, if any: | Environmental and natural resources economics course outline<br>Thesis: MSc of Anteneh Kebede   |