FOREST LANDSCAPE RESTORATION

Initiatives in Ethiopia

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Table of Contents

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IUCN/WWF International developed the concern, concept and interest in the study. This, itself, deserves special thanks. In addition, it is IUCN/WWF International that financed the study. Without such financial support the study could have been impossible.

The study touched upon a number of issues. Some, such as the policy matters, are sensitive and others are technical and simple. For many of the questions paused on the evaluation of the conformity of a policy or forest regeneration initiative, there were no ready-made answers. The experts of the above mentioned bureaus had to think and think before agreeing on a score to be assigned to the various parameters. The same was true to a number of additional information needed.

It was interesting in that every one has to think back and judge the methodology followed in executing the forest regeneration initiatives in their own program areas. The same was true in judging the contributions of the policies in backing the progress of those regeneration initiatives conducted at the various projects and other reforestation initiative areas.

This report is a result of a preliminary work and gross judgement on the functionality of the forest regeneration and policy initiatives. The study may or may not confirm to realities to a greater extent. But, it certainly gives clue and indicates the directions for more effective and efficient future studies on the subject. Therefore, the study effort and contribution of those who helped me, is worth a significant value. I,once again would like to thank you all.

Azene Bekele-Tesemma

1. Introduction

There are many alarming figures cited in the literature about the rate of deforestation and land degradation in Ethiopia. The problem is acknowledged both at national and international levels. EFAP 1994 estimates an annual loss of 150 – 200 000 ha. Resuing 1998 indicates the rate of deforestation to be 163 00 ha per year.

It is also increasingly recognised that the situation is even more serious than depicted by current deforestation figures. In addition to outright loss of forest in hectares, the quality of the country's remaining forests is declining at a rapid rate. For instance, the ***closed high forests*** in Ethiopia have shrunk from 2.64 % in 1973 –76 to only 0.20% in 1986-1990 (Resuing 1998). The quality deterioration to ***slightly disturbed high forests*** is no better. It has shrunk by half within the years indicated above alone. This is reflected in the area increase of ***heavily disturbed high forests*** that increased from 0.8 % to 3.08 % in the same years. In just 13 years time, the Ethiopian high forest size, in addition to quality deterioration, has shrunk from 4.75% to 3.93 % in area terms alone.

Furthermore, scattered trees and woody vegetation in areas outside of traditionally recognised "forests" are declining in both quantity and quality. For Ethiopia, which is known to have the fifth largest flora in tropical Africa (Brenan 1978) and one of the 8 Vavilonian Centres of crop origin (vavilov 1951), the impacts of forest degradation on biodiversity are clear. However, increasing concern is being expressed about the steady loss of other forest functions, such as climate regulation, water supply and quality, soil formation, erosion control, nutrient cycling, pollination, and food and raw material production. When forest resources are used irrationally, the physical environment becomes hostile to productivity of the resource base and results in poor harvests of industrial raw materials and direct consumptive food. This is more so especially when poor economic base, short-sighted development strategies and non-accommodative population growth challenge the rate of reforestation simultaneously. Conceptually, the negation of each factor results in contra-negative outcome. The challenge is no longer to simply increase the number of hectares of forest cover, but to restore the full suite of forest goods, services and processes.

1.1 Forests for Life / Forests Reborn Program

Through the ***Forests for Life Strategy***, WWF and IUCN have initiated a number of responses to the global forest degradation crisis. The key goal of this strategy is:

"To halt and reverse the loss and degradation of forests and woodlands"

This goal is being pursued under a number of broad objectives:

1. Establish a network of ecologically representative, socially beneficial and effectively managed forest protected areas
2. Achieve environmentally appropriate, socially beneficial and economically viable management of forests outside protected areas
3. Develop and implement environmentally appropriate and socially beneficial programmes to restore deforested and degraded forest landscapes
4. Protect forests from pollution and global warming by reducing polluting emissions and managing forests for resilience against climate change
5. Ensure that political and commercial decisions taken in other sectors safeguard forest resources and result in a fair distribution of associated costs and benefits.

A common response to complex problems related to forest loss has often been the application of highly simplified solutions. This has included a strong focus on the increase in forest cover through the establishment of plantations. Furthermore, the common scenario has been the imposition of top-down solutions that alienate local communities and result in the production of a very narrow range of goods and services, benefiting a limited number of stakeholders. As a result of concerns about this situation, IUCN and WWF have identified forest landscape restoration as a priority in their joint Forests for Life Strategy, under objective 3.

The joint IUCN/WWF *Forests Reborn Initiative* has been developed to promote this particular component of the Forests for Life Strategy with an overarching goal:

> *To facilitate the promotion and implementation of forest restoration as a tool for safeguarding livelihood security, protecting biodiversity and ameliorating lost or impaired forest ecosystem functions.*

Forests Reborn operates under a basic premise that funds are currently available – and being spent – but are not being put to their best use. Globally, billions of dollars are being injected into tree planting initiatives each year, and yet the benefits from this are not yet visible, and the overall decline in the provision of forest goods, services and processes continues. Increasingly, human tragedies such as landslides and floods are being traced back to inappropriate land use and a lack of adequate provision of the functions that forests naturally play. Forests Reborn is taking an integrated

approach to effectively lobby decision-makers to improve the quality and quantity of forest and trees, stressing the importance that restoration initiatives are both environmentally sound and socially equitable.

1.2 Evolution of the Forest Landscape Restoration Approach

The concept of ***Forest Restoration*** has been evolving for some time. In 1998, a regional overview of forest restoration within the Lower Mekong countries of Cambodia, Lao PDR, Vietnam and Thailand was undertaken by IUCN's forest programme, in collaboration with WWF and other organisations and networks. The ultimate purpose of the regional study, and initiatives that followed, was to develop and implement ecologically and socio-economically sound forest rehabilitation policies and practices.

It was through this review that IUCN and WWF began to consolidate their ideas on forest restoration. At the time a typology for forest restoration was commonly understood:

> ***Restoration****:* to re-establish the presumed structure, productivity and species diversity of the forest originally present at a site. The ecological processes and functions of the restored forest will closely match those of the original forest. The aim is to restore the ecosystem back to its former condition containing the original complement of plant and animal species.

The key focus of restoration at the time was the degree to which biodiversity and the original structure and function of the forest is recovered. It was also a largley site-focused concept. It was acknowledged that this idealistic definition of restoration may rarely be realistic, especially within the tropical realm where forest ecosystems are inherently complex, and there are so many pressures on the remaining forest resources. Additionally, it assumes a high degree of knowledge about the "original" species complement of a site, and does not take into account situations where the level of degradation is so great that it is bio-physically impossible to undertake full restoration.

In July 2000, WWF and IUCN jointly hosted a workshop in Spain. The aim was to agree on a framework and process for further exploring and promoting innovative approaches to socially and ecologically appropriate forest restoration. The concept of forest restoration evolved considerably through this meeting, in particular with regard to two critical elements:

The Landscape perspective: It was agreed that restoration should be undertaken at the landscape level, with overall landscape benefits being considered more important than those relating to individual stands or sites.

Human perspective: While in previous definitions reference was made to social considerations, the workshop resulted in a considerable rise in its significance under the FLR approach.

The new term **Forest Landscape Restoration (FLR)** was developed to encapsulate these new elements. Since the Spain workshop, FLR has further evolved, with an increasing shift in focus away from "forest" and "forest cover". The emphasis is now squarely on the restoration of *forest functions*.

> **Forest Functions:** in the context of FLR, forest functions refer to the *full array* of goods, services and processes provided by forests and trees.

Biodiversity is clearly an important forest function, and WWF and IUCN retain a strong commitment to biodiversity conservation. However, the FLR approach is not driven by this one function alone, and is dedicated to finding an acceptable balance between functions, at the same time as ensuring that biodiversity becomes mainstreamed into sustainable development.

> "*Conservation organisations now face the challenge of working with other key stakeholders in order to implement large-scale and long-term conservation visions. A major part of this challenge is to maintain the integrity of the vision that conservationists have developed whilst recognising that it will be modified by the legitimate demands of others stakeholders."* (Maginnis et al, 2001)

In summary, FLR provides a framework for governments, the private sector, NGOs and conservationists to work with one another in making informed decisions about sustainable land use. The approach aims to both define, and help obtain an optimal mix of ecological, social and economic benefits from the mosaic of land-uses and habitats within a landscape (Maginnis et al 2001). FLR is a way of rationalising forest restoration. We cannot do everything, everywhere and achieve the full array of benefits for all stakeholders. It is an approach which can assist decision makers in partnership with other stakeholders systematically determine what initiatives will yield the greatest net benefit for both the ecological integrity of a landscape, and the socio-economic well being of the people that depend upon that landscape. It can be defined as follows:

> ***Forest Landscape Restoration*** is a planned process which aims to regain ecological integrity and enhance human well-being in deforested or degraded forest landscapes**.**

1.3 Key principles underpinning the Forest Landscape Restoration

There are a number of fundamental principles that underpin the FLR approach, and set it aside from other forestry initiatives. None of these is unique to FLR. Virtually all have been part of past and current forestry initiatives. However, it is the combination of these principles, and the recognition that all principles are critical for the sustainable restoration of forest functions, that sets FLR aside from most other initiatives.

1.3.1 Operating within the Landscape Level

The element of landscape is one of the most important under FLR, and has two critical components: that of *scale*, and that of *ecological linkages*.

Scale

"Effective conservation needs space. Viable populations of species and healthy ecological processes cannot be maintained in areas measured in tens or hundreds of square kilometres. Conservation efforts are therefore increasingly changing from site level to larger units." (Maginnis etc al. 2001)

Although it is impossible to give a hard and fast rule about the scale that would constitute a landscape, the following broad definition assists in conceptualising the scale referred to under FLR:

Landscape is a contiguous area, intermediate in size between an 'eco-region' and a 'site', with a specific set of ecological, cultural and socio-economic characteristics distinct from its neighbours**.**

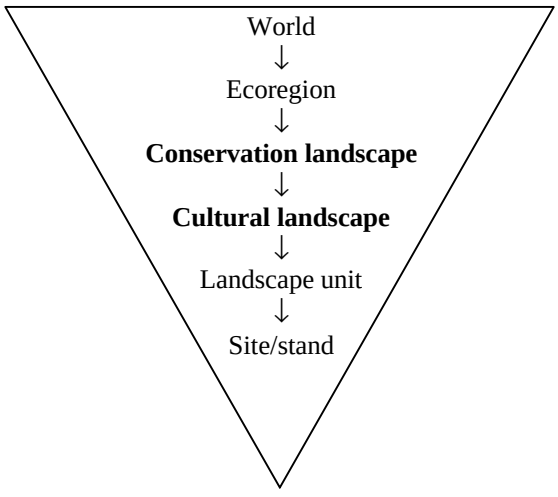
While scale is important, it is not the only consideration under the landscape approach. Just because a forest reserve is large, does not necessarily mean that in planning a restoration initiative, a landscape approach has been taken. Very often, initiatives are site-focused, with the area of planning determined by a forest reserve boundary. It is rare that a forest reserve is seen as simply one part of the wider landscape, and decisions about its management and restoration made accordingly.

Ecological linkages

A landscape will rarely be a discrete and clear geographical unit. It is rather a human concept, and therefore ecological, political, socio-economic and cultural considerations will all influence its size and shape (Maginnis et al 2001). Depending on their interests, individual stakeholder groups will have very different ideas regarding the size and configuration of their "landscape", and there will be considerable overlap between the landscapes of different stakeholders. In the context of FLR, it is convenient to talk of the ***"conservation landscape"***, which has as its underlying basis the connectivity between ecological goods and services.

An example of a "conservation landscape"

A particular catchment may constitute a conservation landscape, because ecological integrity at one end of the catchment has a direct impact on ecological integrity at the other end. There is little point struggling to re-forest a riparian area at the lower end of the catchment if at the same time there is significant deforestation happening up-stream. Deterioration of water quality at the higher levels of the catchment will have a direct negative impact on the quality and quantity of aquatic life lower down.



The largest conservation landscapes will probably be equivalent to priority conservation areas defined during ecoregion-level planning. Cultural landscapes might be defined by distinct geographic, political or socio-cultural features (e.g. watersheds or municipalities) and serve as an operational space for convening stakeholders. Cultural landscapes may not make sense from a biological point of view but they represent other peoples' realities and are the context within which we must pursue conservation aims.

Sometimes boundaries overlap – for example sedentary farmers, nomadic pastoralists and a wildlife tour operator may live in the same area but operate in different "landscapes". From the conservationist's point of view this should not matter if we keep in mind our higher-level aims and objectives when negotiating outcomes within these smaller spatial units.

Time should not be spent trying to "convert" other stakeholders to accept your definition of what constitutes a landscape. Rather the emphasis should be on working with them to ensure that the values to be conserved and functions to be maintained or enhanced in our conservation landscapes are compatible with the values and functions that they wish to see represented in their cultural landscapes (Source: Maginnis et. al.)

Rarely does a "conservation landscape" correspond to a forest reserve boundary, an administrative boundary, or even international boundaries.

Conservation and cultural landscapes can be seen as the planning and negotiation levels for a group of smaller, interrelated initiatives. FLR may not necessarily involve an initiative of great scale *per se*, but rather a variety of site-specific initiatives in selected "hot spots" that together will have the greatest impact on the ecological integrity of the landscape as a whole. The landscape concept provides planners and decision-makers with an operational context, and a particular landscape should never be seen in isolation of its larger (visioning) and smaller (implementation) scales (table 1).

Table 1: Scales for visioning, planning and implementation

Scale	Key activities
Eco-Region	• Strategic and visionary planning • Identification of conservation priorities
Landscape	• Building of consensus on operationalising the eco-regional vision • Design through negotiation of an appropriate implementation package • Decision-making regarding increasing connectivity • Decisions on how to address up-stream and down-stream impacts and externalities • Decisions on trade-offs at the site-level that are acceptable from the landscape perspective
Site	• Implementation of decisions/agreements/plans made at landscape level

1.3.2 Focusing on the restoration and balance of forest functions

Traditionally, forest restoration conjures up images of the re-building of forests where they were formerly either heavily degraded or gone altogether. However, under FLR, the emphasis is moved from trees and tree cover to restoration of forest functions – the provision of multiple goods, services and processes. The FLR approach places importance on the whole range of forest functions – ecological, social and economic. Some functions can be provided by a single tree, or through restoration of woodlands. Others may indeed require re-construction of a forest habitat.

If a reforestation initiative results in the restoration of only a couple of forest functions – e.g. carbon sequestration and watershed protection – its value from the FLR perspective would be limited. Planned and implemented under the FLR approach, the same restoration initiative could result in the provision of a greater number of environmental, social and economic functions – without necessarily more tree cover.

Furthermore, under an FLR approach, *making forest function trade-offs* between one site and another is acceptable as long as there is no net loss of functions at the *landscape level*. This way of thinking can only emerge from an understanding of the ways in which the various aspects of the landscape impact on one another, and the level to which various forest functions are already catered for within a landscape.

1.3.3 Finding an acceptable balance between two filters

Unlike many other forest restoration approaches that focus primarily on ecological integrity and biodiversity, FLR recognises the importance of finding an acceptable balance between addressing the needs of ecological integrity and those of human well-being (Figure 1at the following page). Many initiatives also make this claim. However, the difference with FLR is in the word *acceptable*. Commonly in the design of forestry initiatives, it is the decision makers or project planners who determine the "right balance". But the "right balance" from whose perspective? An important element of FLR is its focus on devolving *decision-making authority* to the stakeholders at the landscape level, and on *building consensus* between the key stakeholders within a landscape regarding what is an acceptable balance between ecological integrity and socio-economic well-being.

Building consensus will necessitate embarking on *genuine and informed negotiations* as a key component of the planning stage. Consultation is far from sufficient. Genuine negotiation requires the commitment to work through the issues with the other parties on an equal footing. This also requires that both parties are similarly informed. If the parties have different levels of information, the power balance will be uneven, negotiations will not be genuine, and real consensus will not be reached.

> "*A key element of [FLR] is to provide a framework within which stakeholder groups can discuss their needs and interests in relation to the use and management of natural resources. The intended outcome of such negotiation is compromise and agreement on land use that does not undermine either human well-being or ecological integrity. … The landscape approach aims to gain consensus on as many issues as practicable, to recognise where consensus is not feasible and to ensure that negotiations are as transparent and equitable as possible. Finally, unlike conventional land-use planning its aim is not to produce one blueprint plan that often reinforces existing power relationships but rather to secure a series of workable agreements based on informed and mutual consent.*" (Maginnis et. al 2001)

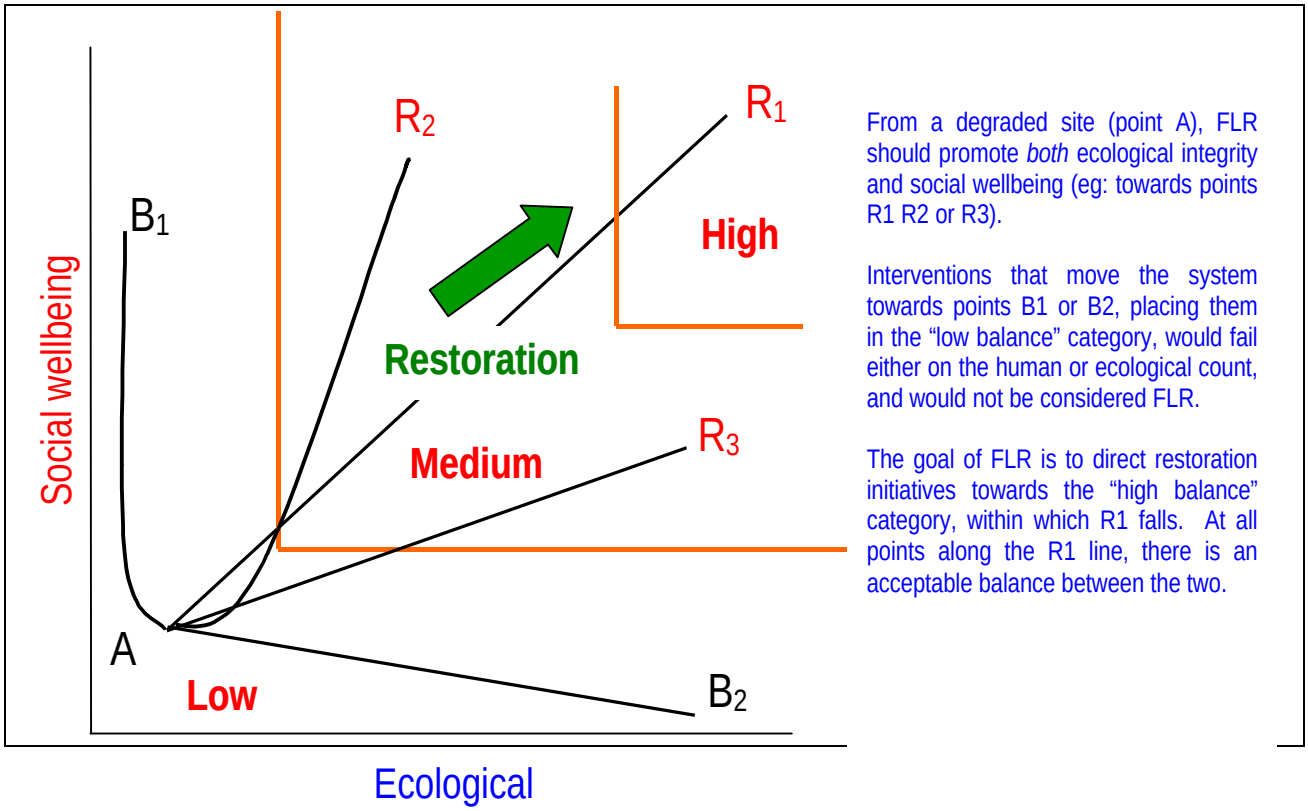


***Figure 1**:* *Schematic representation of the importance of the balance between ecological integrity and social well-being under the FLR approach*

1.3.4 Additional principles of Forest Landscape Restoration

There are a number of other principles which contribute to making FLR a unique approach, and which support and complement the three key principles outlined above.

- ***Finding the right package of tools:*** In order to increase the array of forest functions, and to ensure there is a balance between ecological integrity and socio-economic well being, it will be necessary to draw from a portfolio of forestry options and restoration tools that respond to the variety of landscape needs. A single approach (e.g. agroforestry or establishment of exotic plantation) is unlikely to increase forest functionality at the landscape scale. It is also critical that restoration be approached through iteration and adaptive management.

- ***Seeking out strategic partnerships:*** One organisation, institution or stakeholder alone cannot effectively plan and implement an FLR approach. Strategic partnerships and alliances will be critical, and need to be actively sought out. Within a landscape, there will be many different players who will need to be on-board to achieve a truly integrated landscape forest restoration outcome.

- ***Adopting a long-term timeframe:*** Project-based forest restoration initiatives are often forced to view their activities within a short time frame (e.g. 3-5 years). This is linked to the short-term nature of funding arrangements. However, at the landscape level, securing a net increase in forest functionality will require a long-term perspective. Given the number of stakeholders who will need to be involved, in addition to the complexity of issues that will need to be tackled, anything less than a 10-year perspective would be considered short-sighted.

- ***Cross-sectoral nature of FLR**:* While many forest restoration initiatives are firmly rooted in the forest sector, FLR will need to extend beyond. It is likely that the forest sector will be the primary driver of FLR initiatives. Nevertheless, it will be critical to adopt – from the very beginning – a cross-sectoral approach. As the emphasis is less on forests per se, and more on the restoration of multiple forest functions across the wider landscape, sectors such as industry, water, agriculture, energy, urban development etc. may be key players. It is critical that a working relationship between the relevant sectors is brought into being from the planning stages.

- ***Tackling forest function degradation from both ends:*** Within a landscape, there is commonly a gradual transition from natural forest to agricultural land, with diminishing forest functions the further away you move from remnant forest areas. It is critical therefore to tackle forest degradation from both ends: to focus on both halting and reversing. To focus simply on halting further forest degradation will not address the issue of fragmented species habitats and the progression towards longer-term ecological decline. To focus simply on site restoration means that any potential gains may be undermined by continued degradation of forest resources elsewhere.

1.3.5 The need for an enabling environment for FLR

Given the critical principles that underpin the approach, it is important that there is a supportive and enabling environment within which to initiate FLR. There are a number of aspects that need to be examined before considering initiation of FLR, and to a large extent this is the work of this review:

- ***National priorities:*** Understandably, in order for FLR to be well received by a country, it is critical that it contributes directly to the national priorities of that country. If it does not, it is understandable if politicians and decision-makers show little interest.
- ***Supportive and enabling policy and legislation:*** Ideally, environmental policies and legislation within a country would be supportive of the underlying principles of FLR. A supportive policy is one that gives practitioners the leeway and encouragement they need to undertake the approach confidently, and due consideration for all the underpinning principles. At the very least, they must provide an supportive legal environment in which provides incentives, rather than disincentives, for investing in restoration of forest functions.
- ***Supportive institutional environment:*** However, supportive policy and legislation is not enough, and in many cases it is possible to work within obstructive policy and legislation – if the will is there. They must have a genuine interest in the approach, and a sound appreciation for the benefits that they can expect from it.
- ***The perceived need:*** It will be much easier to initiative FLR where there is some level of degradation – and in particular an area where degradation already has a negative impact on lives. Securing the participation of the critical stakeholders within the landscape will be easier if they already acknowledge that improved and restored forest functions can have a direct, positive impact on their own well-being.

1.4 The Relevance of FLR for East Africa

It is well documented that current levels of deforestation are highest in the tropical realm. Between 1990 and 1995, there was a net global loss of more than 65 million hectares of forest within developing countries – around 13 million per year, highlighting the urgency in more effectively addressing the steady decline in forest quantity and quality. This is particularly the case given that forests play a considerable role in many aspects of daily life, in particular for rural communities.

The key national priority of Ethiopia is poverty eradication, and Ethiopia has developed national poverty eradication strategies. The goods and services provided by forests are vital, not only the ecological integrity, but also the socio-economic development and general well-being of the population. Yet in many cases, forestry is an under recognised and under valued component of livelihood security. Therefore, due to the intrinsic links between ecological integrity and human well-being, the forest sector can – and does – contribute significantly to the national goals of poverty eradication. However, it is critical that the role of the forest sector is fully recognised, and that it becomes part of the mainstream of national economic and development planning.

Due to its focus on the broader role of forest functions in livelihood security, and its focus on finding a balance between ecological integrity and human well-being, FLR is an effective vehicle through which the forest sector can play a more meaningful role in the future of Ethiopia, and in particular assist in the pursuit of its national priorities.

2. The FLR Study

2.1 Justification

IUCN and WWF wish to contribute to development and conservation in East Africa by initiating a process of dialogue about the opportunities inherent in adopting the FLR approach. As the underlying idea behind FLR is to build assets for people and nature, it is important to gain a strong understanding of current restoration/reforestation policies and practices within Ethiopia as part of the regional concern, in light of the core FLR principles. Although they have rarely been combined into the one approach in the way that FLR proposes, many of the principles of FLR are not new. It is important to recognise that in some countries, policies are quite advanced, and in many cases are already very supportive of many of the FLR principles. In addition, there are existing initiatives that apply one or more of the FLR principles on the ground, and have valuable lessons upon which future FLR initiatives can be built. Recognition of the progress that has already been made in the East Africa region is the logical first stage of introducing a new approach.

It is also equally important to gain a sound understanding of the aspects of the FLR approach that do not yet have policy support within the target countries. With such an understanding, the most effective strategies for promoting FLR can be developed. Areas of synergy can be best exploited, and potential hurdles tackled more effectively.

The basic motive for studying forest regeneration initiatives in line with the Forest landscape restoration concept *in Ethiopia* is the need for emphasising on the relationship and influence of the forest landscape restoration initiatives to the livelihood improvement of the rural communities in Ethiopia. In addition, the intention is to indicate the problems that negatively affect the forest stocking efforts and loss of forest functions to the forest users and to recommend possible measures to be taken before it becomes too late to do so. The same applies to the review of policy initiatives. The review and study of the policies that affect the success in forest landscape restoration would enable us to device a means by which the policy influence could be made instrumental to an even better success.

Forests are elements of supply inherent to a landscape that can be used to satisfy various humans' needs. Direct production of food and economic strength are strongly influenced by the influences of the functions of forests in the landscape. On the other hand, food security is the state in which all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The statuses of economic and physical accesses to food are greatly influenced by the status of the elements of natural resources.

Ethiopia used to be known for its ample water resource, diversified forest cover, age-old livestock keeping and crop farming culture diversified genetic resources and biodiversity and even excellent climatic conditions all supplementing one another. Unfortunately, these elements of the natural resources that influences physical access to direct production of food and/ or those that influence economic powers for the acquirement of food have been under increasing pressure. Deforestation rates have been much more than the rates being replaced. Land degradation and soil fertility decline have become horrendous. Rehabilitation and development efforts remained too short in result as compared to what is required. As a result, the natural resource-rich Ethiopia is loosing its food security potential that it had earlier.

The reasons for the unabated deterioration of the resources and for the lack of success in mitigating the trend are complex. Assessment of such problem areas, strategic options, institutional arrangements, policy and incentive-oriented actions are necessary as of immediate. This review is therefore an important first step in the bid to share the idea of the FLR approach with Ethiopia as one of the East African countries of interest.

2.2 Scope

This regional review is the first of a two-phase process of developing a strategy for supporting FLR in East Africa. This first phase is the production of a regional overview of the current policy environment, and existing initiatives within Ethiopia and three more countries in East Africa. This review will then provide material for the development of the second phase, which will focus on the implementation of the FLR approach in Ethiopia.

This review is not a comprehensive study of the level to which policy and existing initiatives support FLR within Ethiopia. It is the first step in a broader development process, and is primarily intended as a starting point to enhance general understanding, and promote dialogue within the region. Time limitations have restricted to basing the study primarily on the review of literature – including grey literature. Very limited field visits have been made to verify data on existing initiatives, and to investigate more thoroughly the level to which they support the principles of FLR. Therefore, conclusions and recommendations emanating from this review are not definitive, and are presented merely as the basis for further discussion and investigation.

2.3 Purpose and Objectives

The scope of the study was framed by the following goal, purpose and objectives.

Goal:
Acceptance and development of FLR as an approach, which addresses national priorities, through promoting the integration of ecological integrity and human well-being.

Purpose:
Production and wide distribution of an instrumental document that gives an overview of the approach, identifies the value, opportunities and constraints of introducing FLR into Ethiopia.

Specific objectives:
- Identify and analyse the relationships and linkages of the FLR concept with national priorities (PRSP, PEAP, etc)
- Analysis of the strengths and weaknesses of wide policy (govt, agencies, etc) / legal framework, and areas in which it does and does not support FLR;
- Analysis of strengths, weaknesses and lessons learned from existing initiatives, with specific relation to the key principles of FLR;
- Identify ways in which national reality can enrich and fine tune FLR as a concept – and in particular as a concept which is appropriate for Ethiopia;

Based on national experience, provide strong arguments for the importance of, need for and relevance of FLR for Ethiopia.

2.4 The Stages of the Review

Inception workshop
In April 2001, the review was initiated through an inception workshop. Consultants of three more countries and myself as well as a core group of IUCN and WWF staff from Switzerland and the region attended it. The objectives of the workshop were to:
- Create a common understanding of the concepts and underlying principles of FLR;
- Identify the objectives, outputs and process for the regional study; and
- Clarify the roles and responsibilities, expectations, logistics and technical support required.

The national studies and the national synthesis
Ethiopia is strictly a federal country with highly autonomous national regional governments. The information at federal level has now limited relevance to the regional truth. Therefore, it was a must for the study to be based on findings/case studies from these regional states. Using the guidelines developed at the inception workshop, regional state-level information was collected within a cumulative 20 days of fieldwork. Southern regions, Oromiya region, Tigray region, Amhara region and Gambella region were visited. However information was obtained from all of the regional states but Southern regions.

In addition, one month was spent on available literature search (including grey literature) and report writing. The concepts underlying in each of the parameters of the forest regeneration and policy initiatives (Appendices 2 and 3) were explained to groups of the experts of all the five regional state governments. With the help of data recorded earlier and the experience they have in the use and implementation of policy and forest regeneration initiatives, the groups of experts from each regional state (Appendix 1) made their opinionated scoring against each parameter. In addition, they listed:
- Major outcomes
- List of beneficiaries,
- Initiators of the initiative,
- Lessons learnt,
- Problems faced and
- Opportunities realized.

They further indicated added values that could have been obtained if FLR were used with adjoining prerequisites for the application of FLR in the various regional state governments.

Up-dating workshop
Mid-way through the review, an up-dating workshop was held. Colleague consultants from Kenya, Tanzania, Uganda and myself as well as several IUCN and WWF regional staff attended it. This workshop focused on enabling us to update one another on progress, finalising the table of contents for the national reviews and agreeing on the approach

for data analysis. Problems and constraints were discussed, and solutions identified. The process for compiling the national studies was agreed upon and work programmes drawn up.

2.5 Analytical framework

It is clear that although there is a need to put forward a national perspective, it is not possible or wise to over-generalise. In addition to drawing national conclusions, it is important to understand the differences between the various regional state governments of Ethiopia. What has worked in one regional state and did not work in another, the similarities and differences in the way policy and practice have evolved and have become accepted and institutionalised is important clue on how FLR will have to be implemented in the various regions of Ethiopia.

During the inception workshop, analytical frameworks were developed, to guide the study on policy initiatives and forest regeneration initiatives. An analytical framework in this context simply refers to the use of an agreed set of parameters by which to assess each policy and regeneration initiatives reviewed (Appendices 2 & 3). The outcome is a series of matrices, which can be analysed in a country-specific context, or combined to give a regional overview. They also provide a basis for systematic analysis of opportunities and challenges, and from which concrete and focused conclusions can be drawn.

The main principles of the FLR approach as discussed in section 1.3 were used as the framework parameters. Each policy and regeneration initiative was consequently reviewed in direct relation to the FLR approach. Conclusions could then be drawn regarding the level of support of particular policies and initiatives to the FLR approach. *Often, for many of the resources, information is hard to come by mainly due to absence of a mechanism for obtaining federal-level reports from regional states of Ethiopia. Therefore, it is necessary to indicate that no complete information could be provided here.*

Though the major methodology was gathering information from documented sources from the various regional states, professional discussions were also held with professional colleagues on the subjects. The information obtained from the written documents and opinions of relevant professionals were tested under the analytical frameworks on forest regeneration initiatives and policy framework initiatives. Various important findings were obtained and included in the report. After reviewing the information available and the opinions from additional professionals on the subject by the use of analytical frameworks, efforts have been made in giving professional reflections on the status and dynamics of natural resources in Ethiopia.

3. National Overview

3.1 National Profile

Ethiopia is geographically located in Eastern Africa mainly in the west of Somalia and Djibouti, South of Eritrea, East of Sudan and North of Kenya (Figure 2). It has a terrain of high plateau divided by Great Rift Valley.

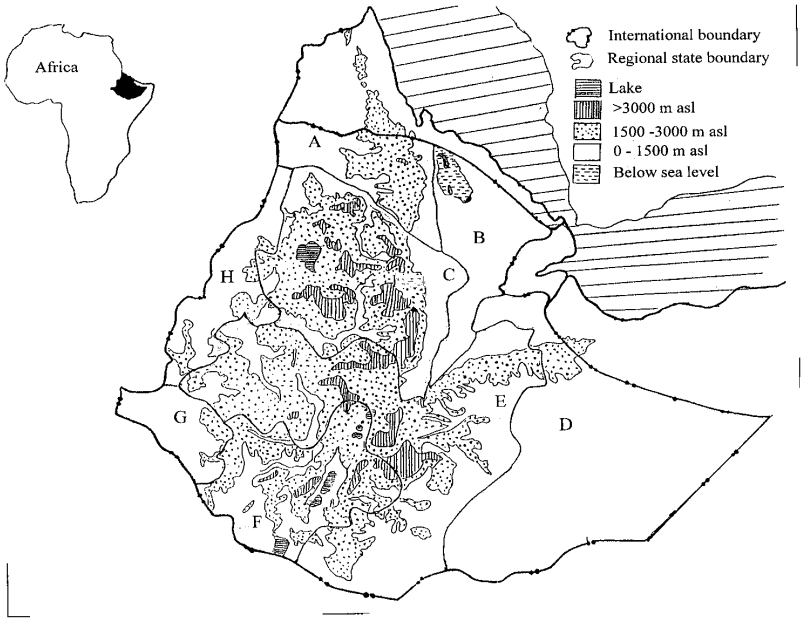


Figure 2. Ecological configuration of Ethiopia *and its national regional states.*

Key:

A. Tigray peoples national regional state
B. Afar peoples national regional state
C. Amhara peoples national regional state
D. Somali peoples national regional state
E. Oromiya peoples national regional state
F. Southern peoples and nationalities regional state
G. Gambella peoples national regional state
H. Benishangul-Gumuz peoples national regional state

Ethiopia, with a current population of over 64 million and population growth rate of 2.67 %, is a country of great geographic diversity. According to World Fact book report, Ethiopia's economy is based on agriculture. Agriculture, that also includes forestry, accounts for 46 % of the GDP and 90 % exports and 80 % of the total employment source. According to current estimates, coffee contributes 10 % of the GDP and more than 15 million people (25 % of the population) drive their livelihoods from the coffee sector.

Purchasing power parity was estimated (for 1999) at US$ 33.3 billion and per capita purchasing power parity for the same year was US$ 560.00. The real GDP growth rate was 0 %. In the GDP composition the following is recorded.

Agriculture	46 %
Industry	12 %
Services	42 %

Imports are worth US$ 1.25 Billion while exports are worth only US$ 420 million. Export commodities are coffee, gold, leather products, and oil seeds.

About 80 % of the land above 3000 m asl in Africa is situated in Ethiopia (EWCO, 1998). The forest functions in these high lands are of great scientific interest and source of genetic pool. The climate in the highlands (area more than 1800 m a s l) is mild and the annual precipitation ranges from 800 to 2200mm with average temperature of ~ 15^{o}c. The lowlands are hot with annual rainfall varying from less than 200 to 800mm and average temperature of 25^{o}c. Base don these altitudinal and temperature parameters, the country is partitioned into 11 agroclimatic zones (Figure 3).

Altitude > 3700 m asl	LEGEND A : Main crop C : Traditional conservation S : Soil on slopes T : Natural trees	**HIGH WURCH** A: None (Frost limit) C: None S: Black soils, little	
3700- 3200 m asl		**MOIST WURCH** A:only *Hordeum vulgare* , 2 crops per year C: Drainage rare S: Black soils, degraded T:*Erica arborae*, Hypericum, dwarfed croton	**WET WURCH** A: Only *Hordeum vulgare*, 2 crops per year C: Wide spread drainage ditches S: Black soils, highly degraded. T: Erica, Hypericum,

3200- 2300 m asl		**MOIST DEGA** A:*Hordeum vulgare, Triticum aestivum* and pulses C: Few traditional terracing S: Brown clay soils T: *Juniperus, Hagnea, Podocarpus falcatus*	**WET DEGA** A:*Hordeum vulgare, Triticum aestivum, Guizotia abyssinica,* pulses, 2 crops/ year C: Wide spread drainage ditches S; dark brown clay soils T: *Juniperus, Hagenea abyssinica, Podocarpus falcatus, Arundinaria alpina*
2300- 1500 m asl	**DRY WEYNA DEGA** A:*Triticum aestivum, Eragrostis tef* rarely Zea mays, C: Terracing wide spread S: Light brown yellow soils T: Acacia savanaah	**MOIST WEYNA DEGA** A: *Zea mays,, Sorghum bicolor, Eragrostis teff, Enset ventricosum* (rare), *Triticum aestivum, Guizotia abyssinica, Eleusine coricana, Hordeumvulgar* C: Traditional Terracing S: Red brown soils T: Acacia, Cordia, Ficus	**WET WEYNA DEGA** A: *Eragrostis teff, Zea mays, Enset ventricosum* (in W. parts), *Guizotia abyssinica, Hordeumvulgare,* C: Wide spread drainage S: Red clay soils, deeply weathered, Gullies frequent T: Acacia, *Cordea africana*
1500 - 500 m asl	**DRY KOLLA** A: *Sorghum bicolor* rarely, *Eragrostis tef,* C: Water retention terraces S: Yellow sandy soils T: *Calotropis procera, Erythrea rivae, Acasia bussei, Acacia oerfota*	**MOIST KOLLA** A: S*orghum,bicolor* rarely *Eragrostis tef, Guizotia abyssinica, Eleusine coricana,,* C: Widespread terracing S: Yellow silty soils T: *Acacia, Erythreana brucii, Cordea africana, Ficus sur*	**WET KOLLA** A: Mangoo,Taro, *Saccharum officinarum Zea mays, Coffea arabica, Citrus sinensis.* C: Ditches frequent S: Red clay soils, Highly oxidized. T: *Milicia excelsa Cyathea manniana*
< 500 m asl	BEREHA A: possible only with irrigation C: Wind erosion frequent S: Aridosl, rigosols, silty and sandy. T: Acacia bussei, Tamarix aphyla, Commiphora erythrea		
ANNUAL RAINFALL	LESS THAN 900 mm	900 - 1400 mm	MORE THAN 1400 mm

Source: Azene Bekele-Tesemma (1997) adapted from Hurni 1986.

Figure 3. ***Agroclimatic zones of Ethiopia***

The agroclimatic zones range from High Wurch (Figure 3) where even daily temperatures are freezing and forest functions are not needed only for source of energy for cooking but more so for heating and lighting. In the Bereha (Figure 3) where the daily temperatures become baking-hot, forests are needed as source of shade and propellers of the movement of cooling air.

Based on temperature and moisture regimes, the country is also divided into 18 agro-ecological zones and 62 sub-zones that are grouped into seven major categories (EPA 1998). The seven major categories with its diagnostic land use are indicated as follows.

- ✓ Arid (about 42.3 million hectares, pastoral),
- ✓ Semi-arid (2.9 million hectares, pastoral/cultivation),
- ✓ Dry sub-humid (19 million hectares, annual crops),
- ✓ Moist (24.5 million hectares, annual crops),
- ✓ Semi-humid (16.5 million hectares, annual/perennial crops),
- ✓ Per-humid (0.7 million hectares, perennial crops/frost).

Similar to the variability of forest functions expected from trees/forests in the various agroclimatic zones, the type of species and their management is varied by agroclimatic zone. The same is true to forest regeneration initiatives and associated packages (guidelines) being used. Desertification, and land degradation that are coupled by the associated threats to the ecological support system underpinning agricultural production, are the most serious environmental problems that need to address by agroclimatic zone in Ethiopia.

Ethiopian highlands and associated land degradation threats

About 60 percent of the most serious soil erosion in Ethiopia occurs in the highlands. Twenty eight percent of the highlands are in seriously eroded condition and further 24 percent in moderate erosion condition. The annual soil loss due to erosion is estimated at between 1.3 and 3 billion tons. Cross-boundary rivers and

streams carried away 10% of it is irretrievably (Karamachandani, 1989). Due to the frequent periods of drought and poor cultivation practices that are followed by severe land degradation and desertification, as many as 4.6 million people need external food assistance annually

Cultivation of steep slopes, deforestation, the use of crop residues and manure as fuel and long-term civil war conditions are main causes of soil degradation and accelerated erosion (NCS, 1994a). Ethiopia has shown an increase in land degradation and soil erosion over the last decades due to agricultural colonization of marginal lands. The negative consequences of the soil erosion are being manifested in all the production sectors of the farmers (cropping, livestock keeping and tree growing) via loss or decline in quality of soil.

According to NCS (1994b), approximately 17 % of the potential agricultural GDP is being lost because of soil degradation. Soil fertility decline alone is causing a progressive annual loss in grain production of 40 000 tons. Cropland crisis is expected to occur by the year 2017 when all potential cropland will be utilized. Further more, land degradation is estimated to have resulted in annual loss of livestock production by 1.1 million Tropical Livestock Unit (TLU) and unless arrested the reduction would rise to 2 million by 2010 or 10 % of the national cattle heard (NCS, 1994b). Soil erosion is now in a vicious circle where fertility decline and soil erosion inhibit the growth of vegetation cover and the rural people are compelled to use their crop residue and dung for fuel instead of using it as fertilizer and soil quality improvement. The less fertile and protected soil facilitates the erosion process and causes further depletion of vegetation and massive usage of cow dung and crop residue

The collection of extremely scarce fuelwood (Karamachandani, 1989), dung cake and crop residue for heating, cooking and lighting in the highlands have diverted their use from soil protection and conditioning the soil. The resultant effect of land use on land degradation in the country is immeasurable.

The major issue is that long-term land rehabilitation efforts have failed to stop the increase in erosion rates (NCS, 1994b; Atnafe, 1995 and Kruger et al., 1996). This is the result of the top-down approach where very little consensus is made between human livelihoods and ecological integrity. In addition, there was no alternative conservation methodology that has been tested and proved to be viable in Ethiopia yet. There is an urgent need for the development and testing of an alternative strategy for Land Rehabilitation and Soil & Water Conservation. FLR may be one of such candidate alternatives.

The massive reforestation and soil conservation schemes were launched in the country. The success rate has been minimal. For instance, WFP's assistance to Ethiopia's land rehabilitation efforts started in 1975 through WFP assisted project ETH 2488 "Rehabilitation of forests, grazing and agricultural lands" which had been the largest FFW project in Africa. However, despite its relatively long history, extensive areas affected and the considerable investments made by WFP and the government and peoples of Ethiopia, it is recognized that very little is noticed about the project, in terms of output, effects, impacts, and sustainability (Brown, 1989).

Food, fuelwood and feed remained to be more and more scarce. Faster than the degraded land recover, more lands become exhausted. The cycle continued for decades and has been accelerating to date triggered by high population growth rate. More holistic approach by which trade-offs and balances are made central aspects of development is nictitated. FLR could be one of such options.

3.2 Forest Functions

A number of forest functions were realized in the application of past forest regeneration initiatives. From the field assessment alone, the following 21 forest functions were identified.

1. Biodiversity reserve
2. Construction wood
3. Ecological balance
4. Eco-tourism
5. Environmental benefits
6. Fire protection
7. Flora biodiversity
8. Fodder
9. Food
10. For wildlife conservation (fauna)
11. Fuelwood
12. Gum and incense production
13. Honey production
14. Medicinal values
15. Restoration of forest resources
16. Seed source
17. Soil conservation
18. Spice sources
19. Timber production
20. Wildlife habitat
21. Wildlife safe haven (protection
22. Spring abundance by encouraging under ground storage and recharge

However, as it has been indicated in the conformity analysis of the past forest regeneration initiatives to FLR approach parameters, we have realized that the adherence to the following parameters was below 50 %. Adherence to these five parameters could have added the list of forest functions much more than viewed important by the government experts and technicians in their own realm.

1. Attempt to balance forest function trade-offs within the landscape
2. Acceptable balance between ecological integrity and human well-being (two important filters)
3. Consensus building -i.e. with respect to balancing ecological integrity and human well being more than just consultation.
4. Use of the right package of implementation tools/ approaches
5. Seeking out and development of strategic partnerships

Even among the existing forest functions, availability of the services has shrunk through time. For instance, that cold feeling environment and availability is continuously diminishing.

The ecological functions of the forests for maintaining Ethiopia's marked physical and climatic diversities that have given rise to high diversity both in plant and animal species are eroding. The country's diversity and endemism, that will have to be protected and improved by such an initiative is enormous (Appendix 4).

Wildlife is important for ecological and human well-being benefits. Wildlife contributes to the balance of energy flow and balance of natural ecosystem. They help in fertilizing the soil and restoring the environment. They pollinate plants and help in continuity of natural regeneration of plants. They serve in scientific studies for human benefits and also serve as source of medicines. They benefit in education and cultural purposes. The Ethiopian wildlife has great potential in economic empowerment of the people around and could effectively contribute to food security. For instance, in just 10 years time, sport hunting alone has generated Birr 5, 588, 459. Export of live monkeys has generated Birr 6, 639,990 in only nine years. Likewise, sale of crocodile skin has generated Birr 1.9 million in five years.

Ethiopia currently has nine national parks distributed in its five regional states, 4 wildlife sanctuaries in Oromiya and Somali, as principal protected areas. The secondary protected areas include 8 wildlife reserves and 18 controlled hunting areas. Total wildlife conservation and development areas account for 2.1 % of the country's land area (EWCO-DGIS, 1998).

Unfortunately, many of these protected areas are facing significant threat from settlement and uncontrolled natural resources use. Some may now not be able to fulfil the originally anticipated of wildlife conservation functions. The Bale National Park and the Harena forest are under significant threat from settlement, forest clearance for agriculture including livestock and coffee cultivation. This is where FLR, as an approach could help in maintaining the wildlife functions.

Water resources management

The geographical location of Ethiopia and its endowment with favourable climate provides a relatively higher amount of rainfall. Much of the water, however, flows across the boarder being carried away by Trans-boundary Rivers to neighbouring countries. It is said that 85 % of the water to the Blue Nile is contributed from Ethiopia. Preliminary studies and professional estimates indicate that the country has an annual surface runoff of close to 122 billion cubic meters of water resource. Application of FLR and maintenance of the watersheds will contribute effectively to the Nile Basin initiative

Biodiversity resource management

According to Brenan (1978), Ethiopia has the fifth largest flora in tropical Africa. The type of vegetation ranges from aridophyte species such as the Adenium obesum *and wet montane species such as* Erica arborea. *In addition, Ethiopia is known as one of the 8th Vavilonian centers of crop origin, domestication and diversification and the only centres of origin in Africa, given by vavilov (1951), is Ethiopia. Yet, this resource is eroding fast and requires initiative, which is beyond traditional reforestation and protection of ecological habitats. Unless trade-offs and negotiations prevail in a systematic and landscape restoration approaches such as FLR, the dynamism may not be maintained and the ample human well-being potentials available may not be utilized to optimal level*

3.3 Status of forest cover over the years

The rural households account for about 93 % of the total energy consumption in the country and 99.5 % of their energy comes from biomass fuels such as fuelwood, twigs, leaves, charcoal, dung, and agricultural wastes (Bendz, 1988). The reality of this heavy dependence of the entire rural household on biomass fuel even in future years is inescapable.

> Land, water, forests & trees and bio-diversity, which meet the basic needs for food, water, clothing and shelter, have deteriorated to a low level of productivity. In many areas of the Highlands of Ethiopia, the present consumption of wood is in excess of production. Estimates of deforestation, which is mainly for expansion of rain-fed agriculture, vary between 150 000 to 200 000 hectares per year (EFAP 1994).

Nevertheless, the degradation and deforestation has continued while planners, decision-makers and investors went carrying on discussions about the conflict between the conservation of the forest resources and their exploitation. In the meanwhile, protection efforts for some of the relatively intact portions of forests are already too late to be successful in many parts of Ethiopia.

Historical sources indicate that, based on the potential climatic climax vegetation, about 42 million ha or the equivalent of some 35% of Ethiopia's land area might once have been covered by natural high forests (EFAP, 1994). However, between 1995 and 1979 alone Ethiopia has lost 77 % of the forested area it had in 1955.

The Ethiopian Forestry Action program (EFAP) defines natural high forests as land covered by a closed stand of trees with a more or less continuous canopy rising 7 to 30 m, and a sparse ground cover of few grasses (EFAP, 1994). Ethiopia's natural forest types include various types of montane and lowland forests. In the Ethiopian Highlands, there are coniferous, broadleaf and mixed forests, whereas in the lowlands one can find a semi-evergreen forest. Additionally there are some remnants of bamboo and riparian forests.

This paper, however, does not emphasize on forest types but rather concentrates on the status of the forest in the following forest cover types.

1. Closed High Forest
2. Slightly Disturbed High Forest
3. Heavily Disturbed High Forest

During the last hundreds of years, the transformation of natural high forests to cultivated land and grassland was most severe in the northern and north-eastern part of Ethiopia, where population has been concentrated for many centuries. It was only in the south and the southwest of country, where many forest blocks still remained. This seems to have changed during the last few decades.

According to Reusing 1998, the forest cover of Ethiopia during 1973 to 1976 was around 4.75% of the country. The same information source indicates that more than 58.7 % of these forests were still undisturbed while only the balance was already slightly to "heavily-disturbed". Therefore, after applying correction factors, the adjusted Forest Area adds up to just around 3% total forest cover. During 1986 – 1990, some 10 to 15 years

later than 1973 – 1976, the forest cover got reduced to less than 3.93% (some 45,055 km^2) of the country. The area of the closed high forest, which was 2.64 % in-1973 –1976, got reduced to 0.20 % in 1986 – 1990. In contrary, the heavily disturbed high forest, which was only 0.87 % in-1973 – 1976, got increased to 3.08 % in 1986 – 1990 (Table 2). Therefore, after considering the adjustment factor, the percentage cover of the closed high forests becomes approximately 1.4 % of the country.

Table 2: ***Forest Cover change in Ethiopia (1973 – 1976 and 1986 – 1990)***

FOREST CLASS	1973 – 1976		1986 – 1990	
	AREA (Km^2)	AREA (%)	AREA (Km^2)	% Coverage
Closed High Forest	30243	2.64	2346	0.20
Slightly Disturbed High Forest	14158	1.24	7466	0.65
Heavily Disturbed High Forest	10009	0.87	35243	3.08
TOTAL	54,410	4.75	45,055	3.93

Source: Resuing 1998

Then, the forests, most of which are mixed broadleaf and coniferous, were limited mainly to the more inaccessible areas in the south-western and southern parts of the country. In the SW of Ethiopia these areas included the old regions: Ilubabor, Keffa, Gambela and Gamo Gofa. In the central-southern parts, they included Bale, and Sidamo. These are the areas of the highest precipitation within Ethiopia. In addition, it includes quite mountainous topography that naturally made it comparably difficult for cultivation and consequently, the population density is relatively low.

Pressures of agricultural development and resettlement caused rapid deforestation of the remaining forests. The area between Jima and Gambela was still mainly covered by closed high forest in the seventies. However, this situation has changed dramatically in the following years. As reported in Reusing 1998, on the most recent satellite images of 1986 – 1990 one cannot detect any single larger area with closed high forests in this region any more. Only on the escarpments and in the Western Lowlands some thousand km^2 of slightly disturbed natural high forests are remaining.

In the surroundings of Omo River and in the upper watershed of Akobo River, almost all the area, which was once covered by natural forests, got lost. A similar tendency can be observed in the northern part of former Sidamo Region. According to Reusing 1998, only in the southern parts of the Bale Mountains along the Harenna Escarpment, some 3000 km^2 of closed high forest could still be classified by WBISPP on the satellite images of 1986 – 1989. The remaining part of the high forests in the Bale area seem to have suffered severely from agricultural encroachment as of around 15 years ago. Similarly, some enclaves of closed and slightly disturbed high forests got lost in former Gojam region.

At regional level, it is only within the area of Oromiya, Southern Regions and Gambela regions that one can still find stands of natural high forests. Yet, in Oromiya region, the total high forest area is reduced from 8.6 to 8.1 %. The reduction in Southern region varies form almost 20% to alarming 11.6 %. In both, Oromiya & Southern regions, the trend of degradation goes from closed and slightly disturbed high forests to heavily disturbed high forests.

Between 1973 and 1990 around 24,543 km^2 or the equivalent of some 2.14% of the country's area had been deforested. The size of this area corresponds almost exactly with the extent of region 12/Gambela. This means that, within this short time period, around 45% of the high forests, which were still classified in the seventies, disappeared (Reusing 1998). More than 450,000 ha of slightly disturbed high forests got degraded to heavily disturbed high forest, whereas around 565ha of them were clear-cut. Finally, 767,600 ha or an equivalent of 77% of the formerly already heavily disturbed high forest were completely destroyed between 1973 & 1990 (Table 3).

According to Reusing 1998, the calculated annual deforestation rate that stands at 163,600 ha, corresponds to the EFAP (1994), rating (150,000 and 200,000 ha). If the present trend of deforestation continues, there will be no considerable areas of natural High Forest being left in the early decades of the coming millennium. Similar to the situation in northern Ethiopia, only few small patches of forest might remain around holy sites such as churches and monasteries as well as in inaccessible areas.

The degradation to localized high forest, slightly disturbed, and heavily disturbed high forest mainly took part in the vast natural forest area of the south-western highlands West of Jimmy and in the Eastern highlands of Bale. The deforestation of closed high forest concentrated on the edges of the forests, indicating the effect of the population pressure towards marginal areas. Additionally large areas of closed high forests in the surroundings of the lower Omo valley had been deforested.

The more isolated and already slightly disturbed high forests along the eastern highland is b/n Awasa & Harer as well as the Western and Central Bale Mountains got victims of deforestation or at least sever degradation. The same can be reported from the frosts within the triangle Addis Ababa-Nekemte – Jima & large areas South of Metu as well as from Kahtassa & Guanga forest SW of Northern Sidamo along the road from Awasa to Kenya.

In most of the NFPAs, where during the time period 1973-1976 closed high forest still existed, the forest stands have been degraded of even deforested. The only area with a remarkable percentage of closed high forest is located along the southern escarpments of the Bale Mountains, but surprisingly not classified as a NFPA.

The monitory of forest resources by Reusing 1998 indicates that a number of other NFPAs seem to exist only in the official files, as their area is not any more covered by natural high forests at all. Therefore, the presented statistics can serve as an important guideline for planners & decision-makers for further management of the NFPAs. It seems to be advisable to concentrate within the following years on these NFPAS, where natural high forests still exist. Only the fast development and the immediate implementation of management plans as well as the co-operation with local communities will guarantee a sustainable use and therefore the conservation of Ethiopia's unique natural high forests. In a next step, one should make a follow-up concerning the remaining NFPAs with the objective to rehabilitate those areas, where natural high forests were once existing.

Table 3. ***Degree of Deforestation and Degradation of Forest Cover in Ethiopia through time (1973 – 1990)***

CONDITION OF HIGH FOREST	AREA (Km * Km)	AREA (%)
High Forest/Deforestation not detectable*	15227	1.33
High Forest/ Degradation or no Charge	29829	2.61
Deforestation	24543	2.14

Source: Resuing 1998

Reusing 1998 states that satellite imagery maps indicate that deforestation is growing similar to a tumour from the edge of the forest to its inner parts of most of the FPAs. This sad deforestation fact was worsened by the current year's forest fire incident. More than the usual forest destruction, a total of about 151,500 ha of forest has been damaged in Borena and Bale Zones. Nearly 105, 500 ha was burnt around Goba (Berbere, Sinana, Herrena, etc.), 40,000 ha around Dolo Mena (Gama, Welel, Soma, Beritu, Dira, Chira, Kumbi, etc.) and 6,500 ha around Shakiso.

The destruction of the natural forests of Ethiopia results directly in the loss of unaccounted plant and animal species as well as in a shortage of fuel-wood, timber and other forest products. Indirectly it leads to more aggravated soil erosion, deterioration of the water quality, further drought and flooding, reduction of agricultural productivity and finally to an ever increasing poverty of the rural population. Finally it is obvious that the depletion of forest resources contributes significantly to the climatic and physical environment change.

To worsen the matter, the reforestation effort is not, by any means matching with the rate of deforestation. As of 1993/94, mean annual planting occurs at the rate of 43, 226 while the deforestation rate is taking a pace of 163 000 ha per year. The care for these limited size of plantings is not justified either. No more than 2 % of the plantations are pruned annually. Road construction density, even for the limited annual hectare of plantations established (43,226.24 ha) is only 76.22 km, which is 8.8 % of the standard. Please refer to Table 2 for the mean annual achievements that have been made in forestry sector.

All the damages being made to the physical environment and the weaken reforestation and rehabilitation effects, should signal enough to draw attentions of politicians, reforestation strategy designers, and other decision makers to come to a consensus. If they do so, they can revise the forest development and conservation strategies and come up with lasting, comprehensive and viable solutions. If the usual tendency does not stop the soonest possible, the country will soon lose one of the most sophisticated ecosystems of the world with a unique genetic diversity, which will not even be known before vanishing from the planet. The land resource will get exhausted to the extent that the landscape will become inhabitable and refuse to give crop yield and the issue of food security effort will harvest unprecedented shame.

3.4 Policy and Legal Status

Policy evolution in the natural resources sector in Ethiopia is continuous and fairly good. From the last 20 years of achievements, a number of policy related undertakings could be cited. Establishment of Forestry and Water resources institutes and producing professional for the sectors is one important action taken. The study and approval of Ethiopia Forestry Action Program and National Conservation Strategy documents is additional positive action.

Table 4. ***International conventions for which Ethiopia is signatory***

No	International conventions	Procl. No &Year of ratification	Implementing agency/focal institution
1	Convention to Combat Desertification	80/1997	Environmental protection Authority (EPA)
2	Convention on Biological Diversity	98/1994	EPA and Institute of Biodiversity Conservation and Research (IBCR)
3	UN Framework Convention on Climate Change	97/1994	National Meteorology Services Authority (NMSA)
4	The Montreal Protocol on Ozone Depleting Substances	Oct. 1994	EPA delegated NMSA
5	Convention on International Trade in Endangered species of Wild Fauna and Flora	1998	Ethiopian Wildlife Conservation organization
6	The Basel Convention	2000	Environmental protection Authority (EPA)
7	Convention 155 of the ILO		Ministry of Labour and Social Affairs

Ethiopia has issued Environmental Policy of Ethiopia and has signed and ratified a number of international conventions (Table 4). In addition, there is more tendency towards giving emphasis to gender sensitised development approaches and having community-based developments as opposed to centralized and state-based developments. Of course, FLR, could be used as instrument to effectively implement such intentions.

However, there are a number of grey areas that need to be addressed in policy and legislation terms. The approval of draft forest, livestock and land use policies is over due. Policy focus towards establishment of autonomous natural resources-mandated institution and allocation of satisfactory budget, manpower and logistics to the natural resources conservation and development sector are vital. With regards forestry-cantered policy evolution, the following could be said (Table 5).

Table 5. ***Strength of Policy support to the forestry sector, expert opinion***.

Aspects of policy evolution.		Status
1	Institutional support to the forestry sector	Weak
2	Research focus	Strong
3	Farm forestry initiatives	Fairly strong
4	Forest reserve /State forest development	Weak
5	Focus towards maximizing forest functions	Fairly strong

With regards policy issues, the issue of land tenure has been an issue of strong debate for many years. During the feudal regime, land belonged to few landlords. Then forest lands and degraded lands used to be owned and protected by the owners. No forests and forestlands were common access lands. Unfortunately, this was not meeting the land requirements of the massive population known as tenants (then).

During the Derg regime that replaced the feudal system, land was declared to belong to the tiller. The system enabled the tenants to won land, which they can inherit to their grand children. However, though the maximum land to be owned could be as high as 10 ha, the land owned by the individual landowners were very small and for the most part did not include forestlands. Contiguous forestlands that are less than 200 ha and available within the jurisdiction of the peasant associations were owned and administered by the respective Pas. Unfortunately, the peasant associations were not equipped with the necessary infrastructure such as management tools and trained staff who could develop and manage the forestlands. As a result, management plans and budgetary inputs were decided and provided from outside the Pas and the Pas lost sense of ownership. In reality, such forestlands remained to be " no man's land". It was common-access land for utilization but not for development and care by the communities.

During EPRDF land belongs to the state but farmers have the right to use it. However, for most of the regional states, no land ownership certificate could be issued to the "land owners". Many of the regional forest priority areas are still owned and administered by the state. Pockets of forest areas that are found within the jurisdictions of the peasant associations are common access lands with no defined owner.

The current Economic Policy of Ethiopia confirms that there should be no reallocation of land except to the land-less and there should be no further fragmentation of holdings (NCS, 1994a). Under such tenure scenario, it is inevitable that many farmers have not been and may not be willing enough to plant trees that have long gestation periods for land rehabilitation purposes. Likewise, farmers will not be genuinely willing to construct soil conservation measures and reforestation initiatives free of payments provided that the reforestation and

conservation works are not planned and executed for increasing the functions of the landscape so as to meet their requirements within the immediate future. Tenure issues are major hurdles for long-term development initiatives such as FLR.

3.5 Institutional Set-up

It is known that the national development strategy is focused to agricultural development led industrialization (ADLI) whose basis is the use of rural land. But the strategies that come with it have not taken into account the importance of long-term conservation of natural resources and economic empowerment role of forestry to the community. One basic justification to this fact is the lack of vanguard institution for the conservation and development of natural resources of the country. In fact, the ministry of Natural Resources Development and Environmental Protection (then) MoNRDEP was dissolved at the time when the pillar theme was launched. As a result, conscious management of natural resources in general and reforestation and soil and water conservation in particular with a view to enhancing public participation is vacant.

Additional reflection to the lack of vanguard institution is the false professional labour surplus. Training forestry professionals in the country started very late in the Ethiopian history. The number of graduate foresters is still much fewer than it is required. The forestry job that normally exists is immense. However, only because the institution, which is directly mandated for the natural resources conservation and development, does not exist, many foresters do not have employers. Such a need for establishing strong and mandated natural resources conservation and development institution that functions at regional and federal levels could have been realized. Unfortunately, the roles of the forest functions and forestry institutions for sustenance and improvement of other sector developments could not be realized in the government policies.

4. Analysis of Policy and legal Framework related to forest regeneration

The following relevant policies were reviewed and inferences made wherever in the text of this report writing.

- Environmental policy of Ethiopia
- Conservation Strategy of Ethiopia
- Economic policy of Ethiopia

In addition, the team of experts at the regional level reviewed the following eight policies, proclamations and guidelines. The experts used the policy analysis framework, which was set up for the study.

1. Land use & Administration Policy of the Amhara National regional State
2. Forest protection & controlling guideline of the Amhara National Regional State
3. Investment proclamation of the Gambella National Regional State
4. Forest protection, development & utilization Proclamation as used in the context of Gambella Regional State
5. Gambella rural land rent proclamation, Gambella Regional State
6. Land use proclamation of the Tigray National Regional State.
7. Guideline for control of Destructive wildlife issued by the Tigray National Regional State
8. Guideline on allocation of degraded and common-access lands for individual ownership made by The Tigray National Regional State

Each was tested for conformity to each of the parameters pre set in the metrics prepared for this purpose. Then after, the national consultant has commented the influence of the policies/proclamations/guidelines on advancing natural resources in general and FLR approach in particular.

4.1 Relevance of FLR with National Priorities

More than anything else, Ethiopia is devoted to agricultural production in view of addressing sustained food security. Sustenance of food security necessitates sustained productivity of the resource base, which is mainly land in the Ethiopian context and sustained economic access to produces. Unfortunately, arable land in Ethiopia is very minimal as compared to other land uses (Table 6).

Again, economic empowerment, which not necessarily roots from agriculture, is given less attention. Due to lack of employment opportunities in the non-agricultural sector, the great majority of the Ethiopian people are engaged in agriculture and as many as 80 % may be under-employed or even unemployed (NCS, 1994a). Therefore, attention to the forestry sector could be one of the best options to economically empower and guaranty food security.

Table 6. ***Land use land cover proportion in Ethiopia***

	Type of land use/land cover	Hectares	Percent
1	Arable land	13,525,525	12.0
2	Permanent crop	1,127,127	1.0
3	Permanent pasture	45,085080	40.0
4	Forests and woodlands	28,178,175	25.0
5	Waste lands, infrastructure and residential areas	24,007,805	21.3
6	Water body	789,000	0.7
Total			100.0

Source: Compiled by the author from WBISPP reports

Sustenance of productivity of a given parcel of land is a reflection of multiple land management issues that will have to be addressed as they influence one another. Therefore, no issue can be looked and resolved in isolation of the other issue that it is influencing. This is more so, at least over a large area where the human actions or existence of resources in the upper catchments will have noticeable influence on the people and the resources in the lower catchment. In such a case where both the human and physical factors influence land productivity and the produces obtained from the land, over a large area, an approach that addresses both the sustenance of the land human well being over a large area of land has no compromise. This is where FLR by which forest land restoration initiative over a large area (landscape) so as to maximize and maintain ecological integrity of the resource base (land) and the human well-being becomes essential.

4.2 National Development Policies /strategies

At a national level, many of the policies that influence the rate at which FLR may be applied, such as the forest policy, land use and land administration policy, the livestock policy are not available yet.

On the other hand, the National Development Policy of Ethiopia, which is ADLI, has been discussed in relation with many of the natural resources development strategies and efforts everywhere in this text. However, it becomes necessary to highlight that the strategy that aims to resolve the food security issue by 'crop production-mind-set approach' may not succeed its targeted objective at least, for the long-term.

Food security is a function of physical and economic access to food. The obvious fact that we educated and employed people are more food secured than the farmers at large should indicate to us that the more decisive strength in food security is economic gain than growing and harvesting the food itself. Therefore, the forest development that has more strength in economic empowerment of the farmers as compared to growing food crops could not be overlooked in the development policies of Ethiopia.

In fact, forestry development has more strength in accommodating skilled and non-skilled labour. At the same time, industrial development becomes more of a reality in advanced development. In both cases, the pressure, which is being exerted on land by every one born and grown in rural areas, will be relieved through their involvement in forestry development and industry labour. The fact that the benefit to be obtained from forestry development is double pronged should not be overlooked, especially when looked in terms of ADLI.

4.3 Synergies and main conflicts

It has been realized that FLR approach could benefit in restoring the forest and the resource base (land) and this could effectively benefit the sustenance of food security which is in turn is the highest in the agenda of government of Ethiopia. However, for any approach to work effectively, it is necessary that supportive facilities are provided or made available. Like wise, if the FLR is to function effectively, the policy initiatives that exist and their conformity to the newly proposed approach need to be examined.

In order to examine the various policy initiatives, *policy initiative analysis format* has been developed and given for a number of experts whose activities are in one way or another influenced by the policies. The experts were informed that they were free to choose any of the policies and examine its conformity in line with the pre-set parameters of the analysis format (Appendices 2 and 3). Twelve parameters were used for the analysis.

In examining the policy against each of the parameters, the experts were instructed to make gradations. They were instructed to put '++' when the policy is 'very supportive" for that specific parameter and '+' when supportive. Fore cases where the policy is working against a specific parameter or is making the parameter worse, the experts assign '-' for the parameter. If neutral or non supportive or against, they assign '0'.

In total, 8 policies and /or guidelines/proclamations were examined (Appendix 2). For making a national average, the score for each of the parameters was calculated by counting the number of scores in terms of '+' against the maximum possible scores available. The experts enumerated the following 22 key opportunities.

Key Opportunities

1. Secured ownership of land and land resources
2. Favourable condition for investment (including forest development) utilized
3. Relatively better condition to provide extension support
4. For the future the guideline will be changing-depending on social and ecological needs
5. Regional forest potential used
6. Economic policy enacted
7. Level of awareness of the community increased
8. Level of development increased
9. Source of income for the local government
10. Attract investors when they think the rest is affordable
11. It is the stepping law to communicate with government and farmers
12. The proclamation is not obstacle for FLR.
13. Land uses for investment users not limited
14. Farmers, Woreda investment committees, professional consensus Taken as criteria to give investors land.
15. The crops are getting less damaged by the destructive wildlife
16. The land less get land
17. Forest coverage increases)
18. Serves as source of feed for livestock
19. Those trees planted on the agricultural fields belong to the landowner
20. It prohibits cultivating a land close to the gullies in less than 3 meters
21. It encourages coverage of those degraded and common-access hills and mountains by people who are authorized to own them individually
22. Those rural households who do not have residential areas are authorized to get residential lands where they also are also encouraged to grow trees

As it is indicated in Appendix 5, the policies reviewed at a national level were directly elated to forest regeneration. One important factor in those policies reviewed is that they acknowledge the role of forest functions in supporting human well-being and livelihood improvement. In addition, they strongly support or encouragement entrusting key decision-making power to the local level. At the same time, the polices lay the ground for the development of strategic partnerships among the various stakeholders for more effective environment management. Likewise, the policies contain many of the elements that facilitate creation of strong links to other sectoral goals and strategies of various ministries that have vested interest within the same landscape.

On the other hand, the policies reviewed were not prepared for supporting forest function trade-off making at landscape level. The same was true with regards to flexibility for negotiations aimed at building informed and genuine consensus about forest restoration. Majority of the policies reviewed do not encourage the restoration of the forest functions in particular. Many of these policies that do have relevance to forest regeneration do not seem to acknowledge/support the idea of restoring forest functionality. The vision set in preparing policies that are issued to support forest regeneration seemed to be at forest land or plot level instead of a landscape perspective. The impact of these policies in halting pressure that reduces functionality was minimal and the support or encouragement to new ideas/approaches was more of rigid and prescriptive. List of the constraints that deserve attention are indicated below.

List of Constraints

1. Less appreciative attitude of communities towards sustainability of forests
2. Community participation not at the required level
3. Poor dissemination of appropriate alternative technologies to the rural households
4. Luck of awareness about the forest guidelines
5. Resource limitations
6. Inadequate trained man power
7. Luck of strong institution to implement the po and technical guideline
8. Subjective imposed of land rent amount on the farmer /no fixed rules for rents
9. Market fluctuations.
10. Albescence of land & tree tenure system
11. Land use fees (rent) estimation dependence on size of the land with no consideration of different factors that affect the yield at the end.
12. Absence of defined boundaries mention contracts given to investors.
13. Weakness of the investment policy in making land use plan of investment projects a requirement
14. Legal enforcement is weak /absent
15. Capacity building left aside, although the institution is newly in operation
16. Expansion of illegal hunting of wildlife by the name of destructive wildlife allowed to be killed legally

5. Analysis of existing forest regeneration initiatives

5.1 Introduction

An effort has been made to physically access five of the major regional states and discuss with the concerned professionals about the land use land cover of their respective regions and the approach they use in the forest regeneration initiatives as well as the policy initiatives. At least one week earlier, the draft analysis formats were sent to the Bureaus of the Agriculture with the necessary explanations on each of the parameters and inviting a team of experts to do their own scoring as they experience it in their ways of doing the forestry regeneration initiatives. A follow up telephone call was made to request if there is any difficulty in understanding any of the parameters.

Secondly, field trip was made to each of the five administrative regions for a minimum of three days. Discussion was held on how they were able to score each of the parameters for each of the regeneration and policy initiatives they considered essential to be analysed in their own Regional State context. A detailed explanation was given on each of the parameters of the forest regeneration and policy initiatives to the same team of experts of the Bureaus of Agriculture of each Regional State. One or two days were allocated for making corrections when necessary.

In addition to scoring the conformity of the initiatives to FLR parameters, the same teams of experts were requested to fill the land use land cover for their own region and the land use land cover for the landscape they are doing scoring for. Four of the regions (Amhara, Tigry, Oromiya and Gambella regions were able to analyse land use land cover data. They indicated that the forest cover ranges from less than 0.5 % in Amhara region to 19 % in Gambella. The cultivated land is equally small (~ 25 %) as compared to the agrarian nature of the people.

5.2 Conformity (strength versus weaknesses) of Forest Regeneration Initiatives to FLR Parameters

In total, 18 forest regeneration initiatives (Appendix 2) were scored and analysed for the conformity. All can be grouped into six forestry initiative groups (refer to the Box at the following page). The conformity of the past forest regeneration initiatives being practiced as explained above was analysed by setting up parameters that are inherent characteristics of the FLR. Eight parameters were drawn and used for the analysis. The forest regeneration initiatives that are being practised in the various forest-regeneration initiative project areas and sites were then tested against the parameters set for the analysis. Scores were given in the range of 0 – 3 for Amhara region and 0 – 5 for Gambella, Tigray and Oromiya regions (refer to Appendix 2 for details)

Six forest regeneration initiatives were considered as case studies in Amhara region. The forest regeneration initiatives were conducted in landscape approach in Amhara, Tigray and Oromiya region while not in Gambella region. The initiatives in the first three regions also recognize forest functionality as opposed to just "forestry" or simply "reforestation programs. In all the three regions (Amhara, Tigray and Oromiya), forest regeneration initiatives are planned and executed in long-term.

In Tigray and Oromiya regions, an effort is being made towards consensus building with respect to balancing the human well-being and ecological sustainability while in Amhara and Gambella regions, only consultation is made with the local people. However, the balance between ecological integrity and human well being is somehow acceptable in Amhara region and much better in Tigray and Oromiya regions. The balance in Gambella region was inexistent. Though, there is a need for improvement, the attempt to balance forest function trade-offs within the landscape is encouraging in all the three regions (Amhara, Tigray and Oromiya). Though at much better focus in Oromiya region, attempt is being made in using the right package implementation of tools/ approaches also in Amhara and Tigray regions. The situation at Gambella region is below satisfactory level. Seeking out and development of strategic partnerships in implementing forest regenerations initiatives is at lowest status many of the regions considered for the case study.

At the national average (Appendix 3), the forest regeneration approaches that conform to the FLR parameters are three.

1. Forest regeneration initiatives are being implemented at landscape scale and concept
2. There is recognition of forest functionality
3. The development activities are in long-term time frame.

For the remaining five parameters of the FLR approach, the conformity of the existing forest regeneration approaches weak. The low level of effort in Consensus building with respect to balancing the ecological integrity and human well-being is worrisome

The essence of the types of forest regeneration initiatives in Ethiopia

There are 6 groups of regeneration initiatives. One is Community Forestry initiatives, where reforestation activities are handles by the community communally by investing labour and resources with technical and some logistical support from the government. The second group is Forest enterprises which are semi-autonomous forest institutions that administer the forest by developing forest management plan, executing the developed forest management plan as it is prescribed as well as harvest and utilize the forest crop. Though, they report to line ministries, they administer the fund obtained from the forest produce.

Forest reserves: These are regional forest development priority areas. They are under regional government technical and administrative guidance with major emphasis on preservation of indigenous forests that exist in the country. Formerly, all sawmills used to harvest logs from these forests. As the utilization exceed regeneration through natural means and plantation forest development, logging is has become limited to forest Enterprise areas alone.

Private forestry regeneration is where those woodlots, roadside and boundary plantings as well as trees and shrubs are planted, managed and utilized by private farmers or rural dwellers. Often, government supplies them with seedlings and technical backstopping. The individuals who have the use right of the land on which the trees/shrubs are planted do land preparation, planting maintenance and protection. Urban forestry is similar forest development to Private forestry except that private forestry is understood to be in rural areas while the urban forestry is implemented in urban areas. This is forestry development by private individuals in urban areas. In some occasions, organizations and schools may have urban forests. However, the common denominator in urban forestry is that the forest owners do pay for all the seedlings, and do not often get technical supervision and support from the line ministries as much as the private forestry does.

National Parks: These are forest areas with important flora and fauna that are safeguarded from utilization. Often, natural regeneration is encouraged. However, buffer zone plantings are done when possible and required.

6. Synthesis

6.1 Relevance of FLR to national Priorities

The national development priority of Ethiopia is continued and sustained food security under development strategy of agricultural development led industrialization. Here, the key factors are:

1. Sustaining the productivity of the resource base (land) for sustained agricultural production through increased land rehabilitation functions the development initiatives
2. Maximizing income generating possibilities by which the economic power of the communities for acquiring food will be maximized

⇒ Both of the above factors are governed by maximizing the conservation and production functions of the forest in a given landscape.

6.2 Opportunities and constraints in introducing & implementing FLR approach

6.2.1 Opportunities

Forest functionality is the reflection of forest functions that stakeholders perceive from their own interest. If FLR approach is endorsed in view of the forest regeneration and policy initiative parameters, the forest functions indicated under section 3.2 "forest Functions" and many others could be realized. Forest functions that could be instrumental for mitigating the physical and socio-economic problems of the landscape, as a whole will become in focus. From the survey of the four regions that reviewed the regeneration initiatives, the opportunities to be realized from the application of FLR are listed as follows.

Integrated approach may be established

National parks and controlled hunting areas could be excellent sanctuaries for wildlife

Forest priority areas will have a management plan

Fuelwood and construction wood will be produced on sustainable manner

Strong protection system will be established

Supportive farmers' attitude towards forestry will prevail

Conducive landscape for forestry development will be a reality

Farmers positive attitude towards forestry will be maximized

List of added values from the adoption of FLR initiatives

1 Increased level of awareness of the local community on environment
2 Better stability of abiotic and biotic environment
3 Improve the environment
4 Forest coverage increases
5 Community participation and benefit packages increase
6 Conservation of wild flora and fauna in the park area
7 Conservation of the ecosystem of the park/woodland, grasslands and swampy areas will improve
8 Generally ecological integrity among the life forms of parks
9 Access to tourist attraction
10 Improve the infrastructure of parks and controlled hunting areas
11 Improve the living condition of surrounding people
12 Gum and incense production increases.
13 Attraction to investors will increase
14 The income of the local people increase
15 Employment opportunities
16 Ecological stability attained
17 Sustainable and wise use of wildlife resource in control hunting areas
18 Good cooperation with the local people
19 Complete genetic pool for indigenous and reserve for endemic tree species
20 Enable to stop or minimize trespass by illegal pit saws
21 Minimize forest fire hazard
22 Preparation of management plan to manage on sustainable basis
23 Harvesting and development would be regulated, balanced and sustained
24 Development would be guided in a management plan
25 The balance between the extraction and ecological integrity would be improved
26 Social issues will be addressed in a systematic manner
27 The lives of the people could be improved
28 Ecological and environmental values could be appreciated

For these opportunities and added values to be obtained through the adoption of FLR approach, a number of pre-requisites need to be fulfilled. Many were repeatedly indicated than others. Most dwell in the areas of policy, institution and methodology of conducting the forest regeneration initiatives. They vary from one regional state to the other. Here the compiled list, which is obtained from the groups of experts of the four regions, is presented by avoiding, as much as possible repetitions.

"If"s but pre-requisites for successful FLR implementation

1 Sufficient budget is allocated for the sector
2 Timely realizing the operation was made possible depending on the management plan.
3 Institutional cooperation is strengthened.
4 Institutional stability prevails
5 Land use planning becomes operational.
6 Institutional strength, budget and transport facilities as well as staffs are sufficiently organized
7 Clear wildlife and forest policy created and made operational
8 Necessary infrastructure allocated
9 There is willingness for more investment on conservation
10 There exists enabling policy with enforcing acts, rules and regulations
11 Procurement of personal and capacity building
12 Independent institutional structure is created
13 Close collaboration with EWCO and BOAs is established
14 Proper implementing institution is set-up
15 Low tax policy on forestry is endorsed
16 Investment is made available
17 Proper institutional structure with accountability established
18 Responsible and accountable institution is created
19 Autonomous forestry institution is in place

6.2.2 Constraints

In the implementation of forest regeneration initiatives and development of policies, the essences of FLR approach were not considered. Therefore, perceptions of the forest functionality by the stakeholders (in this case, government) are those reflected in the 21 forest functions listed under section 3.2 on ***Forest Functions***. Even in the effort of restoring these limited forest functions, a number of constraints have been faced. These

are constraints witnessed by the groups of experts of the four regional states. The cumulative list was much longer than the 44 indicated below because the regional experts listed them independently and there were overlaps. The most repeatedly indicated constraints were: policy, institution, budget and professional staffs.

List of Constraints

1 Expansion of agricultural land
2 Free grazing of livestock
3 Encroachment pressure
4 Agricultural colonization
5 Lack of institution
6 Illegal hunting
7 Absence of well-defined boundary
8 Absence of essential infrastructure
9 Unclear use right and lack of ownership
10 Lack of community-based farmer organization for ownership
11 Time limitation (pre-mature use of the area closure)
12 Increase of pressure to adjacent fragile lands
13 Species not multi-purpose
14 Shortage of agricultural land
15 No clearly identified ownership and share of the communities around
16 Continued encroachment to the area of forest regeneration
17 No management plan
18 Shortage of budget
19 Lack of manpower/qualified
20 Drought
21 Increase of the wildlife damage of crops near by
22 Termite attacks
23 Shortage of land
24 Mono-crop planting focus through extension
25 No budget allocation from the regional state
26 No budget allocation from the regional state
27 Structural adjustment
28 No Proclamation of the site
29 Indiscriminate hunting, poaching, illegal hunting
30 Deforestation of PA for agriculture, shifting cultivation, house construction, charcoal
31 Lack of awareness both to local people and government officials
32 Lack of wildlife policy at regional level
33 Impact of refugee in the past as well as at present at 3 refugee camps
34 Wild and man made fire
35 Lack of interested investor in the area
36 Lack of local knowledge to develop the resource
37 Lack of enough investment to prepare the management
38 Lack of intense cooperation from local people due to low living conditions
39 Lack of investment, proper institutional structure and forest la
40 Illegal charcoal production and pit sawing
41 Market anarchy (saturation of the market by illegal forest product producers)
42 The pressure from encroachment and theft of wood
43 Absence of forest policy and forest acts
44 Lack of guideline and management plan
45 Lack of complete knowledge and skill on protected forestry

6.3 Critical landscapes where FLR could be appropriately initiated

FLR is suited for many of the forest landscapes where various land use types are interacting and community interferences are more of a reality. FLR is also suited more for involvement of communities, private investors and environmental clubs, groups and associations where their involvement will be resolving the problems related to financial, logistics and professional staffs of the government. Therefore, there may be priorities for involvement. This will have to be decided based on a through understanding of problems and potentials of the various landscapes within the various regional states. However, the appropriateness of FLR initiative is for all of the forest regeneration initiative areas as a whole.

6.4 Key emerging issues

The key emerging issues in the Ethiopian context are varied and many. Many of them are discussed elsewhere in this report. However the most salient issues are listed below.

6.4.1 Institution establishment:

If FLR approach is to be implemented in its fullest context, there shall be mandated institution for the natural resources development sector at least at authority level in the government portfolio. Such institution could linking the concerns of the sector with sister development institutions such as agriculture and water resources, rural development as well as human well-being. It is this institution that prepares functioning strategies as well as catalyses the creation and involvement of private sector-institutions for the realization of FLR.

6.4.2 Forest Development Strategy

The strategy in implementing FLR approach over the landscape of a concern by the governmental institution will have to be catalysing involvement of communities, private investors, environmental groups, clubs and associations. Its complementary strategy will have to be regulatory functions with regards to proper implementation of FLR plans and prescriptions. Equally important role of the governmental institutions will be structuring itself to the lowest administrative level and facilitating the working environment for those involved in the implementation of FLR.

Unfortunately, this is new direction and way of executing forestry development in the country. Therefore, acceptance of the recommendations set forth here by the concerned authorities may not be realised soon. Please refer to the chapter on "Professional Reflections and future scenarios" in this same report. Then, the parameters for which the current approach failed for will be addressed effectively.

6.4.3 Policy-related issues.

For FLR to be implemented in its fullest context, those policies that have strong correlations to the success or failure will have to be addressed at the minimum. Few of these policies are:

1. Forest and wildlife policy
2. Policy on land and tree tenure
3. Land use/land administration policy
4. Livestock management policy

In the preparation of such policies, necessary care will have to be taken so that the development outlook in a given landscape would successfully deal with

Landscape approach

Maximization of forest functions for addressing the ecological integrity and human well being concerns over the entire landscape

Restoration of the forest functions

Possibilities for making forest function tradeoffs and balanced decision makings

Responsibilities for effective consensus building: with regards flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration

Possibilities for halting pressure that reduces forest functionality

Support to encouragement for the use of new ideas/approaches

7. Conclusions and recommendations

7.1 Conclusions

A systematic and scientific study was not made. However, the assessment made on the 8 policy documents by the groups of experts in the four regional states could serve as indicative study. This study has shown that FLR approach has not been followed in implementing forest regeneration undertakings to the required extent. The conformity of forest regeneration initiatives has been less than 51 % (Table 13). The conformity of the forest regeneration approach was most weak (< 44 %) in decreasing order in the following parameters:

1 Consensus building –i.e. with respect to balancing the filters *More than just consultation.*
2 Use of the right package implementation of tools/ approaches
3 Attempt to balance forest function trade-offs within the landscape
4 Acceptable balance between the two filters Of ecological integrity and human well-being
5 Seeking out and development of strategic partnerships

It can also be said that the policy initiatives were supportive by less than 50 %. The policy initiatives have not been in line with the FLR approach requirements either. From, the review of past reforestation approaches and policy initiatives, we have learnt that the complex relationship and effect of natural resources conservation and development on success in sustained food security has remained to be overlooked. Meeting the basic needs of Ethiopians while sustaining the natural resource base upon which the satisfaction of these needs depends will remain to be the ultimate challenge that leaders, planners, experts, and the people as whole will have to face. It is increasingly becoming clear that the alleviation of poverty and ignorance through sustainable economic development and improvement of basic social services (such as education, health, and water supply services) depends on the rational use of natural resources whose dynamism and complex contribution to one another in a landscape is not considered yet.

Past approaches have failed in making forest function trade-offs and at the same time have failed in halting pressure that reduces the forest functionality. Neither they have managed in encouraging new ideas and innovations. The idea of restoration of forest functionality and forest function in particular has not been recognized. The cumulative score made by the groups of experts in the four national regional states indicates that the conformity for the following parameters ranges from 0 to 44 % (Appendix 3).

1 **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level
2 **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?
3 **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)
4 **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality
5 **Particular forest functions**: does it support the restoration of the forest functions in particular
6 ***Consensus building****: Is there flexibility for* ***negotiations*** *aimed at building informed and genuine consensus about forest restoration*

The current environmental issues that resulted from mismanagement of natural resources and fragmented approach are deforestation, overgrazing, increasing soil erosion, desertification, frequent droughts, health hazards and job in security. Sustainable development assumes that environmentally unsound projects, those failing to safeguard against adverse environmental side-effects and dynamics of ecosystem in a landscape context or which fail to recognize the need to protect the sustainability of the functionality of each and every one of the components of the landscape will not be economically, let alone socially, acceptable.

Agreeably, nearly all institutions in Ethiopia (both governmental and non-governmental) accept the need to protect the natural resources and the environment when formulating and implementing development programs and projects. However, at the implementation phase, many natural resources deterrent actions get less attention. Every motive and action in pursuing development would have to be cautiously administered so that, by the name of development, we should not deter perpetuation of development itself through a single (or few) function-focused project planning.

Among the repeatedly indicated constraints is absence of stable and structured institution. For realizing the opportunities from FLR applications, the experts have indicated that there is a need for the creation of responsible and accountable institution.

In general, the failures in reforestation and soil and water conservation in Ethiopia are attributed to biophysical factors, socio-political conditions and neglect of holistic approach. The biophysical factors include the dissected terrain, unwillingness to make trade-offs in discussions, cultivation of steep slopes, erratic and erosive rainfall and easily eroding soils. The socio-political factors include the genuine and complex needs of the poor for continued food, fuelwood and fodder production, discouraging tenure and usufruct policies, prolonged civil war and the absence of holistic and farmer-based approach in the design and implementation of development projects. All have contributed to the decrement of genuine involvement of farmers in forest regeneration activities. The Forest Landscape Restoration (FLR), in the context of a landscape sized-projects, is suggested in the realm of:

- The needs for improved and holistic production of food, fuelwood and fodder by farmers
- Weak institutional and manpower set-up for the forestry and wildlife sector that could not effectively allocate budget, coordinate programs and restore forest functions
- Inappropriately introduced and rejected soil and water conservation and reforestation initiatives
- An absence of a system approach for the design and implementation of landscape reforestation schemes
- Existence of Forest Priority Areas that are less stocked, poorly managed, and still having great potential for increased forest functionality and labour market.

7.2 Recommendations

7.2.1 Change in perception

Perceiving forest functionality is an automatic result of involving all partners who are affected by the opportunities and limitations of the landscape. The search for solutions of multitudes of problems related to their ecological and socio-economic concerns and consulting the environment for solutions has been normal in human history.

Yet, not all people will have the wisdom of searching and finding solutions from within the environment. Therefore, parties who are enlightened by educational wisdom and experience in life will have to be willing to spearhead the effort for application of the FLR approach. Then, the nature of the approach will, by itself, involve many of the stakeholders who are sharing the landscape and the forest functionality will be perceived at a greater dimension.

7.2.2 Strategies

a). On Forest Priority Area (FPA) management initiatives: EFAP did advise to use the high forests primarily for protection and conservation and only secondarily for commercial purposes (EFAP, 1994). During the last ten years, no matching progress has been made in the area of natural forest development as compared to the rate of deforestation.

Though very little when compared with total land mass of Ethiopia, the current FPA that accounts for more than three million hectare is not a size of land that we can afford ignoring it in the campaign we strive for food security. The need to increase the forest functions and to increase the restoration of the healthy relationship between each and every attribute of the landscape need to be at the forefront. If FLR initiative is adopted and trade-offs in a down-to-earth negotiations and discussion is made, the following may be realized.

1. Ample job opportunities will be created and its contribution towards food security will be maximised
2. Lumber requirement will be easily fulfilled from domestic production and hard currency will not be spent for import of wood timber products
3. Forest area encroachment will be discontinued
4. Stocking density of forests will be optimal and economical
5. Flora and fauna resources in the upper slopes will be protected by the safe buffer zone, which is commercial development site. The fauna may even directly enjoy it nocturnally.
6. Industrial raw material will be made available for multiplied job opportunities and economic empowerment of the people.
7. Other forest functions to be identified by the people of the landscape, who will be getting involved in the development venture become realised.

In order to cater the conservation and protection concerns of the flora and fauna, the government sector will need to be strengthened in manpower and logistics for conducting advisory and regulatory activities effectively. Rights and responsibilities of the investors and the people in the community taking part in the commercial forest development will have to be carefully prepared by the government sector and the people within the landscape. The outcome will have to be made known both to the public and the investors through various means of communications.

For many of the FPAs, we have learnt from past experience, that investment that opts forest landscape tradeoffs with no consensus building and sound physical and socio-economic grounds results loosing the forest heritage fast. Yet, if successful PFA conservation and development is to be implemented by satisfactory budget, professional manpower and logistics, it will have to be designed in a way that the qualified and able investors who will be making tradeoffs on technically and socially sound reasons will have to be involved. Forest protection will have to benefit from the planned increase in forest functions.

Protecting the remaining natural forest landscape and conserving the genetic resource heritage on it is an urgent call for Ethiopia. The experience from the inventory of 11 regional Forest Priority Areas (FPAs) of the Omo-Ghibe basin, the stocking density of trees is 102 commercial-value trees per hectare. In addition, according to the study on Forest Resource Base Identification and Rational Use made in 1990, growth in all forests and woodlands are low than potential due to over aging and climax formation. This indicates how seriously the forest functions are declining and people wrongly opt for changing land uses instead of subjecting it to reforestation initiatives that increase the forest functions in the landscape context.

b). For farm-forestry and soil conservation: The number of functions that the reforestation could be appropriated to address farmers' issues will immensely increase when the people in the landscape are made part and parcel of the planning and administration issues. This strongly necessitates producing liberated development facilitators who could effectively address these concerns.

If forestry is to avoid this massive deforestation being done in search of land for cultivation use, forestry itself will have to help in sustaining the fertility of farmers' cultivated land for continued use. This can, again be achieved when crop-friendly species are tried and demonstrated. Therefore, the assurance of success in forestry development effort is intensification of forest functions that contribute to the human well-being.

7.2.3 Land and tree tenure policy

Legal directives and national and regional policy environments have a great role in determining the rate of success in forest regeneration initiatives over a landscape. The same is true to defining rights and responsibilities of farmers on land use. This prevailing policy-environment has a direct effect on the success of the future outcome of implementation of the forest regeneration approaches.

Catchment-level study at Tikurso (Armanya in Mafud Woreda) has indicated that tree/shrub involving soil and water conservation by farmers is inhibited by nearly 30 % due to discouraging land and tree tenure policies (Bekele-Tesemma, 1997). Initiatives for increasing the demand for land, supply of credit and creation of functioning land markets will boost the conservation spirit of farmers. Farmers have reiterated that the protection of ecologically fragile areas could be successful if and only if land possession entitlement (land ownership certificate) is issued to the landowners and legal backing for control over their right is provided.

7.2.4 Institution

As it has been indicated elsewhere in this paper, careful and wise utilization forest resources and forest regeneration needs well-studied, coordinated and multi-dimensional approach. Both development and conservation aspects require quality staff who could function in a structured and organized deployment. Strategies and policies will have to be prepared, get justified for approval and routinely and hierarchically followed-up in implementation by directly mandated institution. Unlike many other development sectors, the forestry and wildlife sector demands long-term acquisition of data, which is stepping stone for better planning of FLR interventions. In total, all the above indicated strategic, policy-based and incentive-based reforestation and development approaches necessitate strong institution, which is guarantied for long-term existence. Else the harvest of shame in natural resources development and conservation initiatives and inevitably failure in food security is apparent.

7.2.5 Effort towards system understanding and reforestation efforts

One important factor in the failure of land rehabilitation and reforestation programs is the abstract nature of the relationships between the human dimension and the physical dimensions in a given landscape. His is because plans and project implementations are viewed in terms of patches of an area and not in a landscape context. In addition, many mistook soil for the soil reservoir and plants from only the obvious benefits that could easily be perceived at a glance look instead addressing the complex nature of the interaction of the various components of a given landscape. At the same time, the approach to farmers by development facilitators has been abstract or unitary expertise based. According to Hurni (1985), centuries of traditional land use systems have passed before the soils of Northern Ethiopia were completely degraded and the local people notice the repercussion and effects. Hurni (1985), further states that many of the Ethiopian farmers are unaware of the amount of soil they can prevent from eroding by applying a given farming practice. The fact indicates that creation of awareness in farmer-level extension and landscape continuum is essential.

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Appendix 1. Sources of information

A. Information-source institutions and documents

1. Federal level institutions namely:
    - Woody biomass inventory and strategic planning project
    - Institute of biodiversity conservation and research
    - Ministry of Agriculture

2. Regional Agriculture Bureaus of:
    - Amhara regional State
    - Tigray regional State
    - Gambella regional State
    - Southern peoples' regional State
    - Oromiya Regional State
    - Harrari Regional State

3. Non-governmental organisations (NGOs) of
    - World Vision International
    - Save Our Soil UK
    - Farm Africa

Unfortunately, many of them could no make the requested information available within the short time given to them.

Therefore, the outcome is more of compilation of information obtained from the review of the policy and reforestation initiatives response of:

a) Agriculture Bureaus of:
- Amhara regional State
- Tigray regional State
- Gambella regional State
- Oromiya Regional State

b) Previously produced but relevant documents such as:

a. Monitoring of forest resources in Ethiopia, by Matthias Reusing made in 1998
b. Various volumes of the Ethiopian Forestry Action Plan studies
c. The bilateral Project document on Forest Conservation in High Forest priority Areas for 1998-2002, made between EWCO and DGIS and other EWCO reports
d. Forest resources base identification and rational use study of May 1990
e. Various volumes of the Conservation Strategy documents,
f. Five-years National Data report on Forestry Activities in Ethiopia
g. A number of volumes in National Action program in Combating Desertification,
h. Forest genetic resources conservation project documents
i. The guideline document on Environmental Assessment and management
j. Annual reports of the MOA
k. Relevant books and articles

B. List of personnel contacted

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19	Ato Diro Bulbula,	Representative, Head of forestry and Wildlife Conservation and development Authority, Oromiya Regional State
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21	Ato G/Medhin Adera	Head, Woody Biomass Inventory and Strategic Planning project, Federal MoA
22	Ato Berhanu Mengesha	Forestry Expert , GTZ Project, Federal MoA
23	Ato Zelalem Temesgen	Forestry program head, Farm-Africa, NGO

Appendix 2: Forest regeneration and policy initiative case studies on conformity to FLR , case by case

A. Case-level situations

Table 1 ***FLR conformity scores*** Wof-washa Forest Priority Area (FPA) development, ***Amhara Regional State***

Name: Wof washa Forest priority forest
Type: Departmental reforestation of degraded land
Location: North Shoa 39' 42' E and 39'50 E long and 9'34'N. to 10'20N.
Start Date: 1976 Finishing date not known
Implementing Agency: Government/Regional, A.N.R.S. BOA
Collaborating and/or Funding Agencies: WFP & Community

1		Score	**Details/comments**
2	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	3	**Landscape approach but with multiple small scale initiatives**
3	***Recognition of forest functionality*** *As opposed to just "forestry" or simply "reforestation"*	3	Focus in all social, economical and environmental functions
4	**Attempt to balance forest function trade-offs within the landscape**	1	Small level of imposition on less powerful (local level people)
5	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	2	Attempt is there but not successful
6	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	1	Small number of consultations and withlimited number of people
7	**Use of the right package implementation of tools/ approaches**	2	There is use of limited number of implementation tools
8	**Seeking out and development of strategic partnerships**	1	There is strategic partnership but not really used in the implementation strategy
9	**Long-term timeframe**	3	Planned for long term period

N.B Score-max = 3 Average = 2 Minimum = 1 No consideration = 0

For scoring the approach in line with the same parameters, Tigray, Gambella, and Oromiya regional States used a range of 0 – 5 where: max = 5, Average = 3, Minimum = 1 and No consideration = 0.

Additional information to be provided for each initiative (1-2 paragraphs-or whatever is enough!)

A) Brief overview (one paragraph-or in bullet form would be fine):

1 Objectives of the initiative

- Natural forest conservation & protection
- Water shade protection
- Wild life conservation

2 Timeframe-date when the initiative began and how long it is expected to last

- Starting date
- How long it is expected to last

3 Key strategies that have been applied: Continuous re forestation of degraded land

4 **Key beneficiaries :** Government and Local Community

5 Key initiators/promoters/supporters: Government. (B.O.A)
6 Major outcomes to date: 14722 ha of forest protected & planted (14722)
7 Key constraints it has faced: Expansion of agricultural land , free grazing, Encroachment pressure

Key Opportunities

- Integrated approach may be established through
- Time i.e between the local community and the government for better management.

Lessons that have already been learned

Rehabilitation of natural forest /landscape/ through a limited intervention of man)

Added value which could have been realized through adopting FRL approach: Increase level of awareness of the local community on environment

But only if: Budget is sufficient and Timely realizing the operation depending on the management plan.

Table 2 ***FLR conformity scores for*** Denkoro Forest Priority Area (FPA) development, ***Amhara Regional State***

Name: Denkoro Forest priority area
Type: protected Natural Forest
Location: South Wollo
Start Date: 1973 Lasting date unknown
Implementing Agency: Government/Regional, A.N.R.S. BOA
Collaborating and/or Funding Agencies:

	Parameters	Score	**Details/comments**
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	3	Landscape approach but with multiple small scale considerations
2	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	3	Focus strongly on environments (biodiversity conservation), both for the flora and fauna.
3	**Attempt to balance forest function trade-offs within the landscape**	1	No consideration because trade-offs are not acceptable by the local people
4	*Acceptable balance between the two filters Of ecological integrity and human well-being*	1	The focus is mainly on ecological integrity
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	1	Initiative is top-down with no consensus building process
6	**Use of the right package implementation of tools/ approaches**	1	Use of single implementation approach
7	**Seeking out and development of strategic partnerships**	1	No partnership developed within the initiative
8	**Long-term timeframe**	3	It is planned for long time frame

N.B Score-max = 3 Average = 2 Minimum = 1 No consideration = 0

Objective:

1. Conservation of the ecology (flora and fauna)
2. Development of the habitat for the unique wildlife such as the Abyssinian wolf.

Key Strategies

1. Area is selected on the basis of importance for safe guarding the national heritage (unique wildlife)
2. Boundaries of the landscape are defined based on natural boundaries

Key beneficiaries

1 The government through tourism industry
2 The community from honey collectors and producers

Key initiators

1. Government

Outcome to date: More and more Abyssinian wolfs are found

Key constraints

- *Agricultural colonization*
- *Illegal hunting*
- *Absence of well-defined boundary*
- *Absence of essential infrastructure*

Key Opportunities

- It can be excellent wolf sanctuary

Lessons learnt

1 Possibilities for realizing the necessary linkage between the communities and their environment
2 Expansion of natural forest through natural regeneration means
3 More and more source of seed
4 Appearance of endangered species
5 Existence of heterogeneous site with distinct flora zonation

Added value, which could have been realized through adopting FLR: Better stability of abiotic and biotic environment

But only if: Institutional cooperation is strengthened.

Table 3 ***FLR conformity scores*** Area Closure initiatives, ***Amhara Regional State***

Name: Area Closure
Type: Setting aside areas for natural regeneration by prohibiting livestock and human interference
Location: All zones
Start Date: varied, As of 1985, **Finishing date**: Until the lands get rehabilitated successfully
Implementing Agency: Bureau of Agriculture and the community jointly
Collaborating and/or Funding Agencies: WFP, Sida, GTZ and many NGOS

	Parameters	Score	**Details/comments**
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	3	Site specific with landscape level implementation
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	2	Focus on land rehabilitation
3	**Attempt to balance forest function trade-offs within the landscape**	2	Although landscape recognized, no consideration given to balancing forest function trade-offs within the landscape
4	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	1	Focus is mainly with ecological integrity
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	3	There is a consultation process to close degraded uplands in order to rehabilitate them.
6	**Use of the right package implementation of tools/ approaches**	2	There is use of limited number of implementation tools
7	**Seeking out and development of strategic partnerships**	3	Strategic partnership is
8	**Long-term timeframe**	3	Long term time frame through a serious of 5years program phases of WFP, Sida,GTZ support

N.B Score-max = 3 Average = 2 Minimum = 1 No consideration = 0

Objective:

1. To improve degraded lands through natural regeneration
2. To protect down stream lands

Key Strategies

1. *Livestock feed in cut and carry system*
2. *Closure of the site from on-site use of livestock and human*
3. *Enrichment planting of trees/shrub seedlings as well as grasses*
4. *Supplementing with limited soil fertility and moisture conservation packages*

Key beneficiaries : The local community

Key initiators

- Government
- Community
- Bilateral organizations, NGOs

Outcome to date: Over 64,350 ha degraded lands are rehabilitated

Key constraints

- Unclear use right and lack of ownership
- Lack of community-based farmer organization for ownership
- Time limitation (pre-mature use of the land)
- Increase of pressure to adjacent fragile lands

Lessons learnt

- ***Degraded lands can be converted to wooded grasslands if protected***
- ***Communities can plan and implement area closure activities***

Added value which could have been realized through adopting FLR

- Improve the environment

But only if

1. Institutional stability prevails
2. Land use planning becomes operational.

Table 4 ***FLR conformity scores*** **for peri-urban fuelwood developments development interventions,** ***Amhara Regional State***

Name: Peri-urban fuelwood plantation
Type: Plantation development for fuelwood and construction use by the nearby cities
Location: North Shoa zone , Minjar Shenkora Woreda, Gara Bokan Area
Start Date: 1984 Finishing date 1988
Implementing Agency: UNSO, UNDP
Collaborating and/or Funding Agencies: Government and Danida

	Parameters	Score	**Details/comments**
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	2	Site specific and small scale. The project works with single commodity production initiative with out addressing the problems that may ion the end have significant impact on the condition of the peasant association and the whole of the landscape
2	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	1	Focus on compensatory function in a top-down imposition
3	**Attempt to balance forest function trade-offs within the landscape**	1	No attempt. Although landscape recognized, no consideration given to the balancing of forest functions within that landscape. Trade-offs are not acceptable.
4	*Acceptable balance between the two filters Of ecological integrity and human well-being*	1	Focus is mainly to human well-being through supply of fuelwood
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	1	Initiative top-down and with no consensus building process
6	**Use of the right package implementation of tools/ approaches**	1	Use a single development approach (fuelwood plantation)
7	**Seeking out and development of strategic partnerships**	0	No partnership developed within the initiative
8	**Long-term timeframe**	1	Short time frame

N.B Score-max = 3 Average = 2 Minimum = 1 No consideration = 0

Objective:

1. Supplying fuelwood and construction material
2. Creation of job opportunity
3. Fulfill essential infrastructure such as schools, water supply, clinics) in compensation for the land taken for the fuelwood plantation from the community.
4. To minimize the pressure exerted on the natural forests

Key Strategies

1. Creation of awareness among the community
2. Survey and demarcation of the project areas
3. Constructing the infrastructure and organizing the necessary staffs
4. Implementing the plantation as planned

Key beneficiaries : The urban people and The rural community
Key initiators: NGOs 2. Government 3. Local Community
Outcome to date

- **Improved vegetation cover of the degraded lands**
- **Improved the livelihood of the local community**
- **Decreased the shortage of fuelwood and construction materials for the urban people**
- **More infrastructure such as schools, clinics ,etc.**

Key constraints: Species not multi-purpose, Shortage of agricultural land, No clearly identified ownership and share of the communities around, Continued encroachment, No management plan

Key Opportunities: Will have a management plan, Will produce fuelwood and construction wood on sustainable manner, Strong protection system will be established

Lessons learnt

1. *Possibilities of NGO participation in fuelwood establishment*
2. Reducing the pressure on slow growing indigenous natural forests by establishment of fast growing species as plantations

Added value which could have been realized through adopting FLR

- Forest coverage increases
- Community participation and benefit packages increase

But only if

- Institutional strength, budget and transport facilities as well as staffs are sufficiently organized

Table 5 ***FLR conformity scores*** **for farm forestry initiatives,** ***Amhara Regional State***

Name: Wof washa priority forest
Type: Agroforestry initiatives
Location: Amhara Regional State All zones.
Start Date: not exactly known when it started. It will continue too.
Implementing Agency: Bureau of Agriculture
Collaborating and/or Funding Agencies: WFP , Sida, GTZ, SoS, FHI, CPAR

	Parameters	Score	**Details/comments**
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	2	Large scale but with out consideration of the landscape and the forest functions within the landscape
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	3	Focus on multiple functions Economic, environmental and social functions are considered
3	**Attempt to balance forest function trade-offs within the landscape**	2	Tree planting activates are conducted on cultivated lands, road sides, homesteads etc to compensate the land allocation for agriculture
4	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	3	Seems to be satisfactory. It has become moe and more acceptable. Still, farmers seem to have more interest in economic benefits than ecological sustenance.
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	2	Some level of consultation through focus-group meetings
6	**Use of the right package implementation of tools/ approaches**	2	There were agroforestry packages and approaches and certain implementation packages and tools are used
7	**Seeking out and development of strategic partnerships**	3	The need for strategic partnership has been realized well. Linkages are created between the communities and bilateral institutions such as Sida, GTZ, and NGOs such as FHI
8	**Long-term timeframe**	3	Long term time frame broken into 5-year project phases.

N.B Score-max = 3 Average = 2 Minimum = 1 No consideration = 0

Table 6 ***FLR conformity scores*** for Natural Gum and Incense production interventions, ***Amhara Regional State***

Name: Natural Gum and Incense management and utilization			
Type: Protected area management initiative with strong forestry component			
Location: North Gondar, Quara Woreda, Kuzera.			
Start Date: 1998			
Implementing Agency: Government and private investors			
Collaborating and/or Funding Agencies: Sida			
Parameter		Scores	**Details/comments**
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	2	Large-scale but with no consideration of the landscape approach and forest function interactions.
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	2	Only extraction of natural gum
3	**Attempt to balance forest function trade-offs within the landscape**	2	Minor efforts are being made
4	***Acceptable balance between the two filters*** ***Of ecological integrity and human well-being***	2	There are attempts bu no success obtained so far.
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	1	Initiatives are top down with no consensus building process
6	**Use of the right package implementation of tools/ approaches**	1	Use of single implementation approach which is extraction of the natural gum by private investors
7	**Seeking out and development of strategic partnerships**	1	No effort n maximizing forest functions. Therefore, partnership is not restored
8	**Long-term timeframe**	1	Only short-term time frame

N.B Score-max = 3 Average = 2 Minimum = 1 No consideration = 0

Table 7 ***FLR conformity scores for Area closure initiatives, Tigray Regional State***

Name:	Area clouser
Type:	Community and Regional state ownership
Location:	Through out Tigray
Start Date:	1984
Implementing Agency	Bureau of Agriculture and Natural Resource
Collaborating and/or Funding Agencies	NGO, Communities

Parameter		Scores	**Details/comments**
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	4	
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	5	
3	**Attempt to balance forest function trade-offs within the landscape**	3	
4	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	4	
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	3	
6	**Use of the right package implementation of tools/ approaches**	4	
7	**Seeking out and development of strategic partnerships**	3	
8	**Long-term timeframe**	3	

Scoring is made on the basis of: max = 5 Average = 3 Minimum = 1 No consideration = 0

Objectives of the initiative

- Initiate natural regeneration
- Protect the site from interference

Timeframe –

a) Starting date 1984
b) How long it is expected to last not known

Key strategies that have been applied

a) Select the sites in agreement with the communities, discuss with them and identify the boundary and close it
b) Set up local bylaws to protect the area

Key beneficiaries: The community and **The Regional state**

Key initiators/promoters/supporters: a) Bureau of Agriculture and Natural Resources and The community

Major outcomes to date

1. Fuel wood, construction wood
2. Animal feed
3. Wildlife shelter
4. Minimal erosion problems

Key constraints it has faced

- Shortage of budget
- Lack of manpower/qualified
- Drought
- Because of the increase of the wildlife damage of crops near by
- Termite attacks

Key Opportunities: There is large area for area closure

Table 8 ***FLR conformity scores for Community forestry initiatives, Tigray Regional State***

Name:	Commercial Forestry
Type:	Enterprise
Location:	Through out Tigray
Start Date:	1987 EC
Implementing Agency	
Collaborating and/or Funding Agencies	

	Parameter	Scores	**Details/comments**
9	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	2	
10	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	2	
11	**Attempt to balance forest function trade-offs within the landscape**	3	
12	*Acceptable balance between the two filters Of ecological integrity and human well-being*	3	
13	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	2	
14	**Use of the right package implementation of tools/ approaches**	2	
15	**Seeking out and development of strategic partnerships**	3	
16	**Long-term timeframe**	5	

Scoring is made on the basis of: max = 5 Average = 3 Minimum = 1 No consideration = 0

Objectives of the initiative:

- Fuel and construction wood production
- Pulp wood production

Timeframe

a) Starting date 1987 E.C.
b) How long it is expected to last not known

Key beneficiaries

a) The Enterprise

Key initiators/promoters/supporters: The Regional state

Key constraints it has faced: Mono cropping

Table 9 ***FLR conformity scores for private forestry initiatives in Tigray Regional State***

Name:	Private tree planting
Type:	Individual planting
Location:	Through out Tigray
Start Date:	1984
Implementing Agency	Individual owner
Collaborating and/or Funding Agencies	Bureau of Agriculture and NGOs

Parameter		score	**Details/comments**
17	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	3	
18	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	3	
19	**Attempt to balance forest function trade-offs within the landscape**	4	
20	*Acceptable balance between the two filters Of ecological integrity and human well-being*	3	
21	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	4	
22	**Use of the right package implementation of tools/ approaches**	4	
23	**Seeking out and development of strategic partnerships**	4	
24	**Long-term timeframe**	4	

Scoring is made on the basis of: max = 5 Average = 3 Minimum = 1 No consideration = 0

Objectives of the initiative
Fulfil energy need/ fuel wood/ construction wood and Animal feed

Timeframe : a) Starting date 1984, b) How long it is expected to last -

Key strategies that have been applied
- Extension education
- Allotment of hillside areas, gully areas
- Run base plantation program

Key beneficiaries
The owners of the private sector and The Regional state

Key initiators/promoters/supporters
1. Bureau of Agriculture and Natural Resources
2. Regional State

Major outcomes to date
a) Minimize the shortage of fuel wood, construction wood
b) Minimize the feed problem
c) Improve soil fertility

Key constraints it has faced: Shortage of land and Mono crop planting

Key Opportunities: Supportive farmers' attitude towards forestry

Table 10 ***FLR conformity scores for Gumburda-GraKaso Forest priority Area initiatives, Tigray Regional State***

Name:	Gugumburda Grakahsu
Type:	Regional state forest
Location:	Ofla oreda – Tigray Ethiopia 12º22 - 12º42 N and 39º28 - 39º40 E
Start Date:	1984 EC
Implementing Agency	Bureau of Agriculture and natural resources
Collaborating and/or Funding Agencies	WFP, GTZ

Parameter		Score	**Details/comments**
25	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	4	
26	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	5	
27	**Attempt to balance forest function trade-offs within the landscape**	2	
28	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	3	
29	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	3	
30	**Use of the right package implementation of tools/ approaches**	2	
31	**Seeking out and development of strategic partnerships**	2	
32	**Long-term timeframe**	3	

Scoring is made on the basis of: max = 5 Average = 3 Minimum = 1 No consideration = 0

Objectives of the initiative

a) Conserve and protect the natural forest
b) Develop the infrastructure within the project
c) Create employment opportunities to the local population
d) Sustain participatory forest management in the area

Timeframe

a) Starting date 1984_E.C
b) How long it is expected to last Unknown

Key strategies that have been applied

- Demarcation
- Resource assessment Inventory
- Management plan preparation
- Try to implement the activities according to the plan

Key beneficiaries

1. The surrounding farmers 2. The Regional state

Key initiators/promoters/supporters

Regional State, WFP, GTZ

Major outcomes to date

Increase the vegetation cover, Fuel wood from the dead branches, Minimize erosion problems
Increase the flow of streams and Increase the population of wildlife

Key constraints it has faced

a) No budget allocation from the regional state
b) Structural adjustment
c) Lack of manpower/qualified
d) No Proclamation of the site

Key Opportunities

- Conducive landscape for forestry development
- Diversified soil and climate
- Farmers positive attitude towards forestry

Table 11 ***FLR conformity scores for Dess'a Forest Priority Area initiatives, Tigray Regional State***

Name:	Des'a
Type:	Regional state forest
Location:	13º20 - 14º10 North and 39º54 East/ Atsembi – Womberta wereda Tigray- Ethiopia
Start Date:	1984 EC
Implementing Agency	Bureau of Agriculture and Natural Resources
Collaborating and/or Funding Agencies	WFP/Grain/Irish

Parameter		Score	**Details/comments**
33	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	4	
34	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	5	
35	**Attempt to balance forest function trade-offs within the landscape**	2	
36	*Acceptable balance between the two filters Of ecological integrity and human well-being*	3	
37	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	3	
38	**Use of the right package implementation of tools/ approaches**	2	
39	**Seeking out and development of strategic partnerships**	2	
40	**Long-term timeframe**	3	

Scoring is made on the basis of: max = 5 Average = 3 Minimum = 1 No consideration = 0

Objectives of the initiative

a) Strengthen the protection of existing forest
b) Develop the infrastructure within the project
c) Create employment opportunities to the local population
d) Sustain participatory forest management in the area
e) Establish plantations of commercially valuable spp.

Timeframe

a) Starting date 1984_E.C. b) How long it is expected to last: Unknown

Key strategies that have been applied

1. Demarcation
2. Resource assessment Inventory
3. Management plan preparation
4. Try to implement the activities according to the plan

Key beneficiaries

a) The surrounding farmers
b) The Regional state

Key initiators/promoters/supporters

a) Regional State
b) WFP
c) IRISH Aid

Major outcomes to date

a) Increase the vegetation cover b) Fuel wood from the dead branches
c) Minimize erosion problems d) Increase the flow of streams
e). Increase the population of wildlife

Key constraints it has faced

No budget allocation from the regional state, structural adjustment , lack of manpower/qualified
No Proclamation of the site

Key Opportunities:

- Conducive landscape for forestry development
- Diversified soil and climate
- Farmers attitude towards forestry

Table 12. ***FLR conformity scores for Gambella National park initiatives in the Gambella Regional State***

Name:	Gambella National park (506 100 ha)
Type:	National Park
Location:	Gambella, Abobo, Gog/Jor
Start Date:	1973 G.C
Implementing Agency	BOA
Collaborating and/or Funding Agencies	EWCO/Regional Government

Parameter		**Score**	**Details/comments**
1	**Landscape approach** *With regard to both scale and the concept of interactions within the landscape*	5	It has landscape size and could be developed in a landscape approach
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	0	• The local people are not aware of the benefits to be generated from the management. • There is no management plan. • The park management did not succeed in implementing its goals • Agriculture and constructions are going on within the intended park area.
3	**Attempt to balance forest function trade-offs within the landscape**	0	" " "
4	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	0	" " "
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	0	" " "
6	**Use of the right package implementation of tools/ approaches**	0	" " "
7	**Seeking out and development of strategic partnerships**	0	" " "
8	**Long-term timeframe**	0	It was intended for long-term development

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Key beneficiaries
The local people from the natural existence forest landscape/indigenous people
The local people who hunt for consumptive and non-consumptive wildlife

Key initiators/promoters/supporters
BOA/EWCO/IBCR/EPA/and Non-Governmental Organizations

Key constraints it has faced
a. Indiscriminate hunting, poaching, illegal hunting
b. Deforestation of PA for agriculture, shifting cultivation, house construction, charcoal
c. Construction of road and across the park, construction of dam in the park
d. Lack of awareness both local people and government officials
e. Lack of wildlife policy at regional level
f. Impact of refugee in the past as well as at present at 3 refugee camps

Key Opportunities
If development had been done, conservation of both flora and fauna of Park
1. Consumptive and non-consumptive production of PA areas
2. Employment opportunities to the indigenous people
3. Income from tourists to the region
4. Benefits of the infrastructural development/clinic, mats post, schools etc/ to the indigenous people

Added value which could have been realized through adopting FRL approach
Taking an FLR approach could have resulted in improvement such as …
a) Conservation of wild flora and fauna in the park area
b) Conservation of the ecosystem of the park/woodland, grasslands and swampy areas
c) Generally ecological integrity among the life forms of the park
d) Access to tourist attraction
e) Improve the infrastructure of the area (park)
f) Improve the living condition of surrounding people

But only if
a) Wildlife and forest policy realized
b) Additional investment to the sector for developing
c) Necessary infrastructure allocated
d) Procurement of personal and capacity building
e) Independent institutional structure
f) Close collaboration with EWCO

Table 13. ***FLR conformity scores for Natural Gum and Olivanum Production initiatives in the Gambella Regional State***

Name:	Natural Gum and oliceanum tree species (420 950 ha)
Type:	Woodland
Location:	Gambella, Itang, Godere, Dimma, Abobo, Gog/Jor, Jekamo
Start Date:	May 1999
Implementing Agency	BOA
Collaborating and/or Funding Agencies	Regional Government//GTZ

Parameter		Score	**Details/comments**
1.	**Landscape approach** *With regard to both scale and the concept of interactions within the landscape*	2	The whole upper and lower catchments were assessed during inventory in all woredas
2.	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	4	The development program planned for its multi purpose Gum producing fuel wood, ecological value, and soil erosion protection, etc.
3.	**Attempt to balance forest function trade-offs within the landscape**	0	Not yet applicable.
4.	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	4	The study considered the filters.
5.	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	0	No consensus, it is at professional level.
6.	**Use of the right package implementation of tools/ approaches**	0	No provision.
7.	**Seeking out and development of strategic partnerships**	0	Not yet achieved
8.	**Long-term timeframe**	0	No, long term time frame planned

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Additional Information

Key beneficiaries

C. The Gum and incense collectors
D. The Regional government from sale tax
E. Investors who engage in collection of Gum and incense

Key initiators/promoters/supporters

a) Bureau of Agriculture
b) Local peasant association
c) NGOs which work on income generation programs in rural areas

Key constraints it has faced

- Wild and man made fire on easily flammable species
- Lack of interested investor in the area
- Lack of local knowledge to develop the resource
- Lack of enough investment to prepare the management
- Guideline and management plan

Key Opportunities

- Income Generation for the indigenous people
- Employment opportunities
- Additional income for regional government (tax)
- Reduce imported Gum and incense by fulfilling the local demand (save foreign currency)

Added value which could have been realized through adopting FRL approach

a) Gum and incense production increase, attract investors
b) The income of the local people increase
c) Employment opportunities
d) Ecological stability attained

But only if

a) Proper implementing institution set-up b) Enough investment allocated to its development, collection and marketing and Low tax policy

Table 14. ***FLR conformity scores for Gambella Controlled Hunting Area initiatives in the Gambella Regional State***

Name:	Gambella control hunting area
Type:	Controled Hunting Area Management
Location:	Tedelo (Gog/Akobo, Jekamo
Start Date:	Not known Finishing date: Continuous
Implementing Agency	BOA
Collaborating and/or Funding Agencies	Regional Government

Parameter		**Scores**	**Details/comments**
1	**Landscape approach** *With regard to both scale and the concept of interactions within the landscape*	2	
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	0	
3	**Attempt to balance forest function trade-offs within the landscape**	0	
4	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	0	
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	0	
6	**Use of the right package implementation of tools/ approaches**	0	
7	**Seeking out and development of strategic partnerships**	0	
8	**Long-term timeframe**	0	

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Additional Information

Key beneficiaries

F. Local people (consumptive and non-consumptive use of wildlife)

Key Opportunities

- Income Generation from hunting to the regional government
- Consumptive and non-consumptive use of wildlife
- Employment (especially scouts)
- Protection of important wildlife

Added value, which could have been realized through adopting FRL approach

1. Sustainable and wise use of wildlife resource in control hunting areas

But only if

- Investment available
- Close collaboration and technological support from EWCO
- Wildlife policy realized

Table 15. ***FLR conformity scores for Abobo Gog Meshenger Dima forest priority area initiatives in the Gambella Regional State***

Name:	Abobo-Gog, messenger and Dimma natural high forest
Type:	National Forest priority area
Location:	Gambella, Abobo, Gog and Dimma woredas
Start Date:	1989
Implementing Agency	BOA
Collaborating and/or Funding Agencies	MOA/GTZ/IBCR

Parameter		Scores	**Details/comments**
1	**Landscape approach** *With regard to both scale and the concept of interactions within the landscape*	2	The area is demarcated on the context of the existence of natural high forest not on the concept of land use interaction.
2	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	3	It is delinated for the purpose of conserving the Sauna, Flora and soil and ecological value only.
3	**Attempt to balance forest function trade-offs within the landscape**	2	The delination made on the virtue of its natural existence.
4	*Acceptable balance between the two filters Of ecological integrity and human well-being*	0	Total dependant on ecological point of view.
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	0	Imposed by law, now on consensus made with the local (rural) people.
6	**Use of the right package implementation of tools/ approaches**	0	No implementation tools designed and approaches.
7	**Seeking out and development of strategic partnerships**	3	Many attempts made by BOA with MOA/IBCR/GTZ/EWCO and NGO for collaboration to formulate properly.
8	**Long-term timeframe**	0	No long time frame for its action program.

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Additional Information

Objectives

- To reduce the ever rapid declination of forest resource within the country
- To prevent desertification and maintain ecological balance
- To maintain the genetic pool, seed sources
- To keep the wildlife in it habitats

Key strategies that have been applied

- Awareness creation for the local people living inside and surrounding the forest
- Day to day monitoring through developing agent on the site
- Formulation of fire prevention committee at all levels
- Procurement of forest rangers to control illegal tree fellers

Key beneficiaries

- The people in the whole region and even in the world because it sets aside for its
- Ecological claw and genetic pool

Key Initiators/promoters/supporters : BOA, IBCR

Major outcomes to date

- The local people to some degree not aware of the need for protecting forestry for its ecological value

Key constraints it has faced

- Lack of complete knowledge and skill for protected forestry
- Lack of intense cooperation from local people due to low living conditions
- Lack of investment, proper institutional structure and forest law
- Fire, hazard, illegal charcoal production, pit saw

Key Opportunities: Genetic pool for forest species, Biodiversity conservation, Access to research, Employment, Ecological stability, Soil erosion control and wildlife habitat

Added value which could have been realized through adopting FRL approach

1. Good cooperation with the local people
2. Complete genetic pool for indigenous and reserve for endemic tree species
3. Enable to stop or minimize trespass by illegal pit saws
4. Minimize fire hazard
5. Preparation of management plan to manage on sustainable basis

But only if : Enough investment allocated, Proper institutional structure with accountability established, Clear forest policy exists, Professional capacity build

Table 16. ***FLR conformity scores for Godere Natural High Forest initiatives in the Gambella Regional State***

Name: Godere Natural High Forest 144 840 ha
Type: Regional Forest Priority Area
Location: Godere wOREDA
Start Date: 1989 Finishing date: Not known
Implementing Agency: Bureau of Agriculture,
Collaborating and/or Funding Agencies: Regional Government

Parameter		Score	**Details/comments**
A	**Landscape approach** *With regard to both scale and the concept of interactions within the landscape*	0	Though the area is large enough, the concept of interactions between the social and biophysical entities within the landscape was not considered
B	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	3	The forest composition, as it is now, guarantees diversified forest functionalities
C	**Attempt to balance forest function trade-offs within the landscape**	0	No effort made in this aspect. Delineation is by its natural existence
D	*Acceptable balance between the two filters Of ecological integrity and human well-being*	0	No consideration of balance as a parameter
E	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	0	No effort towards consensus building
F	**Use of the right package implementation of tools/ approaches**	0	No consideration of the use of the right package or development tools
G	**Seeking out and development of strategic partnerships**	3	A lot has been tried to establish partnership with GTZ, institute of Biodiversity Conservation and Research (IBCR), Woody Biomass Inventory Strategic Planning Project, etc. No success has been obtained yet.
H	**Long-term timeframe**	0	No time frame is set

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Objectives of the initiative

- Strengthen the protection of existing forest
- Utilize the commercial tree species and supply the ever increasing timber demand
- Create employment opportunities to the local population
- Establish plantations of commercially valuable spp.

Timeframe :a) Starting datewas in 1989 and b) How long it is expected to last is Unknown

Key strategies that have been applied

1. Quota system for provision of log to wood industries with exception of legally prohibited species
2. The Woreda economic and social affairs office authorized to control the overall activities such as cutting operation, loading and transportation etc,
3. The Woreda Economic and Social Affairs Office to the zonal Agricultural Department making copy to the Bureau of Agriculture

Key beneficiaries

1. The wood industries
2. Housing and furniture enterprises
3. Buyers of finished and non-finished forest products
4. The regional government from the (royalty fees)
5. Local people from employment in harvesting operations

Key initiators/promoters/supporters: Wood industries, Public demand for lumber supply, Hand craft

Major outcomes to date: None in the systematic development of the forest landscape

Key constraints it has faced: Peat sawing, Charcoal production, Agricultural colonization, Grazing of livestock, and Fire

Key Opportunities: Could meet the demand of the people (both local and non-local) in timber availability and High employment

Added values if FLR approach is used

a) Harvesting and development would be regulated, balanced and sustained
b) Development would be guided in a management plan
c) The balance between the extraction and ecological integrity would be improved
d) Social issues will be addressed in a systematic manner

But only if: Investment made available, Additional manpower is allocated, Clear land use and forest policy made operational, Responsible and accountable institution is created

Table 17. ***FLR conformity scores for Belete Gera Forest priority area initiatives in Oromiya Regional State***

Name: Belete gera Forest management
Type: Management of High Forests
Location: Jimma Zone, Oromiya region.
Start Date: Started long ago but the new management plan is intended to last for the coming 10 years
Implementing Agency: Bureau of Agriculture
Collaborating and/or Funding Agencies: Regional Government

Parameter		**Score**	**Details/comments**
1.	**Landscape approach:** *With regard to both scale and the concept of interactions within the landscape*	5	Landscape approach with multiple largescale initiatives
2.	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	5	Focus on multiple functions: Protection of the forest functions Restoration of the forest functions
3.	**Attempt to balance forest function trade-offs within the landscape**	4	Some level of trade-offs accepted but through consideration of different stakeholders
4.	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	4	There seems to be a satisfactory balance between the two filters acceptable by all parties. However, the positive end result is not significant
5.	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	4	There is an attempt of consensus building
6.	**Use of the right package implementation of tools/ approaches**	5	Uses a variety of implementation tools specifically selected to suite actual conditions
7.	**Seeking out and development of strategic partnerships**	4	The development strategy is based on strategic partnership
8.	**Long-term timeframe**	5	It is a long time frame undertaking

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Objective:

1 Improving the livelihood of the local communities
2 Increasing the contribution of forestry to conservation of soil, water and biodiversity resources
3 To protect, develop and sustaiably use the remaining high forest.
4 To increase the volume of industrial wood, fuelwood, fodder and minor forest products on sustainable basis.

Key Strategies

1. Functional classification of forests
2. Conservation of forest resiources and attainment of sustainable yield
3. Cooperation with local people/ Extension activities
4. Consideration of local development
5. Minimization environmental impact.

Key beneficiaries

1. Local people
2. Regional and federal governments

Key initiators

1. Ministry of Agriculture
2. Bureau of agriculture
3. Japan International Cooperation

Table 18. ***FLR conformity scores for Munessa Shashemene Forest Enterprise initiatives in Oromiya Regional State***

Name: Munessa Shashemene Forest enterprise
Type: Forest Enterprise
Location: Munessa Shashemene.
Start Date: 1997 supposed to last as long as it remains profitable
Implementing Agency: The Forest Enterprise, Bureau of Agriculture, Oromiya Regional State
Collaborating and/or Funding Agencies: Regional Government, Oromiya Region

Parameter		**Score**	**Details/comments**
9.	**Landscape approach:** *With regard to both scale and the concept of interactions within the landscape*	3	
10.	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	4	
11.	**Attempt to balance forest function trade-offs within the landscape**	2	
12.	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	3	
13.	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	3	
14.	**Use of the right package implementation of tools/ approaches**	3	
15.	**Seeking out and development of strategic partnerships**	2	
16.	**Long-term timeframe**	4	

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Objective:

1. To produce different forest products for sale on the domestic and export market on a sustainable basis
2. To manufacture lumber and other wood products
3. to maintain and manage the existing forest plantation and natural forests on a sustainable manner.
4. To conserve the environment and the natural forest under its responsibility and make such an area available for eco-tourism

Key Strategies : More of market driven than biological maturity considerations, Consideration of mixed plantation approach and Protection and improvement of the natural forest stalk

Key beneficiaries

The local community, Government , Consumers of the forest product, Research and training institutions and tourists and sport hunters

Key initiators: Regional Government of Oromiyaand Bureau of agriculture of Oromiya

Outcome to date

1. **Autonomy to commercially mange and utilize forest resources**
2. **Economical independence**

Key constraints: Market anarchy (saturation of the market by illegal forest product producers), The pressure from encroachment and theft of wood, absence of forest policy and forest acts, Shortage of professionals and No management plan

Lessons learnt

1. *Any development initiative can not achieve its target with out proper institutional and policy arrangement*
2. *There is willingness, cooperation and participation of the community when wanted*

Added value which could have been realized through adopting FLR

The lives of the people could have been improved

1. *Ecological and environmental values could have been added*

But only if

1. *Autonomous forestry institution is in place there is willingness for more investment on conservation*
2. *There exists enabling policy with enforcing acts, rules and regulations*

B) Status of Forest regeneration initiatives in the case study (Regional-level analysis)

The percentage conformity for the regional average for each parameter was computed by adding up the scores obtained by all the project interventions for each parameter and dividing by the maximum score that could be obtained by all of the project interventions considered for the assessment in the respective regional state.

Table 19. ***Land use & Administration (policy, proclamation), Amhara Regional State***

Name:	Land use & Administration (policy, proclamation), Amhara Regional Staste
Date (time frame):	July 1992 E.C
Type/belonging to, or made by who:	Regulatory Department, Bureau of Agriculture
Key beneficiaries:	Peasant households, investors

Parameter	Score	Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	++	As per the proclamation provisions, every price of land skill be used on the basis of land use planning
2. **Landscape approach**: Is their reference to the importance/relevance of a landscape perspective?	0	Both in the policy & pre proclamation there is no any reference to landscape, rather if has reference to landform.
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	+	Both documents acknowledge the interest of the community including the functions of forests.
4. **If so, which forest functions** does it support the restoration of in particular	+	Sources of construction materials fuel wood requirement & and contribution to soil and water conservation
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	0	There is no an conform plantation of land scope level
6. **Two filters**: Does it acknowledge the role of forest functions in support of human wellbeing?	++	Yes, the issue of forest lands i.e forest, function is given due attention with a final objective to improve human wellbeing
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	++	Communities are given the rights to plan and manage the land and land resources in vie localities. They are encouraged even to develop theirs own by laws
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	+	Except strategic & project specific land use plans, local level land use plans shall
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	++	Both documents acknowledge the involvement of different stakeholders in the process of planning and managing land.
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	+	As per the documents, land shall be used on the basis of its physical qualities & social consideration, which means favourable condition for forest development
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	+	Community age-long experiences & provision of appropriate technologies are encouraged
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	+	Institutions concerned with investment, development, extension, research, finance (tax collection), education, (formal) …etc are assumed to be benefited in executing their strategies and achieving goals

Key Opportunities

a) Secured ownership of land and land resources
b) Favorable condition for investment (including forest development)
c) Relatively better condition to provide extension support

Key Constraints

a) Badly shaped attitude of communities towards sustainability
b) Community participation not at the required level
c) Poor dissemination of appropriate alternative technologies to the rural households

Institutional considerations

Institutions mandated to implement the policy	Their dedications
Environmental Protection Land Use Administration and Authority	Its mandates are clearly provided in the establishment proclamation
Bureau of agriculture and other similar organizations	They will have some roles since land use and environmental issues are cross-sect oral

Conformity scoring

++ = Very supportive
+ = Quite supportive
0 = Neutral
- = Prohibitive/working against or making matters worse

Table 20 ***Policy guideline on Regional Forest Protection in Amhara Regional State***

Name:	Regional forest protection and controlling guideline, Amhara Regional State
Date (time frame):	1995
Type/belonging to, or made by who:	Regional Bureau of Agriculture
Key beneficiaries:	Government, communities

Parameter	Score	Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	++	Direct related to forest regeneration there is protecting & controlling system. For forest resource
2. **Landscape approach**: Is their reference to the importance/relevance of a landscape perspective?	+	Landscape approach but multiple small-scale initiatives (priority state forest, fuel wood plantation, and community forest.
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	+	Yes it controls the mobility of forest product it prevents illegal cutting natural forest supports the forest development activities privately
4. **If so, which forest functions** does it support the restoration of in particular	+	Priority state forest, private forest, community forest, natural gum bearing forests, fuel-wood plantation and riverine forests.
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	0	No consideration of the landscape approach so no consideration of balancing forest function within the landscape trade of are not considered
6. **Two filters**: Does it acknowledge the role of forest functions in support of human well being?	++	It supports the human well-being going an alternative income generating option supply fuel wood & construction materials
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	0	No the approach is top-down. So the local people did not involve on decision making
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	0	The consensus built by high officials which is top-down approach but there is a flexibility according to the conditions for the management of forests
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	++	Yes it supports the environment management
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	++	Yes it reduces the pressure on forest functionality by controlling illegal mobility
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	++	Yes it supports to create a new ideas by realizing an integrated approach forest management b/n the community & government
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	++	Yes it provides strong links to other sectional goals such as, industry of industry, bureau of water, mines & energy, bureau association, environmental protection authority …etc

Key Opportunities

a) For the future the guideline will be changing-depending on
b) Regional forest potential
c) Economic policy
d) Level of awareness of the community
e) Level of development

Key Constraints

a) Luck of awareness about on the forest guidelines
b) Resource limitation
c) Inadequate trained man power
d) Luck of strong institution to implement the guideline

Institutional considerations

Institutions mandated to implement the policy	Their dedications
Ministry of industry & trade	Giving working license on forest produce
Bureau of association	Organize the local community
Bureau of agriculture	Protect, control & manage the forest resource
Bureau of mines, water, energy	Introduce an alternate energy saving technology

Scoring key

++ = Very supportive
+ = Quite supportive
1 = neutral
- = Prohibitive/working against or making matters worse

Table 21. Gambella rural land rent proclamation, Gambella Regional State

Name:	Gambella rural land rent proclamation, Gambella Regional State
Date (time frame):	October 5, 1991 E.C 1998 GGC
Type/belonging to, or made by who:	Regional state Council
Key beneficiaries:	Farmers, Investors, estate enterprise and NGO

Parameter	Score	Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	++	It support the first land-scape approach directly
2. **Landscape approach**: Is there reference to the importance/relevance of a landscape perspective?	+	Lack clarity on future development of the forest landscape
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	0	Not comment
4. **If so, which forest functions** does it support the restoration of in particular	0	No comment
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	0	No details
6. **Two filters**: Does it acknowledge the role of forest functions in support of human well being?	0	No explanation given
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	-	Impose penalty on farmers in break-up what is stated on the proclamation
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	0	No information
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	+	It does mention some but there are others to be included in strategic partnership.
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	+	No attempt observed which can reduce the functionality
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	-	There is no statement which encourage innovation rather it is rigid
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	+	It links land user sectors

Opportunities.

a) Source of income for the local government
b) Attract investors when they think the rest is affordable
c) It is the stepping law to communicate with government and farmers

Key Constraints

- The rent imposed on the farmer is one subjective view of individual /no fixed rules for rents
- The rent estimation is done on the farmland where different factors they affect the last yield.
- Market fluctuations lead the farmer to pay more.

Institutional considerations.

Institutions mandated to implement the policy	Their dedications
Finance bureau	Estimate and collect the land rent
Judicial bodies	To impose penalty on those who did not pay the land rent.
Woreda council	Guide land to farmers
Kebele chairman	Announce for farmer to pay rent

++ = Very supportive
+ = Quite supportive
G. = neutral
- = Prohibitive/working against or making matters worse

Table 22. ***Forest protection, development & utilization Proclamation as used in the context of Gambella Regional State***

Name:	Forest protection, development & utilization Proclamation
Date (time frame):	28th march 1994
Type/belonging to, or made by who:	Transitional government of Ethiopia
Key beneficiaries:	All regional states of Ethiopia

Parameter	Score	Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	++	It concerned with the protection development & utilization of the forest
2. **Landscape approach**: Is there reference to the importance/relevance of a landscape perspective?	++	It is relevant to landscape perspective
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	++	Yes
4. **If so, which forest functions** does it support the restoration of in particular	++	All forest functions
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	+	It inclined to wards forestry development
6. **Two filters**: Does it acknowledge the role of forest functions in support of human well-being?	++	Yes
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	+	To some extent
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	++	The policy states that any demarcation of forest done with the consensus made with local farmer.
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	+	It follows effective management based on management plan and cooperates with natural resource developing sectors.
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	++	It promote the multi purpose use of the forest and proper use
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	++	Allows research to be undertaken for the consecution, development and utilization, biodiversity.
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	++	The policy keeps uniformity with other economic sectors.

Opportunities

- The policy emphasis on forestry benefits for sustaining agriculture
- Demarcation of forest for protection based on consensus b/n farmers and technical staff.
- Forest development explained with policy for multi purpose function.

Institutional considerations

Institutions mandated to implement the policy	Their dedications
MoA (Ministry of Agriculture)	Formulate the policy and monitor its implementation
RBOA (Regional Bureaus of Agriculture)	Implement the policy
Judicial Bodies	Impose penalty on those who did not obey the law and cooperate with implementing agency.

Scoring Key

++ = Very supportive
+ = Quite supportive
H. = Neutral
- = Prohibitive/working against or making matters worse

Table 23. Gambella regional investment policy (proclamation), Gambella Regional State

Name:	Gambella regional investment policy (proclamation), Gambella Regional State
Date (time frame):	October 7, 1991 E.C or 1998 GGC
Type/belonging to, or made by who:	Gambella regional council
Key beneficiaries:	Investors, the local people, Regional Government,

Parameter	Score	Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	++	The proclamation given consideration and set aside areas where investment should be implemented
2. **Landscape approach**: Is their reference to the importance/relevance of a landscape perspective?	+	not interfere with forest regeneration division of land use to some degree explained
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	0	No written support or objection to forest functions
4. **If so, which forest functions** does it support the restoration of in particular	0	No information
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	0	No statement which clarify the trade offs level at the landscape
6. **Two filters**: Does it acknowledge the role of forest functions in support of human wellbeing?	+	The need to resent areas with forest clearly mentioned in parallel to investment promotion
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	+	Give power to concerned bureaux to cooperate, and the lower government structure, professional and Woreda investment Committee
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	+	Investment license give for investors after the consensus achieved b/n farmers and concerned technical staff on the merit and demerit of investment.
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	+	Encourage partnership will concerned bureaux (BoA/BOEPD/WAUD/Trade/ industries & transport/
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	0	No pressure
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	+	It appreciate new agricultural technologies to promote the development of the farmers (e.g. Agroforestry)
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	++	It links concerned sectoral bureaux goal and strategy

Key Opportunities

- The proclamation is not obstacle for FLR.
- Land uses for investment users not limited
- Farmers, Woreda investment committees, professional consensus Taken as criteria to give investors land.
- The type of crop or trees used by the investors /farmers and system of production not explained.
- Administrative boundaries were not mentioned for investment in the region.

Key Constraints

b) Land use plan study based investment policy (proclamation) Not established
c) The land & tree tenure system
d) Legal enforcement is weak /absence
e) Capacity building left aside, although the institution is new in operation

C. Institutional considerations

Institutions mandated to implement the policy	Their dedications
Investment office	Register and give investment license
BOEPD	Facilitator
BoA	Give approval on investment in agriculture
W/Urban Development	Give approval on investment in urban development
Mine and energy B.	Give approval on investment in mining and energy
Trade/Industry/ Transport. B	Give approval on investment in trade industry and transport.

++ = Very supportive
+ = Quite supportive
2 = Neutral
B. = Prohibitive/working against or making matters worse

Table 24. ***Guideline for control of destructive wildlife***

Name:	Guideline for control of destructive wildlife
Date (time frame):	1998 GGC
Type/belonging to, or made by who:	Tigray Region Bureau of Agriculture and Forestry
Key beneficiaries:	

Parameter	Score	Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	+	
2. **Landscape approach**: Is their reference to the importance/relevance of a landscape perspective?	0	No relevance
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	0	Not related
4. **If so, which forest functions** does it support the restoration of in particular	0	Neutral
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	0	Neutral
6. **Two filters**: Does it acknowledge the role of forest functions in support of human well-being?	0	Neutral
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	++	Yes , the decision was influenced by the communities who complained about the destructive roles of wildlife
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	+	Not about forest
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	++	Yes, communities have attached positive thinking towards the staffs in forestry and agriculture
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	0	Neutral
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	0	Neutral
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	0	Neutral

Key Opportunities

The crops are getting less damaged by the destructive wildlife

Key Constraints

By the name of destructive wildlife, illegal hunting is expanding

Institutions:

The bureau of Agriculture and forestry are mandated to follow-up the activities and correct as necessary.

++ = Very supportive
+ = Quite supportive
= Neutral
= Prohibitive/working against or making matters worse

Table 25. ***Guideline for allocation of degraded and common access lands for individual ownership and development***

Name:	Guideline for allocation of degraded and common access lands for individual ownership and development
Date (time frame):	1998 GGC
Type/belonging to, or made by who:	Bureau of Agriculture and Natural resources
Key beneficiaries:	Those who do not have land for their own

Parameter	Scores	Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	++	100 % of the land use will have to be forestry
2. **Landscape approach**: Is their reference to the importance/relevance of a landscape perspective?	++	Strongly landscape (watershed) based
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	++	Strongly supports maximizing all sorts of forest functions
4. **If so, which forest functions** does it support the restoration of in particular	++	Environmental and social
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	0	No trade-off, all land is under forestland use. Trade-off is not required for all the landscape in view is degraded and suited to re-vegetation and rehabilitation initiative
6. **Two filters**: Does it acknowledge the role of forest functions in support of human well being?	++	Yes, all the benefit goes to the individuals economic advantage
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	++	Individuals decide on hoe to develop and use it
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	+	Some how
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	+	Some how
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	0	neutral
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	+	Yes, individuals use their own development expertise
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	++	Various institutions have been involved in the issuance of the guideline

Key Opportunities:

a) The land less get land
b) Forest coverage increases)
c) Serves as source of feed for livestock

Key Constraints

Because of long gestation period of the trees individuals get fedup with the development work

Institutional considerations

Institutions mandated to implement the policy	Their dedications
Regional Bureau and zonal Administrative offices	Partitioning the land
Bureau of Agriculture and Natural Resources	Training and on-site follow up of the development Providing seedlings required
NGOs	Providing grain and oil as food for work

Scoring key

++ = Very supportive
+ = Quite supportive
3 = neutral
- = Prohibitive/working against or making matters worse

Table 26. Land Use policy of Tigray Regional State

Name:	Land Use Policy of Tigray Regional State
Date (time frame):	1989 Eth C or 1997 GGC
Type/belonging to, or made by who:	Regional Government of Tigray Regional State
Key beneficiaries:	Farming households of the region

Parameter		Additional information/discussion
1. Is it directly or indirectly related to forest regeneration	+	A number of articles touch upon forest regeneration
2. **Landscape approach**: Is their reference to the importance/relevance of a landscape perspective?	+	Not as such , it covers all land uses regardless of landscape perspective
3. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	+	Indirectly maximizes forest functions
4. **If so, which forest functions** does it support the restoration of in particular	+	Especially those appreciated by private households
5. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	-	No
6. **Two filters**: Does it acknowledge the role of forest functions in support of human well-being?	0	No mention
7. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	+	It is guideline for land users to follow and be abided
8. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	+	No debate has been conducted with the various land users
9. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	+	It has indicated that Regional government and Bureau of Agriculture and Natural resources will work for its successful implementation
10. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	0	Neutral
11. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	0	Neutral
12. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies?-which ones?	+	Different land uses have got different actors. In order to secure such land uses for the intended purpose, linkages will be enviable

Key Opportunities

1. Those trees planted on the agricultural fields belong to the landowner
2. It prohibits cultivating a land close to the gullies in less than 3 meters
3. It encourages coverage of those degraded and common-access hills and mountains by people who are authorized to own them individually
4. Those rural households who do not have residential areas are authorized to get residential lands where they also are also encouraged to grow trees

Institutional considerations

Institutions mandated to implement the policy	
Regional Bureau, zonal department and Woreda offices of Administration	Issuing proclamations and partitioning and allocation of land to the landless farmers
Bureau of Agriculture and Natural resources	Executing those responsibilities issued in proclamations Conducting technical activities

Scoring key

++ = Very supportive
+ = Quite supportive
4 = neutral
- = Prohibitive/working against or making matters worse

Appendix 3: Forest regeneration and policy case studies on conformity to FLR: case study at regional and national level

Table 1 ***FLR conformity scores for the various forest regeneration initiatives in the Amhara Regional State***

Parameter		Wof-washa FPA	Denkoro FPA	Area Closure	Peri-urban Fuelwood devt.	Farm Forestry	Natural Gum & Insence	Total in % of max
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	3	3	3	2	2	2	83.3
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	3	3	2	1	3	3	83.3
3	**Attempt to balance forest function trade-offs within the landscape**	1	1	2	1	2	2	55.6
4	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	2	1	1	1	3	2	55.6
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	1	1		1	2	1	33.38
6	**Use of the right package implementation of tools/ approaches**	2	1	2	1	2	1	50.08
7	**Seeking out and development of strategic partnerships**	1	1	3	0	3	1	50.08
8	**Long-term timeframe**	3	3	3	1	3	1	77.8

N.B Score-max = 3 Average = 2 Minimum = 1 No consideration = 0

Table 2 ***FLR conformity scores for the various forest regeneration initiatives in Tigray Regional State***

Parameter		A	B	C	D	E	Total %
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	4	2	3	4	4	68
2	*Recognition of forest functionality* *As opposed to just "forestry" or simply "reforestation"*	5	2	3	5	5	80
3	**Attempt to balance forest function trade-offs within the landscape**	3	3	4	2	2	56
4	*Acceptable balance between the two filters* *Of ecological integrity and human well-being*	4	3	3	3	3	64
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	3	2	4	3	3	60
6	**Use of the right package implementation of tools/ approaches**	4	2	4	2	2	56
7	**Seeking out and development of strategic partnerships**	3	3	4	2	2	56
8	**Long-term timeframe**	3	5	4	3	3	72
	Conformity ~%	73	55	73	60	60	64

Scoring is made on the basis of: max = 5 Average = 3 Minimum = 1 No consideration = 0

Where (in Table above):

A Area Closure
B Community Forestry
C Private Forestry
D Gumburda-Grakaso state forest
E Dess'A State Forest

Table 3 ***FLR conformity scores for the various forest regeneration initiatives in the Gambella Regional State***

Parameter		A	B	C	D	E	%
1	**Landscape approach** *With regard to both scale and the concept of interactions within the landscape*	5	2	2	2	0	44
2	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	0	4	0	3	3	40
3	**Attempt to balance forest function trade-offs within the landscape**	0	0	0	2	0	8
4	*Acceptable balance between the two filters Of ecological integrity and human well-being*	0	4	0	0	0	16
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	0	0	0	0	0	0
6	**Use of the right package implementation of tools/ approaches**	0	0	0	0	0	0
7	**Seeking out and development of strategic partnerships**	0	0	0	3	3	18
8	**Long-term timeframe**	0	0	0	0	0	0
	Conformity ~%	13	25	5	25	15	21

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Where :
A = Gambella national Park, B= Natural Gum and Olivanum C= Gambella Control Hunting Area
D= Abobo Gog, Mesenger & Dima FPA E = Godere Natural High Forest

Table 4 ***FLR conformity scores for the various forest regeneration initiatives in Oromiya Regional State***

Parameter		A	B	Total %
1.	**Landscape approach:** *With regard to both scale and the concept of interactions within the landscape*	5	3	80
2.	*Recognition of forest functionality As opposed to just "forestry" or simply "reforestation"*	5	4	90
3.	**Attempt to balance forest function trade-offs within the landscape**	4	2	60
4.	*Acceptable balance between the two filters Of ecological integrity and human well-being*	4	3	70
5.	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	4	3	70
6.	**Use of the right package implementation of tools/ approaches**	5	3	80
7.	**Seeking out and development of strategic partnerships**	4	2	60
8.	**Long-term timeframe**	5	4	90
	Conformity ~%	90	60	75

N.B Score-max = 5 Average = 3 Minimum = 1 No consideration = 0

Where (in Table above): A = Belete-Gera FPA B = Munessa-Shashemene Forest Enterprise

National level.

In calculating the national average conformity situation for each of the parameters was calculated by considering the weighted average percentage of each of the percentages obtained by the regional states. In total, 18 projects were considered for the analysis. The number of projects considered per region ranged between 2 for the Oromiya Regional State to 6 projects for the Amhara Regional State. Therefore, the weighted percentage contribution of each region for each parameter in the national average was calculated using the following formula.

$PcN_i = . [(PcR_i \times NP_{Ra}) / T_{PN}] \times 100$

Where: PcN = Percentage contribution (Pc) of the national average (N)' for parameter 'i'.
PcR_i = percentage contribution of the Regional State ® for parameter 'i'
NP_{Ra} = number of projects considered in the region 'a'
T_{PN} = Total number of projects considered in all 4 regions of Ethiopia

Please refer to Table 13 for the national-level assessment results.

Table 5 ***FLR conformity scores for the various forest regeneration initiatives at the national Average considering the situation in 18 forest regeneration initiatives of 4 regions***

Parameter		Weighted percentage contribution of each region from total ($PcR_{i)}$				National Total in % /parameter
		Amhara	Tigray	**Gambella**	Oromiya	
1	***Landscape approach*** *With regard to both scale and the concept of interactions within the landscape*	23.77	18.89	12.22	8.89	63.77
2	***Recognition of forest functionality*** *As opposed to just "forestry" or simply "reforestation"*	23.77	24.72	11.11	10.00	69.60
3	**Attempt to balance forest function trade-offs within the landscape**	18.87	15.56	2.22	6.67	43.32
4	***Acceptable balance between the two filters*** *Of ecological integrity and human well-being*	18.87	17.78	4.44	7.78	48.87
5	**Consensus building –i.e. with respect to balancing the filters** *More than just consultation.*	11.13	16.67	0.00	7.78	35.58
6	**Use of the right package implementation of tools/ approaches**	16.69	15.56	0.00	8.89	41.14
7	**Seeking out and development of strategic partnerships**	16.69	15.56	5.00	6.67	43.92
8	**Long-term timeframe**	25.93	20.00	0.00	10.00	55.93
	Average	19.47	18.09	4.37	8.33	50.26
	Conformity ~%	78	72	17	33	50

Table 6. Conformity of the policy initiatives at in view of parameters of the FLR approach.

Parameter	Amhara		Gambella			**Tigray**			**National**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**	**%**
13. Is it directly or indirectly related to forest regeneration	+ +	++	++	++	++	+	+	++	14	88
14. **Landscape approach**: Is their reference to the importance/relevance of a landscape perspective?	0	+	+	++	+	+	0	++	8	50
15. **Forest Functions**: Does it acknowledge/support the idea of restoring forest functionality	+	+	0	++	0	+	0	++	7	44
16. **Particular forest functions**: does it support the restoration of the forest functions in particular	+	+	0	++	0	+	0	++	7	44
17. **Forest function tradeoffs level**: Does it support making forest function trade-offs at the landscape level	0	0	0	+	0	-	0	0	0	0
18. **Two filters**: Does it acknowledge the role of forest functions in support of human well-being?	+ +	++	0	++	+	0	0	++	9	56
19. **Devolving decision making**: Does it support/encourage devolving key decision-making to the local level	+ +	0	-	+	+	+	++	++	8	67
20. **Consensus building**: Is there flexibility for **negotiations** aimed at building informed and genuine consensus about forest restoration?	+	0	0	++	+	+	+	+	7	44
21. **Strategic partnerships**: Does it support/encourage the development of strategic partnerships for more effective environment management?	+ +	++	+	+	+	+	++	+	11	69
22. **Halting Pressure**: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?	+	++	+	++	0	0	0	0	6	38
23. **Innovation**: Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)	+	++	-	++	+	0	0	+	6	38
24. **Multi-Sectoral linkage**: Does it provide strong links to other sectoral goals and strategies-which ones	+	++	+	++	++	+	0	++	11	69
Gross conformity at regional scale	56.8		48.6			40.9			47.8	

Key to Table above

1. Land use & Admin. Policy
2. Forest protection & controlling guideline
3. Rural land rent proclamation, Gambella Regional State
4. *Forest protection, development & utilization Proclamation GNRS*
5. Investment policy (proclamation)
6. Land use proc.
7. Guideline for control of Destructive wildlife
8. Guideline on allocation of degraded and common-access lands for individual ownership

Appendix 4: Wildlife resources and endemism in Ethiopia

No.	Wildlife group	Total number of species	Endemic species	
			Number	% of total
1.	Vascular plants	6,100 – 7,100	600 – 1,400	10 –20
2.	Mammals	277	31	11.2
3.	Birds	861 - 863	28 - 30	3.3
4.	Reptiles	201	9	4.5
5.	Amphibians	63	24	38.1
6.	Freshwater fish	150	4	2.7

Source: Hillman J.C. (1993); Davs, S. D., Heywood V. H., and Hamilton A. C. (1994) as sited in Tedla, et al. 1995 in EWCO & WWF 1996..