



FOREST LANDSCAPE RESTORATION

Tanzania Country Report

Tanzania Specialist Organisation on
Community Natural Resources
and Biodiversity Conservation (TASONABI)

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November 2001

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ACKNOWLEDGEMENTS

The study consultant would like to sincerely thank the IUCN/WWF for providing the financial and logistic support, which enabled this study to be conducted. Cooperation and continuous support from IUCN/EARO officials namely Mr. Edmund Barrow, the Coordinator, Forests and Social Policy and Ms. Florence Chege, Programme Officer and from WWF/EARPO officials namely Mr. Patrick Milimo, Conservation Programme Director and Mr. Peter Sumbi Forest Projects officer – WWF Tanzania programme office are deeply appreciated.

I am especially grateful to Ms. Penny Scott who was the regional consultant for the study for reviewing my initial drafts and providing constructive comments and guidance for improving the quality of the report. I am also thankful to my fellow national consultants Dr. Azene Bekele-Tesemma from Ethiopia, Mr. Cornelius Kazoora from Uganda and Ms. Violet Matiru from Kenya for their continued exchange of views and sharing of experiences of FLR.

I would also extend my sincere thanks to all officials contacted in Tanzania for their timely cooperation in providing data and relevant literature for the study.

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ACRONYMS

CFM	Collaborative Forest Management
CBC	Community Based Conservation
CBFM	Community Based Forest Management
CBO	Community Based Organisation
DANIDA	Danish International Development Assistance
GTZ	Germany Technical Co-operation
FINNIDA	Finish International Development Agency
FAO	Food Agriculture Organisation
FBD	Forestry and Beekeeping Division
FLR	Forest Land Restoration
FR	Forest Reserve
GCA	Game Control Area
GDP	Gross Domestic Product
GR	Game Reserve
JFM	Joint Forest Management
ICRAF	International Centre for Agro-forestry Research
IUCN	The World Conservation Union
MNRT	Ministry of Natural Resources & Tourism
MOAL	Ministry of Agriculture and Livestock
NGO	Non Government Organisation
NORAD	Norwegian Agency for Development
NFP	National Forestry Programme
NP	National Parks
NPES	National Poverty Eradication Strategy
NLUPC	National Land Use Planning Commission
PA	Protected Area
PLUM	Participatory Land Use Management
PRSP	Poverty Reduction Strategy Paper
SADC	Southern Africa Development Co-operation
TAFORI	Tanzania Forest Research Institute
TAS	Tanzania Assistance Strategy
TFAP	Tanzania Forestry Action Plan
TOR	Terms of Reference
Tshs	Tanzania Shillings
USD	United States of America Dollar
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
VFR	Village Forest Reserve
VPO	Vice President Office
WD	Wildlife Division
WMA	Wildlife Management Area
WWF	World Wildlife Fund

BRIEF FOR POLICY MAKERS

Forest Landscape Restoration (FLR) is a joint initiative of WWF and IUCN – The World Conservation Union. FLR is a planned process that aims to regain ecological integrity and enhance human well being in deforested or degraded forest landscapes. Efforts of restoring forests are not new in Tanzania, however restoration of forests with emphasis on restoring forest functions, ensuring ecological integrity and enhanced human well being is a new initiative. In order to identify instruments for successful adoption of FLR in the Eastern Africa Region, WWF and IUCN have initiated studies in Ethiopia, Kenya, Tanzania and Uganda, of which this report is a component of the ongoing studies, covering Tanzania. The main purpose of the study is to contribute to enhancement of human well being and sustainable environmental conservation through restoration of forests.

Based on 1998 data from Ministry of Natural Resources and Tourism, Tanzania has about 33.5 million hectares of forests and woodlands. Out of this total area, almost two thirds consists of woodlands on un-reserved land, which lack proper management. Forest resources on the un-reserved land are under enormous pressure, from expansion of agricultural activities, livestock grazing, fires and other human activities. About 13 million hectares of the total forest areas in Tanzania have been gazetted as forest reserves of which 1.6 million ha are under natural forests for water catchment and 80,000 ha are under industrial forest plantation.

Forests have indirect and direct contributions to the society with strong linkage to FLR. Direct contributions include stabilising stream flows and therefore reduce disasters such as landslides, erosion and floods in areas of steep topography and high precipitation. Forests have an important function in the supply of irrigation water for lowland farming and fish production. Forests provide valuable services such as nutrient cycling, maintenance of micro-climates, shade for livestock, windbreaks and contour barriers against erosion. Other services include watershed protection, acting as a sink filter for air pollution emissions and carbon sequestration. However, many of the essential services provided by forests to enhance development of other sectors are normally under valued or not considered, hence giving low economic value to forests.

The direct contribution of forests to the national economy based on monetary market value include: contribution of the forest sector to GDP is around 3.3 percent, the forestry sector employs about 3 percent of paid labour in the formal sector and over 3 million people in the informal sector, selling charcoal, firewood, timber and other non-woody products. Woodfuel is a major forest product and the main source of energy in Tanzania. Quantitatively woodfuel accounts for 91 percent of the total energy consumed in Tanzania and for about 95 percent of the total wood products consumed in the country. Non-woody forest products like bee products, food, fruits, nuts, medicinal plants, gums, resins, barks, natural dyes, aromatics, fibres etc contribute positively to household economy in the rural areas and they are good sources of income to women. It is estimated that about 70 percent of Tanzanians use medicinal plants for curing illnesses.

Poor understanding of forest services and their links to national development have contributed to undervaluing the economic and social values of forests to national sustainable development. As a result forestry (natural resources) is not amongst the priority sectors for poverty eradication in Tanzania.

Tanzania is experiencing serious degradation and deforestation of its forest resources. Current studies on Tanzania forest cover have indicated that between 1970 and 1998, Tanzania lost around 10 million ha of forests land to other land uses through uncontrolled clearing of forests mainly for agriculture and livestock expansion. Degradation of forests and deforestation is taking place both in Government Forest reserves and in un-reserved general land forests.

Tanzania in 1998 approved a revision of its forest policy of 1953. The new National Forest Policy of 1998 vests the responsibility of managing Tanzania forest resources sustainably under the forest sector in collaboration with other stakeholders. The policy emphasises on participatory management and decentralization. The overall goal of the new policy is *“to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations”* Main changes on management of forest ecosystems made by the forest policy of 1998 that support FLR include:

- The replacement of natural forests by exotic plantations and establishment of monoculture plantations will be minimised
- Principles of multiple-use forest inventories will be developed and biodiversity conservation and management guidelines incorporated in the management plans of industrial plantations
- Local communities will be encouraged to participate in management of industrial plantations through JFM and management of un-reserved forest areas through CBFM.
- Management of industrial plantation will incorporate other land uses like wildlife, eco-tourism, environmental conservation, beekeeping etc through co-ordinated strategic planning.
- EIA will be conducted for all industrial plantations to halt pressure that reduces forest functionality.
- Helping villagers (communities) to select and set aside degraded and village forested areas to be conserved and managed as village forests.

Experience has shown that many of the causes to forest degradation and deforestation in Tanzania emanate from non-forest sectors, such as agriculture, livestock, land use, energy, minerals and others. Effective conservation of forests therefore requires cooperation of other sectors. To enhance, multi-sectoral cooperation in conservation of forests a total of 13 national sector policies and three overall national development strategies were analysed using a pre-prepared logical framework as a tool. Initiatives of implementing the forest policy were also analysed, covering the National Forestry Programme and seven specific field forestry projects in Lindi, Coast and Kilimanjaro regions.

Results of the analysis showed that most sector policies and overall national development strategies support FLR as a component of poverty eradication and improvement of livelihood. On going initiatives within the National Forest Programme and the specific forestry projects analysed also support FLR at different levels. However, some weaknesses in support of FLR parameters on consideration of landscape approach and restoration of forest functions were noticed within the national forest programme categories on establishment of industrial plantation and tree growing in farmland on agro-forestry.

Main conclusions of the study based on results and lessons learnt include:

- Overall national development strategies, sector policies and on going forestry initiatives to implement the forest policy of 1998 have strong supporting elements to FLR.
- Consideration of forest functions within the concepts of FLR will intensify contribution of the forestry sector to national priorities of eradicating poverty and environmental conservation. It will also support the priority sectors of agriculture, health, nutrition, education, water and transport to achieve their development goals.

Recommendations for the way forward to promote FLT include:

- Concerted efforts by all stakeholders are required to fully utilise the existing opportunities for introducing and promoting FLR in Tanzania as a component of achieving national socio-economic development priorities.
- The few constraints identified provide a starting challenge for introducing FLR. It is recommended to find solutions to the constraints through community participation, multi-sectoral co-operation and adoption of efficient resource utilisation technologies.
- Understanding and considering the different functions of forest services and products to society economic and social development by managers, planners, politicians and users of forests will enhance implementation of FLR. An important starting point for FLR is to integrate forest functions into policies, both economic and environmental policies at village to national level. Policy makers and planners in the different sectors with policies supporting sustainable conservation of natural resources should be in the forefront in devising systems of forest valuation and contribute in creating awareness on the realistic value of forests to livelihood and poverty reduction.
- Awareness creation on FLR could intensify informed consensus by stakeholders on forest functions and its contribution to enhanced human well being and poverty eradication.
- Knowledge and recognition of forest conservation taking the landscape approach was observed to be low in six sector policies namely agriculture/livestock, fishery, energy, women development and gender, mineral and youth. Efforts are therefore required to intensify awareness of sector policy makers and planners on the concept of managing natural resources taking into account the landscape approach.

- Consideration and skills to adopt the FLR parameter on flexibility for negotiations aimed at building consensus about forest restoration was observed to be weak in most sector policies reviewed including the forestry sector. Training on flexibility for building consensus about forest restoration could be a component of introducing and promoting FLR.

Generic priority areas for promoting FLR include:

- Awareness creation to policy and decision-makers' on FLR concept and its contribution to national development priorities to eradicate poverty and ensure sustainable environmental conservation.
- Provision of extension services to village governments to provide enabling capacity for initiating FLR programmes through local initiatives.
- Establishment of a FLR network system to intensify sharing of field experiences and minimise duplication of efforts

EXECUTIVE SUMMARY

INTRODUCTION

Forest Landscape Restoration (FLR) is a joint initiative of WWF and IUCN – The World Conservation Union. FLR is a planned process that aims to regain ecological integrity and enhance human well being in deforested or degraded forest landscapes. Key aspects of FLR that make it unique are that:

- It focuses on restoring forest functions as opposed to simply increasing tree cover with a particular emphasis on the relationship between various functions within different areas of the landscape. Restoring forests means much more than planting trees.
- The services provided by a restored forest landscape include soil stabilisation, local climate regulation, food security, biodiversity conservation and wildlife habitat.
- Forest landscape restoration also involves a range of diverse stakeholders from small landowner to government.
- It also requires informed consensus by stakeholders, resulting in an acceptable balance between increased ecological integrity and enhanced human well being.

Efforts of restoring forests are not new in Tanzania, however restoration of forests within the aspects of FLR outlined above is a new working concept in natural resources management with emphasis on restoring forest functions and ensuring ecological integrity and enhanced human well being. In order to identify instruments for successful adoption of FLR in the Eastern Africa Region, WWF and IUCN have initiated studies in Ethiopia, Kenya, Tanzania and Uganda, of which this report is a component of the ongoing studies, covering Tanzania.

PURPOSE AND OBJECTIVES OF THE STUDY

The main purpose of the study is to contribute to enhanced human well being and sustainable environmental conservation. Specific objectives of the study are:

- Investigate the existing status and dynamics of forest resources and the historical trends in perception of stakeholders/decision-makers of forest functions and how this impacts human well/being.
- Identify and analyse the relationships and linkages of the FLR concept with national priorities i.e. the Tanzania Development Vision 2025, Poverty Reduction Strategy Paper (PRSP) the Tanzania Assistance Strategy (TAS) etc.
- Analysis of strengths and weaknesses of broader national policy instruments and legal framework – and areas in which it does and does not support FLR.
- Analysis of strengths and weaknesses of existing initiatives, with specific relation to the key principles of FLR, where gaps lie and relevant lessons that have already been learned.
- 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 the region.
- Based on national experiences, provide strong arguments for the importance of, need for and relevance of FLR for the region.

Methodology used to conduct the study included inception workshop by regional and international experts, literature review, consultations/interviews and field studies to specific ongoing forestry projects in Coast, Lindi and Kilimanjaro regions.

NATIONAL OVERVIEW

Tanzania is located along latitude 1⁰-12⁰ South of Equator, Longitude 29⁰ – 41⁰ East of Greenwich. The total area of Tanzania is 945,000 km² of which 62,000 km² are water bodies. The total land area of Tanzania mainland is 881,000

km² and that of Zanzibar is 2,000 km². By end of 2000 the population of Tanzania was estimated to be around 33 million people of which 51% are women and about 46% are under age 15. Tanzania mainland is divided into 20 administrative regions, namely: Arusha, Dar es Salaam, Coast (Pwani), Dodoma, Iringa, Kagera, Kigoma, Kilimanjaro, Lindi, Mara, Mbeya, Morogoro, Mtwara, Mwanza, Ruvuma, Shinyanga, Singida, Tabora and Tanga. Each region is sub-divided into districts. Zanzibar has 3 administrative regions. (This report is mainly based on Tanzania mainland).

About 50% of the population are living below the poverty line. Estimated per capita GNP by end of 1998 was USD 246 and per capita GDP was USD 251. Agriculture contributes 45% to GDP and about 80% of the population are engaged in agriculture production. Contributions of other sectors to the GDP based on 1998 estimates are Industry 7%, Social services 2% and others 46%.

TANZANIA'S FOREST RESOURCES

Based on 1998 data from Ministry of Natural Resources and Tourism, Tanzania has about 33.5 million hectares of forests and woodlands. Out of this total area, almost two thirds consists of woodlands on un-reserved land, which lack proper management. Forest resources on the un-reserved land are under enormous pressure, from expansion of agricultural activities, livestock grazing, fires and other human activities. About 13 million hectares of the total forest areas in Tanzania have been gazetted as forest reserves of which 1.6 million ha are under natural forests for water catchment and 80,000 ha are under industrial forest plantation.

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The direct contribution of forests to the national economy based on monetary market value include:

- Contribution of the forest sector to GDP is around 3.3 percent (based on commercial wood products).
- The forestry sector employs about 3 percent of paid labour in the formal sector and over 3 million people in the informal sector, selling charcoal, firewood, timber and other non-woody products.
- Woodfuel is a major forest product and the main source of energy in Tanzania. Quantitatively woodfuel accounts for 91 percent of the total energy consumed in Tanzania and for about 95 percent of the total wood products consumed in the country.
- Non-woody forest products like bee products, food, fruits, nuts, medicinal plants, gums, resins, barks, natural dyes, aromatics, fibres etc contribute positively to household economy in the rural areas and they are good sources of income to women. It is estimated that about 70 percent of Tanzanians use medicinal plants for curing illnesses.

Poor understanding of forest services and their links to national development have contributed to undervaluing the economic and social values of forests to national sustainable development. As a result forestry (natural resources) is not amongst the priority sectors for poverty eradication in Tanzania.

Tanzania like many other African countries is experiencing serious degradation and deforestation of its forest resources. Current studies on Tanzania forest cover have indicated that between 1970 and 1998, Tanzania lost around 10 million ha of forests land to other land uses through uncontrolled clearing of forests mainly for agriculture and livestock expansion. Degradation of forests and deforestation is taking place both in Government Forest reserves and in un-reserved general land forests.

EVOLUTION OF FOREST POLICY THOUGHTS

The Forestry and Beekeeping Division of Tanzania initiated efforts to revise its Forest Policy of 1953 and the Forest Ordinance Cap 389 of 1957 in early 1970s with objective of including involvement of local communities in management of natural resources. However, shortage of funds and rapid socio-economic changes in the country, dragged the initiative to 1998 when the revised National Forest Policy was approved. Delays in revising the policy were also caused by the need to consider various national reforms, international/regional conventions, socio-economic and cultural changes that were taking place in Tanzania with influence to poverty reduction, improvement of livelihood and management of natural resources.

For example, since the mid-1980's Tanzania has implemented various reforms in the political system, economic management and Government administration. In 1992, a multiparty democracy system was introduced and successful multiparty elections were held in 1995. The economic reform programmes that commenced in 1986 have converted the command-based economy into a market-oriented economy. Trade, exchange rates and interest rates are now fully liberalised. The reform of parastatals has privatised/divested about half of the more than 400 parastatals. The public service reform has cut down the workforce in Government from 335,000 in 1992 to around 270,000 in 1997. Local governments have been strengthened through the Local Government Reform Programme.

Tanzania has recognised the importance of creating an enabling environment for the local community to participate effectively in national development programmes. Empowerment of grass root institutions and communities is taken as an important policy issue for promoting democratic systems and economic development. While gross economic growth is necessary, it is however, important to ensure that it is broad-based and centred on improving the livelihoods of the poor.

Since 1980 onwards, various international and regional conventions of which Tanzania is a signatory have been made. Implementation of the conventions has necessitated revision of sector policies. For example, management and utilisation of forest resources in Tanzania is taking into account global and regional conventions, agreements, resolutions and recommendations of international organisation conferences and other programmes.

International conventions and agreements of which Tanzania is a member are: the Convention on Biodiversity (CBD), Convention to Combat Desertification (CCD), United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto protocol, United Nations Forum on Forests (UNFF), Convention for Protection, Management and Development of the Marine and Coastal Environment of the Eastern Africa region and related protocols and Convention on Wetlands (Ramsar Convention). Regional co-operations of which Tanzania is a member with FLR implications are: The Southern Africa Development Community (SADC) and The East African Community (EAC).

Tanzania having signed and being a party to the above conventions, protocols and co-operation, has the obligation of implementing agreed initiatives and recommendations that include development of policies supporting sustainable forest management and utilisation of forest resources.

Overall national development strategies had also emphasised the need for all sector policies to consider and take into account, eradication of poverty, improvement of livelihood, mainstreaming gender, environmental conservation, involvement of local communities and multi-sectoral co-operation in policy formulation and revision, aspects that support FLR.

HIGHLIGHTS OF THE FOREST POLICY OF 1953

Specialists on forest ecosystem management and community development conducted in-depth studies to analyse strength and weaknesses of the forest policy of 1953 and its implementation. The main objectives of the forest policy of 1953 were:

- To demarcate and reserve permanently all land supporting productive forests or capable of supporting productive forest, which can best be utilised under forest production, taking into consideration other land uses. To manage these forests efficiently and ensure a perpetual supply of forest products to the present and future generations with surpluses for export where possible.
- To reserve and conserve all water catchment forests and land liable to soil erosion.

- To undertake continuous research in all sectors of forestry in order to increase efficiency in managing forest lands and in the utilisation of forest products.
- To train enough Tanzanians in professional and technical cadres to manage the forests.

Concerted efforts were made to identify and involve all relevant stakeholders in the process of revising the forest policy of 1953 from national to village level with a forward and backward linkage in learning and sharing experiences between stakeholders. The process involved high officials of government representatives from village to national level in formulating the policy hence making it public owned.

HIGHLIGHTS OF THE NATIONAL FOREST POLICY OF 1998

The new National Forest Policy of 1998 vests the responsibility of managing Tanzania forest resources sustainably under the forest sector in collaboration with other stakeholders. The policy emphasises on participatory management and decentralization. The overall goal of the new policy is *“to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations”* The objectives of the policy are to:

- Ensure sustainable supply of forest products and services by maintaining sufficient forest area under effective management.
- Increase employment and foreign exchange earnings through sustainable forest-based industrial development and trade.
- Ensure ecosystem stability through conservation of forest biodiversity, water catchment and soil fertility.
- Enhance national capacity to manage and develop the forest sector in collaboration with other stakeholders.

Main changes on management of forest ecosystems made by the forest policy of 1998 that support FLR with intention to intensify conservation of natural forests, biodiversity and improvement of community livelihood include:

- The replacement of natural forests by exotic plantations will be minimised (section 4.3.1.2)
- Principles of multiple-use forest inventories will be developed and biodiversity conservation and management guidelines incorporated in the management plans of industrial plantations (section 4.1.1).
- Establishment of monoculture plantations will be minimised by introducing stands of mixed species (4.3.1.2).
- Local communities will be encouraged to participate in management of industrial plantations through JFM (section 4.1.1 & 4.4.4).
- Cross-sectoral co-ordination between the forest administration and other government institutions and the local community in formulation of relevant policies and action plans based on identification of the roles of the various stakeholders will be promoted (4.4.5).
- Management of industrial plantation will incorporate other land uses like wildlife, eco-tourism, environmental conservation, beekeeping etc through co-ordinated strategic planning (sections 4.1.1, 4.2.2, 4.2.3 and 4.3).
- EIA will be conducted for all industrial plantations to halt pressure that reduces forest functionality (section 4.3.4)
- Research, training and networking is encouraged. Plantation management plans will be modified to include production of non-wood products, environmental and biodiversity conservation. Periodic revision of management plans is encouraged (section 4.4.1).
- Helping villagers (communities) to select and set aside degraded and village forested areas to be conserved and managed as village forests (Section 4.1.2 and 4.1.3).
- Assisting villagers to enact by-laws for conserving their village forests through Community Based Forest Management (Section 4.1.2 and 4.1.3).
- Assisting villagers to prepare management guidelines for their village forests (section 4.1.3)

ANALYSIS OF POLICIES AND INITIATIVES RELATED TO FOREST RESTORATION

Policies analysis

Experience has shown that many of the causes to forest degradation and deforestation emanate from non-forest sectors, such as agriculture, livestock, land use, energy, minerals and others. Effective conservation of forests therefore requires cooperation of other sectors. To enhance, multi-sectoral cooperation in conservation of forests a total of 13 national sector policies and three overall national development strategies were analysed using a pre-prepared logical framework as a tool. Twelve FLR parameters were considered in analysing each policy and strategy with ranking of each parameter at four levels ranging from: very supportive (++), quite supportive (+), neutral (0) and prohibitive (-).

The sector policies analysed are: Tanzania National Forest Policy (1998), Tanzania National Environmental Policy (1997), The Agriculture and Livestock Policy of Tanzania (1997), The Wildlife Policy of Tanzania (1998), National Fisheries Sector Policy and Strategy Statement (1997), The National Beekeeping Policy of Tanzania (1998), The National Energy Policy (1992), The National Land Policy (1995), Tanzania National Policy on Women Development and Gender (2000), The Mineral Policy of Tanzania (1997), National Tourism Policy (1999), The National Science and Technology Policy for Tanzania (1996) and The National Youth Development Policy (1996).

Overall national development strategies analysed are: The Tanzania Development Vision 2025 (1999), The Tanzania Poverty Reduction Strategy Paper (2000) and The Tanzania Assistance Strategy (2000).

Analysis results of sector policies and overall national development strategies

All the sector policies reviewed have supportive policy statements on FLR but at different levels depending on sector background. For example sector policies related to natural resource and environmental management, like forestry, beekeeping, wildlife, fishery, tourism and environment have strong support statements to FLR as many of the FLR parameters are already within the sectors' policy goals and objectives.

Sector policy statements to some of the FLR parameters are provided to substantiate their support to FLR.

Support to forest restoration

All the 13 reviewed sector policies had very supportive statements on forest restoration. Overall national development strategies are also supportive to forest restoration. For example the Tanzania Assistance Strategy (TAS) section 4.1.6.1 states that *“Activities such as deforestation and extensive agricultural practices reduce the vegetal capital stock, the water retention capacity of land and increase erosion. Protected areas have recently been encroached upon for farming and settlement. Overgrazing, ground fires and felling of trees for energy, construction etc., reduce the regeneration of plants and animals. Deforestation is estimated to expand rapidly at around 300,000 – 400,000 hectares per annum. The end results are rapid depletion of the natural resources and people’s livelihoods, health hazards and intensification of poverty. While it is important to address each of these problems separately, comprehensive solutions call for mutually reinforcing interventions”* TAS outlined key priority areas for solving the identified problems that include conservation of degraded forest areas, promotion of traditional biodiversity conservation practices and integrated conservation of coastal zone ecosystems.

The Tanzania Development Vision 2025 section 3.3 states that *“It is also envisaged that fast growth will be pursued while effectively reversing current trends in loss and deforestation of environmental resources (such as forest, fisheries, fresh water, soils, Biodiversity) and in the accumulation of hazardous substances”*

The Tanzania Poverty Reduction Strategy Paper (PRSP) is neutral or silent on management of natural resources and environmental conservation. However, the PRSP identified key national priority areas for short and medium term funding by government and donors of which natural resources is not included. Priority sectors selected by the PRSP are education, health, agriculture, roads, water and judiciary.

Support to forest landscape approach

Six sector policies (forestry, wildlife, beekeeping, land, tourism and Science and technology had very supportive statements acknowledging the importance of working/planning at the landscape level. For example the forest policy section 2.3 emphasis on *“Conservation of the country’s unique ecosystem and biological diversity, considering the*

needs of local populations and appropriate management and utilisation methods.” The wildlife policy (sections 1, 2.2 and 3.3.3) emphasis on landscape approach in ecosystem and biodiversity conservation. Strategies of managing wildlife and other natural resources should be based on the ecosystem rather than on administrative boundaries. The tourism policy section 2.0 states that *“Tanzania’s competitive strengths in tourism lie in the abundant and diverse wildlife, the spectacular landscape and scenery, an unspoilt environment, a friendly people and the existence of other economic sectors that have the potential to support the tourism (e.g. the mining sector)”* The national environment policy section 18c states that it is important *“to conserve and enhance our natural and man-made heritage, including the biological diversity of the unique ecosystems of Tanzania”*

Support restoration of forest functionality

Sector policies with very supportive statements on restoration of forest functionality were five (forestry, beekeeping, energy, tourism and science and technology). Section 2.2 of the forestry policy states that *“Tanzania has huge potential for non-wood products. The most important are tourism, game, bee products especially honey and beeswax, tannins and gum arabic. The bulk of non-wood products however, still remain unknown and un-developed. The management and utilisation of these resources could be developed through multi-purpose forest management, local processing and improved marketing.”* Section 4.1 states that *“All central and local government forest reserves will be demarcated on the ground, management objectives defined, and multiple-purpose forest management plans prepared based on reliable inventory data and covering all different uses of forests”* Section 4.2.4 states that *“The main non-wood forest products include gums, resins, bark, tannin, aromatics, latex, natural dyes, fruits and nuts, fibre, spices, naval stores, medicinal plants etc. Decline of natural forest cover and over-harvesting of some tree species have contributed to the reduction of the resource base”* The tourism policy section 5.2 emphasises on conservation of ecosystems that will enhance ecotourism. One of the sentences in section 5.2 states that *“Putting into place mechanisms that will ensure tourist activities respect use of biodiversity, wildlife conservation, beaches and other naturally occurring phenomena of aesthetic value”* Section 16 of the National Science and Technology Policy emphasis promotion of rational utilisation of natural resources, including energy resources and environmentally sound technologies in order to maintain ecological and social balance.

TAS and PRSP have quite supportive statements on restoration of forest functionality. Section 4.1.6.2 of TAS promotes conservation of soil, water and biodiversity at ecosystem level. Chapter IV sub-section e of PRSP states that *“The poor in Tanzania are heavily dependent on the environment. Specifically households in Tanzania are heavily dependent on environmental resources for income generation. For example, as much as 50 percent of their cash incomes in some areas derive from the sale of forest products such as charcoal, honey, wild fruits and firewood”*. However, the Tanzania Development Vision 2025 is neutral on restoration of forest functions.

Identification of forest functions to support

Most sector policies reviewed have identified some forest functions to support. For example the National Policy on Women Development and Gender (section 14f) put emphasis on supply of firewood, water catchment and production of non-wood products.

Supporting and making forest function trade-offs at landscape level

Results showed that the concept of making forest function trade-offs at landscape level is weak to most sectors and at policy level. Trade-offs require sacrificing a particular forest function (or functions) in one part of a landscape, if it is already well catered for in another area of the landscape. Only five sector policies (forestry, environment, beekeeping, land and minerals) had supportive statements on trade-offs. For example the Forest Policy section 4.3.1.1 states that *“New forest reserves for biodiversity conservation will be established in areas of high biodiversity value. Forest reserves with protection objectives of national strategic importance may be declared as nature reserves”* The Mineral Policy section 3.3.12 states that *“To ensure the sustainability of mining, there is a need to integrate environmental and social concerns into mineral development programmes. Sustainable mining development requires balancing the protection of the flora and fauna and the natural environment with the need for social and economic development”* One of the objectives of the mining sector on environmental conservation (section 3.3.12.1) is *“Setting appropriate guidelines for allowing the conduct of mining in restricted areas such as forests, national parks, sources of water and other designated areas”*

Acknowledge the role of forest functions in support of human well-being

Sector policies with very supportive statements on this aspect were four (forestry, beekeeping, energy and science and technology). For example sections 2.1 to 2.4 and section 4.2.5 of the Forest Policy provide a list of forest functions in support of human well-being. Sector policies with quite supportive statements were five (environment, agriculture/livestock, wildlife, women and tourism). For example the role of forest functions in support of human well-being is recognised by the Agriculture/livestock policy through conservation of water catchment and soil erosion control. TAS and PRSP have quite supportive statements on the role of forest functions in support of human well-being.

Devolving decision making to local people

Seven sector policies (forestry, wildlife, fishery, beekeeping, land, minerals and tourism) had very supportive statements of devolving decision making to the local people. For example the Forest policy section 4.1.1 has a statement indicating that *“In order to improve forest conservation and management and to ensure equitable sharing of benefits amongst all stakeholders, joint management agreements between the central government, specialised executive agencies, private sector or local communities or other organisations of people living adjacent to forest, will be promoted. The local communities will be granted appropriate user rights for forest produce and forests will be managed in accordance with approved management plans”*. Section 4.1.2 of the Forest policy states that *“To reduce uncontrolled use of forests, allocation of forests on public lands to villages, private individuals and the government will be promoted so as to have a defined owner. The primary policy instrument in this regard is establishment of village forest reserves. Village institutions will be granted appropriate user rights as incentives for sustainable forest management including rights to indigenous trees. The other instruments include the allocation of forest to private individuals and the establishment of central and local government forest reserves. Accordingly, central, local and village governments may demarcate and establish new forest reserves”*

The Tanzania Development Vision 2025 section 4.3 (iii) states that *“Deliberate efforts must be made to empower the people and catalyse their democratic and popular participation. The strategy should entail empowering local governments and communities and promoting broad-based grassroots participation in the mobilisation of resources, knowledge and experience with a view to stimulating initiatives at all levels of society”* TAS section 3.2 states that *“Tanzania recognises the importance of creating an enabling environment for the citizenry to participate effectively in national development activities. Empowerment of grass roots institutions and communities is an important step towards promoting democratic systems and improving accountability”*

Flexibility for building consensus about forest restoration

The concept of flexibility for negotiations aimed at building consensus about forest restoration was observed to be weak, with neutral statement in five sector policies (agriculture/livestock, land, women, mineral and youth) and by all the three reviewed national strategies. Sectors with very supportive statements on the concept were three (beekeeping, tourism and science/technology). For example section 5.13 of the Tourism policy states that *“The relationship between the environment and development of sustainable tourism is so closely knit that the two cannot be dealt with in isolation. Protection enhancement and improvement of various components of man’s environment are therefore among fundamental conditions for harmonious development of tourism. The government will ensure that development of tourism is based on careful assessment of carrying capacities of tourism products and ensure enhancement and improvement of special environment features in order that tourism development does not conflict with indigenous forests, beaches, mountains and other important vegetation”*

Development of strategic partnership with stakeholders

All the reviewed sector policies and overall national strategies have supportive statement on development of strategic partnership with stakeholders. For example, the Land Policy Section 8.2.0 states that *“the implementation of the National Land Policy will require the participation of many actors”*. Section 8.2.1 of the land policy provide statements of strategic partnership that include:

- (i) *All ministries, public and private institutions whose functions are associated with land development will work together with the Minister responsible for lands to ensure efficient implementation of the national land policy,*
- (ii) *Local Authorities shall work together with the Minister responsible for lands to ensure proper land administration in their respective areas of jurisdiction.*
- (iii) *Non-governmental and community based development organisations, etc., will be encouraged to participate in effective utilisation of land*

Attempting to halt pressure that reduces forest functionality

All the sector policies had supportive statements to halt pressure that reduces forest functionality mainly through environmental conservation. For example section 4.1.2 of the Forest Policy states that *“To enable sustainable management of forests on public lands, clear ownership for all forests and trees on those lands will be defined. The allocation of forests and their management responsibility to villages, private, individuals or to the government will be promoted. Central, local and village governments may demarcate and establish new forest reserves”* It is also stated that *“To reduce un-controlled use of forests, allocation of forests on public lands to villages, private individuals and the government will be promoted so as to have a defined owner. The primary policy instrument in this regard is the establishment of village forest reserves. Village institutions will be granted appropriate user rights as incentives for sustainable forest management including rights to indigenous trees”*

Supporting or encouraging development of new ideas

All the sector policies and national strategies reviewed are supporting development of new ideas. For example the Tanzania Development Vision 2025 section 4.2 (vi) states that *“ The quality of livelihood should be raised by increasing the level of productivity in all sectors. This goal can be achieved by transforming the economy into strong, resilient and competitive one, buttressed by science and technology”*

Analysis of existing initiatives

Analysis of existing initiatives was undertaken at two levels. The first level covers, analysis of the National Forestry Programme, which was the initial initiative undertaken in Tanzania to facilitate implementation of the Forest Policy of 1998. The second level is analysis of seven ongoing forestry projects to explore level of adoption of the forest policy directives, implementation strategies and guidelines provided by the National Forestry Programme with respect to FLR support.

National programme activities

The FLR logical framework was used to identify strength and weaknesses of the ongoing category of national programme activities that include:

- Conservation of State owned Forest reserves for productive purposes with main purpose of generating revenue through sale of wood products like timber, poles, charcoal, firewood etc.
- Conservation of State owned Forest Reserves for protective purposes to conserve watershed areas, soil conservation and nature reserves to enhance biodiversity conservation.
- Establishment of industrial forest plantations, normally within productive forest reserves using fast growing tree species.
- Community Based Forest Management in un-reserved forest areas to reduce forest degradation and deforestation in un-reserved forest areas through active community participation in management of forests
- Agro-forestry and tree planting in farmland to enhance environmental conservation in farm land i.e. establish of wind breaks and intensify supply of wood products in farm land in order to reduce pressure from natural forests,

Results showed that activities on conservation of forest reserves for production and water shed management and community based forest management in un-reserved forest areas are very supportive to FLR. Based on ranking of the 12 different FLR parameters, conservation of forest reserves for productive purposes (with use of new guidelines from the forest policy of 1998) and community based forest management have supportive elements to all the FLR parameters with exception of forest function trade-offs that was observed to be a weak area.

Agro-forestry in farmland was identified to have most weak areas in support of FLR concepts. Based on the 12 parameters of FLR framework, agro-forestry had only 6 supportive elements to FLR namely:

- Acknowledging the role of forest functions in support of human well-being.
- Devolving decision making to local people.
- Building consensus on FLR
- Developing strategic partnership with stakeholders.
- Accepting innovation and development of new ideas and approaches in natural resource management.
- Encouraging multi-sectoral link to other sector goals.

FLR parameters that are regarded as weak points in the agro-forestry category are: relevance to landscape perspectives, support restoring forest functionality, identification of functions to restore and forest function trade-offs.

Results showed that strategies advocated for establishment of industrial plantation have only one strong support elements to FLR that is accepting innovation and development of new ideas and approaches in natural resource management. FLR weak elements to establishment of industrial plantations include: relevance to landscape perspectives, identification of restoration functions to support and consideration of trade offs at landscape level.

Analysis of specific field forestry projects

Field studies were conducted in three regions, namely Coast, Kilimanjaro and Lindi. Seven ongoing forestry projects were analysed namely:

- Mangrove Management Project in Coast region.
- Ruvu Fuelwood Pilot Project in Coast region with JFM concepts.
- Kilimanjaro Catchment Forest Reserve Project with JFM concepts.
- West Kilimanjaro Industrial Forest Plantation.
- Rufiji Environmental Management Project with CBFM concepts,
- Village Based Forest and Woodland Management in Lindi region with CBFM concepts.
- TFAP-North Pare (Mwanga) project in Kilimanjaro region with Agro-forestry concepts.

Results on analysis of FLR parameters for the specific field forest projects indicated similar pattern on strength and weaknesses to those identified within the relevant national programme. Few examples are provided to illustrate the pattern of the field forest projects with respect to FLR.

Two projects (Mangrove Management project in Coast region and Ruvu Fuelwood Project) were analysed within the national forest programme category on conservation of forest reserves for productive purposes. The projects had very supportive elements to all parameters of FLR with exception of trade-offs which, was identified to be a weak element.

One project (Kilimanjaro Catchment Forest Project) was analysed within the national forest programme category on conservation of forest reserves for water shed management. The project had supportive elements to all parameters of FLR as identified earlier for the water catchment programme.

One project (West Kilimanjaro Forest Plantation) was analysed within the national forest programme on establishment of industrial plantations. Results showed that the project had weak support to consideration of landscape approach and trade-off parameters of FLR. However, it had strong support of the other parameters

Two projects (UTUMI and REMP) were analysed within the national forest programme category on Community Based Forest Management in un-reserved forest areas. The projects had very supportive elements to all the FLR parameters with the exception of trade-offs which, was observed to be a weak element.

One project (TFAP – North Pare) was analysed within the national forest programme category on agro-forestry in farmland. The project supports many of the FLR parameters, but it is rather weak on the parameters of landscape approach and trade-offs

SYNTHESIS (POTENTIAL OF ADOPTING FLR IN TANZANIA)

Relevance of FLR to national priorities

Development priorities in Tanzania are centred on poverty eradication, improvement of local community well-being and sound environmental conservation. It is acknowledged by national development strategies and most sector policies analysed that natural resources in particular forestry contribute significantly to community well-being. Contribution of forest to poverty eradication and environmental conservation is based on consideration of forest functions and not on single or few functions. Learning from experience, the new forest policy of 1998 have realised the importance of considering forest functions as a new strategy of forest development as opposed to traditional forestry practices with centralised management and consideration of few forest functions in management of forest reserves and industrial plantations. The forest policy of 1998 is encouraging villagers to manage un-reserved forest areas, which accounts for

more than 66 percent of the total forest area in Tanzania based on Community Forest Management that is in line with FLR parameters.

Sustainable management of natural resources through effective community participation and multi-sectoral co-ordination by relevant stakeholders could enhance livelihood of the community and poverty eradication. It will contribute to improvement of agriculture, health, nutrition, education, water supply, conservation of transport infrastructures, shelter and by providing opportunities for different stakeholders to sustain management of natural resources through gainful employment using proven scientific and technological practices as advocated by FLR

Perceptions of forest functionality of key stakeholders

The study confirmed that there is strong link between forest functionality's, economic development and causes of forest degradation and deforestation in Tanzania. The general trend observed through literature review and analysis of sector policies and national strategies show that stakeholders' perception on forest functionality to poverty eradication and environmental conservation is increasing although at a slow pace. For example many of the traditional forestry practices of centralisation and emphasis to monoculture forest plantations have been changed by the forest policy of 1998, giving emphasis to restoration of multiple forest functions in line with FLR parameters.

Tanzania embraces science and technology as a vital tool for accelerating its socio-economic development. The forest policy of 1998 and other sector policies analysed are advocating the use of best available technology principles for conservation and wise utilisation of natural resources that is in line with FLR parameters.

Stakeholders to promote FLR

All the sector policies and development strategies analysed have very supportive statements on multi-sectoral linkage and identification of relevant stakeholders that will co-operation in implementing programmes related to sustainable management of natural resources. Stakeholders identified by the forest policy of 1998 to co-operate in implementing forestry programmes at different levels include officials from Environment, Agriculture/Livestock, Wildlife, Fishery, Beekeeping, Energy, Land, Women development, Minerals, Water, Tourism, Youth, Health, Science and Technology, Development partners, Research Institutions, Local governments, NGOs, CBOs, local communities and the private sector. Identification and involving stakeholders in conservation of natural resources is in line with the FLR parameter of devolving decision-making to the local communities and other stakeholders.

Opportunities of introducing FLR

Emerging opportunities for introducing FLR based on analysis of sector policies; overall national strategies and initiatives to implement the forest policy of 1998 include:

- FLR parameters tie well with national priorities of improving livelihood, poverty eradication and sustainable environmental conservation.
- All the reviewed sector policies support development of sustainable management of natural resources although with different emphasis depending on the sector background. The existing multi-sectoral policy support on sustainable management of natural resources provides a good entry point for promoting FLR.
- The guiding donor policy for Tanzania (TAS) is supportive to promotion of FLR parameters for sustainable management of natural resources.
- There is a growing awareness between policy makers on the need for ecosystem conservation as a component of poverty eradication.
- All the sector policies and overall national strategies reviewed had supportive statements on innovation, encouragement of new ideas and approaches of managing natural resources to intensify management systems and wise use of natural resources that are in line with FLR parameters. Adoption of science and technology is also emphasised as a vital tool for accelerating Tanzania socio-economic development by all sector policies that are also in line with FLR concepts.
- Multi-sectoral co-operation and community participation in management of natural resources were emphasised by all policies reviewed that are supportive to FLR.
- The forest policy of 1998 and the national forestry programme all support and encourage management of forest resources through CBFM and JFM that are in line with the FLR parameters of devolving decision making to the local community and use of multi-sectoral strategies in forest restoration.

Constraints

Constraints for introducing FLR that emerged from analysis of sector policies and ongoing policy initiatives include:

- Forestry is not included amongst the priority funding sectors in Tanzania.
- Extension efforts on forestry and environmental conservation have reached very low proportion of the local community (below 5 percent of the target group).
- FLR concept is new hence it may take time for people to understand it.

Priority areas for promoting FLR

Generic priority areas for promoting FLR include:

- Awareness creation to policy and decision-makers' on FLR concept and its contribution to national development priorities to eradicate poverty and ensure sustainable environmental conservation.
- Provision of extension services to village governments to provide enabling capacity for initiating FLR programmes through local initiatives.
- Establishment of a FLR network system to intensify sharing of field experiences and minimise duplication of efforts.

Conclusions

Based on results and lessons discussed in this study it can be concluded that:

- Overall national development strategies, sector policies and on going forestry initiatives to implement the forest policy of 1998 have strong supporting elements to FLR.
- Consideration of forest functions within the concepts of FLR will intensify contribution of the forestry sector to national priorities of eradicating poverty and environmental conservation. It will also support the priority sectors of agriculture, health, nutrition, education, water and transport to achieve their development goals.

Recommendations

Concerted efforts by all stakeholders are required to fully utilise the existing opportunities for introducing and promoting FLR in Tanzania as a component of achieving national socio-economic development priorities.

The few constraints identified provide a starting challenge for introducing FLR. It is recommended to find solutions to the constraints through community participation, multi-sectoral co-operation and adoption of efficient resource utilisation technologies.

Understanding and considering the different functions of forest services and products to society economic and social development by managers, planners, politicians and users of forests will enhance implementation of FLR. An important starting point for FLR is to integrate forest functions into policies, both economic and environmental policies at village to national level. Policy makers and planners in the different sectors with policies supporting sustainable conservation of natural resources should be in the forefront in devising systems of forest valuation and contribute in creating awareness on the realistic value of forests to livelihood and poverty reduction.

Awareness creation on FLR could intensify informed consensus by stakeholders on forest functions and its contribution to enhanced human well being and poverty eradication.

Knowledge and recognition of forest conservation taking the landscape approach was observed to be low in six sector policies namely agriculture/livestock, fishery, energy, women development and gender, mineral and youth. Efforts are therefore required to intensify awareness of sector policy makers and planners on the concept of managing natural resources taking into account the landscape approach.

Consideration and skills to adopt the FLR parameter on flexibility for negotiations aimed at building consensus about forest restoration was observed to be weak in most sector policies reviewed including the forestry sector. Training on flexibility for building consensus about forest restoration could be a component of introducing and promoting FLR.

1. INTRODUCTION

Forest Landscape Restoration (FLR) is a joint initiative of WWF and IUCN – The World Conservation Union. FLR is a planned process that aims to regain ecological integrity and enhance human well being in deforested or degraded forest landscapes. Key aspects of FLR that make it unique are that:

- It focuses on restoring forest functions as opposed to simply increasing tree cover with a particular emphasis on the relationship between various functions within different areas of the Landscape. Restoring forests means much more than planting trees.
- The services provided by a restored forest landscape include soil stabilisation, local climate regulation, food security, biodiversity conservation and wildlife habitat.
- Forest landscape restoration also involves a range of diverse stakeholders from small landowner to government.
- It also requires informed consensus by stakeholders, resulting in an acceptable balance between increased ecological integrity and enhanced human well being.

Efforts of restoring forests are not new in Tanzania, however restoration of forests within the aspects of FLR outlined above is a new working concept in natural resources management with emphasis on restoring forest functions and ensuring ecological integrity and enhanced human well being. FLR is a recent concept that has been successfully initiated in parts of Asia and Europe with strong support by the local communities (IUCN>Z 1999). Based on success and benefits to the community in particular on improvements of livelihoods and environmental conservation, the IUCN and WWF would like to initiate the concept and practices of FLR in Eastern Africa region.

In order to identify instruments for successful adoption of FLR in the Eastern Africa Region, WWF and IUCN have initiated studies in Ethiopia, Kenya, Tanzania and Uganda, of which this report is a component of the ongoing studies, covering Tanzania.

2. THE STUDY

2.1 *Purpose and objectives of the study*

2.1.1 Purpose

The main purpose of the study is to contribute to enhanced human well being and sustainable environmental conservation.

2.1.2 Specific objectives

Specific objectives of the study are:

- Investigate the existing status and dynamics of forest resources and the historical trends in perception of stakeholders/decision-makers of forest functions and how this impacts human well/being.
- Identify and analyse the relationships and linkages of the FLR concept with national priorities i.e. the Tanzania Development Vision 2025, Poverty Reduction Strategy Paper (PRSP), National Poverty Eradication Strategy (NPES) the Tanzania Assistance Strategy (TAS) etc.
- Analysis of strengths and weaknesses of broader national policy instruments and legal framework – and areas in which it does and does not support FLR.
- Analysis of strengths and weaknesses of existing initiatives, with specific relation to the key principles of FLR, where gaps lie and relevant lessons that have already been learned.
- 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 the region.
- Based on national experiences, provide strong arguments for the importance of, need for and relevance of FLR for the region.

2.2 Methodology

2.2.1 General

Inception workshop by regional and international experts, literature review, consultations/interviews and field studies was the main methodology used for the study.

2.2.2 Inception workshop

A two days inception workshop was held involving relevant national and international stakeholders in the project. Discussions and exchange of experiences on FLR in East Africa and in other parts of the world were held. To enhance data collection, analysis and comparison of results, a framework for reviewing policies and strategies affecting forest restoration and a framework for reviewing current initiatives in FLR were prepared. The frameworks assisted to compare a number of common parameters that were evaluated using pre-determined but flexible categories. They also assisted to provide consistency in data collection in the four countries to capture similarities and differences in FLR.

2.2.3 Literature review

To enhance building from best field practices, intensive literature review on aspects related to FLR was made.

2.2.4 Consultations

Participatory consultations and interviews were held with different stakeholders on FLR, covering government ministries, research and learning institutions, Non-governmental organisations, development partners (donors), private institutions, user groups of forest products and individuals (Annex 1).

2.2.5 Field studies

Field studies were conducted in Coast, Lindi and Kilimanjaro regions covering different initiatives on FLR.

3 NATIONAL OVERVIEW

3.1 National Profile

3.1.1 General statistics

General statistics of Tanzania is provided as a background for describing its historical trend and institutional set-up that will be used as a foundation for introducing FLR.

Tanzania is located along latitude 1⁰-12⁰ South of Equator, Longitude 29⁰ – 41⁰ East of Greenwich. The total area of Tanzania is 945,000 km² of which 62,000 km² are water bodies. The total land area of Tanzania mainland is 881,000 km² and that of Zanzibar is 2,000 km² (Bureau of Statistics 2000a&b).

By end of 2000 the population of Tanzania was estimated to be around 33 million people of which 51% are women and about 46% are under age 15. Tanzania mainland is divided into 20 administrative regions, namely: Arusha, Dar es Salaam, Coast (Pwani), Dodoma, Iringa, Kagera, Kigoma, Kilimanjaro, Lindi, Mara, Mbeya, Morogoro, Mtwara, Mwanza, Ruvuma, Shinyanga, Singida, Tabora and Tanga. Each region is sub-divided into districts. By end of 2000, Tanzania mainland had 113 administrative districts (Ministry of Agriculture and Co-operatives 2000&2001, Planning Commission 2000). Zanzibar has 3 administrative regions. (This report is mainly based on Tanzania mainland).

3.1.2 Socio-economic status

About 50% of the population are living below the poverty line. Estimated per capita GNP by end of 1998 was USD 246 and per capita GDP was USD 251. Agriculture contributes 45% to GDP and about 80% of the population are engaged in agriculture production. Contributions of other sectors to the GDP based on 1998 estimates are Industry 7%, Social services 2% and others 46%. Total debt stock by end of December 1998 was USD 9.2 billion of which USD 7.9 billion were foreign debt and USD 1.3 billion were domestic debt (Planning Commission 2000).

Main health indicators are:

- Infant mortality rate (per 1000 live births) 99 (1999 estimates)
- Crude death rate (per 1000 population) 16 (1996 estimates)
- Life expectancy at birth 48 years (2000 estimates)
- Crude birth rate (per 1000 population) 46 (1988 estimates)
- Total fertility rate 5.6 (1999 estimates)
- Maternal Mortality rate 200-4000/100,000

Main education indicators include:

- Gross Primary School Enrolment Ratio – 77.9% (1998 estimates)
- Net Primary School Enrolment Ratio – 55% (1999 estimates)
- Gross Secondary School Enrolment Ratio – 5% (1999 estimates)
- Adult Literacy is - 68% (1997 estimates).

3.1.3 Natural resource base

Tanzania has a rich and diverse spectrum of minerals, fauna and flora that include:

- Minerals – gold, diamonds, tanzanite and various other gemstones, natural gas, iron ore, coal, spring water, phosphates, soda ash and salt (Planning Commission 2000).
- Wildlife and Tourism, with 12 National parks, the Ngorongoro Conservation Area, 31 Game Reserves, 38 Game Controlled Areas and about 120 Natural Heritage Sites (MNRT 1998c, Planning Commission 2000).
- Fisheries – from three large lakes namely Victoria, Tanganyika and Nyasa, the Indian Ocean coastline, rivers and wetlands. Potential yield of fish from natural waters is estimated to be around 730,000 metric tons annually and present catch is around 350,000 metric tons (MNRT 1997, Planning Commission 2000).
- Forestry and Beekeeping. Total forest area of Tanzania was estimated to be around 33.555 million ha by end of 1998 (MNRT 1998a&b).

Table 1 provides the general land use patterns and distribution to the total area of the country.

Table 1 Land use types and their distribution in Tanzania mainland

Type of land use	Area (000 ha)	Percentage
Small holder cultivation	3,880	4.1
Large scale cultivation	585	0.6
Grazing land	48,740	51.7
Forests and woodlands	33,555	35.6
Urban development	1,600	1.7
Inland water	5,900	6.3
Total area	94,260	100

Source: MNRT 2000a

Tanzania's Forest Resources

3.2.1 National status of forests

Based on 1998 data from Ministry of Natural Resources and Tourism (MNRT 1998a) Tanzania has about 33.5 million hectares of forests and woodlands. Out of this total area, almost two thirds consists of woodlands on un-reserved land, which lack proper management. Forest resources on the un-reserved land are under enormous pressure, from expansion of agricultural activities, livestock grazing, fires and other human activities (MNRT 2001a, Assenga 1995, and Iddi 1997). About 13 million hectares of the total forest areas in Tanzania have been gazetted as forest reserves of which 80,000 ha are under plantation forestry and 1.6 million ha are under natural forests for water catchment. Type, use and legal status of forested areas in Tanzania are summarised in Table 2.

Table 2 Type, use and legal status of forests in Tanzania

Description		Area (000 ha)
Forest type	Montane Forests	1,141
	Mangrove forests	115
	Woodlands	32,299
	Total	33,555
Uses of Forest Land	Production forest area	23,810
	Protection forest area (mainly catchment areas)	9,745
	Total	33,555
Legal Status	Forest reserves**	12,517
	Forests/woodlands in national parks etc	2,000
	Non-reserved forest land *	19,038
	Total	33,555

Source MNRT 1998a.

** The forest reserves area include natural forests and industrial plantations owned by the government.

* Non-reserved forest land include forest areas managed and owned by village communities and private individuals.

3.2.2 Regional distribution of natural forests

Natural forests are not evenly distributed in the regions of Tanzania (Kerario&Nanai 1995, Ingles et. al., 1999). Based on average regional forest area per inhabitant natural forest cover in the regions could be categorised into three groups namely regions with good, satisfactory and poor forest covers as outlined below:

- Group one – regions with good natural forest cover of more than 1 ha per inhabitant. Eight regions are included in this category namely: Coast, Kigoma, Lindi, Morogoro, Mtwara, Rukwa, Ruvuma and Tanga. .
- Group two – regions with satisfactory natural forest cover of between 0.5 ha to 1.0 ha. Six regions are included in this category namely: Arusha, Dodoma, Iringa, Mbeya, Singida and Tabora.
- Group three – regions with poor natural forest cover of less than 0.5 ha per inhabitant. Six regions are included in this category namely: Dar es Salaam, Kagera, Kilimanjaro, Mara, Mwanza and Shinyanga. Literature review showed that all the regions in this group are experiencing acute scarcity of woodfuel and other forest products/services (MNTR 2001c).

3.2.3 Industrial Forest plantations in Tanzania

Tanzania has 16 industrial plantations with a total of around 80,000 ha located in 13 regions. Traditionally main objective of industrial plantation was production of timber and poles. The forest policy of 1998 has provided radical direction changes to traditional management of industrial plantations that are supportive to FLR concepts. The statements with sections in the forest policy in bracket include:

- The replacement of natural forests by exotic plantations will be minimised (section 4.3.1.2)
- Principles of multiple-use forest inventories will be developed and biodiversity conservation and management guidelines incorporated in the management plans of industrial plantations (section 4.1.1).
- Establishment of monoculture plantations will be minimised by introducing stands of mixed species (4.3.1.2).
- Local communities will be encouraged to participate in management of industrial plantations through JFM (section 4.1.1 & 4.4.4).
- Cross-sectoral co-ordination between the forest administration and other government institutions and the local community in formulation of relevant policies and action plans based on identification of the roles of the various stakeholders will be promoted (4.4.5).
- Management of industrial plantation will incorporate other land uses like wildlife, eco-tourism, environmental conservation, beekeeping etc through co-ordinated strategic planning (sections 4.1.1, 4.2.2, 4.2.3 and 4.3).
- EIA will be conducted for all industrial plantations to halt pressure that reduces forest functionality (section 4.3.4)
- Research, training and networking is encouraged. Currently, plantation management plans are modified to include production of non-wood products, environmental and biodiversity conservation. Periodic revision of management plans is encouraged (section 4.4.1).

3.2.4 Mangrove Forests in Tanzania

In Tanzania mainland the total area covered by mangrove forests is about 115,000 ha which falls along the Indian Ocean Coastal Line of about 800 km between the boundary of Kenya to the North and that of Mozambique to the South. All the mangrove forests in Tanzania are gazetted forest reserves, owned and managed by the Government (Holmes 1995).

Main functions of mangrove forests include: provision of wood for poles, timber, fuelwood, fishing pegs, shelter for breeding grounds and fodder for many species of prawns, fish, crabs, molluscs etc. They function as agent for protection of soil erosion, trapping silts and sediments, absorbing pollutant and wind. They provide source of employment and income generation to the community and contribute in recycling and fixing carbon dioxide in the atmosphere.

Current strategies being advocated for management of mangrove forests with implication to FLR include:

- To increase local communities involvement and awareness in management of mangroves ecosystems for poverty eradication and environmental conservation.
- To enhance inter sectoral co-ordination.
- To enhance benefit sharing from mangrove resources with local communities and other stakeholders.
- To promote alternative income generating activities for the local communities in mangrove forest reserves which are environmentally friendly.

3.2.5 Linkage and contribution of forests to national socio-economic development

Many of the essential services provided by forests to enhance development of other sectors are normally under valued or not considered, hence giving low economic value to forests. Forests contribute in stabilising stream flows and therefore reduce disasters such as landslides, erosion and floods in areas of steep topography and high precipitation. Forests have an important function in the supply of irrigation water for lowland farming and fish production. Forests provide valuable services such as nutrient cycling, maintenance of micro-climates, shade for livestock, windbreaks and contour barriers against erosion. Other services include watershed protection, acting as a sink filter for air pollution emissions and carbon sequestration (Hezron Mogaka et.al.,2001, Africare 1999, IUCN 2000, Jane Turpie 2000).

The direct contribution of forests to the national economy based on monetary market value include:

- Contribution of the forest sector to GDP is around 3.3 percent (based on commercial wood products).
- The forestry sector employs about 3 percent of paid labour in the formal sector and over 3 million people in the informal sector, selling charcoal, firewood, timber and other non-woody products.
- Average annual export earning from forest products is around USD 14 million. Main export products are timber, carvings, tree seeds and bee products (Note the export value is included in the forest sector contribution to GDP).
- Woodfuel is a major forest product and the main source of energy in Tanzania. Quantitatively woodfuel accounts for 91 percent of the total energy consumed in Tanzania and for about 95 percent of the total wood products consumed in the country.
- Non-woody forest products like bee products, food, fruits, nuts, medicinal plants, gums, resins, barks, natural dyes, aromatics, fibres etc contribute positively to household economy in the rural areas and they are good sources of income to women. It is estimated that about 70 percent of Tanzanians use medicinal plants for curing illnesses (MNRT 2001a&b).

Poor understanding of forest services and their links to national development have contributed to undervaluing the economic and social values of forests to national sustainable development. As a result forestry (natural resources) is not amongst the priority sectors for poverty eradication in Tanzania. The priority sectors are namely education, health, agriculture, roads, water and judiciary (Planning Commission 1999 and 2000).

3.3 Causes of forest degradation and deforestation

3.3.1 Level of degradation and deforestation of forests

Tanzania like many other African countries is experiencing serious degradation and deforestation of its forest resources (Okello 1994, Bjordalen et. al., 1992, VPO 1999a&b). Current studies on Tanzania forest cover have indicated that between 1970 and 1998, Tanzania lost around 10 million ha of forests land to other land uses through uncontrolled

clearing of forests mainly for agriculture and livestock expansion (MNRT 1998a, MNRT2001a&b). Degradation of forests and deforestation is taking place both in Government Forest reserves and in un-reserved general land forests. (VPO 1997, UNEP 1998, UNDP 2000, Planning Commission 1996&1999, Salehe 1995).

3.3.2 Causes of forest degradation and deforestation

Degradation is considered as progressive removal of trees from a forest or woodland without requisite regeneration, while deforestation normally refers to clearing of a forest or woodland cover and replacing it with other land uses i.e. converting forest land to agriculture farms or settlement areas.

Causes of forest degradation in Tanzania that could lead to deforestation include:

- Cutting of trees for supply of energy mainly as firewood and charcoal for domestic purposes and use of firewood for agriculture and rural industries in tobacco curing, fish drying, brick burning and salt drying.
- Cutting of trees for production of poles, wood for carvings and sawn wood for local use and for export.
- Uncontrolled wild fires mainly in miombo woodlands.
- Overgrazing in forest areas, mainly during the dry season.
- Shifting cultivation in woodlands.

Direct causes of deforestation being experienced in Tanzania include:

- Extensive clearing of un-reserved forest land for establishment of agriculture and livestock farms.
- Clearing of forested land (reserved and un-reserved forests) for mining.
- Clearing of forested land (reserved and un-reserved) for settlement of refugees.

The above causes of forest degradation and deforestation are inter-linked with economical, social and political aspects at local, national and global level. Generic influencing aspects to forest degradation and deforestation include:

- Macroeconomic, political and social causes such as population growth and density, globalisation, poverty, unsustainable production and consumption pattern, ill-defined and implemented structural adjustment programmes, political unrest and wars.
- Institutional and social weaknesses such as lack of good governance, lack of secure land tenure and uneven distribution of ownership, loss of cultural identity and spiritual values, lack of institutional, technical and scientific capacity, lack of scientific knowledge and low or non use of local knowledge on management of natural resources.
- Market and economic policy failures such as under-valuation of forest services and non-wood products.
- Policy failures, such as ill-defined development programmes, ill-defined or un-enforced regulatory mechanisms, lack of clear environmental policies and environmental impact assessments at community level.

In many cases, the economic opportunities lost through forest degradation and deforestation are not realistically known (United Nations 1993, Mnzava 1989 Kaoneka 2000). One of the reasons for the apparently low value of forests in Tanzania (as indicated above section 3.2.5) is that most official statistics consider only the commercial marketed outputs of timber, poles and charcoal which their value represents a very small proportion of the total value of forest products harvested. Various studies have confirmed that the value of non-marketed forest products by communities is immense (IUCN 2001, Hezron Mogaka et.al., 2001, MNRT 2001a).

3.4 Evolution of policy thought

3.4.1 Historical process

Management of forest resources in Tanzania has been mainly under the government (Central and Local Authority) from 1953 to around 1998 using a policing system with minimal involvement of the surrounding communities. During this period, the Tanzania National Forest Policy of 1953 and the Tanzania Forest Ordinance, Cap 389 of 1957, guided management of forest resources. However, the policing system of managing forest resources has not been successful in Tanzania like in many other African countries due to rapid population growth with increasing demand of forest products. Government capability to police forest reserves has declined rapidly over the past two decades due to financial constraints and increasing pressure from local communities to clear forests for other land uses. For example, due to government weakness in policing forest reserves, some forest reserves have been completely cleared and turned

to agriculture or wasteland (MNRT 2001a-c). In order to enhance sustainable management of forests while contributing to community development a process of revising the forest policy was initiated.

The Forestry and Beekeeping Division of Tanzania initiated efforts to revise its Forest Policy of 1953 in early 1970s with objective of including the Ujamaa Policy concepts and involvement of local communities in management of natural resources. However, shortage of funds and rapid socio-economic changes in the country, dragged the initiative to late 1980s when active revision of the policy started as a component of the Tanzania Forestry Action Plan (TFAP) in 1989 with generous financial and technical support from various donors. Even with donor support, revision of the policy took about 9 years. Other sectors related to management of forests, i.e. wildlife, fishery, beekeeping, tourism etc had also initiated review of their policies, as it will be discussed later. It was agreed to coordinate the different policies under review to enhance multi sectoral cooperation in implementing the policies and minimise policy conflicts. Various national reforms, international/regional conventions socio-economic and cultural changes were also taking place and contributing to the process of policy reform as briefly discussed below.

Since the mid-1980's Tanzania has implemented various reforms in the political system, economic management and Government administration. In 1992, a multiparty democracy system was introduced and successful multiparty elections were held in 1995. The economic reform programmes that commenced in 1986 have converted the command-based economy into a market-oriented economy. Trade, exchange rates and interest rates are now fully liberalised. The reform of parastatals has privatised/divested about half of the more than 400 parastatals. The public service reform has cut down the workforce in Government from 335,000 in 1992 to around 270,000 in 1997. Local governments have been strengthened through the Local Government Reform Programme (Planning Commission 2000).

Tanzania has recognised the importance of creating an enabling environment for the local community to participate effectively in national development programmes. Empowerment of grass root institutions and communities is taken as an important policy issue for promoting democratic systems and economic development. While gross economic growth is necessary, it is however, important to ensure that it is broad-based and centred on improving the livelihoods of the poor.

Since 1980 onwards, various international and regional conventions of which Tanzania is a signatory have been made. Implementation of the conventions has necessitated revision of sector policies. For example, management and utilisation of forest resources in Tanzania is taking into account global and regional conventions, agreements, resolutions and recommendations of international organisation conferences and other programmes. The UN Conference on Environment and Development (UNCED) in 1992 adopted globally authoritative Forest Principles and cross-sectoral recommendations on forest conservation (Chapter 11 of Agenda 21) encompassing holistic and cross-sectoral approach and stressing the sovereign right of individual countries towards sustainable forest management.

International conventions and agreements of which Tanzania is a member include:

- Convention on Biodiversity (CBD).
- Convention to Combat Desertification (CCD).
- United Nations Framework Convention on Climate Change (UNFCCC and the Kyoto protocol).
- United Nations Forum on Forests (UNFF).
- Convention for Protection, Management and Development of the Marine and Coastal Environment of the Eastern Africa region and related protocols.
- Convention on Wetlands (Ramsar Convention).

Regional co-operations of which Tanzania is a member with forestry implications are:

- The Southern Africa Development Community (SADC).
- The East African Community (EAC).

Tanzania having signed and being a party to the above conventions, protocols and co-operation, has the obligation of implementing agreed initiatives and recommendations that include development of policies supporting sustainable forest management and utilisation of forest resources. (Annex 2 provides a summary of obligations, opportunities and implications of international conventions to management of forest ecosystems).

Rapid population growth in Tanzania from 7 million people (in 1961) to over 33 million people (in 2000) has created land pressure in isolated areas and unwise utilisation of natural resources. Migration of people from rural to urban areas is also changing utilisation of natural resources and living patterns. The percentage of urban population has changed from 15% in 1970s to 25% in 2000. Government role on natural resource management has also changed from that of control and policing to that of providing enabling environment to the private and business sector to manage natural resources (MNRT 1998a, Planning Commission 2000).

Eradication of poverty, improvement of livelihood, mainstreaming gender, environmental conservation, involvement of local communities and multi-sectoral co-operation in development programmes were also high in national agenda for inclusion in policy formulation and revision (Ministry of Science, Technology and Higher Education 1996, MNRT 1999).

3.4.2 Studies and involvement of stakeholders to identify strength and weaknesses of the old forest policy

Specialists of various fields on forest ecosystem management conducted in-depth studies to analyse strength and weaknesses of the forest policy of 1953 and its implementation. Most of the studies were conducted under the TFAP. The main strength of the old policy was that it provided initial guidance for conserving forests and its main weaknesses were lack of coordination between forest officials and the local community in managing forest resources. The old policy did not include a monitoring system and time frame for revising its implementation resulting to its use from 1953 to 1998 when the revised policy was approved.

Main emphasis of the old forest policy of 1953 was production of timber and conservation of water catchment areas. Sustainable supply of non timber products, which were used by the majority of local communities living close to forests and biodiversity conservation were ignored. In brief, the main objectives of the old forest policy of 1953 were:

- To demarcate and reserve permanently all land supporting productive forests or capable of supporting productive forest, which can best be utilised under forest production, taking into consideration other land uses. To manage these forests efficiently and ensure a perpetual supply of forest products to the present and future generations with surpluses for export where possible.
- To reserve and conserve all water catchment forests and land liable to soil erosion.
- To undertake continuous research in all sectors of forestry in order to increase efficiency in managing forest lands and in the utilisation of forest products.
- To train enough Tanzanians in professional and technical cadres to manage the forests.

Concerted efforts were made to identify and involve all relevant stakeholders in the process of revising the forest policy of 1953 from national to village level with a forward and backward linkage in learning and sharing experiences between stakeholders. Participatory involvement of relevant stakeholders enhanced the policy formulation process to address broad development and problem issues on the entire society on sustainable management of forest ecosystem based on felt needs of the society. Study results facilitated the formulation process to be well informed of the previous process hence building upon best field practices from the previous efforts. The process involved high levels of government representatives from village to national level in formulating the policy hence making it public owned.

3.4.3 General features of the revised forest policy of 1998

The new National Forest Policy of 1998 vests the responsibility of managing Tanzania forest resources sustainably under the forest sector in collaboration with other stakeholders. The policy emphasises on participatory management and decentralization. The overall goal of the new policy is *“to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations”*.

The objectives of the policy are to:

- Ensure sustainable supply of forest products and services by maintaining sufficient forest area under effective management.
- Increase employment and foreign exchange earnings through sustainable forest-based industrial development and trade.
- Ensure ecosystem stability through conservation of forest biodiversity, water catchment and soil fertility.
- Enhance national capacity to manage and develop the forest sector in collaboration with other stakeholders.

Main changes on management of forest ecosystems made by the forest policy of 1998 that are intended to intensify conservation of natural forests, biodiversity and improvement of community livelihood include:

- Clearing of indigenous forests and replacing them with exotic tree species have been stopped.
- Monoculture plantations are discouraged. Emphasis is now on mixed species plantation with conservation of indigenous tree species to intensify biodiversity conservation
- Community participation in management of forest plantations is encouraged through JFM.
- Helping villagers (communities) to select and set aside degraded and village forested areas to be conserved and managed as village forests.
- Assisting villagers to enact by-laws for conserving their village forests through Community Based Forest Management (CBFM).
- Assisting villagers to prepare management guidelines for their village forests. (MNRT 2001b).

4 ANALYSIS OF POLICY AND LEGAL FRAMEWORKS RELATED TO FOREST RESTORATION

4.1 Sector policies and overall national strategies analysed

Literature review and experience has shown that many of the causes to forest degradation and deforestation emanate from non-forest sectors, such as agriculture, livestock, land use, energy, minerals and others (ACTS-UNEP 2001, VPO 1999a and MNRT 2000a). Effective conservation of forests therefore requires cooperation of other sectors. To enhance, multi-sectoral cooperation in conservation of forests a total of 13 national sector policies and three overall national development strategies were analysed using a pre-prepared logical framework as a tool (Annex 3) to determine their support to forest restoration. Twelve FLR parameters were considered in analysing each policy and strategy with ranking of each parameter at four levels ranging from: very supportive (++), quite supportive (+), neutral (0) and prohibitive (-).

The sector policies analysed are:

- Tanzania National Forest Policy (1998)
- Tanzania National Environmental Policy (1997)
- The Agriculture and Livestock Policy of Tanzania (1997)
- The Wildlife Policy of Tanzania (1998)
- National Fisheries Sector Policy and Strategy Statement (1997)
- The National Beekeeping Policy of Tanzania (1998)
- The National Energy Policy (1992)
- The National Land Policy (1995)
- Tanzania National Policy on Women Development and Gender (2000)
- The Mineral Policy of Tanzania (1997)
- National Tourism Policy (1999)
- The National Science and Technology Policy for Tanzania (1996)
- The National Youth Development Policy (1996)

Overall national development strategies analysed are:

- The Tanzania Development Vision 2025 (1999)
- The Tanzania Poverty Reduction Strategy Paper (2000)
- The Tanzania Assistance Strategy (2000)

4.2 Results of sector policies and national development strategies analysis

4.2.1 Logical Framework Parameters

To enhance comparison and identification of potential areas of policy intervention, results on analysis of sector policies and overall national development strategies are presented by considering each of the 12 parameters of logical framework. Table 3 contains summary results on FLR parameter ranking for sector policies and national development strategies. Brief discussion based on the results on table 3 are presented for each FLR parameter covering all policies and strategies analysed, starting with the first to the last parameter.

Table 3
Summary results on analysis of sector policies and national development strategies

	Related to forest restoration	Relevance to landscape perspective	Support restoring forest functionality	Restoration functions supported	Trade-offs at landscape level	Two filters support livelihood	Devolving decision making to local people	Building consensus FLR	Strategic partnership with stakeholders	Halting pressure of forest functionalities	Innovation -new ideas approaches	Multi-sectoral -link to other sectoral goals
Parameter No.	1	2	3	4	5	6	7	8	9	10	11	12
National Sector Policies												
1	National Forest Policy	++	++	++	++	+	++	++	+	++	++	++
2	National Environmental Policy	++	+	+	+	+	+	+	++	+	++	++
3	Agriculture and livestock Policy	+	0	0	+	0	+	+	0	++	+	++
4	Wildlife Policy	++	++	+	+	0	+	++	+	++	++	++
5	Fishery Policy	++	0	+	+	0	0	++	+	++	++	++
6	Beekeeping Policy	++	++	++	++	+	++	++	++	++	++	++
7	Energy Policy	++	0	++	++	0	++	+	+	++	+	++
8	Land Policy	++	++	0	0	+	0	++	0	++	+	++
9	Women Development and Gender Policy	0	0	+	+	0	+	+	0	++	+	++
10	The Mineral Policy of Tanzania	++	0	0	0	+	0	++	0	++	++	++
11	The National Tourism Policy	++	++	++	++	0	+	++	++	++	++	++
12	The National Science and Technology Policy of Tanzania	++	++	++	++	0	++	+	++	++	++	++
13	National Youth Development Policy	+	0	0	0	0	0	+	0	++	0	++
National overall strategies												
1	Tanzania Development Vision 2025	+	0	0	0	0	0	++	0	++	0	++
2	Tanzania Poverty Reduction Strategy Paper (PRSP)	0	0	+	+	0	+	++	0	+	0	++
3	Tanzania Assistance Strategy (TAS)	++	+	+	+	0	+	++	0	++	++	++

Annex 2 contain details on the parameter numbers

Key: ++ very supportive, + quite supportive, 0 neutral and - prohibitive or making matters worse

4.2.2 Direct or indirect relation to forest restoration

All the policies and strategies analysed had direct relation to forest restoration mainly in terms of environmental and ecosystem conservation. Ten sector policies (out of the 13 reviewed) had very supportive statements on forest restoration namely those of: forestry, environment, wildlife, fishery, beekeeping, energy, land, minerals, tourism and national science and technology. Two sector policies (Agriculture/livestock and Youth Development) had quite supportive statements on forest restoration while the policy on Women Development and Gender was rather neutral on forest restoration.

With regard to the overall national development strategies, The Tanzania Assistance Strategy (TAS) had very supportive statements on forest restoration. Section 4.1.6.1 states that *“Activities such as deforestation and extensive agricultural practices reduce the vegetal capital stock, the water retention capacity of land and increase erosion. Protected areas have recently been encroached upon for farming and settlement. Overgrazing, ground fires and felling of trees for energy, construction etc., reduce the regeneration of plants and animals. Deforestation is estimated to expand rapidly at around 300,000 – 400,000 hectares per annum. The end results are rapid depletion of the natural resources and people’s livelihoods, health hazards and intensification of poverty. While it is important to address each of these problems separately, comprehensive solutions call for mutually reinforcing interventions”* TAS outlined key priority areas for solving the identified problems that include conservation of degraded forest areas, promotion of traditional biodiversity conservation practices and integrated conservation of coastal zone ecosystems.

The Tanzania Development Vision 2025 had supportive statements to restoration of forests. Section 3.3 states that *“It is also envisaged that fast growth will be pursued while effectively reversing current trends in loss and deforestation of environmental resources (such as forest, fisheries, fresh water, soils, Biodiversity) and in the accumulation of hazardous substances”*

The Tanzania Poverty Reduction Strategy Paper (PRSP) is neutral or silent on management of natural resources and environmental conservation. However, the PRSP identified key national priority areas for short and medium term funding by government and donors of which natural resources is not included. Priority sectors selected by the PRSP are education, health, agriculture, roads, water and judiciary (Planning Commission 1999 and 2000). However, experience shows that, sustainable conservation of forests is a pre-requisite for development of the priority sectors (IUCN 2001).

It is stated in the PRSP that the priority sectors (education, health, agriculture, roads, water and judiciary) were selected on democratic basis from workshops conducted at local levels. Lessons learned from the workshops conducted at local and national level shows that awareness on the contribution of forests to poverty eradication differs widely between local communities and national leaders. Workshop results from local communities did not include environment and conservation of forests as a priority for poverty eradication. However, the local communities requested extension services at village level to identify underlying factors of poverty and existing opportunities to eradicate poverty by using existing natural resources. This request provide a strong entry point for introducing FLR at village level as villagers could be assisted to realise and value the contribution of forests to their livelihood and poverty eradication hence the need for their active participatory involvement in programmes related to restoration of forests. On the other hand, workshop results from national level; with participation of donor representatives included environmental and forest conservation amongst the priority sectors for poverty eradication. Nonetheless, the priority sectors identified by the local community were adopted.

4.2.3 Support to forest landscape approach

Six sector policies (forestry, wildlife, beekeeping, land, tourism and Science and technology had very supportive statements acknowledging the importance of working/planning at the landscape level. For example the forest policy section 2.3 emphasis on *“Conservation of the country’s unique ecosystem and biological diversity, considering the needs of local populations and appropriate management and utilisation methods.”* The wildlife policy (sections 1, 2.2 and 3.3.3) emphasis on landscape approach in ecosystem and biodiversity conservation. Strategies of managing wildlife and other natural resources should be based on the ecosystem rather than on administrative boundaries. The tourism policy section 2.0 states that *“Tanzania’s competitive strengths in tourism lie in the abundant and diverse wild-life, the spectacular landscape and scenery, an unspoilt environment, a friendly people and the existence of other economic sectors that have the potential to support the tourism (e.g. the mining sector)”*

The national environment policy has quite supportive statements on landscape. For example section 18c states that it is important *“to conserve and enhance our natural and man-made heritage, including the biological diversity of the unique ecosystems of Tanzania”* Six sector policies (agriculture/livestock, fishery, energy, women, mineral and youth) were neutral on landscape approach.

TAS has supportive statements on landscape mainly on section 4.1.6.2 that list priorities for action for the way forward on environment and natural resource management. However, the Tanzania Development Vision 2025 and PRSP are neutral on landscape approach.

4.2.4 Support restoration of forest functionality

Sector policies with very supportive statements on restoration of forest functionality were five (forestry, beekeeping, energy, tourism and science and technology). Section 2.2 of the forestry policy states that *“Tanzania has huge potential for non-wood products. The most important are tourism, game, bee products especially honey and beeswax, tannins and gum arabic. The bulk of non-wood products however, still remain unknown and un-developed. The management and utilisation of these resources could be developed through multi-purpose forest management, local processing and improved marketing.”* Section 4.1 states that *“All central and local government forest reserves will be demarcated on the ground, management objectives defined, and multiple-purpose forest management plans prepared based on reliable inventory data and covering all different uses of forests”* Section 4.2.4 states that *“The main non-wood forest products include gums, resins, bark, tannin, aromatics, latex, natural dyes, fruits and nuts, fibre, spices, naval stores, medicinal plants etc. Decline of natural forest cover and over-harvesting of some tree species have contributed to the reduction of the resource base”* The beekeeping policy section 3 and 4 emphasis on the importance of restoration of forest functions at ecosystem level to enhance contribution of the beekeeping sector to sustainable development of Tanzania. Sections 135, 137, 138 151 and 152 of the energy policy emphasis restoration of forest functionality to enhance woodfuel supply, water catchment and environmental conservation. The tourism policy section 5.2 emphasises on conservation of ecosystems that will enhance eco-tourism. One of the sentences in section 5.2 states that *“Putting into place mechanisms that will ensure tourist activities respect use of biodiversity, wildlife conservation, beaches and other naturally occurring phenomena of aesthetic value”* Section 16 of the National Science and Technology Policy emphasis promotion of rational utilisation of natural resources, including energy resources and environmentally sound technologies in order to maintain ecological and social balance.

Sectors with quite supportive statements were four (environment, wildlife, fishery and women development). The environmental policy provided holistic statements on the importance of sustainable management of ecosystem to enhance livelihood. Section’s 2.2 and 3.3.8 of the Wildlife policy emphasis restoration of forest functionality, covering management of wetlands, miombo woodlands and thickets to enhance ecosystem conservation and management of wildlife.

Sector policies with neutral statements were four (agriculture/ livestock, land, mineral and Youth). They support environmental conservation, but their policy documents do not have sections outlining restoration of forest functions.

TAS and PRSP have quite supportive statements on restoration of forest functionality. Section 4.1.6.2 of TAS promotes conservation of soil, water and biodiversity at ecosystem level. Chapter IV sub-section e of PRSP states that *“The poor in Tanzania are heavily dependent on the environment. Specifically households in Tanzania are heavily dependent on environmental resources for income generation. For example, as much as 50 percent of their cash incomes in some areas derive from the sale of forest products such as charcoal, honey, wild fruits and firewood”*. However, the Tanzania Development Vision 2025 is neutral on restoration of forest functions.

4.2.5 Identification of forest functions to support

Five sector policies (forestry, beekeeping, energy, tourism and science/technology) had very supportive and clear statements on the type of forest functions they were going to support, in general covering wood products, non-wood products and several services provided by forests like protection of water catchment prevention of soil erosion etc.

Sector policies with quite supportive statements and identification of some of the functions to support were also five (environment, agriculture/livestock, wildlife, fishery, and women development. For example the Wildlife policy emphasised on biodiversity conservation and sustainable management of wildlife. The National Policy on Women Development and Gender (section 14f) put emphasis on supply of firewood, water catchment and production of non-wood products.

Sector policies with neutral statements were three namely land, mineral and youth.

TAS and PRSP have quite supportive statements on types of forest functions to restore, stressing the multiple functions that forests offer, and also stressing the importance of trying to maximise the generation of multiple functions of forests as opposed to single or few functions. For example TAS indicated conservation of water, soil erosion and biodiversity and supply of fuelwood and other wood products. PRSP mentioned charcoal, honey, firewood and wild fruits. However the Tanzania Development Vision 2025 is neutral.

4.2.6 Supporting and making forest function trade-offs at landscape level

Results showed that the concept of making forest function trade-offs at landscape level is weak to most sectors and at policy level. Trade-offs require sacrificing a particular forest function (or functions) in one part of a landscape, if it is already well catered for in another area of the landscape. Only five sector policies (forestry, environment, beekeeping, land and minerals) had quite supportive statements on trade-offs. For example the Forest Policy section 4.3.1.1 states that *“New forest reserves for biodiversity conservation will be established in areas of high biodiversity value. Forest reserves with protection objectives of national strategic importance may be declared as nature reserves”* The Mineral Policy section 3.3.12 states that *“To ensure the sustainability of mining, here is a need to integrate environmental and social concerns into mineral development programmes. Sustainable mining development requires balancing the protection of the flora and fauna and the natural environment with the need for social and economic development”* One of the objectives of the mining sector on environmental conservation (section 3.3.12.1) is *“Setting appropriate guidelines for allowing the conduct of mining in restricted areas such as forests, national parks, sources of water and other designated areas”*

The other sector policies and national strategies had neutral statements.

4.2.7 Acknowledge the role of forest functions in support of human well-being

Sector policies with very supportive statements on this aspect were four (forestry, beekeeping, energy and science and technology). For example sections 2.1 to 2.4 and section 4.2.5 of the Forest Policy provide a list of forest functions in support of human well-being.

Sector policies with quite supportive statements on role of forest functions in support of human well-being were five (environment, agriculture/livestock, wildlife, women and tourism). For example the role of forest functions in support of human well-being is recognised by the Agriculture/livestock policy through conservation of water catchment and soil erosion control.

Sectors that are neutral were three (fishery, land and youth). Forestry contributions to fishery and land conservation are many, as such the neutral situation in the fishery policy was rather a surprise. However, discussions with fishery officials, confirmed that they strongly support conservation of forests. Emphasis in the fishery policy was directed to fish products, but importance of environmental conservation was implied in all programmes of the fishery sector.

TAS and PRSP have quite supportive statements on the role of forest functions in support of human well-being. However, the Tanzania Development vision 2025 was neutral.

4.2.8 Devolving decision making to local people

Seven sector policies (forestry, wildlife, fishery, beekeeping, land, minerals and tourism) had very supportive statements of devolving decision making to the local people. For example the Forest policy section 4.1.1 has a statement indicating that *“In order to improve forest conservation and management and to ensure equitable sharing of benefits amongst all stakeholders, joint management agreements between the central government, specialised executive agencies, private sector or local communities or other organisations of people living adjacent to forest, will be promoted. The local communities will be granted appropriate user rights for forest produce and forests will be managed in accordance with approved management plans”*. Section 4.1.2 of the Forest policy states that *“To reduce uncontrolled use of forests, allocation of forests on public lands to villages, private individuals and the government will be promoted so as to have a defined owner. The primary policy instrument in this regard is establishment of village forest reserves. Village institutions will be granted appropriate user rights as incentives for sustainable forest management including rights to indigenous trees. The other instruments include the allocation of forest to private*

individuals and the establishment of central and local government forest reserves. Accordingly, central, local and village governments may demarcate and establish new forest reserves”

Six sector policies (environment, agriculture/livestock, energy, women, science and technology and youth) had quite supportive statements on the concept. Also the three national strategies had very supportive statements on involving local communities in all development activities. For example the Tanzania Development Vision 2025 section 4.3 (iii) states that *“Deliberate efforts must be made to empower the people and catalyse their democratic and popular participation. The strategy should entail empowering local governments and communities and promoting broad-based grassroots participation in the mobilisation of resources, knowledge and experience with a view to stimulating initiatives at all levels of society”* TAS section 3.2 states that *“Tanzania recognises the importance of creating an enabling environment for the citizenry to participate effectively in national development activities. Empowerment of grass roots institutions and communities is an important step towards promoting democratic systems and improving accountability”*

4.2.9 Flexibility for building consensus about forest restoration

The concept of flexibility for negotiations aimed at building consensus about forest restoration was observed to be weak, with neutral statement in five sector policies (agriculture/livestock, land, women, mineral and youth) and by all the three reviewed national strategies. Sectors with very supportive statements on the concept were three (beekeeping, tourism and science/technology). For example section 5.13 of the Tourism policy states that *“The relationship between the environment and development of sustainable tourism is so closely knit that the two cannot be dealt with in isolation. Protection enhancement and improvement of various components of man’s environment are therefore among fundamental conditions for harmonious development of tourism. The government will ensure that development of tourism is based on careful assessment of carrying capacities of tourism products and ensure enhancement and improvement of special environment features in order that tourism development does not conflict with indigenous forests, beaches, mountains and other important vegetation”*

Sector policies with quite supportive statements were five namely: forestry, environment, wildlife, fishery and energy.

4.2.10 Development of strategic partnership with stakeholders

With exception of PRSP that had quite supportive statements, all the sector policies and the other national strategies had very supportive statement on development of strategic partnership with stakeholders (Table 3). For example, the Land Policy Section 8.2.0 states that *“the implementation of the National Land Policy will require the participation of many actors”*. Section 8.2.1 of the land policy provide statements of strategic partnership that include:

- (iv) *All ministries, public and private institutions whose functions are associated with land development will work together with the Minister responsible for lands to ensure efficient implementation of the national land policy,*
- (v) *Local Authorities shall work together with the Minister responsible for lands to ensure proper land administration in their respective areas of jurisdiction.*
- (vi) *Non-governmental and community based development organisations, etc., will be encouraged to participate in effective utilisation of land*

4.2.11 Attempting to halt pressure that reduces forest functionality

All the sector policies had supportive statements to halt pressure that reduces forest functionality mainly through environmental conservation. Sectors with very supportive statements are 7 (forestry, wildlife, fishery, beekeeping, mineral, tourism, and science/technology). For example section 4.1.2 of the Forest Policy states that *“To enable sustainable management of forests on public lands, clear ownership for all forests and trees on those lands will be defined. The allocation of forests and their management responsibility to villages, private, individuals or to the government will be promoted. Central, local and village governments may demarcate and establish new forest reserves”* It is also stated that *“To reduce un-controlled use of forests, allocation of forests on public lands to villages, private individuals and the government will be promoted so as to have a defined owner. The primary policy instrument in this regard is the establishment of village forest reserves. Village institutions will be granted appropriate user rights as incentives for sustainable forest management including rights to indigenous trees”*

Sectors with quite supportive statements are 6 (environment, agriculture/livestock, energy, land, women and youth). TAS has very supportive statements on attempt to halt pressure that reduces forest functionality but, PRSP and the Tanzania Development Vision 2025 are neutral.

4.2.12 Supporting or encouraging development of new ideas

All the sector policies and national strategies reviewed are supporting development of new ideas. Policy makers and implementers of the policies are encouraged to be innovative and open to new ideas beyond the traditional system of managing natural resources. Science and technology is emphasised to have a central role in implementing all policies. For example the Tanzania Development Vision 2025 section 4.2 (vi) states that “ *The quality of livelihood should be raised by increasing the level of productivity in all sectors. This goal can be achieved by transforming the economy into strong, resilient and competitive one, buttressed by science and technology*”

Sectors with very supportive statements on encouraging development of new ideas are 9 (forestry, environment, wildlife, fishery, beekeeping, energy, mineral, tourism and science/technology). Those with quite supportive statements are 4 (agriculture/livestock, land, women and youth).

4.2.13 Provision of strong links to other sector goals and strategies

Sector policies and national strategies reviewed all have very supportive statements providing strong links to other sector goals and strategies. The links could enhance introduction and promotion of FLR that requires multi-sectoral co-operation in its implementation.

4.3 Donor policies

Tanzania has a long history on development co-operation programmes which dates back to the early 1960s at the time of independence. Donor assistance has therefore played and continues to play an important role in the development of Tanzanian economy. Currently donor contribution accounts for 80 percent of the total government development budget (Planning Commission 1999&2000). Tanzania has development co-operation programmes with over 50 government/donors, international financial institutions and NGOs covering hundreds of projects virtually in all sectors. External assistance to Tanzania averages US\$ 900 million per annum between 1994-1997 (Planning Commission 2000).

Recent developments on aid fatigue, rising corruption and lack of progress in reducing poverty have generated strong debate on the effectiveness of aid to Tanzania. To enhance donor assistance to Tanzania, the government has collaborated with donor agencies to harmonise donor policies in Tanzania both at national and international levels. Some of the most recent developments in donor policies include the following:

- The New Nordic –Tanzania Development Partnership,
- OECD’s DAC – Shaping the 21-Century,
- The Tokyo International Conference on African Development (TICAD II),
- The Tokyo Agenda for Action,
- The Stockholm Workshop on Making Partnerships Work on the Ground.

Main emphasis on the above initiatives that are considered as guiding policies for donor support in Tanzania is on:

- Promoting local ownership and leadership
- Promoting partnership
- Improving aid co-ordination mechanism
- Improving transparency, accountability and predictability of aid
- Harmonising donor policies and procedures
- Strengthening capacity of aid recipient Government.

To address the above concerns, the government of Tanzania in collaboration with development partners, prepared the “Tanzania Assistance Strategy” (TAS). The Planning Commission (2000) indicated that the Tanzania Assistance Strategy is not a programme or project, but a process for enhancing effective donor support to Tanzania development and poverty eradication.

Based on TAS, the guiding donor policies in Tanzania are stated to include:

- Adoption of the TAS initiative as a basis for formulating country strategies as appropriate.
- Adopt joint action approach and harmonised rules and procedures for donor support, mainly using the basket funds system as basis for the way forward.
- Harmonise accounting of donor funds by using the computerised Integrated Financial Management System (IFMS) which is expected to restore fiscal discipline, accountability and transparency.
- As far as possible untie aid and provide technical assistance for capacity building.
- As far as possible donor support to be in form of programmes/budgetary support and less project type support as means for harmonising donor rules and procedures.
- Decentralise authority to decision making to the country missions in order to expedite and deepen consultations.

Donor representatives contacted in Dar es Salaam for the study indicated that they do not have specific funding policies for Tanzania. TAS was cited as the main guiding policy for all donors in Tanzania. As discussed earlier, TAS was analysed as a component of national strategies using the pre-prepared logical framework (Annex 3). Results showed that TAS has supportive statements to 10 of the FLR parameters. However, TAS is neutral on trade-offs and building consensus about forest landscape restoration.

To meet identified local needs, TAS funding priority sectors are the same as those identified by the PRSP and the Tanzania Development Vision 2025 of which forestry is not included. Although forestry is not amongst the priority sectors in Tanzania, literature review and consultation with donor representatives revealed that by end of 2000, Tanzania had over 24 donor supported forestry projects, that were being implemented in 16 regions (Annex 4). The current scale of forestry projects funded by donors could be a good indicator of continuing to get donor funding for FLR programmes within the forestry sector. Main reasons for the continued support could be attributed to donors' awareness on the contribution of forests to environmental conservation and poverty eradication. The high awareness and possible continued financial support to the forestry sector is also illustrated by the TAS support to most of the parameters of FLR.

5 ANALYSIS OF EXISTING INITIATIVES

5.1 Levels of analysis

Analysis of existing initiatives was undertaken at two levels. The first level covers, analysis of the National Forestry Programme, which was the initial initiative undertaken in Tanzania to facilitate implementation of the Forest Policy of 1998. The second level is analysis of ongoing specific field activities to explore level of adoption of the forest policy directives, implementation strategies and guidelines provided by the National Forest Programme.

5.2 National Forestry Programme

5.2.1 Need for Strategic Planning to enhance implementation of the forest policy

The National Forest Policy emphasises that sustainable management of natural resources require strategic sectoral planning, which takes into account changes in the macro economic policies towards market economy, participation of the private sector and other relevant stakeholders. To enhance effective implementation of the National Forest Policy, strategic planning through a National Forest Programme was initiated.

The National Forest Programme (NFP) is a framework to address Forestry and Beekeeping issues within the context of sustainable development. The programme follows a participatory planning and implementation approach that encourages the involvement of all forest and forest – resources dependant actors at local, national and global levels and the development of partnership between all stakeholders with regard to management of forest resources and the need for country leadership and responsibility. In a nutshell the National Forest Programme (NFP) is:

- A framework for planning that provides strategic orientation for the forestry sector in harmony with other sectors of the national economy.
- A framework for action, which provides an environment for concerted and co-ordinated implementation programmes and activities by all stakeholders based on mutually, agreed objectives and strategies.

Based on participatory process from grass root communities, the NFP have identified four development programmes (initiatives) for implementing the forest policy, based on felt needs of the community and other stakeholders. The programmes in priority list and main activities in each programme are:

- Forest Resources Conservation and Management Programme. It aims at promoting stakeholders participation in the management of natural and plantation forests, giving priority to ecosystems conservation, catchment areas and sustainable utilisation of forest resources.
- Institutional and Human Resources Development programme. It aims at strengthening institutional set up, co-ordination of forest management, establishing sustainable forest sector funding and improvement in research, extension services and capacity building through human resources.
- Legal and Regulatory Framework programme. It focuses on the development of regulatory issues including the Forest Act, rules, regulations and guidelines to facilitate operations of the private sector and participatory management of forest resources.
- Forestry Based Industries, Products and Sustainable Livelihood programme. It is intended to enhance forest industry development by promoting private sector investments, improving productivity and efficiency and to tap the income generation opportunities provided by non-wood forest products.

Analysis of the forestry programmes, using the FLR parameters showed that, the first priority programme “Forest resources conservation and management” support field implementation of FLR while the other priority programmes (ii-iv) would provide service support to the first priority. Analysis of ongoing categories of field activities under the forest resources conservation was made using the FLR logical framework to determine their support to forest restoration (Table 4 provide a summary of the logical framework analysis, covering the 12 parameters used for policy analysis)

5.2.2 Categories of field activities under the Forest Resources Conservation programme

On going field activities under the forest resources conservation programme with generic national approach based on management objectives, location and ownership could be grouped into 5 categories namely:

- Conservation of State owned Forest reserves for productive purposes mainly to generate revenue through sale of wood products like timber, poles, charcoal, firewood etc.
- Conservation of State owned Forest Reserves for protective purposes to conserve watershed areas, soil conservation and nature reserves to enhance biodiversity conservation.
- Establishment of industrial forest plantations, normally within productive forest reserves using fast growing tree species.
- Community Based Forest Management in un-reserved forest areas to reduce forest degradation and deforestation in un-reserved forest areas through active community participation in management of forests
- Agro-forestry and tree planting in farmland to enhance environmental conservation in farm land i.e. establish of wind breaks and intensify supply of wood products in farm land in order to reduce pressure from natural forests.

Table 4
Summary results of national field forestry programmes with respect to FLR

	Related to forest restoration	Relevance to landscape perspective	Support restoring forest functionality	Restoration functions supported	Trade-offs at landscape level	Two filters support livelihood	Devolving decision making to local people	Building consensus FLR	Strategic partnership with stakeholders	Halting pressure of forest functionalities	Innovation -new ideas approaches	Multi-sectoral - link to other sectoral goals
	1	2	3	4	5	6	7	8	9	10	11	12
National Forestry programmes												
1	++	++	++	++	+	++	++	++	++	++	++	++
2	++	++	++	+	+	++	++	++	++	++	++	++
3	+	0	+	0	0	+	+	+	+	+	++	+
4	++	++	++	++	+	++	++	++	++	++	++	++
5	+	0	0	0	0	++	++	++	++	0	++	++

Annex 3 contain details on the parameter numbers

Key: ++ very supportive, + quite supportive, 0 neutral and – prohibitive or making matters worse

Main characteristics of the five categories with reference to introduction and support of FLR are highlighted.

Conservation of State owned forest reserves for productive purposes

Main objectives of the category are:

- To maintain sufficient forest area under effective management that will enhance sustainable supply of forest products and services.
- To ensure ecosystem stability through conservation of forest biodiversity, water catchment and soil fertility.
- To support forest wood-based industries which will provide employment opportunities to the community.

Prior to approval of the forest Policy of 1998, main strategy adopted for the category was gazetting large areas of natural forests as Central or Local Government Forest reserves and managing the Forest reserves by using paid forest workers. The forest Policy of 1998 has introduced community and other stakeholders' participation in management of forest reserves through Joint Forest Management. By end of year 2000, the area of forest reserves under active JFM was 70,135 ha with an additional 339,874 ha. under JFM proposal.

Lessons that have already been learned from the category shows that successful conservation and management of forest reserves require co-operation of the local community and other stakeholders. Also multi-sectoral efforts in management of forest reserves are required to minimise conflicts from different stakeholders.

Improvements that could be obtained by adopting FLR approach in managing protected forest reserves include: intensifying community involvement in management of forest reserves and giving a realistic economic value of forest reserves by considering wood, non-wood products and services provided by the forests to the community.

Conservation of State owned Forest Reserves for protective purposes

Main objectives of protective forest reserves are to enhance sustainable supply of water to the community and to conserve areas liable to soil erosion. Strategies that have been used for managing protective forests include:

- Declaring potential watershed forest areas as Central Government Forest Reserves.
- Protecting the watershed forest reserves using paid workers through the policing system.
- Management priorities are on water catchment and biodiversity conservation.

After approval of the forest policy of 1998, strategies for managing protective forest reserves were modified to include community participation in management of catchment forest reserves through Joint Forest Management (By end of 2000, a total of 116,985 ha of watershed catchment forests were under JFM proposal). Management objectives have been widened to cover supply of multiple products and services from the forests.

By end of year 2000, Tanzania had about 1.6 million ha of water shed forests, with concentration in four regions namely Kilimanjaro, Arusha, Tanga and Morogoro. Lessons learned from management of the protective forests include:

- Increasing pressure from surrounding communities to clear the forests for agriculture expansion and other land uses due to rapid population growth.
- Policing of watershed forests is not successful.
- Management of watershed forests should include provision of other forest functions and not confined to water.
- Community involvement in management of watershed forests is important.
- Effective management of watershed forests requires coverage of large areas on a landscape level.

Improvements that could be obtained by introducing FLR approaches in managing protected forest reserves include: managing the forests with multi-purpose objectives and intensify involvement of the local community in managing the forests and supporting the idea of restoring forest functionality at landscape level.

Establishment of industrial forest plantations

Main objectives of the category are:

- To establish commercial timber and poles plantations, using fast growing tree species, like *Pinus patula*, *Cuppressus lusitanica*, *Tectona grandis* and *Eucalyptus species*.
- To support forest wood-based industries by ensuring sustainable supply of wood raw materials.
- To provide employment to local communities surrounding the plantations.

Main strategies applied for establishing and managing industrial plantations include: clearing of indigenous forests and replacing them with monoculture forests, use of paid labour for implementing its activities and no participatory involvement of the local community. Management priorities on industrial plantation are on timber and poles production.

The forest policy of 1998 have introduced changes to management objectives of industrial plantations that include: prohibiting clearing of indigenous forests and replacing them with industrial plantations, encouraging multiple use of forest plantations including biodiversity conservation and introduction of community participation in management of forest plantations through JFM as discussed earlier in section 3.2.3.

Main lessons that have been learned from managing industrial plantations include:

- Industrial plantations have reduced functions of forests producing mainly timber and poles and very little of non-wood products.
- In some cases wood production per unit area from industrial plantations have been lower than from the cleared natural forests.
- Community involvement in establishment and management of industrial plantations has been low leading to natural resources use conflicts in area with high population densities.

Improvements that could be made in management of industrial plantations by adopting FLR approaches include: use of different tree species instead of the monoculture system to enhance supply of multiple wood products, biodiversity and environmental conservation and intensifying involvement of local communities in management of industrial plantations.

Community Based Forest Management (CBFM) in un-reserved forest areas

Community Based Forest Management (CBFM) is a new approach to forest conservation and management that locates forest-local communities as primary management actors and in the process refines the role of Government foresters to be one of facilitation, technical support and the fulfilment of environmental watchdog functions. Communities, either as whole villages or groups of diverse types, generally manage the forest autonomously or sometimes, where the operational presence of Government foresters is required in partnership with those staff (MNRT 2001d). Sector policies and national strategies analysed for this study all support the involvement of local communities in future management of natural resources as the way forward for sustainable economic growth and conservation of natural resources. Literature review showed that most of the ongoing local and donor supported forestry and environmental conservation projects in Tanzania are geared towards providing enabling capacity to the local communities for managing natural resources. Main goal is to improve people economic well beings and eradicate poverty (Planning commission 1999&2000, Arnold&Bird 1999, FAO 2000a&b, FBD 1997, MNRT 2001b).

Main objectives CBFM in Tanzania include: to restore degraded forests in village land, to improve supply of forest products and services to villagers and to enhance environmental and biodiversity conservation at village level. Main strategies being used for promoting and implementing CBFM include:

- Creating awareness to the community on forest restoration and its functions.
- Helping villagers (communities) to select and set aside degraded village forested areas to be conserved and managed as village forests.
- Assisting villagers to enact by-laws for conserving their village forests.
- Assisting villagers to prepare management guidelines for their village forests.

Accurate data on areas under Community Based Forest Management in Tanzania is not readily available. However, the Forestry and Beekeeping division estimated that by end of 2000 there were around 373,335 ha, of degraded land and forests in village areas that were under CBFM (MNRT 2001 a). Lessons that have been learned in implementing CBFM in Tanzania include:

- Most of the CBFM projects in Tanzania are at infancy stage of implementation, hence it is not realistic to conclude if they are successful or not. The general trend is that most of the projects have shown indicators of encouraging results on management of forest resources through community initiatives. CBFM is dealing with problem-solving on management of natural forest resources hence both the community and foresters are implementing CBFM programmes through a process of learning by doing but with a vision of win-win strategy (Nshubemuki et. al., 1999, SIDA 2000, Wildlife Division 2000).
- Experience has also shown that, successful initiation and effective implementation of CBFM projects is largely influenced by effectiveness of integrated extension services by the forestry sector and other related stakeholders on sustainable management of natural resources (MNRT 2001b&d SIDA 2000, IUCN 2001, Epiq 2000, Gill Shepherd 2001). However, literature review showed that on average, forestry extension outreach on CBFM in Tanzania is less than 5 percent of the target population (Africare 1999, MNRT 2001a DANIDA 1999, IUCN 2000). Many researchers have recommended that concerted efforts are required to intensify integrated forest extension services to promote CBFM programmes (Akech 2001, MNRT 2001d, Turuka 1998, TFAP 1989, Planning Commission 1999&2000).
- Benefits accruing from forest resources management constitute an important element of motivation for stakeholders to engage in CBFM in order to offset costs. So far, formal and transparent mechanisms for equitable benefits including revenue and costs sharing in the ongoing CBFM and JFM projects have not been worked out (MNRT 2001a&d, Masayanyika&Mgoo 2001). As a means to improve their economic well being, communities tend to invest, where they can get better and quicker returns and within a short term (Kaale&Shilogile 2001).
- Various studies on CBFM have concluded that Community involvement in CBFM requires real power and rights, the necessary competence, the economic interest and committed wish to participate by all stakeholders (Kajembe&Kessy 2000a&b, Masayanyika&Mgoo 2001, Jeremy&Jan 2001, FAO 2000a&b, UNDP 1999).
- An enabling environment at village or local level for CBFM has to be created by the government through appropriate legal Acts. At local and national level, the government should have sufficient legitimacy, greater accountability and transparency in management, sufficient staff with knowledge and skills that will facilitate initiation and successful implementation of CBFM programmes country wise (MNRT 2001d, Epiq 2000, Emamanuel&Ephraim 2001a&b, FAO 1999&1998, FAO>Z 1999).
- Most of the CBFM projects in Tanzania have been initiated with donor assistance. Sustainability of the projects once donor support is withdrawn could be a problem (Wily et.al., 2000). Few projects have however, been initiated through local initiatives, but they are not widely reported. For example in Mwanza rural district - Mwanza regions, some village governments through own initiatives have conserved degraded hills with objective of enhancing restoration of forest cover (FRMP 1996).
- Dereda ward at the foot of the Rift Valley escarpment in Babati district, Arusha region is another good example of CBFM initiatives through local efforts. Due to population growth, Dereda area had lost most of its forest cover, causing fuelwood scarcity, drought, floods and drying of springs during the dry season. To solve the problem, in 1994 one village government in the ward initiated restoration of forest cover along the escarpment by stopping grazing and cutting of firewood within its village area. Intensive tree planting in farm land using fast growing species like *Grevillea robusta* and *Leucaena leucocephala* was promoted for supply of firewood, poles and timber. Within two to three years restoration of forest cover within the protected village area was significant. Noticeable indicators to villagers was decline of soil erosion, increase of water flow from springs, easy availability of medicinal plants and gradual return of wildlife to the restored forest. Success of forest restoration by the first village provided practical examples to other village governments, who initiated similar initiatives. Gill Shepherd (2001), reported that Dereda ward provide a good example of local initiatives in CBFM in Tanzania without donor support. He concluded that the main policy recommendation for CBFM must be to encourage independent planning and decision-making at local level as much as possible. It is only at implementation level that the fine adjustments needed for CBFM programme can be understood by relevant stakeholders, hence joint efforts in implementing CBFM with minimal conflicts from stakeholders.

Agro-forestry and tree growing in farmland

Main objectives of agro-forestry and tree growing in farm land include: enhancement of wood products supply and environmental conservation in farm lands, contribute to supply of food (growing fruit trees) and income generation by selling wood products and to provide alternative resource base of forest products in farm lands to reduce pressure from indigenous forests. Strategies applied for implementing agro-forestry and tree growing in farmland include:

- Awareness creation on the importance of agro-forestry and farmland tree growing
- Provision of technical assistance on production of seedlings, tree planting and management of planted trees in the farmlands.
- Provision of technical assistance on marketing of wood products from farmlands.

Intensive encouragement of agro-forestry and farmland tree growing started in 1975. Accurate data on number of trees planted annually by individual villagers, schools and institutions are not available. It is estimated that between 1975 and 1995 an average of 10,000 ha were planted annually on agro-forestry in Tanzania mainland. The area is estimated based on plantation establishment system at a planting spacing of 2.5m by 2.5 m. However, in the field, trees are planted randomly without any specific spacing.

Main lessons learnt in implementing agro-forestry and farm land tree growing include:

- Successful tree planting by few farmers in a village is providing effective demonstration to other farmers.
- Tree species selection for agro-forestry is weak, with concentration to few exotic species.
- Provision of technical assistance on management of planted trees in farmland also marketing of wood products from farmland is weak.
- Conservation and management of trees in farmland is rather easy as it is combined with agriculture production.

5.3 Analysis of specific field forestry projects

5.3.1 Projects analysed

Field studies were conducted in three regions, namely Coast, Kilimanjaro and Lindi. Seven ongoing forestry projects were analysed namely:

- Mangrove Management Project in Coast region.
- Ruvu Fuelwood Pilot Project in Coast region with JFM concepts.
- Kilimanjaro Catchment Forest Reserve Project with JFM concepts.
- West Kilimanjaro Industrial Forest Plantation.
- Rufiji Environmental Management Project with CBFM concepts,
- Village Based Forest and Woodland Management in Lindi region with CBFM concepts.
- TFAP-North Pare (Mwanga) project in Kilimanjaro region with Agro-forestry concepts.

The analysed forestry projects cover all the initiatives under the National Forestry Programme discussed in section 5.2 above. Eight FLR parameters were used to analyse the specific projects to determine their contribution and support to FLR (Annex 5). Brief historical description of the projects and their relevancy to FLR are highlighted.

5.3.2 Mangrove Management Project in Coast region

NORAD supports the Mangrove Management Project in Coast region and it covers four districts namely Bagamoyo, Mkuranga, Mafia and Rufiji with an estimated area of 68,390 ha as Forest Reserves. The headquarters' of the project is at Kibiti in Rufiji District. The project is managed using the policing system of forest reserves however; efforts are being made to introduce JFM by intensifying community awareness on the importance of mangrove ecosystem to poverty eradication and improvement of community livelihood.

Analysis of the project using the FLR parameters (Table 5) showed that the project had 4 very supportive elements to FLR, 3 quite supportive elements and one neutral one (*attempt to balance forest function trade-offs*).

5.3.3 Ruvu Fuelwood Pilot Project in Coast region with JFM concepts

The Forestry and Beekeeping Division with financial support from NORAD introduced on a pilot scale Joint Forest Management project at Ruvu Forest project in 1998, starting with a small portion of 1,900 ha in Ruvu North Forest Reserve which has an area of around 32,000 ha.

Project goal is to increase forest cover and forest-products production in a sustainable manner in the Ruvu Forest Reserve. Main purpose is to ensure that communities in the project area are increasingly involved and actively participating in sustainable management and utilisation of the Forest Resources.

There are many stakeholders to the project, both in direct and indirect terms. The main stakeholders include:

- Four villages participating in the project namely: Kongowe, Mkuza, Msangani and Mwendapole.
- Government and institution stakeholders namely FBD, ICRAF, HASHI, TAFORI, Sokoine University of Agriculture, District Councils, NGOs and CBOs.
- International Donor Agency – mainly NORAD.

Participatory local community's initiatives in economic development through wise use of natural resources are the main approaches of the project. To achieve the project goal and purpose, eight implementation technological components are used. They include; extension and training to stakeholders, establishment of woodlots by individual households, raising of tree seedlings through community efforts, community management of natural forests, introduction and development of wood-saving technologies, promotion of beekeeping, research and networking.

The project is following directives provided by the Forest policy of 1998 and is using strategies advocated in the National Forest Programme to enhance use of existing experiences. Analysis of the project using the FLR parameters (Table 5) showed that the project had 5 very supportive elements to FLR, two quite supportive elements and one neutral element (*balancing of trade-offs*).

5.3.4 Kilimanjaro Catchment Forest Reserve Project with JFM concepts

Administratively the project covers three districts namely Hai, Moshi and Rombo. The reserve was established in 1940 and it has an area of 107,828 ha. Prior to 1998, management of the reserve was based on policing with little involvement of surrounding local communities. Based on the New Forest Policy of 1998, management practices of the reserve have been modified to include improvement of local community livelihood and production of multiple forest products. To enhance community involvement, JFM has been introduced with financial and technical assistance from NORAD.

Analysis of the project based on ongoing JFM initiatives that were started in 1998 showed that the project had 5 very supportive elements of FLR and 3 quite supportive elements (Table 5). In addition to water catchment, current management plans include production of timber, biodiversity conservation, eco-tourism and production of non-wood products to the community.

To intensify villagers' participation, the project has assisted village governments to form village natural resource committees. By end of August 2001, natural resource committees had been established in 60 villages, 50 PRAs studies had been conducted and 40 villages had enacted their by-laws for enhancing community participation in managing the Kilimanjaro Catchment Forest on JFM principles.

Project officials reported that community participation in conserving the catchment forest is good, however, they were still experiencing few site-specific problems on wild fires, illegal timber harvesting, illegal grazing and encroachment. Concerted efforts are ongoing between the Forestry Division and village governments to stop the identified problems.

5.3.5 West Kilimanjaro Industrial Forest Plantation

The project started way back in 1954 during the colonial period by clearing natural forests and replacing them with exotic tree species for timber and poles production. After independence more open areas in the natural forest and those licensed to grow pyrethrum were changed into forest plantation. The total area of the project is 6,019 ha, out of this 4,458 ha is planted with trees. Main tree species planted at the project and their cover in percentage to the total planted area are: *Cupressus lusitanica* (70%), *Pinus patula* (20%) and *Eucalyptus saligna* (10%).

Originally management objectives of the project were:

- To supply enough raw material/timber to wood industries in Kilimanjaro and Arusha regions.
- To generate revenue from sale of timber and other forest products.
- To conserve water sources and regulate water flow.
- To provide employment opportunities to local communities.

To accommodate changes advocated in the Forest Policy of 1998, management objectives of the project have been modified to include:

- Conservation of indigenous forests and biodiversity.
- Intensify production of non-wood products which, are harvested from the forest by local communities like mushroom, traditional medicines, wild fruits etc.
- Intensify involvement of local communities in the management of the plantation. JFM opportunities are being explored.

Analysis of the project with respect to FLR parameters was made based on initiatives started in 1999, mainly as a result of the Forest Policy of 1998. Results showed that the project had 4 very supportive elements to FLR, two quite supportive elements and two neutral elements namely: *consideration of landscape approach and balance of trade-offs* (Table 5).

Main achievements include production of wood raw material for forest industries at an average annual rate of 12,000m³. Main problems experienced include:

- Shortage of funds to implement planned activities.
- Wild animals damage to exotic tree species.
- Infestation of cypress trees by aphid.

5.3.6 Rufiji Environmental Management Project (REMP)with CBFM concepts

The project covers Rufiji district in Coast region and it is funded by IUCN. It was started in 1997 and it is expected to continue with donor support for at least 10 years. The main goal of the project is: *“to promote the long term conservation through wise use of the lower Rufiji forests, woodlands and wetlands such that biodiversity is conserved, critical ecological functions are maintained, renewable natural resources are used sustainably and the livelihoods of the areas inhabitants are secured and enhanced.”*

Main objectives of the project within the first five years phase are:

- To promote the integration of environmental conservation and sustainable development through environmental planning within the Rufiji delta and floodplains.
- To promote the sustainable use of natural resources and enhance the livelihoods of local communities by implementing sustainable pilot development activities based on wise use principles.
- To promote awareness of the values of forests, woodlands and wetlands and the importance of “wise use” at village, district, regional and central government levels and to influence national policies on natural resource management emphasising the non-sectoral, multi-biome, integrated approach to the environment.

The project has conducted various socio-economic studies in Rufiji district to build a strong base for introducing community based forest management. Based on study results several workshops and seminars have been conducted to raise villager’s awareness on participatory management of forest resources. Villages covered by the project have established village environmental committees. Members of the committees are responsible of raising awareness on community forestry management in their respective villages. The project is providing periodic training to members of the environmental committees to improve their natural resource skills.

In the initial phase, villagers are encouraged to initiate community based forest management for forest areas within village boundaries that are not gazzetted as Forest reserves. Future plan is to extend the CBFM to include JFM that will cover existing forest reserves in the district.

Analysis of the project using the FLR parameters (Table 5) showed that the project had 4 very supportive elements to FLR, 3 quite supportive elements and one neutral element (*balancing of trade-offs*).

Representatives of few village government officials contacted at Ikwiriri ward indicated that CBFM is a new concept in Rufiji district. The village officials confirmed that the REMP project has contributed in raising villagers' awareness on the value of forests and the need for participatory efforts to conserve forests as a component of poverty eradication efforts.

5.3.7 Village Based Forest and Woodland Management in Lindi region with CBFM concepts

The Division of Forestry and Beekeeping in collaboration with DANIDA initiated the project in 2000. Swahili name of the project is UTUMI (utunzaji wa misitu) in English "Manage/protect forests". The initial span of the project with DANIDA support is 15-20 years. The main aim of the project is to improve environmental and biodiversity conservation while improving people's livelihood, through development of the local communities and support to more sustainable forest management and production methods.

Various studies have confirmed that the majority of local communities in Lindi region use and/or depend on the natural woodlands inside the forest reserves and on public lands. The communities are confronted with the choice between short-term survival strategies and their longer-term interest in maintaining the forest reserve and the public lands as an important source of economic goods and services. Implementation methodology of the project is based on participatory multi-sectoral co-operation with relevant stakeholders and communities. The project covers the whole Lindi region but in the initial phase it will concentrate its efforts in Lindi and Kilwa districts, covering two villages in each district.

The project has two main focal areas namely:

- To initiate and institutionalise community participation and involvement in natural resources (Community Based Forest Management and Joint Forest Management).
- To strengthen the institutional capacity of the District Authorities in order for them to improve their services to the community.

Main development objective of the project is to improve management and biodiversity conservation of the forests and woodlands of the Lindi region through sustainable village land-use practices contributing to improving the livelihood of the rural communities. The immediate objectives of the project are:

- Village/community based Joint Forest Management Plans in Forest Reserves and Community Based Forest Management Plans on public land, developed and initiated as an integral part of land use in four pilot villages.
- Increase capacity of the District to support long term participatory forest management as an integral part of land use in target areas in Lindi region.

By mid October 2001, the project had selected the initial priority villages in Lindi and Kilwa district. It had also conducted some socio-economic studies in Lindi region on use and management of natural resources. Study results are used to enhance successful introduction of CBFM/JFM initiatives in the region.

Analysis of the project document and initial activities in the field using the FLR parameters (Table 5) showed that the project had 5 very supportive elements to FLR, two quite supportive elements and one neutral element (*balancing of trade-offs*).

During the field visit to Lindi (October 2001) extensive and rather alarming rate of clearing natural forest for agriculture expansion was observed along both sides of main roads in Kilwa and Lindi districts. The clearing is so extensive to the extent a new comer could think refugees are settling in the area. Lindi region has a total population of 646,345 people with average population density of about 9.5 persons per sq.km, making Lindi region one of the least populated regions in Tanzania. Discussions with representatives of local communities in Kilwa and Lindi districts revealed the following reasons for the current extensive clearing of natural forests.

- Villagers are now allocating value to land, based on the new land policy of 1995, Land Act of 1999 and Village Land Act of 1999.
- Land tenure in Lindi region is mainly based on customary laws that are still adhered by the majority. Land ownership is based on clearing natural forests and replacing it with agricultural crops. Fallow periods are restricted to 3-5 years, after which village government officials can allocate the land to somebody else.

- A good way of securing long term tenure rights is to clear natural forests and plant tree crops like cashew nuts or coconuts.
- Improvement of transport accessibility to the South from Dar es Salaam is expected to invite investors in agriculture who could be allocated village land. Villagers also believe some of the investors will purchase land. To explore the opportunity of selling land, villagers are actively clearing natural forest to create tenure rights.

The UTUMI project is expected to intensify local community awareness on the need to conserve existing natural forests. The project will also educate villagers on land tenure aspects through CBFM and JFM initiatives.

5.3.8 TFAP-North Pare (Mwanga) project in Kilimanjaro region with Agro-forestry concepts

The Division of Forestry and Beekeeping initiated the project in 1992 in collaboration with GTZ who provided technical and financial support. The project operates in Mwanga district – Kilimanjaro region, covering an area of 420 km² with an elevation of 1200-2000 m.a.s.l and a precipitation of 850 to 1200mm per annum. The total population within the project area is around 60,000 with population density of 150 to 200 people per km². Agriculture is the main activity in the project area and average family farm size is less than one ha.

The main objective of the project is to encourage tree planting in farm land on agro-forestry to enhance availability of wood products within farm land and reduce pressure of harvesting wood products from few patches of water catchment forest reserves in Mwanga district. The project also encourages conservation of natural vegetation along degraded hill slopes by promoting natural regeneration.

A participatory multi-sectoral methodology has been adopted for implementing the project with active involvement of village leaders and use of traditional knowledge in conservation of village forests outside forest reserves.

A random sample of farmers interviewed in Usangi and Ugweno divisions, confirmed that the TFAP project has intensified their awareness on tree planting on agro-forestry and conservation of natural trees along steep hilly slopes. The project has assisted individual farmers, groups and schools to raise tree seedlings. It has also trained women on construction and use of improved stoves with objective of improving wise use of natural resources. The farmers also indicated that with active farm land tree planting, majority of villagers is no longer harvesting wood products from water catchment forest reserves.

Forestry officials in Mwanga district indicated that successful tree planting in farm land has positively contributed to conservation of water catchment forests in the district. Through another project that is funded by NORAD, the Forestry Division has introduced JFM for water catchment forests in Mwanga district complimenting the agro-forestry initiative.

Analysis of the agro-forestry project in Mwanga district, using the FLR parameters (Table 5) showed that the project had two very supportive elements to FLR, four quite supportive elements and two neutral elements (*consideration of landscape approach and attempt to balance trade-offs*).

5.4 Strength and weaknesses of national initiatives with respect to FLR

5.4.1 National programme activities

The FLR logical framework was used to identify strength and weaknesses of the ongoing category of national programme activities. Results showed that activities on conservation of forest reserves for production and water shed management and community based forest management in un-reserved forest areas are very supportive to FLR (Table 4). Based on ranking of the 12 different FLR parameters, conservation of forest reserves for productive purposes (with use of new guidelines from the forest policy of 1998) and community based forest management had 11 very supportive elements to FLR and one element with quite supportive situation (forest function trade-offs). Conservation of forest reserves for watershed management had 10 very supportive elements and two quite supportive elements (identification of specific functions to support and forest function trade-offs).

Agro-forestry in farmland was identified to have most weak areas in support of FLR concepts. Based on the 12 parameters of FLR framework, agro-forestry had 6 very supportive elements to FLR, one quite supportive element (related to forest restoration) and 5 neutral elements (Table 4). The neutral FLR parameters that are regarded as weak points in the agro-forestry category are: relevance to landscape perspectives, support restoring forest functionality,

identification of functions to restore and forest function trade-offs. The very supportive parameters to FLR within the agro-forestry programme, that could provide good entry point for intensifying community involvement in FLR include: recognition of forest functions to support human well-being, devolving decision making to local level, building consensus about forest restoration, acceptance of innovation and new ideas and use of multi-sectoral co-operation.

Results showed that establishment of industrial plantation also had various weak supports to the 12 parameters of FLR. Parameter with very supportive statement was one (innovation and use of new ideas), parameters with quite supportive elements were 8 and parameters with neutral elements were three namely: relevance to landscape perspectives, identification of restoration functions to support and trade offs at landscape level (Table 4).

Based on the above analysis, generic strengths identified that could contribute to introduction of FLR include:

- The development goal of all the categories is to contribute to improvement of community livelihood, which is a major FLR parameter.
- Changes to intensify the categories' contribution to community livelihood are being made by considering multiple use of forest land and community participation in conservation and management of forests. Consideration of forest functions by policy makers and planners instead of few forest products and services is increasing.
- Ongoing field activities in all the categories are in line with national priorities and supportive to other sector policy goals that supports the FLR parameter of enhancing multi-sectoral linkage with other sectors.

Generic weaknesses identified that will require solutions to enhance introduction of FLR include:

- Low or non-consideration of forest function trade-offs almost in all initiatives.
- Use of few tree species in forest plantations and agro-forestry programmes.
- Non consideration of forest restoration on a landscape level in management of industrial plantations, agro-forest and in forest reserves with small areas (i.e. below 10,000 ha).

Based on results from the analysis, priority areas for promoting FLR include:

- Awareness creation to policy and decision-makers' on FLR concept and its contribution to national development priorities to eradicate poverty and ensure sustainable environmental conservation.
- Provision of extension services to village governments to provide enabling capacity for initiating FLR programmes through local initiatives.
- Establishment of a FLR network system to intensify sharing of field experiences and minimise duplication of efforts.

5.4.2 Specific Field Forest Projects

Analysis showed that implementation of specific field forest projects in Tanzania is strongly tied to strategies advocated in the national forest programme relevant to the project. Results on analysis of FLR parameters for the specific field forest projects indicated similar pattern on strength and weaknesses to those identified within the relevant national programme in section 5.4.1 above (Table 4 and 5). Few examples are provided to illustrate the pattern of the field forest projects with respect to FLR.

Two projects (Mangrove Management project in Coast region and Ruvu Fuelwood Project) were analysed within the national programme on conservation of forest reserves for productive purposes. The projects had very supportive elements to all parameters of FLR with exception of trade-offs which, was identified to be weak (Table 5).

One project (Kilimanjaro Catchment Forest Project) was analysed within the national programme on conservation of forest reserves for water shed management. The project had supportive elements to all parameters of FLR as identified earlier for the water catchment programme (Table 5).

One project (West Kilimanjaro Forest Plantation) was analysed within the national programme on establishment of industrial plantations. Results showed that the project had weak support to consideration of landscape approach and trade-off parameters of FLR. However, it had strong support of the other parameters (Table 5).

Two projects (UTUMI and REMP) were analysed within the national programme on Community Based Forest Management in un-reserved forest areas. The projects had very supportive elements to all the FLR parameters with the exception of trade-offs which, was observed to be weak (Table 5).

One project (TFAP – North Pare) was analysed within the national programme on agro-forestry in farmland. The project supports many of the FLR parameters, but it is rather weak on the parameters of landscape approach and trade-offs (Table 5).

Table 5
Summary results on analysis of sector policies and national development strategies

	Related to forest restoration	Relevance to landscape perspective	Support restoring forest functionality	Restoration functions supported	Trade-offs at landscape level	Two filters support livelihood	Devolving decision making to local people	Building consensus FLR	Strategic partnership with stakeholders	Halting pressure of forest functionalities	Innovation - new ideas approaches	Multi-sectoral - link to other sectoral goals
Parameter No.	1	2	3	4	5	6	7	8	9	10	11	12
National Sector Policies												
1	National Forest Policy	++	++	++	++	+	++	++	+	++	++	++
2	National Environmental Policy	++	+	+	+	+	+	+	++	+	++	++
3	Agriculture and livestock Policy	+	0	0	+	0	+	+	0	++	+	++
4	Wildlife Policy	++	++	+	+	0	+	++	+	++	++	++
5	Fishery Policy	++	0	+	+	0	0	++	+	++	++	++
6	Beekeeping Policy	++	++	++	++	+	++	++	++	++	++	++
7	Energy Policy	++	0	++	++	0	++	+	+	++	+	++
8	Land Policy	++	++	0	0	+	0	++	0	++	+	++
9	Women Development and Gender Policy	0	0	+	+	0	+	+	0	++	+	++
10	The Mineral Policy of Tanzania	++	0	0	0	+	0	++	0	++	++	++
11	The National Tourism Policy	++	++	++	++	0	+	++	++	++	++	++
12	The National Science and Technology Policy of Tanzania	++	++	++	++	0	++	+	++	++	++	++
13	National Youth Development Policy	+	0	0	0	0	0	+	0	++	0	++
National overall strategies												
1	Tanzania Development Vision 2025	+	0	0	0	0	0	++	0	++	0	++
2	Tanzania Poverty Reduction Strategy Paper (PRSP)	0	0	+	+	0	+	++	0	+	0	++
3	Tanzania Assistance Strategy (TAS)	++	+	+	+	0	+	++	0	++	++	++

Annex 2 contain details on the parameter numbers

Key: ++ very supportive, + quite supportive, 0 neutral and - prohibitive or making matters worse

6 SYNTHESIS (POTENTIAL OF ADOPTING FLR IN TANZANIA)

6.1 *Relevance of FLR to national priorities*

Development priorities in Tanzania are centred on poverty eradication, improvement of local community well-being and sound environmental conservation. It is acknowledged by national development strategies and most sector policies analysed that natural resources in particular forestry contribute significantly to community well-being. Contribution of forest to poverty eradication and environmental conservation is based on consideration of forest functions and not on single or few functions. Learning from experience, the new forest policy of 1998 have realised the importance of considering forest functions as a new strategy of forest development as opposed to traditional forestry practices with centralised management and consideration of few forest functions in management of forest reserves and industrial plantations. The forest policy of 1998 is encouraging villagers to manage un-reserved forest areas, which accounts for more than 66 percent of the total forest area in Tanzania based on Community Forest Management that is in line with FLR parameters.

Sustainable management of natural resources through effective community participation and multi-sectoral co-ordination by relevant stakeholders could enhance livelihood of the community and poverty eradication by contributing to improvement of agriculture, health, nutrition, education, water supply, conservation of transport infrastructures, shelter and by providing opportunities for different stakeholders to contribute to the process of sustainable management of natural resources through gainful employment using proven scientific and technological practices. FLR advocate sustainable management of natural resources through multi-sectoral co-operation as the way forward for minimising conflicts in natural resource management.

6.2 *Perceptions of forest functionality of key stakeholders*

The study confirmed that there is strong link between forest functionality's, economic development and causes of forest degradation and deforestation in Tanzania. Out of the 13 sector policies analysed, 9 sector policies had supportive statements on forest functionality and two out of the three overall national development strategies analysed had supportive statements on forest functionality. Based on the results it can be concluded that perception of key stakeholders of the importance of forest functions to economic and environmental conservation is satisfactory. However, differences can exist on what policy states, and actual perception of some key stakeholders even within the same category of stakeholders.

Sector policies with neutral situation on forest functionality were agriculture/livestock, land, and minerals. The policies of these sectors concentrated on traditional sector functions hence overlooking forest functions in terms of policy statements but in principle they could be implied in their environmental conservation statements of the sector policies. The Tanzania development Vision 2025 also does not mention specifically the different forest functions, but they could be implied in the overall environmental conservation strategies. Perceptions of forest functionality of stakeholders with neutral sector policies on forest functions could be rated low. Efforts are therefore required to intensify their awareness through workshops and seminars.

The general trend observed through literature review and analysis of sector policies and national strategies show that stakeholders' perception on forest functionality to poverty eradication and environmental conservation is increasing although at a slow pace. For example many of the traditional forestry practices of centralisation and emphasis to monoculture forest plantations have been changed by the forest policy of 1998, giving emphasis to restoration of multiple forest functions in line with FLR parameters.

Tanzania embraces science and technology as a vital tool for accelerating its socio-economic development. The forest policy of 1998 and other sector policies analysed are advocating the use of best available technology principles for conservation and wise utilisation of natural resources that is in line with FLR parameters.

6.3 Stakeholders to promote FLR

All the sector policies and development strategies analysed have very supportive statements on multi-sectoral linkage and identification of relevant stakeholders that will co-operation in implementing programmes related to sustainable management of natural resources. Stakeholders identified by the forest policy of 1998 to co-operate in implementing forestry programmes at different levels include officials from Environment, Agriculture/Livestock, Wildlife, Fishery, Beekeeping, Energy, Land, Women development, Minerals, Water, Tourism, Youth, Health, Science and Technology, Development partners, Research Institutions, Local governments, NGOs, CBOs, local communities and the private sector. Identification and involving stakeholders in conservation of natural resources is in line with the FLR parameter of devolving decision-making to the local communities and other stakeholders.

6.4 Critical landscapes for FLR in Tanzania

Sector policies reviewed had no clear criteria or definition of critical landscapes for FLR. However, the forest policy of 1998 (section 2.3) is giving priority to conservation of the country's unique ecosystems and biological diversity. Ecosystems of economic, scientific and aesthetic value that are indicated by the forest policy to be of priority include the Eastern Arc Mountains, other mountain ecosystems, coastal forest patches, mangroves and wetlands. Regions with forest area of less than 0.5 hectare per inhabitant could present critical landscapes for FLR. Regions involved are Dar es Salaam, Kagera, Kilimanjaro, Mara, Mwanza and Shinyanga. However, concerted efforts are required by all stakeholders to develop some criteria for selecting critical landscapes for forest restoration.

6.5 Opportunities and constraints of introducing FLR at National level

6.5.1 Opportunities

Emerging opportunities for introducing FLR based on analysis of sector policies; overall national strategies and initiatives to implement the forest policy of 1998 include:

- FLR parameters tie well with national priorities of improving livelihood, poverty eradication and sustainable environmental conservation.
- All the reviewed sector policies support development of sustainable management of natural resources although with different emphasis depending on the sector background. The existing multi-sectoral policy support on sustainable management of natural resources provides a good entry point for promoting FLR.
- The guiding donor policy for Tanzania (TAS) is supportive to promotion of FLR parameters for sustainable management of natural resources.
- There is a growing awareness between policy makers on the need for ecosystem conservation as a component of poverty eradication.
- All the sector policies and overall national strategies reviewed had supportive statements on innovation, encouragement of new ideas and approaches of managing natural resources to intensify management systems and wise use of natural resources that are in line with FLR parameters. Adoption of science and technology is also emphasised as a vital tool for accelerating Tanzania socio-economic development by all sector policies that are also in line with FLR concepts.
- Multi-sectoral co-operation and community participation in management of natural resources were emphasised by all policies reviewed, supportive to FLR parameters.
- The forest policy of 1998 and the national forestry programme of Tanzania supports and encouraged management of forest resources through CBFM and JFM that are in line with the FLR parameters of devolving decision making to the local community and use of multi-sectoral strategies in forest restoration.

6.5.2 Constraints

Various constraints for introducing FLR emerged from analysis of sector policies and ongoing policy initiatives that include:

- Forestry is not included amongst the priority funding sectors in Tanzania.
- Extension efforts on forestry and environmental conservation have reached very low proportion of the local community (below 5 percent of the target group).
- FLR concept is new hence it may take time for people to understand it.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

Based on results and lessons discussed in this study it can be concluded that:

- Overall national development strategies, sector policies and on going forestry initiatives to implement the forest policy of 1998 have strong supporting elements to FLR.
- Consideration of forest functions within the concepts of FLR will intensify contribution of the forestry sector to national priorities of eradicating poverty and environmental conservation. It will also support the priority sectors of agriculture, health, nutrition, education, water and transport to achieve their development goals.

7.2 Recommendations

Based on the emerging opportunities and constraints to introduction of FLR, concerted efforts are required to fully utilise the existing opportunities for introducing and promoting FLR in Tanzania as a component of achieving national socio-economic development priorities.

The few constraints identified provide a starting challenge for introducing FLR. It is recommended to find solutions to the constraints through community participation, multi-sectoral co-operation and adoption of efficient resource utilisation technologies.

Understanding and considering the different functions of forest services and products to society economic and social development by managers, planners, politicians and users of forests will enhance implementation of FLR. An important starting point for FLR is to integrate forest functions into policies, both economic and environmental policies at village to national level. Policy makers and planners in the different sectors with policies supporting sustainable conservation of natural resources should be in the forefront in devising systems of forest valuation and contribute in creating awareness on the realistic value of forests to livelihood and poverty reduction.

Awareness creation on FLR could intensify informed consensus by stakeholders on forest functions and its contribution to enhanced human well being and poverty eradication.

Knowledge and recognition of forest conservation taking the landscape approach was observed to be low in six sector policies namely agriculture/livestock, fishery, energy, women development and gender, mineral and youth. Efforts are therefore required to intensify awareness of sector policy makers and planners on the concept of managing natural resources taking into account the landscape approach.

Consideration and skills to adopt the FLR parameter on flexibility for negotiations aimed at building consensus about forest restoration was observed to be weak in most sector policies reviewed including the forestry sector. Training on flexibility for building consensus about forest restoration could be a component of introducing and promoting FLR.

Based on results from the analysis, priority areas for promoting FLR include:

- Awareness creation to policy and decision-makers' on FLR concept and its contribution to national development priorities to eradicate poverty and ensure sustainable environmental conservation.
- Provision of extension services to village governments to provide enabling capacity for initiating FLR programmes through local initiatives.
- Establishment of a FLR network system to intensify sharing of field experiences and minimise duplication of efforts.

REFERENCES CITED

- ACTS-UNEP. 2001. The making of a framework environmental law in Kenya. Acts Press Nairobi Kenya.
- Africare. 1999. Natural Resource Socio-economic Baseline Data for Ugalla Community Conservation Project – Tanzania. Africare Dar es Salaam.
- Akech Migai J.M. 2001. Rescuing Indigenous Tenure from the Ghetto of Neglect. Inalienability and the Protection of Customary Land Rights in Kenya. African Centre for Technology Studies (ACTS). P.O Box 45917, Nairobi Kenya.
- Andy B. and Rick Rohde. 1995. Those Who Live on the Land. A socio-economic baseline survey for land use planning in the communal areas of Eastern Otjozondjupa. Republic of Namibia – Ministry of Lands, Resettlement and Rehabilitation.
- Arnold J.E.M. & Bird P. 1999. Forests and the Poverty –Environment Nexus. A Better Life with Nature’s Help. UNDP/EC.
- Assenga A.M. 1995. Status of Soil Erosion and Soil Conservation Efforts in Tanzania. SADC-ELMS Lesotho.
- Bjordalen J.E., Paoletti MG., and Pimental D. 1992. Tanzania’s vanishing rainforests. Assessment of nature conservation values, biodiversity and importance for water catchment. Agriculture, Ecosystems and Environment. 40: 1-2, 313-334.
- Bureau of Statistics. 2000a. Tanzania in Figures 1999. President’s Office, Planning Commission Dar es Salaam.
- Bureau of Statistics. 2000b. Developing a Poverty Baseline in Tanzania. President’s Office, Planning Commission Dar es Salaam.
- Calestous Juma and Ojwang J.B. 1996. In Land We Trust: Environment, Private Property and Constitutional Change. Initiatives Publishers: London UK. African Centre for Technology Studies (ACTS). P.O Box 45917, Nairobi Kenya.
- Chidumayo E.N. 1997. Miombo Ecology and Management. An Introduction. Stockholm Environment Institute – Sweden.
- CIDA. 1997. Handbook on Environmental Assessment of Non-Governmental Organizations and Institutions Programs and Projects. Canadian Partnership Branch.
- DANIDA. 1999. Study on the Natural Basis for Community Wetland Utilization in Malagarasi – Tanzania. Ministry of Foreign Affairs –DANIDA.
- EAC. 2000a. The Treaty for the Establishment of the East African Community. EAC Secretariat P.O Box 1096 Arusha, Tanzania.
- EAC. 2000b. Science and Technology Policy in East Africa. Country Papers and Comparative Review. EAC Secretariat P.O Box 1096 Arusha, Tanzania.
- Emmanuel R. M & Ephraim M.M Senkondo. 2001a. A Socio-economic Profile of the Rufiji Floodplain and Delta. Technical report No. 6, Volume 1 (Of 3). Rufiji Environment Management Project.
- Emmanuel R. M & Ephraim M.M Senkondo. 2001b. A Socio-economic Profile of the Rufiji Floodplain and Delta – Selection of Four Additional Pilot Villages. Technical report No. 6, Volume 2 (Of 3). Rufiji Environment Management Project.
- Epiq. 2000. Community Based Conservation (CBC) Experience in Tanzania: an Assessment of Lessons Learned. Epiq Dar es Salaam Tanzania.
- FAO. 2000a. Community –based tree and forest product enterprises. Market Analysis and Development (Brochure). FAO Forestry Department - Rome Italy.
- FAO 2000b. Forestry Policy Reforms and the Role of Incentive. Report No. 00/04 GTZ- URT Rome
- FAO. 2000c. Conflict and Natural Resource Management. FAO Forestry Department - Rome Italy

- FAO. 1999. Natural Resource –Based Conflict Management. Working Document. FTTP-ESA Workshop 1999. Rome-Italy.
- FAO. 1998. Integrating Conflict Management Considerations into National Policy Framework. Proceedings of a Satellite Meeting to the World Forestry Congress. 10-13 October 1997. Antalya. Community Forestry, FTTP Conflict Management Series. Rome – Italy.
- FAO and GTZ. 1999. Proceedings of the International Workshop on Community Forestry in Africa. Participatory forest management: a strategy for sustainable forest management in Africa. 26-30 April 1999 Banjul, the Gambia. Rome –Italy.
- FBD. 2000. A Bill for Forest Act, 4th draft completed 13 August 2000”. Ministry of Natural Resources and Tourism.
- FBD. 1997. The Ruvu Fuelwood Pilot Project Proposal for the period 1998/99-2001/2002. Ministry of Natural Resources and Tourism – Dar es Salaam.
- FRMP. 1997. Joint Forest Management (JFM). Programme in Urumwa Forest Reserve – Tabora Region - Experiences on Local Community Participation in Natural Resources Management. Regional Forestry Office Tabora.
- FRMP. 1996. Strategic Forest Resource Management Plan. Forestry Division Tabora.
- Hezron Mogaka, Gacheke Simons, Jane Turpie, Lucy Emerton and Francis Karanja. 2001.Economic Aspects of Community Involvement in Sustainable Forest Management in Eastern and Southern Africa. The World Conservation Union (IUCN).
- Holmes J. 1995. Natural Forest Hand Book for Tanzania. Forest Ecology and Management. Volume 1. Sokoine University of Agriculture, Faculty of Forestry.
- ICRAF. 1998. Partnership to Alleviate Problems of Fuelwood Supply and Deforestation in Tabora Region. Regional Administrative Secretary – Tabora Region.
- Iddi. S. 1997. Eastern Arc Mountains and their National and Global Importance. Forestry and Beekeeping Division – Tanzania.
- IIED. 1994. Whose Eden?. An Overview of Community Approaches to Wildlife Management. Overseas Development Administration- London.
- Ingles A.W., Musch A. & Hoffmann H.Q. 1999. The Participatory Process for Supporting Collaborative Management of Natural Resources. An Overview. FAO Rome.
- IUCN & GTZ. 1999. Workshop Proceedings – Rehabilitation of Degraded Forest Ecosystems in the Lower Mekong Basin Assessment of Rehabilitation Policy and Practice in Thailand. MRC/GTZ-SMRP.
- IUCN .2001 The Economic Value of East Africa’s Forests. The World Conservation Union, Eastern Africa Regional Office – Nairobi, Kenya..
- IUCN. 2000. Fuelwood and Charcoal Uses with Possible Alternative Energy Sources in Ikwiriri Township and Mbunjumvuleni Village – Rufiji District. The World Conservation Union Nairobi Kenya.
- Jane K. Turpie. 2000. The Use and Value of Natural Resources of the Rufiji Floodplain and Delta, Rufiji District, Tanzania. Technical Report No. 17. Rufiji Environment Management Project.
- Jeremy Lind and Jan Cappon. 2001. Realities of Rhetoric? Revisiting the Decentralization of Natural Resources Management in Uganda and Zambia. African Centre for Technology Studies (ACTS). P.O Box 45917, Nairobi Kenya.
- John Mugabe and Normal Clark.1996. Technology Transfer and the Convention on Biological Diversity: Emerging Policy and Institutional Issues. Biopolicy International Series, no.18. Initiatives Publishers. African Centre for Technology Studies (ACTS). P.O Box 45917, Nairobi Kenya.
- Kaale B.K and Shilogile E. 2001. The Potential Role of Forest Department in Co-management of Forest Resources “The Tanzania Experiences” Forest Action Network- Nairobi Kenya.
- Kaale B.K. and Gilliuson R. 1985. Plan for Planting and Conservation of Trees in Shinyanga Region 1986-2010. Ministry of Natural Resources and Tourism – Dar es Salaam.

- Kaale B.K., and Kainja S. 1997a. Background analysis of vegetation mapping and monitoring in SADC Regions. SADC-ELMS Lesotho.
- Kaale B.K., and Kainja S. 1997b. Vegetation Monitoring Guidelines. Southern African Development Community – Environment and Land Management Sector. Lesotho.
- Kajembe G.C & Kessy J.E. 2000a. Participatory Local Level Consultative Processes in Forestry: Voices from the Grassroots for Designing the National Forest Programme. Ministry of Natural Resources and Tourism.
- Kajembe G.C and Kessy J.F 2000b. Participatory Local Level Consultative Process in Forestry: Best Practices and Lessons of Experience for designing the National Forest Programme. Dar Es Salaam
- Kaoneka A.R.S. 2000. A review of forest management: retrospects and prospects. Forestry and Beekeeping Division-Dar es Salaam.
- Kerario E.J and Nanai K. 1995. Desertification control in Tanzania. SADC-ELMS Lesotho.
- Kilahama F.B. 1994. Trees and indigenous ecological knowledge about agro-forestry practices in the rangelands of Shinyanga region, Tanzania. University of Wales Bangor.
- Kokwaro J.O. 1993. Medicinal Plants of East Africa. Second Edition. Kenya Literature Bureau Nairobi.
- Liviga A. 1998. Report on Local Government in Shinyanga Region. Shinyanga Region Human Development Report. UNDP Dar es Salaam.
- Liz Alden W and Sue Mbaya. 2001. Land, People and Forests in Eastern and Southern Africa at the beginning of the 21st Century. The impact of land relations on the role of communities in forest future. IUCN Eastern Africa Programme.
- Luoga E.J.A. 1994. Indigenous Knowledge and Sustainable Management of Forest Resources in Tanzania. Faculty of Forestry, Sokoine University of Agriculture. Morogoro, Tanzania.
- Masanyanyika S.W.& Mgoo J.S. 2001. Basic Assessment of Benefits and Costs Sharing and Other Issues Affecting Join Forest Management (JFM) and Community Based Forest Management (CBFM). Ministry of Natural Resources and Tourism, Forestry and Beekeeping Division.
- Ministry of Agriculture and Cooperatives. 2000. Basic Data. Agriculture and Livestock Sector 1992/93 – 1998/99/ Agricultural Information Services. Ministry of Agriculture and Cooperatives Dar es Salaam.
- Ministry of Agriculture and Cooperatives. 2001. District Intergrated Agricultural Survey 1998/99 Survey Reports. National Report. National Bureau of Statistics – Dar es Salaam.
- Ministry of Agriculture and Livestock. 1997. Agriculture and Livestock Policy. The United Republic of Tanzania.
- Ministry of Community Development, Women Affairs and Children. 1996. Community Development Policy. The United Republic of Tanzania.
- Ministry of Labour and Youth Development. 1996. National Youth Development Policy. The United Republic of Tanzania.
- Ministry of Water, Energy and Minerals. 1990. The National Energy Policy. The United Republic of Tanzania.
- Ministry of Science, Technology and Higher Education. 1996. The National Science and Technology Policy of Tanzania. The United Republic of Tanzania.
- MLHSD. 1997. National Land Policy 1997. Ministry of Lands and Human Settlements Development Dar es Salaam Tanzania (Second Edition).
- MNRT 1996. Forest Resources Management Project: Long-term Financing of Forestry. Forest and Beekeeping Division. Dar Es Salaam
- MNRT 2001a. National Forest Programme in Tanzania. 2nd Draft. Ministry of Natural Resources and Tourism. Forestry and Beekeeping Division.
- MNRT 2001b.. Community – Based Forest Management Guidelines. Ministry of Natural Resources and Tourism. Forestry and Beekeeping Division.

- MNRT 2001c. Woodfuel Strategy Options. Support to formulation of National Forestry Programme. Ministry of Natural Resources and Tourism.
- MNRT 2001d. Tanzania Forest Conservation and Management Project. Project Implementation Manual. Working Paper 2. Improving Services Delivery for Community-based Woodland Management. Ministry of Natural Resources and Tourism. Forestry and Beekeeping Division. (May 7, 2001 Restricted circulation).
- MNRT. 2000a. National Forest Programme Workshop Proceedings on the Status of Ecosystem Conservation and Management in Tanzania and Vision for the Future. Volume 1. Task Force on Land Management. National Forest Programme Formulation in Tanzania. Forestry and Beekeeping Division – Tanzania.
- MNRT. 2000b. National Forest Programme Workshop Proceedings on the Status of Forest Land Management in Tanzania and Vision for the Future. Volume 2. Task Force on Land Management. National Forest Programme Formulation in Tanzania. Forestry and Beekeeping Division – Tanzania.
- MNRT. 2000c. National Forest Programme Workshop Proceedings on the Status of Forest Based Industry and Products in Tanzania and Vision for the Future. Volume 3. Task Force on Land Management. National Forest Programme Formulation in Tanzania. Forestry and Beekeeping Division – Tanzania.
- MNRT 2000d. Support to formulation of National Forestry Programme; Institutions and Human Resources Task Force. Daft Report Dar es Salaam
- MNRT. 1999. National Tourism Policy. Government Printers Tanzania.
- MNRT. 1998a. National Forest Policy. Government Printers Tanzania.
- MNRT. 1998b. National Beekeeping Policy. Government Printers Tanzania.
- MNRT. 1998c. The Wildlife Policy of Tanzania. Government Printers, Dar es Salaam- Tanzania.
- MNRT. 1997. National Fisheries Sector Policy and Strategy. Government Printers, Dar es Salaam- Tanzania.
- Minzava E.M. 1983. Tree Planting in Tanzania: A Voice from Villagers. Ministry of Natural Resources and Tourism. Forest Division Dar es Salaam.
- Minzava E.M. 1989. National Survey of Biomass/Woodfuel Activities in Tanzania. SADC Energy Sector – Angola.
- National Land Use Planning Commission. 1998. Guidelines for Participatory Village Land Use Management in Tanzania. Ministry of Land and Urban Development.
- Nshala B. 1999. Granting Hunting Blocks in Tanzania. The Need for Reform. Policy Brief No.5. Lawyers' Environmental Action Team. Dar es Salaam Tanzania.
- Nshubemuki L., Mhando M.L., Mbwambo L., Lukumbuzya T. & Lenge B.S. 1999. Implementation of Some Applied Research Project Profiles in the Forest Resources Management Project (FRMP) Tabora Sub-component. Tanzania Forestry Research Institute (TAFORI).
- Nyamrunda C. 1997. Livestock Sector Study. Shinyanga Region. Human Development Report. UNDP Dar es Salaam.
- Okello L. 1994. Study on land use changes in Tanzania. Centre for Energy, Environment, Science and Technology (CEEST) Dar es Salaam.
- Planning Commission. 2000. Tanzania Assistance Strategy – A medium Term Framework for Promoting Local Ownership and Development Partnership. President's Office. Planning Commission – Dar es Salaam.
- Planning Commission. 1999. The Tanzania Development Vision 2025. President's Office. Planning Commission – Dar es Salaam.
- Planning Commission. 1996. Tabora Region Socio – Economic Profile. President's Office. Planning Commission – Dar es Salaam. and Regional Commissioners' Office Tabora.
- Salehe J. 1995. Inventory of timber and biodiversity: A case study for Pugu Forest Reserve. Sokoine University of Agriculture Morogoro – Tanzania.
- Segeerros M., and Maro P. 1994. Land degradation in Southern African Region. Impact Assessment and Emerging Solutions. SADC ELMS. Lesotho.

- Shepherd G. 2001. Crisis and Adaptation in Rural Tanzania. ODI, London.
- Shivji I.G. 1992. Problems of Land Tenure in Tanzania. A review and appraisal of the report of the Presidential Commission on inquiry into land matters. Faculty of Law, University of Dar es Salaam.
- Shivji I.G., Peter C.M., Nshalla R.A.K. 1999. The Village Democracy Initiatives: A Review of the Legal and Institutional Framework of Government at Sub-District Level in the Context of Local Government Reform Programme. The Ministry of Regional Administration and Local Government. UNDP- Dar es Salaam.
- SIDA 2000. Tanzania – Sweden Local Management of Natural Resources Programme, 1997-2000. LAMP Impact Study. Publication No. 20. SIDA –Dar es Salaam
- TFAP. 1989. Tanzania Forestry Action Plan, 1990/91 – 2007/08. Ministry of Natural Resources and Tourism.
- Turuka E. 1998. Impact of sectoral, intersectoral and macro-economic policies on miombo woodlands management. A review of Tanzania New Agricultural Policy. Workshop paper for CIFOR/EC Miombo Research Project. Department of Forest Economics, SUA Morogoro.
- UNDP. 2000. Overcoming Human Poverty. United Nations Development Programme.
- UNDP. 1999. Poverty –Environment Interactions in Agriculture: Key Factors and policy Implications. A Better Life with Nature’s Help. UNDP/EC.
- UNDP. 1998. Participatory Poverty Assessment Shinyanga Region – Tanzania. Shinyanga Region Human Development Report. UNDP Dar es Salaam.
- UNEP.1998. Tanzania Country Study on Biological Diversity. Government of the United Republic of Tanzania. Vice President’s Office.
- United Nations. 1993. Population, environment and development in Tanzania. Department of Economics and Social Development published jointly with Remographics Training Unit.
- VPO. 2000. Poverty Reduction Strategy Paper. The United Republic of Tanzania.
- VPO. 1999a. National Biodiversity Strategy and Action Plan. Final Draft. The United Republic of Tanzania. NEMC.
- VPO. 1999b. Poverty and Welfare Monitoring Indicators. The United Republic of Tanzania.
- VPO. 1997. National Environmental Policy. The United Republic of Tanzania. Government Printers, Dar es Salaam.
- Wildlife Division. 2000. Wildlife Policy of Tanzania & Community Based Conservation. Training for District Game Officers. Ministry of Natural Resources and Tourism Tanzania.
- Wily L.A., Amina A., Haule O., Haulle H., Hizza S., Kavishe C., Luono S., Mamkwe P., Masawe E., Mawe S., Ringo D., Makiya M., Minja M. and Rwiza A. 2000. Community management of forests in Tanzania. In Forest, Trees and People Newsletter No. 42 June. FAO Rome.
- World Bank (1996) Toward Environmentally sustainable Development in Sub-Saharan Africa

GLOSSARY

Community Participation – Empowerment of the community to identify their own problems, seek their own solution and implement their own decisions (MNRT 1997).

Community-based conservation – means conservation of resources based on the participation of the local community's (1998c).

Forest – means all land bearing a vegetative association dominated by trees of any size, exploitable or not, and capable of producing wood or other products of exerting influence on the climate or water regime or providing shelter to livestock and wildlife (MNRT 1998a)

Forest products – includes all wood and non-wood forest products (MNRT 1998a).

Forest reserve – is a forest area, either for production of timber and other forest produce or protective for the protection of forests and important water catchment, controlled under the Forest Ordinance and declared by the Minister (MNRT 1998a).

Industrial forest plantation – means an area of land planted with trees for industrial use (MNRT 1998a).

Local authority – includes a district council, city council, municipal council, town council, local council and village council (MNRT 1998a).

Public land – means all land in Tanzania whether granted, customary or unoccupied (MLHSD 1997).

Wildlife – means those species of wild and indigenous animals and plants, and their constituent habitats and ecosystems: to be found in Tanzania, as well as those exotic species that have been introduced to Tanzania and that are temporarily maintained in captivity or have become established in the wild (MNRT 1998c).

Wildlife corridors – means areas used by wildlife animals when migrating from one part of the ecosystem to another, daily, weekly, monthly, annually in search of basic requirements such as water, food, space and habitat (MNRT 1998c).

Wildlife Management area – means an area declared by the Minister to be so and set aside by village government for the purpose of biological natural resource conservation (MNRT 1998c).

ANNEXES

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ANNEX 2 INTERNATIONAL AND REGIONAL CONVENTIONS WITH RELEVANCY TO FORESTRY

Convention/initiative	Obligations	Opportunities	Implications	Support
Convention on Biological Diversity (CBD)	Promote conservation of biological Diversity	Financial and technical assistance	Sustainable use of biological diversity components, fair and equitable sharing arising out of the utilisation of genetic resources	Very s
	Development of programmes and projects for biodiversity conservation	Transfer of technology and knowledge		
	Preparation of National Biodiversity Strategy and Action Plan	Capacity building under respective conventions		
Convention to combat desertification (CCD)	Mitigate the effect of drought through defective action at all levels	Financial and technical assistance	Country's commitment to the control of activities contributing to desertification and implementation of actions aimed at combating desertification	Very s
	Formulate the National Action Programme (NAP)			
	Preparation of national Environmental Fund to finance the Action Programme	Capacity building under respective conventions		
Implementing programmes and projects to combat desertification through central and local government, NGOs, communities and the private sector.				
United Nations Framework Convention on climate (UNFCCC)	Development of programmes related to management of sources and sinks of greenhouse gases.	Financial and technical assistance	Management of forest estates both natural and plantations to broadening sinks for greenhouse gases	S
	Development of technological and other options for mitigation of greenhouse gases	Transfer of technology and knowledge		
	Assessment of vulnerability and adaptation of climate impacts.	Capacity building under respective	Review opportunities available under this Convention	
	Development of a National Action Plan on climate change			
United Nations Forum on Forests (UNFF)	Promote sustainable forest management	International cooperation and sharing experience on best field practices and partnership building	Recognition of the multiple environmental values and benefits of forests, for local, national and international interests	Very s
	Policy development, dialogue among partners and enhancing cooperation and coordination	Financial and technology transfer		
	Reduction of deforestation and degradation of forests		Participation in implementing recommended activities.	

Convention/initiative	Obligations	Opportunities	Implications	Support
Convention for the Protection, Management and Development of the Marine and Coastal Environment of Eastern African region	Management of protected areas and wild fauna and flora	Development of partnership for transboundary issues	Development of sustainable National utilisation strategies for coast zone resources	Very si
	Implementation of projects related to Coastal and Marine zone management			
Southern African Development Community (SADC)	Development and harmonisation of policies and strategies for management of transboundary natural resources, environment and biodiversity conservation	Complement national initiatives	Collaboration in implementing SADC forestry projects at national and regional level	Very si
	Setting up of institutional arrangements to facilitate mechanism for sustainable management of forests.	Sharing experience on best field practices related to human resource development, research, training, trade in forest products, extension services and development of forest industries.		
East African Community (EAC)	Develop guidelines and common regulations for the conservation of shared ecosystems	Partnership development for transboundary issues on management and utilisation of natural resources and biodiversity conservation	Consideration of cross border effects of management and utilization practices of natural resources	Very si
	Application of common practices in conservation and utilization of training and research facilities			

Source: MNRT 2001a, EAC 2000
a&b VPO 1999a

ANNEX 3 FLR ANALYTICAL LOGICAL FRAMEWORK

Name		
Date		
Type/belonging to or made by who		
Key beneficiaries		
Parameter		
1) Is it directly or indirectly related to forest regeneration		
2) Landscape approach: Is there reference to the importance / relevance of a landscape perspective?		
3) Forest Functions: Does it support the idea of restoring forest functionality		
4) If so, which forest functions does it support the restoration of		
5) Forest Function Tradeoffs level: Does it support making forest function trade-offs at the landscape level		
6) Two filters: Does it acknowledge the role of forest functions in support of human well-being?		
7) Devolving decision-making: Does it support devolving key decision-making to the local level		
8) Consensus building: Is there flexibility for negotiations aimed at building consensus about forest restoration		
9) Strategic partnership: Does it support / encourage the development of strategic partnerships for more effective environment management		
10) Halting pressure: Does it attempt to halt pressure that reduces functionality (or could it be making matters worse)?		
11) Innovation : Does it support or encourage new ideas/approaches (or is it rigid and prescriptive)		
12) Multi-sectoral: Does it provide strong links to other sectoral goals and strategies – which ones		
Key opportunities (Please use additional sheets if there are more things to add – expand upon in these 2 areas.)		
Key constraints		

Key

++ = very supportive

+ = quite supportive

0 = neutral

- =quite prohibitive/not supporting FLR

ANNEX 4 SAMPLE OF DONOR FUNDED FORESTRY PROJECTS IN TANZANIA

ANNEX 4								
SAMPLE OF DONOR FUNDED FORESTRY RELATED PROJECTS IN TANZANIA WITH STRONG SUPPORT TO FLR								
S/N	Project name	Operation areas	Regions involved	Donors involved	Funding period	Funding level *(millions)	Main project activities	Support to FLR
1	Conservation of lowland Coastal forests	Zarangire, Vikindu, Kazimzumbwi, Pugu and Matumbi forests	Coast, Lindi and Dar es salaam	WWF/DFID	1996-2002		*Lobbying and support to gazettment of Zaraninge, Mlola, Kiwengoma and creation of village forest reserves	Supportive
							*Support of agro-forestry programmes	
							*Conduct of extension services on forest restoration	
2	Mafia Island Marine Park	Mafia Island	Coast	WWF/DFID/NORAD	1999-2004	US\$ 1.5	*Participatory community management of Mafia ecosystem including mangrove forests, fishery and soil conservation	Supportive
							*Support income generation activities to reduce pressure on marine resources and other natural resources	
							*Control use of dynamites in fishery and illegal harvesting of forest products	
3	Tanga Coastal Zone Conservation and development	Coastal forests in Tanga	Tanga	IUCN/Ireland	1998-2001	UK pound 3.2	*Management of coastal forests in Tanga region	Supportive
							*Development of sustainable community based management of natural resources with various stakeholders	

4	Rufiji Delta and flood plain Management project	Rufiji district	Coast	IUCN/ Netherlands	1998- 2002	US\$ 4.0	*Ecosystems management with community participation	Supportive
							*Capacity building	
							*Biodiversity conservation	
							*Promotion of wise use of natural resources to reduce poverty	
5	Community participation in Catchment Forests through JFM		Kilimanjaro Arusha Morogoro Tanga	NORAD	1998- 2002	US\$2.45	*Participatory management of water catchment forests through JFM	Supportive
							*Conservation of ecosystem and biodiversity	
							*Promote agro-forestry and farm land tree growing	
6	Hifadhi Ardhi Shinyanga (HASHI)	All districts of Shinyanga	Shinyanga	NORAD	1998- 2002	US\$ 1.5	*Restoration of forests through community participation efforts	Supportive
							*Agro-forestry and farm land tree growing	
							*Biodiversity conservation	
							*Soil conservation and wise use of land	
							*Capacity building, through training and extension services	
*Research on Agro-forestry								
Annex 4 continues	52							
S/N	Project name	Operation areas	Regions involved	Donors involved	Funding period	Funding level *millions)	Main project activities	Support to FLR
7	Management of mangrove forests and biodiversity conservation	Mangrove forests	Tanga, Coast, Dar es salaam, Lindi and Mtwara	NORAD	1998- 2001	US\$ 1.9	*Conservation of mangrove forests	Supportive
							*Promotion of community involvement in participatory management of forests	
							*Capacity building through training, research and extension services	

8	Ruvu Fuelwood Project	Ruvu Forest reserve	Coast region	NORAD	1998-2001	US\$0.65	*Initiation of JFM in Ruvu Forest reserve	Supportive
							*Agro-forestry and farm land tree growing to reduce pressure on natural forests	
							*Capacity building through research, extension and study tours	
9	Post graduate training of Forest Officers at Sokoine University		National	NORAD	1997-2001	US\$ 10.5	*Support research on restoration of forests through community participatory efforts	Supportive
							*Staff training and provision of facilities	
							*Conduct pilot projects on forest restoration	
10	Beekeeping development project		Tanga Singida Tabora Kigoma	NORAD	1998-2001		*Support to local communities on improved beekeeping methods for income generation	Supportive
							*Capacity building through research, marketing and extension services	
							*Provision of beekeeping tools	
11	Development of the Tanzania National programme		National	FINNIDA	2000-2001	US\$0.4	*Identify stakeholders and their roles in implementing the forest policy of 1998	Supportive
							*Formulate strategies and activities of implementing the forest policy of 1998 based on expressed needs of local communities	
							*Capacity building through training.	
12	East Usambara catchment forests	East Usambara forests	Tanga	FINNIDA/ EC	1998-2001	US\$ 5.0	Management of the Amani Nature reserve	Supportive
							Management of watershed in East Usambara	
							*Promote agro-forestry and farmland tree growing through participatory community efforts	

								*Promote JFM with local communities	
								*Capacity building through training, research and extension services	
								*Promotion of forest restoration biodiversity and monitoring of ecosystem changes	
13	Regional Integrated project support	Lindi and Mtwara region districts	Lindi and Mtwara	FINNIDA	1999-2005	US\$ 14.8		*Support of participatory forest management in collaboration with district authorities and other stakeholders	Supportive
Annex 4 continues									53
S/N	Project name	Operation areas	Regions involved	Donors involved	Funding period	Funding level *(millions)	Main project activities	Support to FLR	
14	Support to SADC Forestry colleges	Olmotonyi Forestry Institute	Arusha	FINNIDA	1997-2001	US\$ 0.7	*Support the forestry institute through staff training and provision of facilities to improve provision of training on participatory management of forests	Supportive	
15	SAPU	Forestry and beekeeping division headquarters	National	SIDA	1997-2001	SEK 3.14	*Pilot commercialization of forest plantations *Promotion of community based natural resources management programmes *Development of appropriate extension strategies *Restoration of degraded forest areas *Monitoring of forest development in Tanzania	Supportive	
16	Land Management project	Babati, Kiteto and	Arusha	SIDA	1997-	US\$ 4.7	*Integrated land management focusing on		

Annex 4 continues									54
S/N	Project name	Operation areas	Regions involved	Donors involved	Funding period	Funding level *millions)	Main project activities	Support to FLR	
22	Cross border biodiversity project	Mwanga, Same, Monduli and districts	Kilimanjaro, Arusha and Kagera	UNDP/UNEP/GEF	1999-2004	US\$ 12.5	*Conservation of cross border biodiversity resources	Supportive	
							*Capacity building through training, research and extension services		
23	Lake Victoria Environmental management project	Districts surrounding Lake Victoria	Mwanza, Mara and Kagera	World Bank and GEF	1997-2003	US\$ 77.64	*Rehabilitation of the Lake Victoria ecosystem and its catchment area including afforestation and restoration of forests through involvement of local communities and other relevant stakeholders	Supportive	
							*Management of wetlands		
							*Capacity building through training, research and extension services		
24	Tanzania forest conservation and management project (TFCMP)	All districts in Tanzania	National	World Bank	2001 onwards	Figures not available	*Conservation and management of the Tanzania Eastern Arc Biodiversity resources	Supportive	
							*Strengthening of community participation in management and wise utilisation of natural resources		
							*Institutional reforms in the Forestry sector, establishing the Forest Executive Agency		

&b, SIDA 2000, IUCN 2000, Masayanyika& Mgoos 2001

ANNEX 5 FLR ANALYTICAL LOGICAL FRAMEWORK FOR SPECIFIC FIELD PROJECTS

Name of project			
Type of project			
Main initiators			
Year started			
FLR Parameters		Scores	Comments
1	Landscape approach		
2	Recognition of forest functionality		
3	Attempt to balance forest function trade-offs within the landscape		
4	Acceptable balance between the two filters		
5	Consensus building – in particular with respect to balancing the two filters		
6	Use of the right package of tools/approaches		
7	Development of strategic partnerships		
8	Long-term timeframe		

Key

- ++ very supportive
- + quite supportive
- 0 neutral
- quite prohibitive/not supporting FLR