



UN COLLABORATIVE PROGRAMME ON REDUCING EMISSIONS FROM DEFORESTATION AND FOREST DEGRADATION IN DEVELOPING COUNTRIES NATIONAL JOINT PROGRAMME DOCUMENT

Country: **Republic of Zambia**

Programme Title: **UN-REDD Programme – Zambia Quick Start Initiative**

Programme Goal: To prepare Zambian institutions and stakeholders for effective nationwide implementation of the REDD+ mechanism.

Programme Objectives:

- i) Build institutional and stakeholder capacity to implement REDD+
- ii) Develop an enabling policy environment for REDD+
- iii) Develop REDD+ benefit-sharing models
- iv) Develop Monitoring, Reporting and Verification (MRV) systems for REDD+

Joint Programme Outcomes:

Outcome 1: Capacity to manage REDD+ Readiness strengthened

Outcome 2: Broad-based stakeholder support for REDD+ established

Outcome 3: National governance framework and institutional capacities for the implementation of REDD+ strengthened

Outcome 4: National REDD+ strategies identified

Outcome 5: MRV capacity to implement REDD+ strengthened

Outcome 6: Assessment of Reference Emission Level (REL) and Reference Level (RL) undertaken

Programme Duration: 3 years
Anticipated start/end dates: 09/2010-08/2013
Fund Management Option(s): pass-through
Managing or Administrative Agent: UNDP MDTF Office

Total estimated budget*: \$ 4.49 million

Out of which:

1. Funded Budget: \$ 4.49 million
2. Unfunded Budget: Nil

* Total estimated budget includes both programme costs and indirect support costs

Sources of funded budget:

- Government Nil
- UN-REDD MDTF \$ 4.49 million
- Other Nil



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AND FOREST DEGRADATION IN DEVELOPING COUNTRIES
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Names and signatures of national counterparts and participating UN organizations

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1. Acronym List

ACCA	Anti Corruption Commission Act
AD	Activity Data
ADC	Area Development Committee
ADMADE	Administrative Management Design for Game Areas
AFTC	African Forest Training Center
AFOLU	Agriculture, Forestry and Other Land Use
AER	Agro-Ecological Region
ASIP	Agriculture Sector Investment Programme
AWP	Annual Work Plan
CBNRM	Community-Based Natural Resource Management
CA	Conservation Agriculture
CBR	Community Resource Board
CCFU	Climate Change Facilitation Unit
CBD	Convention on Biological Diversity
CBO	Community-Based Organisation
CEC	Copperbelt Energy Consortium
COMACO	Community Markets for Conservation
CIFOR	Center for International Forestry Research
COP	Conference of the Parties (of the UNFCCC)
CRB	Community Resource Board
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organisation
DDCC	District Development Coordination Committee
ECZ	Environment Council of Zambia
EF	Emission Factor
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
ENRMMP	Environment and Natural Resource Management and Mainstreaming Programme
ENSO	El Nino/Southern Oscillation
EPP	Energy Pilot Project
EWS	Early Warning Systems
FAO	Food and Agriculture Organisation
FCPF	Forest Carbon Partnership Facility
FPIC	Free, Prior, and Informed Consent
FD	Forestry Department
FINNIDA	Finnish International Development Agency
FNDP	Fifth National Development Plan
FRMP	Forest Resource Management Project
FSP	Forest Stewardship Program
GCM	Global Circulation Model
GDP	Gross Domestic Product
GMA	Game Management Area
GPG-LULUCF	Good Practice Guidance for Land Use, Land Use Change and Forestry
GRZ	Government of the Republic of Zambia
HACT	Harmonised Approach to Cash Transfer
HIPC	Highly Indebted Poor Countries
ICRAF	International Centre for Research in Agroforestry
IGA	Income Generating Activity
ILUA	Integrated Land Use Assessment
IP	Implementing Partner
IPCC	Inter-Governmental Panel on Climate Change
IRDB	Integrated Resource Development Boards

ITCZ	Inter-Tropical Convergence Zone
JFM	Joint Forest Management
LUC	Land Use Change
LUP	Land Use Planning
MACO	Ministry of Agriculture and Cooperatives
MCT	Ministry of Communication and Transport
MCDSS	Ministry of Community Development and Social Services
MDG	Millennium Development Goals
MDTF	Multi-Donor Trust Fund
MEWD	Ministry of Energy and Water Development
MFNP	Ministry of Finance and National Planning
MLGH	Ministry of Local Government and Housing
MMU	Minimum Mapping Unit
MoE	Ministry of Education
MoL	Ministry of Lands
MoM	Minutes of Meeting
MoU	Memorandum of Understanding
MRV	Monitoring, Reporting and Verification
MS	Monitoring System
MTENR	Ministry of Tourism, Environment and Natural Resources
NAPA	National Adaptation Programme of Action
NCCRS	National Climate Change Response Strategy
NFI	National Forest Inventory
NEAP	National Environmental Action Plan 1994
NGO	Non-Governmental Organisation
NJP	National Joint Programme
NRSC	National Remote Sensing Centre
NRCF	Natural Resources Consultative Forum
NTFP	Non-Timber Forest Product
OMS	Operational Monitoring System
PA	Protected Area
PDCC	Provincial Development Coordination Committee
PFAP	Provincial Forestry Action Programme
PPF	Peace Parks Foundation
PPCR	Pilot Programme on Climate Resilience
PSRP	Public Service Reform Programme
ProBEC	Programme for Basic Energy and Conservation
PWAS	Public Welfare Assistance System
RCU	REDD+ Coordination Unit
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD+	Reducing Emissions from Deforestation and Forest Degradation (REDD), as well as sustainable management of forests, forest conservation and the enhancement of forest carbon stocks (+) ¹
REIS	Rural Electrification and Improved Stoves
REL	Reference Emission Level
REMNPAS	Reclassification of the Management of the Protected Area System
RL	Reference Level
RS	Remote Sensing
SAA	Standard Administrative Arrangements
SADC	Southern African Development Community
SAG	Sector Advisory Group

¹ IWG-IFR. 2009. Report of the Informal Working Group on Interim Finance for REDD+: Discussion Document. Available from: http://www.unredd.net/index.php?option=com_docman&task=doc_download&gid=1096&Itemid=53

SBSTA	Subsidiary Body for Scientific and Technical Advice
SMF	Sustainable Management of Forests
SNDP	Sixth National Development Plan
SBAA	Standard Basic Assistance Agreement
TFCA	Transfrontier Conservation Area
ToR	Terms of Reference
T21	Threshold 21
UN	United Nations
UNDAF	United Nations Development Assistant Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organisation
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
USD	US Dollars
VAC	Vulnerability Assessment Committee
WHO	World Health Organisation
WWF	World Wide Fund for Nature
ZAWA	Zambian Wildlife Authority
ZCBNRMF	Zambian Community Based Natural Resource Management Forum
ZESCO	Zambian Electricity Supply Company
ZFAP	Zambia Forest Action Plan
ZMD	Zambia Meteorological Department

2. Executive Summary

Deforestation and forest degradation comprise a large proportion (approximately one fifth) of global anthropogenic greenhouse gas emissions. The United Nations Framework Convention on Climate Change is developing the REDD+ mechanism to provide financial incentives to reduce such emissions. REDD+ includes Reducing Emissions from Deforestation and Forest Degradation (initially referred to as REDD) as well as: i) conservation of indigenous forests; ii) sustainable management of forests; and iii) the enhancement of forest carbon stocks.

Zambia has approximately 50 million hectares of forest, with an estimated deforestation rate of 250,000 to 300,000 hectares per year. In recognition of the role REDD+ can play in reducing emissions and facilitating sustainable socio-economic development, the Zambian government is presently assessing the opportunities potentially delivered through REDD+. Zambia is currently one of nine developing countries in the world that will be piloting the UN-REDD Programme, which aims to prepare countries for future REDD+ implementation. The first phase in the UN-REDD Programme is the UN-REDD Quick Start initiative. This project document describes the activities of this initiative, which will be a National Joint Programme. The NJP will develop a National REDD+ strategy and thereby assist in attracting financing for National REDD+ implementation.

The primary drivers of deforestation and forest degradation need to be addressed in order to ensure the success of National REDD+. Within Zambia, these drivers vary across regions and include *inter alia*: i) charcoal and wood fuel use (for domestic, commercial and industrial uses); ii) timber production; and iii) unsustainable agricultural methods and other land use practices. Drivers of deforestation and forest degradation are a result of a complex set of underlying causes that are primarily caused by past and current development processes. These underlying causes cut across numerous sectors (e.g. energy, forestry, agriculture and water). In order to address them and thereby to facilitate the realisation of REDD+, the entire mode of development within Zambia will need to be altered. Both the supply and demand for wood and non-wood forest products will, for example, need to be addressed simultaneously.

The large-scale and cross-cutting nature of interventions required to implement REDD+ will necessitate high level government support and large-scale cross-sectoral reforms. Preparation for REDD+ will require a specific set of interventions including *inter alia*: i) developing capacity from community to government level; ii) strengthening of institutional, policy and legislative frameworks; iii) strengthening the implementation of policy and enforcement of legislation; iv) widespread sharing of knowledge on REDD+; and v) developing incentives for the adoption of alternative livelihoods and energy sources. Ultimately, the success of National REDD+ will also require large-scale stakeholder engagement across all levels, but specifically at the community level in order to ensure that communities receive tangible benefits from REDD+.

The NJP constitutes the first step toward the above-described preparation. Its goal is to prepare Zambian stakeholders and institutions for effective future nationwide implementation of REDD+. Objectives of the NJP include: i) building institutional and stakeholder capacity to implement REDD+; ii) developing an enabling policy environment for REDD+; iii) developing REDD+ benefit-sharing models; and iv) developing Monitoring, Reporting and Verification (MRV) systems for REDD+.

The following outcomes for the NJP were developed through consultation with governmental and non-governmental stakeholders:

Outcome 1: Capacity to manage REDD+ Readiness strengthened

Outcome 2: Broad-based stakeholder support for REDD+ established

Outcome 3: National governance framework and institutional capacities for the implementation of REDD+ strengthened

Outcome 4: REDD+ strategies identified

Outcome 5: MRV capacity to implement REDD+ strengthened

Outcome 6: Assessment of Reference Emission Level (REL) and Reference Level (RL) undertaken

The NJP will be facilitated by the Forestry Department situated within the Ministry of Tourism, Environment and Natural Resources (MTENR). It will be funded through the Multi-Donor Trust Fund (MDTF). The fund management is a pass-through mechanism, which distributes technical and financial responsibilities among the participating UN Organisations (UNDP, FAO and UNEP).

Capacity building within this programme will occur across a wide spectrum of Zambian society, including: i) government staff; ii) decision-makers from community to national levels; and iii) local communities in rural areas, particularly women involved in land clearing for agriculture and firewood collection. It is anticipated that through the NJP and subsequent National REDD+ related initiatives, additional benefits will be gained by local communities such as improvement of human welfare, gender equality and protection of valuable ecosystems.

3. Situation Analysis

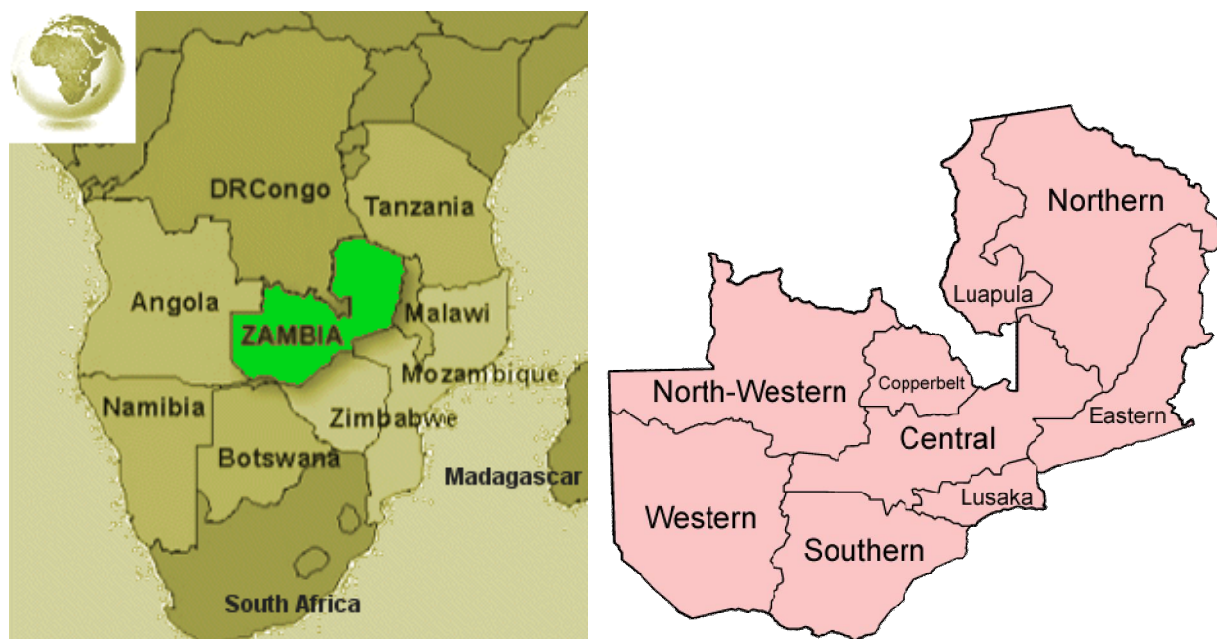


Figure 1: Location of Zambia within Africa (left) and provinces within Zambia (right).

Introduction

1. The Republic of Zambia (hereafter referred to as Zambia) has approximately 50 million hectares of forest, with an estimated deforestation rate of between 250,000 to 300,000² hectares per year. The primary drivers of deforestation and forest degradation vary across regions within Zambia and include *inter alia*: i) charcoal and wood fuel use (for domestic, commercial and industrial uses); ii) timber production; and iii) unsustainable agricultural methods and other land use practices. These drivers are a result of the intrinsic nature of the Zambian economy, based on: i) the overwhelming reliance of the largely poor rural population on natural resources for day to day survival; and ii) the lack of alternative energy sources in urban areas where much of the population also utilise charcoal and firewood for fuel. It is estimated that about 75% of the country's energy supply is from charcoal and firewood and only 25% of the population have access to electricity. Currently, 49.3% of the urban population and 3.2% of the rural population have access to electricity.

Background to REDD and REDD+

2. Reducing Emissions from Deforestation and Forest Degradation (REDD) is a new environmental finance concept with the primary objective of providing financial incentives to reduce greenhouse gas emissions (predominantly CO₂) from forest lands in developing countries. In addition, well-designed REDD frameworks can have a positive effect on the conservation of associated biological diversity and ecosystem services, and the livelihoods of forest-dependent communities (including greater income and improved forest governance) through a better management of forests. At the 2009 Climate Change Conference in Copenhagen (COP 15), these concepts were explicitly included in the definition of REDD, which was renamed REDD+. REDD+ differs from REDD as it includes "the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries" in addition to avoiding deforestation and forest degradation.

3. Since the 2007 Climate Change Conference in Bali (UNFCCC COP13-CMP3), a number of initiatives have started to support countries preparing for a possible REDD mechanism as part of a

² Integrated Land Use Assessment (ILUA) Zambia (2005-2008).

post-Kyoto international climate change regime. The UN-REDD programme has been developed as a collaborative partnership between FAO, UNDP and UNEP. Zambia has been selected as one of nine pilot countries to receive initial support ('quick start') to establish a national REDD+ Readiness process, through a National Joint Programme (NJP). The aim of UN-REDD is to assess whether carefully structured payment structures and capacity support can create the incentives to ensure lasting, achievable, reliable and measurable emission reductions while maintaining and improving other ecosystem services that forests provide. The UN-REDD Programme can therefore be seen as a decision support tool for the government of Zambia to determine whether it will commit to the shifts in forest-resource use in order to participate in a future the REDD+ mechanism under the UNFCCC. This is termed "REDD+ Readiness".

4. Key concepts within the REDD+ mechanism include:

- i) REDD+ is based on performance-based payments i.e. if the abatement potential is not realised, no REDD+ payments will be forthcoming; and
- ii) addressing deforestation and forest degradation is inherently cross-sectoral and will need to be part of a new approach to development across the country.

5. This NJP consequently focuses on preparing Zambia for future REDD+ funding under the UNFCCC and encourages donor participation. This will include developing a National REDD+ Strategy to consequently ensure that Zambia is in a position to access and utilise future REDD+ funding streams. The NJP will comprise:

- i) a multi-sectoral³ approach in order to reliably assess the drivers of deforestation and forest degradation;
- ii) capacity development to produce and maintain reliable data;
- iii) capacity development to access various REDD+ funding streams for implementation of National REDD+ activities;
- iv) development of appropriate strategies to reduce deforestation and forest degradation in different regions; and
- v) consolidation of available information on deforestation and forest degradation.

6. The 'quick start' UN-REDD national programme is not designed to meet the full costs of supporting Zambia through all the phases of Readiness. Beyond 'quick start' the Zambian government will be required to meet the following objectives:

- i) sustainable development to reduce local communities' dependence on wood products;
- ii) strengthening of institutional, policy and legislative frameworks;
- iii) good governance that guarantees transparency in benefit-sharing;
- iv) appropriate nationwide land use planning to facilitate REDD+; and
- v) effective implementation of natural resource policies concerning forest use, and enforcement of legislation across all of Zambia.

7. The latter point regarding a 'blanket approach' across Zambia is critical to ensure that rates of deforestation and forest degradation are reduced at a national level. This is because the protection of only a few selected areas of forest will in all likelihood result in leakage (i.e. damage to forests outside of these protected areas).

8. The National REDD+ Programme will include tangible learning-by-doing activities in communities and forests. The following are likely to be undertaken on a large-scale in the National REDD+ Programme: i) development of alternative livelihoods (e.g. sustainable beekeeping in woodlots⁴); ii) employment of sustainable agricultural methods and land use practices; iii) establishment and/or utilisation of alternative energy sources to reduce demand for charcoal and wood; and iv) revision of

³ Sectors should include *inter alia*: forestry, agriculture, mining, energy, finance and law enforcement.

⁴ Beekeeping forms a part of Zambian tradition and culture and also helps to conserve forests (stakeholder meeting, Wednesday 2nd December).

appropriate policies, strategies and legislation. Existing internal funding (the Environment and Natural Resource Management and Mainstreaming Programme (ENRMMP)) and external funding (donor) sources will be sought by the NJP to finance such learning-by-doing activities during the 'quick start' phase 1 of UN-REDD. Many complex subjects will need to be examined in order to advise appropriate changes in the development pathway of Zambia and thereby implement National REDD+ effectively. These include: governance structures, land tenure systems and law enforcement, market and cultural values of forests, the rights of local communities, benefit-sharing mechanisms as well as poverty and food production policies.

Geography and Climate

9. Zambia is a landlocked country located in the southern part of Africa covering an area of 752,614 km² (see Figure 1). The country lies on a plateau with an average elevation of approximately 1,200 m, ranging from 350 m in the Zambezi valley to 2,164 m on the Nyika plateau. It is a country of varied landscapes that include grassy plains, hills and steep escarpments, large lakes and broad rivers, deep valleys and biodiversity-rich wetlands and forests. The climate is subtropical with three distinct seasons: the cool dry season from May to August, the hot and dry season from August to November, and the hot and wet season from November to April. The mean annual temperature is 21°C and annual rainfall ranges from 800 mm in the lower south of the country to 1,400 mm in the upper north of the country, with an average of 1,000 mm. Rainfall is strongly influenced by the movement of the Inter-Tropical Convergence Zone (ITCZ) as well as the El Niño/Southern Oscillation (ENSO) phenomenon.

Socio-economic Context

10. Zambia has a population of 11.8 million⁵ (and a growth rate of 1.6% per annum) with approximately 73% of the population living below the poverty line^{6,7}. Approximately 39% of the population is concentrated in urban areas making Zambia one of the most urbanized countries within the Southern African Development Community (SADC) region⁸. Urbanisation has occurred along the major transport routes, with Lusaka and Copperbelt provinces being the most densely settled and North-western, Western and Northern provinces the least settled. Areas of urbanisation coincide with the major areas of deforestation and forest degradation⁹.

11. In 1965, Zambia was a prosperous middle-income country with a per capita income of \$964¹⁰ in 2009 dollar terms. At present, per capita income in Zambia stands at \$490 (2009)¹¹. The principal reason for this economic decline was the reduction in the purchasing power of copper (Zambia's primary economic export) in the 1970's and 1980's. The reduction in copper prices and Zambia's limited export portfolio, coupled with increasing oil prices and the country's dependence on imports for manufactured goods, severely affected the national balance of payments. In response, and with short-term interests in mind, the Government of the Republic of Zambia borrowed heavily which rendered Zambia one of the most heavily indebted countries in sub-Saharan Africa¹². A failed structural adjustment policy introduced in 1985 did little to assist with recovery, and was abandoned in 1987, although subsequent structural adjustment programmes have produced better results. Investment in human development was replaced with interest repayments on foreign debts and, as a result, Zambia was granted debt relief in 2000 as part of the Highly Indebted Poor

⁵ 2009 estimate - CIA World Fact Book 2009. Available from: <https://www.cia.gov/>

⁶ Defined as a daily income of less than 1 US dollar.

⁷ 2002-2005 Poverty Reduction Strategy Paper.

⁸ WHO Country Cooperation Strategy Zambia (2002 – 2005). Available from: <http://www.who.int/en/>

⁹ Copperbelt, Central, Lusaka, Northwestern and Southern provinces.

¹⁰ Jorgensen, S.L. & Loudjeva, Z. 2005. A Poverty and Social Impact Analysis of Three Reforms in Zambia: Land, Fertilizer and Infrastructure. The World Bank. Social Analysis Paper No. 49. (Calculated from \$752 in 1999 dollar terms using the Consumer Price Index. Available from: <http://www.usinflationcalculator.com/>

¹¹ Available from: http://www.worldvision.org.nz/wherewework/profiles/c_zambia.asp

¹² Jorgensen, S.L. & Loudjeva, Z. 2005. A Poverty and Social Impact Analysis of Three Reforms in Zambia: Land, Fertilizer and Infrastructure. The World Bank. Social Analysis Paper No. 49.

Countries (HIPC) initiative. Despite the debt relief, Zambia is still dependent on foreign donors to supplement the national budget¹³, although this dependence on donor funds is declining. In 2009, donor support amounted to 18.1% of the national budget¹⁴ and the projection for 2010 is 14.5%¹⁵.

Land Use

12. Over 84% of Zambia comprises natural vegetation (forests, woodlands, grasslands and marshlands), 4.6% comprises water-bodies and 11% is directly utilized by people (Table 1). This 11% anthropogenic land use is primarily dominated by agriculture, i.e. livestock and crop production including sorghum, maize, groundnuts, cow peas, tobacco, sunflowers, irrigated wheat, soybeans and horticultural crops.

Table 1: Distribution of land use categories¹⁶.

Forests (>= 10% canopy cover)	Area (thousand ha)	Proportion of total land area %
Evergreen Forest	819	1.1%
Semi-evergreen Forest	34,145	45.4%
Deciduous Forest	14,865	19.8%
Other Natural Forests	139	0.2%
Broadleaved Forest Plantations	< 7	< 0.1%
Coniferous Forest Plantations	< 7	< 0.1%
Total	49,968	66.4%
Other Wooded Land (5-10% canopy cover or shrubs/bushes canopy cover >10%)	Area (thousand ha)	Proportion %
Wooded Grasslands	4,897	6.5%
Shrubs/Thickets	1,158	1.5%
Total	6,055	8.0%
Other land (<5% canopy cover or shrubs/bushes canopy cover <10%)	Area (thousand ha)	Proportion %
Barren Land	9	< 0.1%
Grassland	6,085	8.1%
Marshland	1,332	1.8%
Annual crop	4,700	6.3%
Perennial crop	236	0.3%
Pastures	464	0.6%
Fallow	2,387	3.2%
Urban	7	< 0.1%
Rural	551	0.7%
Extraction Site/Mining area	> 7	< 0.1%
Total	15,771	21.0%
Inland Water (area occupied by major rivers, lakes and reservoirs)	Area (Thousand ha)	Proportion %
Lake	2,693	3.6%
River	774	1.0%
Dam	>0.7	< 0.1%
Total	3,467	4.6%
Total Country Area of Zambia	75,261	100%

13. Agricultural production within Zambia is dominated by small-scale operations¹⁷, with the majority of farmers operating on less than two hectares of land. Crop productivity on such small land parcels is typically low as a result of intensive subsistence agriculture with limited agricultural

¹³ Ibid.

¹⁴ National Assembly of Zambia – National Budget Address January 2009.

¹⁵ Ms Musonda, UNDP Country Office, Zambia.

¹⁶ Integrated Land Use Assessment, Zambia (2005-2008).

¹⁷ Crops cultivated include maize, groundnuts, roots and tubers.

inputs¹⁸. This drives the expansion of agriculture into forested areas principally through the slash and burn *chitemene* system. This system is a method whereby farmers lop branches from trees, bundle the branches and burn them on one tenth of the area of land harvested for branches. The resulting ash is a valuable source of plant nutrients and alkalinity, allowing farmers to cultivate crops on the plot for up to five years before repeating the process at a different location. Sustainable use of the *chitemene* system requires: i) farmers to only lop the upper branches of trees; and ii) to leave used fields fallow for 20-25 years which enables full recovery of the woodland. Presently, however, many farmers are not practicing *chitemene* in a sustainable manner and are lopping trees at the base which greatly reduces the rate of recovery of the woodland. Furthermore, fallow fields are re-used after shorter time intervals than in the past, as the pressure for obtaining agricultural land increases due to expanding rural populations.

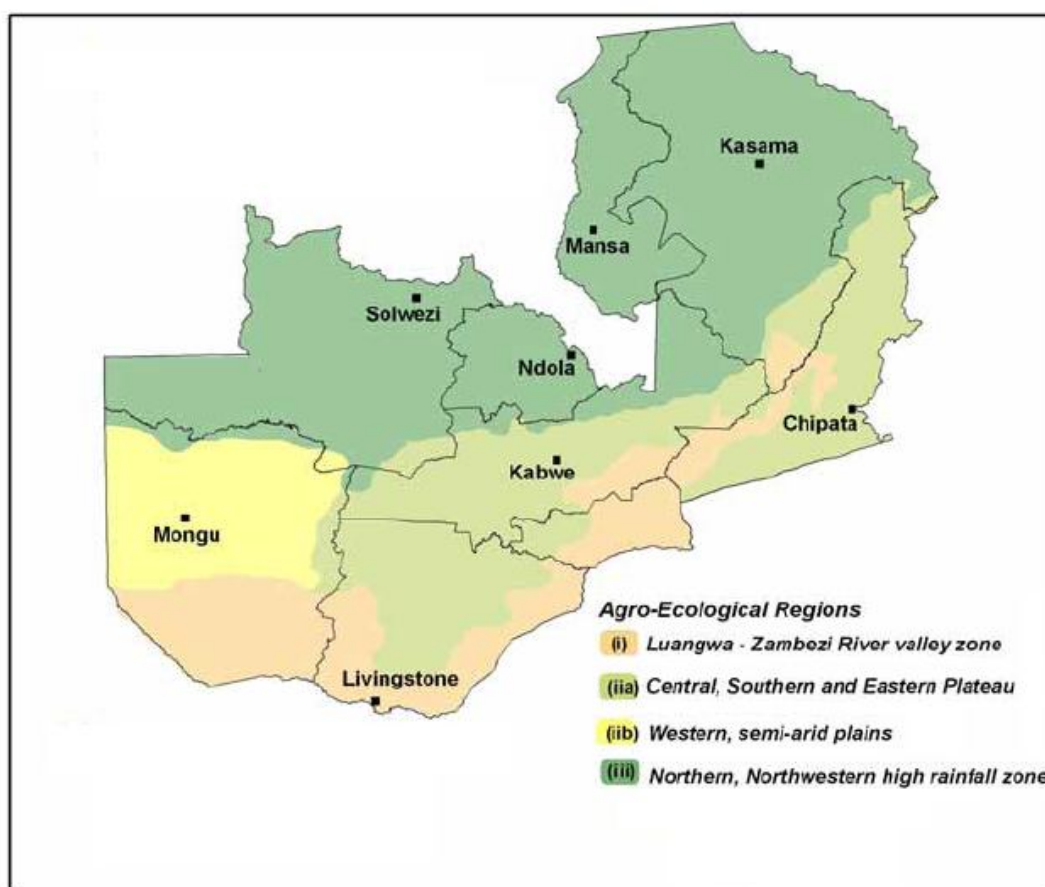


Figure 2: Agro-ecological regions of Zambia¹⁹.

14. Alternative agricultural techniques to *chitemene* require capital, resources²⁰ and alternative solutions to increasing fertility levels²¹ that the majority of small-scale farmers do not have access to. This is largely because poverty is endemic among small-scale farmers, with an incidence of

¹⁸ National Forestry Policy (draft), October 2009.

¹⁹ Adapted from Kamelarczyk, K.B.F. 2009. Carbon stock assessment and modelling in Zambia, a UN-REDD Programme study. FAO, UNDP and UNEP.

²⁰ Such as fertilizers and tractors.

²¹ Such as green manuring crops and trees.

84%²². Part of the reason for the poverty is a lack of secure land tenure. Without ownership of land many people do not have collateral, and thus find it difficult to obtain loans for business ventures (see paragraph 0). The most limiting factors to agricultural production in Zambia are the high production costs incurred by the farmers and the inadequate access to markets and support services.

15. Zambia is divided into three Agro-Ecological Regions (AERs), which differ according to rainfall and soil quality (see Figure 2). The regions are discussed in some detail below:

16. *Agro-ecological Region I* (12% of the total land area) is situated in the southern part of the country, in the Southern Province and parts of the Eastern and Western Provinces. AER I receives on average less than 750 mm of rain annually. It consists of loamy to clayey soils on the valley floors, and coarse to fine loamy shallow soils on the Zambezi river escarpment. The population of this region is about 2.5 million. The region is suitable for production of drought resistant crops such as cotton, sesame, sorghum and millet and has potential for production of irrigated crops, like winter maize. This region is also suitable for extensive cattle production and has limited potential for cassava cultivation. The valley part of the region is low altitude and is consequently hot and humid. The presence of tsetse flies in this region renders it unsuitable for cattle rearing, and the region generally has little forest cover.

17. *Agro-ecological Region II* (42% of the total land area) covers the central part of the country, extending from the east through to the west. It is the most populous region with over 4 million inhabitants and has the greatest agricultural potential. The region receives between 750 and 1000 mm of rainfall annually, which is evenly distributed throughout the crop growing season. Forest cover in this region is primarily deciduous forests consisting of mopane woodlands, munga and kalahari woodlands and *Baikiaea* forests. Region II is subdivided into two separate AERs. Region IIa covers the fertile plateau of the Central, Lusaka, Southern and Eastern provinces. Permanent settled systems of agriculture are practiced. A variety of crops are grown in this region, including maize, cotton, tobacco, sunflowers, soya, irrigated wheat and groundnuts. The area is also highly suitable for flowers, paprika and vegetable production. Region IIb covers much of the northern part of Western province and has generally sandy soils. It is suitable for production of cashew nuts, rice, cassava and millet, including vegetable and timber production. The region is also highly suitable for beef, dairy and poultry production.

18. *Agro-ecological Region III* (46% of the total land area) spans the northern part of the country and has a population of over 3.5 million people. It receives over 1000 mm of rainfall annually. As a result, the soils within this region are highly leached and acidic (with the exception of the Copperbelt province). Forest cover in this region is primarily semi-evergreen forests consisting of miombo woodland. The miombo woodland covers approximately 60% of Zambia's total surface area and thus is the most important vegetation type in terms of carbon storage. Region III is generally suited to the production of millet, cassava, sorghum, beans and groundnuts. Coffee, sugarcane, rice and pineapples are also grown in the area.

Land Tenure

19. Land tenure embodies those legal, contractual or traditional arrangements whereby individuals or organisations gain access to economic or social opportunities through land²³. There are two classes of tenure in Zambia: customary land and state land.

²² Jorgensen, S.L. and Loudjeva, Z. 2005. A Poverty and Social Impact Analysis of Three Reforms in Zambia: Land, Fertilizer and Infrastructure. The World Bank. Social Analysis Paper No. 49.

²³ Dorner P. 1972. Land Reform and Economic Development, Penguin Books limited; England.

20. An estimated 94%²⁴ of the country is officially designated as customary land and is occupied by 73 tribes, headed by 240 chiefs, 8 senior chiefs and 4 paramount chiefs²⁵. Resources on communal lands are public, and are held by the president on behalf of the people. Resident communities are granted rights to the benefits of natural resources, but have no legal management privileges²⁶. Under the customary system, *de facto* land allocation is carried out by headmen of villages, although the state still has *de jure* ownership of the land. It is not currently possible to privatise resources or land that is designated as customary land. Under the Land Act of 1995, customary land can be converted to leasehold tenure, but this process is complicated by the lack of clarity of rights to the land, and this option has not been frequently exercised. This presents potential legal obstacles to the benefit distribution system of potential revenues and may lead to communities showing little motivation to invest in REDD+ initiatives and to raise finance from external investors.

21. Current debates on land tenure on customary land in Zambia revolve around three alternatives: i) the retention of customary land tenure in its present form; ii) the reform of customary tenure by adapting it to the current socio-economic environment; and iii) the individualisation of tenure²⁷. Strong motivation for land tenure reform has not yet been articulated by government, despite considerable pressure exercised both from within and from international organisations.

22. Freehold title does not exist within the context of Zambian law. However, approximately 29% of State land has been alienated²⁸, and is held under leasehold agreement by private individuals. These 99-year renewable leases constitute private ownership, and lessees hold title for the land, as well as usage and exploitation rights for the resources on the land. Leasehold titles cannot generally be retracted except when subsurface resources of national significance are discovered. In such situations, a lengthy legal and consultative process under which the landowner is paid compensation is generally undertaken, although the state is entitled to reclaim the land without compensation. Further references in the NJP to 'private land' refer to leasehold title.

Land Use Planning

23. Historically, land use planning on customary land has been largely *ad hoc* and lacking in long-term coordinated policy. Enforcing regulations on customary land is challenging due to the open-access nature of customary land and the loose regulation by local traditional leaders. For example, despite national legislation protecting certain forest areas within customary lands, charcoal burning and other land clearing operations are common.

24. Land use planning on state land, by contrast, is generally organised and managed in a structured manner. However, local and district administrative bodies generally lack the capacity to regulate land management in a comprehensive manner. This is for instance illustrated by the larger protected forest areas adjacent to communal lands, in which unregulated harvesting occurs extensively and frequently. It is reported that in gazetted forest areas, only half of the forest remains intact²⁹. The fact that the government commonly grants 99-year leases to licensees is of relevance to REDD+ implementation. This land tenure system potentially provides a viable vehicle for private investment and long-term commitment of land to REDD+ operations.

²⁴ Ministry of Lands. 1996. Draft Land Administration and Management Policy, Lusaka, Zambia.

²⁵ Chileshe, R.A. 2005. Land tenure and rural livelihoods in Zambia: case studies of Kamena and St Joseph. PhD Thesis. Unpublished.

²⁶ Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

²⁷ Chileshe, R.A. 2005. Land tenure and rural livelihoods in Zambia: case studies of Kamena and St Joseph. PhD Thesis. Unpublished.

²⁸ Alienation, in this context, refers to the transfer of rights to the land to another person.

²⁹ UNDP. 2008. Zambia Millennium Development Goals Progress Report 2008. UNDP: Lusaka, Zambia.

25. In general, land use on private land outside of cities is determined by the owner, subject to certain provisions in terms of permits and contractual obligation to the state. Some landowners are granted leases on condition that they produce fixed minimum quantities of a certain product to be sold to government at a set rate. Furthermore, the different AERs are suited to particular land uses, and governmental licensing of products is generally linked to appropriate production methods for the relevant AER. Private (leasehold) land is suitable for REDD+ operations because of the long-term security associated with tenure, but such land tends to generate substantial profits (e.g. through commercial farming) and REDD+ may not present an attractive option for the landowners. Furthermore, in cases of conditional leasehold (see paragraph 22), a change in production may not be viable. This will require further research during the programme.

Natural Resource Management

26. Protected Areas (PAs) in Zambia consist of national parks and Game Management Areas (GMA) (32% of the land area), forest estates (9%), national heritage sites and RAMSAR sites. The different PA types are governed by different management entities and separate policy instruments with little cross-departmental coordination.

27. Wildlife management falls under the jurisdiction of the Zambian Wildlife Authority (ZAWA) of the Ministry of Tourism, Environment and Natural Resources (MTENR), and the national parks and GMAs are under its sole authority. In addition, private wildlife sanctuaries and conservancies are part of the wildlife estate, despite their private ownership. The ZAWA management structure is subdivided into regions with each national park managed by wardens and patrolled by scouts. Throughout the early history of the national parks there was extensive poaching within the parks despite there being patrols. The explanation put forward by government for this was that communities were not engaged during the establishment of the PAs, and were consequently divorced from the value of the natural resources. PAs were thus perceived primarily as a forbidden source of game products. The subsequent implementation of Community-Based Natural Resource Management (CBNRM) in GMAs adjacent to national parks reduced the poaching pressure on national parks by involving communities in the administration of such areas, and returning the monetary benefits from such activities to the communities involved.

28. CBNRM is well-established in Zambia, with 63 community resource boards established in GMAs and several pilots of fisheries management and Joint Forestry Management (JFM) enterprises (see paragraph 29). The experience and structures developed in this process will be essential to consider for successful implementation of REDD+. Notwithstanding the JFM teething problems, CBNRM provides an excellent platform for REDD+ grassroots engagement that would otherwise need to be developed independently. Because it has such a broad usage base within Zambia, many local communities that in the past have only had experience of top-down administration will be able to take ownership of projects more readily. A complete review of CBNRM is presented in Annex 1.

29. Forest management is carried out by the Forestry Department (of the MTENR), whose mandate includes both protected forest areas and forests on customary land. The Forestry Department has the authority to issue timber harvesting licenses for forest resources on customary land, and no timber may be harvested and transported across the boundaries of customary land without such a license. Management of protected forest estates and forest on customary land, however, has proved a challenge for the Forestry Department, which lacks sufficient resources for its broad mandate. In light of the success of CBNRM regarding wildlife, the Forest Department has introduced JFM under which community participation in forest resource management in local forest or forest on customary land has been made legal.

30. Charcoal burning is a primary driver of deforestation in Zambia, and is largely as a result of lack of access to alternative power sources. Energy policy is determined by the Ministry of Energy and Water Development (MEWD), and the infrastructure is the responsibility of the Zambian Electricity Supply Company (ZESCO; a parastatal) and the Copperbelt Energy Consortium (CEC; a private

entity in the Copperbelt Province). Current policies emphasise the need to expand power generation capacity and delivery infrastructure (see paragraph 56 and Table 2).

31. Fisheries management falls under the Department of Fisheries (formerly situated in the Ministry of Agriculture and Cooperatives, but now in the Ministry of Livestock Development). All fisheries and fishing licences are controlled by this department, and the fishing season is limited to allow for natural restocking. The Fisheries Act of 1974 considers communities to be stakeholders in the fishing industry, but no legal framework was established for engagement with such stakeholders until recently. Present attempts to integrate local communities into commercial fishery ventures have met with mixed success.

32. Natural resource management under traditional systems varies across the ethnic groups in Zambia. The Lozi of Western Zambia have a highly structured traditional management system, with village level traditional minsters ("Indunas") tasked with natural resource management. Prohibitions are enforced in a different manner from that of national government, but are generally still highly effective.

33. Other areas do not have such a structured traditional natural resource management system, with varying effects. In general, traditional management techniques have been unable to cope with demographic and economic pressures, or have changed under their influence. This has contributed in part to the accelerated rate of natural resource use on customary land. REDD+ should integrate well with traditional authorities and management techniques as a result of its participatory development process.

Policy and Governance

Political Economy

34. Prior to 1991, the economy of Zambia was characterised by: i) a short supply of basic goods and services; ii) rapid growth of the money supply; iii) a rise in military expenditure; iv) a decline in social sector expenditures, such as health and education; v) low tax compliance; vi) a large and increasing budget deficit; vii) heavily indebted and largely loss-making parastatal agencies; viii) low business and consumer confidence; ix) annual inflation of over 100%; x) mounting external debt from multilateral and bilateral institutions; xi) deteriorating physical infrastructure; and xii) the collapse of private investment.

35. In an attempt to restore Zambia's economy, the government pursued a policy of economic liberalism, free market rule and free enterprise in 1991. This policy was enacted through: i) stabilising the money supply; ii) promoting the private sector based on free market principles; iii) disengaging government from commercial activity; and iv) reversing the decline in social sector delivery systems and infrastructure. By 1997, a decline in annual inflation from 35.2% (1996) to 18.6% was achieved, and a 3.5% annual growth in GDP was recorded³⁰, primarily due to increased exports from agriculture.

36. The achievement of such stabilisation was not without cost, however. The primary focus on the internal workings of the economy and the focus on free-market capitalism ostensibly resulted in little consideration of externalities such as damage to the environment and rural economies. Consequently, increasing GDP was paralleled by an increase in income disparity and general poverty, resulting in minimal socio-economic advancement for the majority of the Zambian population. The legal framework and management policies for the forestry sector, developed during

³⁰ Policy Framework Paper 1999-2001.

this time, are indicative of this focus, with a strong focus on economic viability at the expense of environmental and social sustainability.

37. The post-2001 government has focused on macro-economic stabilisation and on achieving the Millennium Development Goals (MDG) by 2015. A strong focus on strengthening financial institutions and the promotion of good governance practices has resulted in a steady economic growth of 3.5% per annum, and a reduction in annual inflation to less than 10%.

38. Concomitant with this macroeconomic stabilisation has been an increase in expenditure on social development programmes including: i) the National Safety Net; ii) a Fertiliser Support Programme for rural farmers; and iii) a Food Security Programme for marginal groups. Current government policy reflects increased concern for externalities, whilst maintaining the free-market liberalisation that has stabilised the economy. Integration of governance assessments into national development planning also reflects increased political will for socially responsible governance.

39. Historically, Zambian development programmes have suffered from poor governance and irregular implementation. In particular, the country has suffered from limited capacity to coordinate and monitor the implementation of policies and plans, resulting in fragmented implementation of such plans. Structural difficulties arose from the centralised and hierarchical nature of decision-making and administrative structures, and poor governance often undermined both the functioning and the popular perception of central government. However, significant inroads have been made to address these failures, and the process of transformation is ongoing. The Zambian government has formalised the transformative process in the Fifth National Development Plan (FNDP) by providing a comprehensive coordination strategy, as well as shifting the focus away from centralised governance to a more distributed operational structure. Activities for the FNDP are in the process of being executed, and institutional and financial support is being provided through international agents such as the UNDP.

40. Institutional capacity for forecasting and scenario-building to address prospective issues is currently being expanded through training and an enhanced engagement with civil society. In addition, a legal review of the Anti Corruption Commission Act (ACCA) in order to protect whistle-blowers and bring the ACCA in line with international best practice is underway. The strength of the current governmental drive to improve democratic governance in the country is evident from the establishment of a number of statutory bodies. These have been established to: i) promote human rights (Human Rights Commission); ii) manage the electoral process independently (Electoral Commission of Zambia); iii) review the constitution in a broad-based participatory framework (National Constitution Conference); iv) monitor the policing systems (Police Public Complaints Commission); and iv) accelerate the fight against corruption in public institutions (ti Corruption Commission). These reforms reflect a commitment to improved governance, and whilst the internal restructuring may cause delays in REDD+ integration, the dedication to multi-stakeholder engagement and decentralisation are likely to enhance the long-term chances of success of REDD+.

Government Structures

41. Several levels of governmental hierarchy within Zambia are relevant to land management and the implementation of REDD+. These include ministries, provincial governance, district committees and traditional administration. There currently are no high-level coordination structures to consolidate natural resource management in the various ministries.

42. The Public Service Reform Programme (PSRP), as articulated in the Fifth National Development Plan (FNDP), commits to a policy of decentralisation of administrative capacity to more localised bodies. This commitment has been partly implemented, creating various local bodies as described below, but there is not yet sufficient capacity in these decentralised structures to fulfil the roles ascribed to them.

43. Provincial governance is provided by the Provincial Development Coordinating Committee (PDCC), headed by the provincial minister. The role of the PDCC is to coordinate the activities of various governmental departments and Non Governmental Organisations (NGOs).

44. An additional coordination role is played at the district level by the District Development Coordinating Committee (DDCC). Operating under the auspices of the local authorities (District Councils), the DDCC comprises the District Commissioner, government departments, NGOs, selected private sector organisations and technical council staff. The office of the District Commissioner, through the DDCCs, creates a facility for information exchange and collaboration to promote efficient management of financial and human resources for development. Local authorities are responsible for the passing of by-laws and are good entry points for identification and management of development initiatives relevant to REDD+.

45. Area Development Committees (ADCs) represent more localised concerns, and are tasked with local coordination of policies determined by the DDCC. Areas are in turn divided into wards, which have local councillors to represent community concerns within the ADCs. The ADCs represent the lowest levels of political administration, and are therefore the implementing agents of much of the policy determined by the DDCC.

46. Parallel to the political administration is a hierarchy of traditional administration. Certain rights and roles for these structures are enshrined within the political administrative system. Ultimately, chiefs are answerable to the District Council, and in turn can dictate policy to the headmen of local communities. This structure is also useful for the communication of community needs in the other direction. Engagement with the traditional administration is essential for the long-term success of initiatives such as REDD+, and can enhance working relationships with communities.

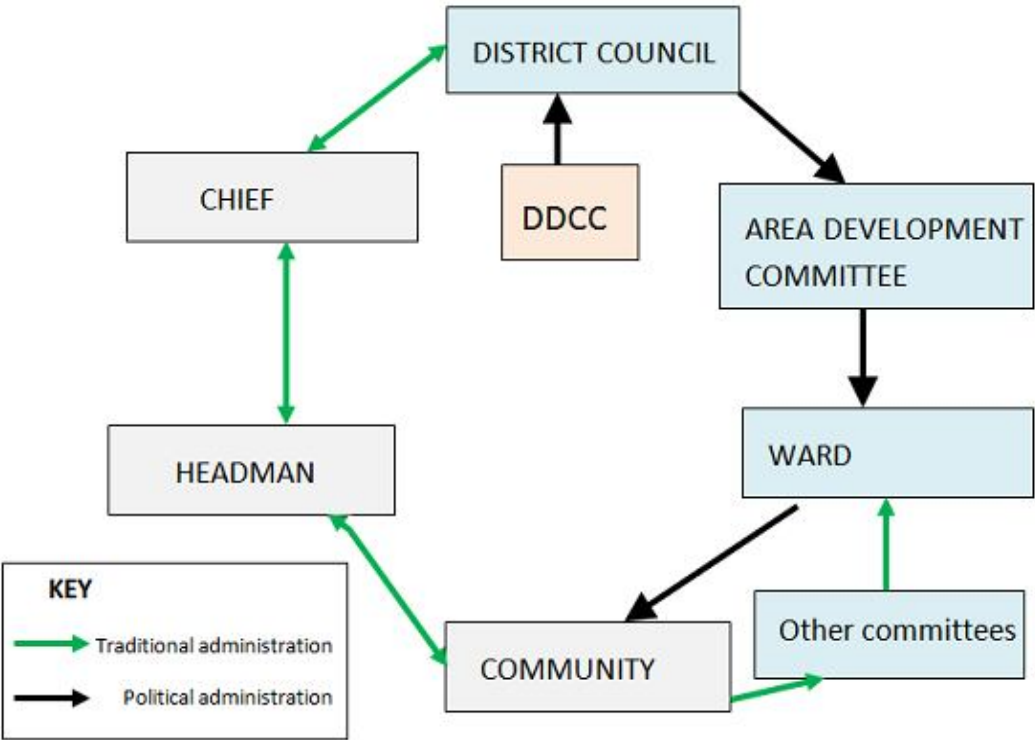


Figure 3: A diagrammatic representation of hierarchical governance structures from the district to community levels.

Policy context

47. In 1949, a Forestry Policy was put in place with Forest Ordinance Cap 105 providing the legislative provision for its implementation. The policy statements covered: i) land protection; ii) wood supplies; iii) timber produce; iv) conservation of forest resources; v) financial returns; vi) research; vii) education; viii) extension; and ix) land use. Forest management and protection as well as research formed the bulk of the work in the Forestry Department even though it lacked well-trained personnel. This prompted the department to start intensive training of its staff at the African Forest Training Centre (AFTC) in Kitwe in 1949. Mainstream forestry concentrated on forest protection and management, forest surveys and administration. Towards the 1960's, industrial plantation development was investigated resulting in the establishment of 60,000 hectares of exotic species plantations (primarily pines and eucalypts) in the Copperbelt Province. Regional and local supply plantations in all provincial centres and districts of Zambia amounting to 7,500 hectares were also established. With the formulation of the Forest Policy of 1965, the Forestry Department introduced 16 forest management elements³¹, which were implemented through the six divisions, namely: Forest Management and Plans, Beekeeping, Forest Products, Silviculture, Training and Province Management.

48. Previous forest policies in Zambia upheld a centralist approach to forest management until the Forestry Policy of 1998 was issued. The aim of this latter policy was to shift the national institutional and legal framework towards broad-based participatory forest management. It was expected to bring about transparency and democracy in forest resource management. However, this forest policy is presently in abeyance³². The Forestry Policy of 1998 has not been implemented due to the non-commencement of the Forest Act of 1999, thereby rendering some of the forestry management guidelines obsolete. As a result, the Forest Act of 1973 is still in use. The older policy embodied centralised forest management, whereby the government manages forests on behalf of the citizens and thus has absolute power over all aspects of forest management. This policy focuses on exclusive protection of forest resources with forest production as a secondary aspect; it excludes any stakeholder participation and does not stipulate any rights for forest dwelling communities.

49. In addition to the non-implementation of the Forestry Policy of 1998, forest management in Zambia has not been effective due to the following factors:

- inadequate number of skilled forestry personnel;
- inadequate forest product monitoring and control systems;
- limited geographic coverage of forestry personnel to carry out patrols in PAs;
- inadequate collaborative arrangements between local communities and government;
- lack of involvement of local communities and other stakeholders in forest management;
- absence of clear guidelines and incentives for private sector investments and partnerships, such as public private partnerships;
- absence of guidelines on forest resource tenure, roles and responsibilities of stakeholders, costs and benefit-sharing arrangements;
- inadequate funding to national forestry management; and
- absence of a clear legal framework pertaining to forestry.

50. In 2009, the MTENR, with the support of cooperating partners and local stakeholders, commenced the review of the Forestry Policy of 1998. It has been recognized that, as a result of key environmental concerns that are emerging regarding climate change (such as REDD+), new policy direction, principles and measures are needed. Forests are a recognised resource that can be used to sustain the environment, improve livelihoods and contribute to the volume of global public goods. In view of these points, the current review of the Forestry Policy of 1998 and the amendments to the Forests Act No.7 of 1999 develops the articulation of rights and obligations of local communities, other stakeholders, and public private partnerships as a way of increasing

³¹ Situational Analysis Report of the Forestry Sector (A summary) 2009.

³² Situational Analysis Report of the Forestry Sector (A summary) 2009.

investments in forestry and Zambia's international obligations as a global citizen. However, all trees are still 'owned' by the President on behalf of all Zambians according to the text of the Forest Act of 1999, and as such the policy review may need to re-assess this principle. This presidential ownership may be a barrier for private sector investment in the National REDD+ Programme, because local communities do not have legal rights over the trees they are protecting.

51. The national forest estate is sub-divided on the basis of the land category onto which it rests. The nation's land is divided into state land, customary land and privately owned land (see paragraphs 16-19 for description of land tenure). Forests in a legal context are those occurring in state reserves, customary land and privately owned land. All trees on state and customary land are vested in the President through whom the Forestry Department has been mandated to manage, whilst trees on privately owned land are owned by the lease holder. The Forestry Department, which has its headquarters in Lusaka, has a presence in every district of Zambia. Through its district offices it manages not only forests in state reserves but those on customary lands. Forests on customary land are only managed in terms of extraction through concessions and licensing. Post-harvest forest management is left to the local communities who do not benefit from the fees paid by concession licensees.

52. Currently, three forest management systems exist: the Joint Forest Management, the Wood Land Management and the Plantation Management Systems. These are described below:

- **The Joint Forest Management (JFM) System** is the collaborative management of forests by local communities and the Forestry Department, and enshrines forest resource tenure, access rights and financial arrangements. JFM was piloted through the Provincial Forestry Action Programme (PFAP) supported by Statutory Instrument No. 47 of 2006, which aimed at testing and generating JFM guidelines. However, only six forest reserves and one customary area piloted the JFM and these faced some administrative challenges. One such stumbling block is the Forests Act No. 39 of 1973, on which the statutory instrument was developed. Since this act does not include any reference to community participation or benefit-sharing schemes, there is no legislation governing these issues and the implementation of benefit-sharing is thus difficult.
- **The Woodland Management System** governs indigenous forests and their protection, management, conservation and production. This system has over the years been ineffective due partly to the reasons detailed in paragraph 49, as well as limited funding. The only significant output from the Woodland Management System is the regulation of timber and Non-Timber Forest Products (NTFPs) through licensing and forest concessions³³. However, because of the limited budget and monitoring capacity available to the Forestry Department, the policing of concessions and off-concession harvesting are limited and not highly effective. Budget limitations are exacerbated by the regular underestimation of stumpage³⁴ (the tax the government charges loggers for buying public timber) – a common problem in the management of indigenous forests worldwide.
- **The Plantation Management System** pertains to the management of plantation forests for commercial timber production. This system has been relatively well-implemented to date, as it is semi-autonomous. Commercial timber production, in the light of current legislation, includes farm forestry by commercial farmers, local supply plantations (directly managed by the Forestry Department), industrial plantations such as those located in the Copperbelt province, and even village woodlots of varying sizes³⁵. All of these operations engage with

³³ Zambian Ministry of Tourism, Environment and Natural Resource Management. 2009. Situational Analysis Report of the Forestry Sector. Lusaka: Zambian Ministry of Tourism, Environment and Natural Resource Management.

³⁴ Roper, J. and Roberts, R. W. 2006. Deforestation: Tropical Forests in Decline. Quebec: CIDA Forestry Advisers Network.

³⁵ Zambian Ministry of Tourism, Environment and Natural Resource Management. 2009. Situational Analysis Report of the Forestry Sector. Lusaka: Zambian Ministry of Tourism, Environment and Natural Resource Management.

government directly before planting and harvesting, ensuring the relatively straightforward implementation of the Plantation Management System.

53. Whilst policies and legislation specific to forestry are of key importance (as described above), many other sectors impact on forest ecosystems, and the policies and legislation that drive those sectors are also relevant. Some of the outcomes of policies in other sectors provide perverse incentives for deforestation and forest degradation and unless forests are more valuable 'standing than cut' these incentives will remain. A new policy analysis ³⁶indicated that 21 policies either accentuated or promoted deforestation and forest degradation by providing legitimacy to activities or developments that transform forest resources (see paragraph 54 for some examples). Ultimately, policies will need to change (particularly those that accentuate or promote deforestation and forest degradation) and the economic value of standing forests will need to increase for REDD+ to succeed.

54. The following are examples highlighting instances where policies have resulted in deforestation and forest degradation, as described in the Global Indigenous Peoples Forum on REDD in 2008³⁷;

- New copper resources were discovered and new mining concessions assigned in pristine forest in the north-west of Zambia. This resulted in deforestation, forest degradation and overexploitation due to population shifts and migration.
- Hydro-power shortages have precipitated increased demand for charcoal and firewood.
- The opening of new agri-businesses and plantations has caused deforestation and forest degradation and over-exploitation of water resources.
- The government has also de-gazetted some Protected Forest Reserves.

55. Roles for government and communities within REDD+ will need to be clearly defined, as will principles outlining how REDD+ financing should be spent in the future. Altering development practices to ensure sustainable activities in the forestry, agriculture and environmental sectors will be critical for the success of national REDD+. Implementing current and new policies and enforcing legislation to ensure sustainable development will be the responsibility of government. At a community level, REDD+ financing will largely be used for incentivising forest resource users to change their current resource practices. Such changes in behaviour will assist government to meet their sustainable development policy objectives. Importantly, current government investment in forest conservation and management should not be reduced because of future funding opportunities via REDD+ (lessons can be learned from the wildlife sector in this regard³⁸). On the contrary, government should be encouraged to increase their investment in sustainable forestry because such investments are likely to yield significant future returns via REDD+.

56. The Ministry of Energy and Water Development (MEWD) is mindful to contribute to the conservation of forests and management of charcoal and firewood production in a sustainable manner. This is stated in the policy objectives in section 5.2 as follows: "This policy seeks to ensure environmentally sustainable exploitation of the biomass resource by ensuring efficiency through better management and introduction of new technologies i.e. bio fuels and gel fuel". In 5.2.2.1 (c) the policy aims to promote appropriate alternatives to firewood and reduce its consumption through: i) encouraging the use of kerosene, liquefied petroleum gas and millennium gel as a household fuel; and ii) encouraging the use of alternative fuel for agricultural activities, such as flue-cured tobacco. All shifts in fuel use will be predicated on improvement and efficiency in order to

³⁶ Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

³⁷ Global Indigenous Peoples Forum on REDD report, November 2008. Available from: <http://www.un-redd.org/>

³⁸ The wildlife sector experienced a boom in foreign investment in the recent past and consequently government reduced its spending in this sector.

reduce leakage potential. The UN-REDD programme will provide further incentive for government to review energy supply and access policies and to promote alternative energy solutions.

57. The key policies, strategies and programmes relevant to REDD+ are summarised in Table 2. All of these policies have been implemented to some extent, although it is difficult to quantify the degree of implementation.

Table 2: Key policies, strategies and legislation relevant to REDD+³⁹.

Policy/Plan/Strategy/Legislation	Description
National Environmental Action Plan (NEAP), 1994	Provides an overview of: i) the county's environmental problems; ii) existing legislation and institutions; and iii) strategy options for improving environmental quality. Environmental problems identified include soil degradation, deforestation, water pollution and inadequate sanitation, air pollution, wildlife depletion.
National Policy on Environment, 2007	Provides: i) environment and natural resources management policies to address current and future threats to the environment and to human livelihoods; and ii) policy guidelines for sustainable development.
Environment Protection and Pollution Act, 1990	Controls pollution and protection of natural resources and the environment. This act should be reviewed to include carbon management principles in Environmental Impact Assessment (EIA) procedures.
Forestry Policy, 1998	Ensures rational and sustainable management and utilization of forest resources using a broad-based and inclusive approach to ensure that all stakeholders are recognized and actively participate. Issues of concern include: i) resource management and development; ii) resources allocation; iii) capacity building; and iv) gender equality.
The Forests Act, Chapter 7 of 1999 (this act has not been activated to date)	Provides for the establishment and management of National Forests and Local Forests and makes provision for: i) the conservation and protection of forests; and ii) licensing and sale of forest produce. It permits JFM for selected forests through the Local Forests (Control and Management) Regulation, 2006. This means that local communities in these Local Forests participate in the management of the forest through committees and registered Forest Trusts to promote forest conservation and arrest forest destruction.
The Zambia Wildlife Act, 1998	Provides for: i) the establishment, control and management of National Parks; and ii) the conservation and enhancement of wildlife biodiversity, and of objects of aesthetic, and scientific ⁴⁰ interest in National Parks. It further provides for the promotion of opportunities for the equitable and sustainable use of the special attributes of National Parks. It is unclear

³⁹ Adapted from Table 3.2 in the National Adaptation Programme of Action (NAPA) and Table 3 in Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

⁴⁰ Such as pre-historic, historical, geological and archaeological objects.

	whether carbon stored in PAs will be eligible for trade through REDD+ ⁴¹ . This act is not particularly strong and is often overridden by other statutes e.g. the Mines and Minerals Development Act.
Policy on National Parks and Wildlife	This policy intends to conserve ecosystems, and to protect wildlife against illegal use. This entails numerous activities including <i>inter alia</i> : research; input into development and tourism; drafting of regulations; setting of standards; and public relations.
Zambia Forest Action Plan (ZFAP), 1995	Establishes: i) a framework for strategic planning in forestry; ii) raises awareness of issues related to the forest sector; iii) contributes to the preparation of/updates to the forest policy, as well as other forestry action plans and programmes.
Fifth National Development Plan (FNDP), 2006-2010	Aims to i) attain food security for the majority of households with at least 90% of the population being food secure by 2010; ii) increase the contribution of the agricultural sector to total foreign exchange earnings from the current 3-5% to 10-20% by 2010; iii) attain growth in the agricultural sector of 10% per annum from 2006 onwards; iv) increase the overall agricultural contribution to GDP from 18-20% to 25% by 2010; and v) increase incomes for those involved in the agricultural sector.
National Agricultural Policy, 1995	Facilitates and supports the development of a sustainable and competitive agricultural sector that ensures food security at national and households levels and maximizes the sector's contribution to GNP. Sector policies and objectives include: i) food security; ii) contribution to industrial development; iii) income and employment; and iv) sustaining the resource base.
Irrigation Policy and Strategy, 2004	Aims to promote a well-regulated and profitable irrigation sector that is attractive to both private investors and the country's partners. The policy aims to remove constraints associated with agricultural productivity through provision of various incentives which increase the profitability of irrigated farming for different groups of farmers.
National Biodiversity Strategy and Action Plan, 1999	Aims to ensure the conservation of a full range of the country's natural ecosystems through a network of PAs and conservation of genetic diversity of crops and livestock. The plan also aims to improve the legal and institutional framework and human resources to implement the strategies for: i) conservation; ii) sustainable use; and iii) equitable sharing of benefits from biodiversity.
Zambia National Action Plan for Combating Desertification, 2002	Aims to contribute to sustainable environmental management through the reduction/control of land degradation thereby contributing to poverty reduction,

⁴¹ Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

	food self sufficiency, and ultimately contributing to economic growth.
Poverty Reduction Strategy Paper, 2002 - 2005	Identifies priority measures in each sector to be implemented in three years with the support of annual national budgets. This is the overall framework for national planning and interventions for development and poverty reduction. This policy was integrated into the FNDP, which is currently under revision to constitute the Sixth National Development Plan (SNDP).
Vision 2030	Sets out possible long-term alternative development policy scenarios and goals that are likely to contribute to the attainment of favourable socio-economic indicators by 2030. Specifically, Vision 2030 aims to ensure that Zambia develops into a 'prosperous middle-income nation', which forms part of the aspirations of the Zambian population. To achieve middle-income status, Zambia's socio-economic development objectives are to: i) attain and sustain annual real economic growth rates of between 6-10%; ii) attain and maintain a moderate inflation rate of 5%; iii) reduce the annual population growth rate from its 2005 rate of 2.9% to a rate of less than 1% over the next 25 years; iv) reduce the incidence of poverty to less than 20%; v) reduce income inequalities measured by a Gini coefficient of less than 40; and vi) provide secure access to safe potable water sources and improved sanitation facilities to 100% of the population in both urban and rural areas.
National Adaptation Programme of Action (NAPA), 2007	Evaluates the likely impacts of climate change on relevant sectors in Zambia and uses a multi-criteria analysis to rank the most urgent needs identified in order to generate a prioritized list of ten adaptation interventions. The following NAPA priorities identified are relevant to REDD+: i) strengthening of Early Warning Systems (EWS) to improve services to preparedness and adaptation to climate change in all the sectors (agriculture, health, natural resources, and energy); ii) promoting alternative sources of livelihoods; iv) managing critical habitats; and v) promoting natural regeneration of indigenous forests.
National Energy Policy, 2008	Seeks to reduce dependence on charcoal and firewood and ensure sustainable provision of affordable, reliable modern energy services to rural and urban households as a means of reducing poverty and raising standards of living. Section 5.2 objective states: "This policy seeks to ensure environmentally sustainable exploitation of the biomass resource by ensuring efficiency through better management and introduction of new technologies i.e. bio fuels and gel fuel."

Energy Regulation Act, 1995	Controls licensing of activities for the production of energy, or the production and handling of certain fuels. When considered in conjunction with the Electricity (amendment) Act of 2003 this could lead to losses of carbon through amending 'rights of access to land' and power plant construction ⁴² .
Lands Act, 1995	Governs the allocation and administration of land. Two major categories of land tenure exist - state and traditional. This Act allows for the conversion of customary to state land through land alienation. The process of land alienation for infrastructure development, agriculture and forest product extraction leads to changes in land uses that are often associated with deforestation and forest degradation.
Mining Policy, 1995	Aims to reduce ecological damage arising from mining operations through EIAs and annual environmental audits. The policy also makes provision for the rehabilitation and re-forestation of areas affected by mining.
Mines and Minerals Development Act, 2008	Makes provision with respect to prospecting for and mining of minerals. It is a very strong Act which tends to override other Acts. It could affect leakage and is indirectly behind most of the drivers of deforestation and forest degradation.
National Water Policy, 1994	This policy guides the development, conservation, management, demand and supply of water resources.
Investment (Amendment) Act, 1993	Provides a legal framework for investment in Zambia. This is considered a top priority act and often results in large losses of forest due to development. Linked to infrastructure development, EIAs will need to address carbon-related issues in the future under REDD+.
National Heritage Conservation Commission Act, 1994	Governs conservation of ancient, cultural and natural heritage, relics and other archaeological objects. It is again unclear whether under this Act carbon in natural heritage areas will be eligible for trade through REDD+. This requires further detailed research.
Draft Land Policy, 2006	This policy includes a number of relevant clauses including: "Introduce group land rights to allow for registration of village, family and clan land as well as co-operatives." This clause is supportive of REDD+ implementation as long as this land policy is translated into legislation.

Coordination of REDD+

58. Strong coordination mechanisms will be required to ensure interaction between all stakeholders at a national and local level. Capacity-building for the implementation of such mechanisms is an essential first step for preparing for REDD+.

⁴² Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

59. At a national level, several ministries and organisations have been identified as particularly relevant for managing a Zambian REDD+ framework, namely the MTENR, Ministry of Agriculture and Cooperatives (MACO), Ministry of Local Government and Housing (MLGH), Ministry of Lands (MoL), Ministry of Community Development and Social Services (MCDSS), and the MEWD⁴³. However, it should be noted that because REDD+ requires high level commitment and fundamental shifts in development paths it may be appropriate to include other ministries such as the Ministry of Finance and National Planning (MFNP), amongst others.

60. The success of REDD+ will require substantial coordination between institutions. In the Zambian context, however, coordination mechanisms in the environment sector have largely been donor-driven or project-supported, e.g. the Biodiversity Working Group and the Steering Committee on Wetlands. These have no legal basis and have set objectives, with end dates. Thus, while well intentioned, such mechanisms have not become an integral part of the government's long-term institutional arrangements for biodiversity conservation. It should be noted, however, that the recently-launched Environment and Natural Resources Management and Mainstreaming Programme (ERNMMP) could play a role in REDD+ as it is intended to be an umbrella for all Environment and Natural Resources activities.

61. At a local level, there is also room for improvement of coordination between organisations that manage wildlife, forest and water resources as well as heritage sites. At the level of communities, where closer linkages would be expected, the Community Resource Boards (CRBs) and the Forestry Department mandates are not coordinated. Additionally, District Councils and traditional authorities have important management roles in GMAs, forests on customary land, heritage sites and open areas. For these areas, these institutions should work closely with CRBs and JFM (in future) for the effective management of local forests.

Current Status of Stakeholder Engagement

62. It is of particular importance that the principles of Free, Prior and Informed Consent (FPIC) should be adhered to within REDD+. This will ensure the full and effective participation of local communities and other forest dependent communities in policy- and decision-making processes within UN-REDD Programme activities, as defined in the Operational Guidelines for Engagement of Indigenous Peoples⁴⁴. FPIC is an internationally guaranteed human right of indigenous peoples and is increasingly recognized in international norms and best practice standards and guidelines for development activities. Importantly, FPIC goes beyond 'consultation', which often informs communities but bypasses the retrieval of actual consent from them. For an explanation of the key elements of FPIC refer to Annex 2.

History

63. Stakeholder engagement in Zambia reflects the changing global perception of engagement strategies for grassroots projects. Historically, planning was typified by a top-down, decision-oriented policy outlook⁴⁵, which often failed to successfully utilise the synergies between a variety of stakeholders. In addition, institutions critical to management of such designated areas (such as provincial and district administration, and even local communities) were largely marginalised in the decision-making and management process. More generally, government decision-making has not historically been characterised by public engagement of relevant stakeholders.

⁴³Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

⁴⁴ Operational guidance: Engagement of Indigenous Peoples and Other Forest Dependent Communities- Working Document. UN-REDD Programme. 2009. Available at: <http://www.un-redd.org/Home/EngagementofIPs/tabid/1033/language/en-US/Default.aspx>

⁴⁵ Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payment in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED). London, UK.

64. *Mining*: Current laws governing development in extractive industries require an EIA and consultation with local communities. However, consent from local communities is not required under the mining law (Mines and Minerals Amendment Act No. 6 of 2007; Section 28B [1-3]), and if the EIA is released to the public domain for a specified period without objections it will be approved. This process is largely inaccessible to illiterate rural people. Despite this, the Anglo-American operation in the Konkola Deep Mining Project engaged in an extensive process of dialogue with various stakeholders, culminating in the relocation of people with full compensation in Chililabombwe.

65. *Forestry*: In the forestry sector, the initial designation of forest reserves excluded areas under traditional law, and consequently the local communities within these areas were not considered in the legislation. The regulations for timber concessions require consent from local leaders in the area, but do not require community permission. These policies are currently under review by the Zambian government in consultation with the Extractive Industries Transparency Initiative (EITI), and received good governmental and private sector support due to the focus on dialogue and the multi-stakeholder approach.

66. In contrast, pilot JFM initiatives that have recently been established engaged a wide range of appropriate stakeholders, including public and private sector individuals. More significantly, it is engagement with local communities and the consequent community ownership of such pilots that has ostensibly led to early successes. This transformation of policy has not yet been fully integrated into governance structures, and facilitation by the REDD+ process will be crucial for the success of REDD+.

67. Like JFM, successful CBNRM projects, such as those in the South Luangwa area, integrated a combination of top-down and bottom-up engagement. Policy was to some extent dictated by political structures, but various actors were able to modify policy to suit local requirements. The 'meeting under a tree' strategy utilised by second-generation CBNRM in the South Luangwa area ensured that community requirements were met and distribution of resources and accrued benefits was egalitarian and focused on locally-relevant areas⁴⁶.

68. The successful evolution of the CBNRM and JFM policies appears to be in the early stages of a transformation of the stakeholder engagement process. The lessons learned in the successful pilots should be compiled and incorporated into REDD+ implementation plans.

69. For initiatives such as REDD+ that have a strong scientific orientation, there is a risk that local communities who do not have science training are excluded from the process⁴⁷. This has been already reflected in the response from some stakeholders in the current engagement process⁴⁸. In order to minimise such problems, it is advised that there is motivation for greater stakeholder participation in the project planning and implementation. Policies derived without engagement from interested parties are likely to be resisted by local government as well as communities. Whilst broad-stroke policy and monitoring processes can be derived from engagement with national government, private sector and other listed parties, participatory approaches (including communities and district authorities) in project areas are essential to derive effective grassroots implementation strategies.

⁴⁶ Child, B. 2002. Principles, practice and results in CBNRM in southern Africa. Centre for African Studies, University of Florida, USA.

⁴⁷ Fisher, F. 1995. Evaluating Public Policy. Nelson Hall, Chicago, USA, quoted in Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payment in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED). London, UK.

⁴⁸ Pers. Comm., International Consultant, Dec 2009.

Project specific engagement

70. In order to prepare for the Quick Start activities under the NJP, the Forestry Department (with support from UN-REDD Programme) organized stakeholder consultative meetings in the months of February, March, May and September 2009 in Lusaka, Zambia. Additionally, the NJP was discussed at two sets of Forest Policy stakeholder meetings held in September and October 2009, throughout the Zambian provinces.

71. The objective of the first stakeholder meeting, held in February 2009, was to create awareness about the UN-REDD Programme among relevant Zambian stakeholders. It was established at the meeting that this NJP would promote inclusiveness and would involve a multi-sector approach involving many Zambian government departments and other stakeholders (civil society, NGO's, CBO's and private sector). (See Annex 3 for a list of potential stakeholders.) Stakeholder participation assisted in identifying activities and processes to be undertaken in order to quick start the UN-REDD process.

72. The second stakeholder meeting, in March 2009, called together the core government institutions relevant to the NJP. These are: i) MTENR, including its Forestry department, Environment and Natural Resources department and Planning and Information department; ii) MACO; iii) the MoL; iv) Environmental Council of Zambia; and v) the Zambia Wildlife Authority. The objectives of this meeting were to discuss: i) priorities to be addressed under the NJP concerning each core institute; ii) the context under which REDD+ should be implemented in Zambia; iii) institutional framework and structure; and iv) potential policy options.

73. The third stakeholder meeting, in May 2009, comprised a broader range of stakeholders than previous meetings and was attended by the UN-REDD Programme Scoping Mission Team. The objective of this meeting was to create awareness and build consensus about the NJP, discuss the programme's progress and develop a framework for a NJP document. It was confirmed that the National REDD+ Strategy would be part of the National Climate Change Response Strategy (NCCRS), which was currently being drafted by the newly formed Climate Change Facilitation Unit (CCFU).

74. The fourth stakeholder meeting took place during a mission over 28-29 September 2009. It was organized to re-invigorate the UN-REDD process. The mission aimed to: i) provide the momentum for the development of the NJP; ii) further establish working relations with the agency leading the programme development (Forestry Department); iii) set up further discussions with relevant stakeholders; and iv) reach a general consensus on the steps to be taken to develop the NJP. It was successful in finalising the Readiness Roadmap and providing stakeholder endorsement of actions to be taken on the NJP.

75. The fifth stakeholder meeting was held from 30 November to 4th December 2009. It was organised to validate the draft UN-REDD project document with stakeholders and to finalise the programme formulation for the NJP. The mission also aimed to: i) understand the significance of the drivers of deforestation and forest degradation; ii) analyse possible modalities for channelling funds to reduce deforestation and forest degradation; iii) analyse possibilities for the establishment of the national carbon accounting system; iv) assess stakeholder acceptance and methods for stakeholder coordination; v) acquire further information on current reforestation and afforestation activities; and vi) conduct preliminary awareness raising and communications planning.

76. The first set of Forest Policy stakeholder meetings, in September 2009, involved a broad range of stakeholders located within each of Zambia's nine provinces. The objectives of the provincial consultative meetings were to discuss current trends in forestry within each province, identify issues of concern impinging on sustainable forest management and stipulate measures to enable the country to manage its forests in a sustainable manner. In all the provincial consultations,

deforestation and forest degradation were recognised as issues of grave concern. Outcomes of the provincial consultative meetings informed the National Forestry Sector Situation Analysis Report and the review of the Forestry Policy of 1998 leading to the draft Forestry Policy of 2009. Deforestation and forest degradation are acknowledged as major threats to forest resources in Zambia in the draft Forestry Policy of 2009. The Forestry Policy also recognises the vital contribution of forests to climate change as carbon sinks, the vulnerability of forest ecosystems to climate change and their role in mitigation. Stated objectives of the Forestry Policy include improving the role of forests in climate change abatement and engagement with international policies with regard to climate change.

77. An additional Forestry Policy stakeholder meeting held in October 2009 involved a broad range of national stakeholders. The objectives of this consultative meeting were to: i) review the performance of the Forestry Policy of 1998; ii) review the national forestry situation analysis; and iii) draft Forestry Policy of 2009 as a process of validation. As with the provincial consultative meetings, this meeting affirmed deforestation and forest degradation to be issues of grave concern. Outcomes of the national consultative meeting also informed the draft Forestry Policy of 2009.

78. The key principles and objectives of the Draft National Forest Policy of 2009 are summarised in Annex 4.

Activities of Relevance to REDD+

79. The long-term efforts of the bilateral donors active in the Environment and Natural Resources Sector are recognized. Further collaboration is sought in aligning the REDD+ readiness process with the government and donor supported programmes. MTENR's Environment and Natural Resources Management and Mainstreaming Programme is foreseen to support REDD+ Readiness through institutional capacity building of the MTENR and potentially through relevant projects under the Interim Environmental Fund. Technical assistance will be sought from relevant programmes like the FAO's Forest Law Enforcement, Governance and Trade Programme (ACP-FLEGT). With the support from the global UN-REDD Programme, Zambia will follow donor contributions relating to climate change and REDD+ and tap into the additional financing opportunities through bilateral agreements or international funding mechanisms. Furthermore, the UN-REDD programme will support engagement with private sector and NGOs interested in investing in REDD+ Readiness. In particular, additional investments will be sought for field-level initiatives which are not within the scope of the UN-REDD Programme.

80. Currently, a number of activities are contributing directly to reducing rates of deforestation and forest degradation in Zambia, or indirectly to reducing these rates through agricultural or wildlife protection programmes (i.e. Wildlife Based CBNRM Programmes). Lessons can be learned from these activities for the implementation of a National REDD+ Programme. Activities of relevance include:

- *Conservation Agriculture (CA)* increases productivity per hectare and reduces further need for slash and burn methods. CA agriculture has been promoted extensively in eastern Zambia through on-farm research conducted by the International Centre for Research in Agroforestry (ICRAF) and the MACO. Initiatives focus on intensifying subsistence agricultural production and thereby reducing pressure on forests. Examples include: i) intensification of agriculture by improving soil management using various methods of manuring; and ii) planting food crops with nitrogen fixing plants such as sunhemp which provides a better yield than under *chitemene*⁴⁹. The success of the CA approach, combined with low crop production nationwide as a result of droughts, has led to the spread of the CA practice to other major farming areas such as the Southern and Central provinces and to a lesser extent to the Copperbelt and Northern provinces. MACO's major strategy is to improve

⁴⁹ Agricultural trials in Zambia have proved this (House of Chiefs meeting, Tuesday 1st October 2009).

crop production in agricultural landscapes. CA is particularly attractive in areas of low rainfall but is also a cheaper alternative to agricultural practices that rely on fertilizers, which are currently unaffordable for many farmers. When CA is practiced in conjunction with organic agriculture for export, the potential for up scaling is large. Although CA is focused on individual production, coordination mechanisms have been established for the training of communities in CA methods, and REDD+ can tap into these structures in order to meet REDD+ objectives. The potential for CA to form a part of REDD+ strategies is large, but land husbandry practices in CA may need to be reviewed in order to ensure their suitability for REDD+.

- *UNIDO Energy Pilot Projects (EPP)*. Government has acquired experience in implementing small pilots in Zambia through EPPs. The small pilots include: a 36 KW solar mini-grid project, a 1 MW mini-hydro project, and a 1 MW biomass project⁵⁰. The focus on a shift in energy usage from wood and charcoal to electricity will likely be critical to meeting REDD+ objectives. REDD+ can integrate with EPP through key stakeholders such as the Zambian Electricity Supply Company (ZESCO) and the Copperbelt Energy Consortium (CEC). Increasing power generation capacity typically results in increased carbon emissions. However, REDD+ finance for EPP and government tax incentives for alternative power may reduce this risk. This is particularly important in light of Zambia's projected power shortages for the next ten years, and the consequent expansion plans for the power grid⁵¹. REDD+ will need to promote best practices in the opening up of forest land for power transmission lines, and the utilization of biomass. In all likelihood, electricity tariffs for EPP will need to be lowered in order to promote the use of electricity by rural and urban households, which tend to use large amounts of wood and charcoal. However, before such incentives are included in REDD+ implementation, in-depth modelling of the potential effects of such policies must be undertaken. Dynamic systems modelling tools such as Threshold 21 (T21)⁵², developed by the Millennium Institute, could for example be used to analyse potential impacts of different proposed policies.
- *Rural electrification and improved wood and charcoal stoves*. The programme of 'Rural Electrification and Improved stoves' (REIS) run by the government reduces the demand for charcoal and wood biomass for heating and cooking purposes. Although this is a separate initiative from that mentioned above, it is closely related to the expansion of power generation capacity. Expansion of the power transmission network into rural and peri-urban areas will increase electricity availability for such communities. However, in order for electricity to be a feasible alternative power source for rural communities, not only will transmission infrastructure need to be built, but electricity tariffs will have to be reduced to make them affordable to such communities. The effects of expansion of the transmission network and pricing changes should be carefully modelled (as mentioned above), and development in some areas may need to be constrained (see "Land use planning as a tool" below). The CCFU can facilitate this option by engaging essential stakeholders such as ZESCO and CEC in the REDD+ Strategy. In remote and inaccessible areas where electrification will prove difficult, the dissemination of improved wood and charcoal stoves will constitute a fuel demand management response that will contribute to reducing the extent of deforestation and degradation. REDD+ financing could conceivably be channelled as subsidies for the distribution of efficient rural stoves into such areas.
- *Joint Forest Management (JFM)* incorporates local community groups into national forest management objectives, empowering them to manage and conserve forests within the areas in which they live, and share in benefit schemes (see paragraph 52 for a description of JFM).

⁵⁰ Ministry of Energy and Water Development meeting, Tuesday 1st December 2009.

⁵¹ UNDP. 2008. Zambia Millennium Development Goals Progress Report 2008. UNDP: Lusaka, Zambia.

⁵² Available from: <http://www.threshold21.com/>

JFM has remained in a pilot phase due to difficulties in the implementation of the legislation. Nonetheless, the potential for REDD+ project integration with forestry on both a national scale and a grassroots level exists through JFM. REDD+ needs to capitalise on this framework and ensure that alternative livelihoods are generated in the JFM process in order to increase the resilience and appeal of the system. In order for REDD+ to integrate with the mechanisms established for JFM, participating communities will require education on the implications and benefits of REDD+, and national JFM legislation will need to be enacted detailing the mechanisms for management and benefit-sharing.

- *Community Based Natural Resource Management (CBNRM)*. CBNRM also assists in engendering local communities' responsibility of forest resources and results in the sustainable utilisation of such resources (see paragraph 28 for a description of CBNRM). The following CBNRM projects are being implemented in Zambia: i) ZAWA runs CBNRM projects in most of its GMAs; ii) COMACO runs a project in Luangwa in the Eastern province; and iii) WWF runs a project in the Mufunta GMA. CBNRM has succeeded particularly in the ZAWA model where demonstrable benefit transfers are clear (see Annex 1). Models of management and benefit-sharing inherent in CBNRM can constitute important lessons for broad-scale grassroots engagement for REDD+ projects. Extant CBNRM projects can potentially be tapped into by National REDD+ in order to utilise the existing management and coordination structures for grassroots implementation. In order to do so, integration of REDD+ projects into the goals of the coordination structures will need to be work-shopped and community awareness-raising regarding the benefits and obligations of REDD+ projects would need to be undertaken.
- *Land Use Planning (LUP) as a tool*. LUP provides a basis for improved management and use of resources and, where implemented, can assist in appropriate use of land types. For example, by promoting agriculture on appropriate soil types, fewer inputs may be required and thus there may be a decrease in harmful practices such as slash and burn. In order for REDD+ to be successful, careful LUP needs to be undertaken and adhered to. This may require existing Municipal LUP to be revised in order to allow for REDD+ to be implemented. LUP will need to respond to current and future trends and threats, and risks of out-of-system leakage (i.e. protection of forests could lead to increased land use pressure on other ecosystem types such as grasslands). In Zambia, LUP is carried out by DDCCs and ADCs, as well as local municipalities in order to govern urban expansion and plan industrial development. However, the implementation to date has not been very rigorous. Subsistence agriculture has spread to areas assigned to commercial agriculture and forestry, and in some Game Management Areas (GMAs) the potential benefits of CBNRM have attracted large numbers of people from the surrounding areas. This has in turn placed a large burden on local resources, leading to a sharp increase in charcoal burning and forest clearance in such areas. REDD+ will need to be implemented on a national scale and therefore should not increase rates of migration into forest areas (as in CBNRM where donor funding attracts immigration). The participation of local municipalities in LUP and REDD+ is of particular importance since they are the channels for the provision of land ownership certificates and are consequently key for facilitating appropriate resource use and land tenure systems. In order to assist in the mainstreaming of REDD+ into municipal LUP, funding from REDD+ (such as this NJP) may need to be channelled to government to expand the capacity of local government to conduct LUP and ensure its implementation. Furthermore, national policies that impact on LUP need to be revisited by the Zambian government. For example, the current strong focus on the expansion of agricultural exports⁵³ is leading to agricultural encroachment into previously forested land. However, if the National Agricultural Policy specifically stated that such an outcome was to be avoided, a focus on agricultural

⁵³ Zambian Ministry of Agriculture and Cooperatives. 2004. National Agricultural Policy, 2004-2015. Zambian National Government, Lusaka, Zambia.

intensification would emerge, reducing deforestation and degradation at the same time as increasing productivity. Such national legislation consequently needs to be urgently reviewed in light of REDD+ objectives.

- *Alternative livelihood development.* Alternative livelihood development such as fisheries and beekeeping could enable rural people to move away from purely subsistence livelihoods and thereby decrease the amount of deforestation and forest degradation. Several programmes developing alternative livelihood options have been developed under the auspices of such government programmes as the JFM initiative. Shifting local economies away from activities that damage forests, such as unsustainable charcoal generation, is in line with REDD+ objectives. Initiatives with such a focus have met with varying success (see paragraph 102). Development of alternative livelihoods is viewed as being essential for the success of REDD+ initiatives, and a strong focus on the provision of such livelihoods is required at all levels of governance. More details on alternative livelihoods are discussed in paragraph 97, and in Annex 5.
- *Pilot Programme on Climate Resilience (PPCR).* The World Bank funded PPCR pilot activities are expected to strengthen Zambia's capacity to plan and implement climate-resilient development programmes. The activities focus particularly on highly vulnerable sectors such as agriculture and water, in which institutional processes and structures are strengthened. The main goal of the Zambian PPCR is: "to mainstream climate change issues in the national development programmes and strategies in order to ensure sustainable environment and natural resources utilization and management for socio-economic development"⁵⁴. The objectives of REDD+ and PPCR are consequently strongly convergent, and the integration of REDD+ into the PPCR programme should be promoted as an additional means of enhancing climate change resilience. Furthermore, although it is in the early stages, the fact that there is an established protocol between the PPCR and the Zambian government presents an ideal means of mainstreaming REDD+ objectives into national and local government policy and legislation.
- *National Forest Programme.* FAO, through its National Forest Programme Facility, carried out, in partnership with government and Zambian local organizations, an overview and analysis of existing policies, laws and legislation related to forest and natural resources in the country. The aim of the research was to propose a simplification and harmonization of the concerned legislation and laws. It also undertook the review of the national forestry sector strategies and plans and recommending actions to align them with: i) national strategies that address poverty reduction, HIV/AIDS and sustainable development; ii) financing strategies for sustainable forest management; and iii) international policy processes in order to create synergies. A methodology was developed to estimate, through field work, the real contribution of the forestry sector to the national economy. This methodology and the resulting information gathered through the NFP can be used in the development of a REDD+ Strategy for Zambia. However, in order for REDD+ to be successful, the proposed FAO alignment of the national forestry sector strategies with the strategies for poverty reduction, HIV/AIDS, sustainable development and financing for sustainable forest management has to be carried out.
- *Copperbelt tree planting programme.* The mines in the Copperbelt are planting indigenous trees to benefit from carbon trading schemes. Mopani Copper Mines carries out tree planting as a way of re-vegetating its tailings dams, rather than to take advantage of carbon trading schemes. Additionally, the company is supporting tree planting in the mining community of

⁵⁴ Available from:

http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/Zambia_AcceptanceTemplate1_F.pdf

Mufulira. The actual numbers of trees planted to date is unknown. In terms of REDD+, corporate entities engaged in tree planting can readily shift the focus of their operations to include REDD+ objectives, and can assist in the facilitation of district management frameworks with the DCCs. The alignment of such private sector initiatives with REDD+ strategies can only be achieved once the National REDD+ benefit-sharing models are formalised and the financial attractiveness of such incentives is confirmed. Therefore, national policies need to be aligned in order to create the financial and social incentives to promote private sector participation in community-based programmes. Of critical importance are issues of land tenure which need to be resolved in addition to the above. Without this action, rent-seeking may occur (see paragraph 132), and this could result in forced removals and other social injustices. Modelling and work-shopping the possible outcomes of engagement with private sector tree-planting schemes need to be carried out before any on-the-ground activities are implemented under the umbrella of National REDD+.

- *National Tree Planting Programme (facilitated by the ex-president Mr Kenneth Kaunda).* This programme focuses on tree planting and also includes fire management and protection of young forests. Synergies with this programme should be sought. Integration of REDD+ with public-sector tree planting projects could be achieved through support for tree planting, creation of local awareness on the need for such programmes, and the establishment of community structures that support local tree-planting programmes. Such integration could facilitate an increase in the number of trees planted annually.
- *Forestry-police collaborations.* Previous collaborative programmes (such as workshops that have been held) could be built on and the lessons learned could be applied to REDD+. Synergies with the law enforcement sector will need to be sought for the effective implementation of National REDD+, in order to address current shortcomings in implementation of community forestry and enforcement of legislation (see paragraph 128). In particular, cross-border coordination of the wood trade and enforcement of logging legislation needs attention and action from both law enforcers and REDD+ practitioners. This process can be assisted by the Lusaka Agreement⁵⁵ Task Force of which Zambia is a Party State.
- *Training manual for charcoal producers.* This manual has been provided by MEWD to teach charcoal producers how to improve efficiency. It is to be reviewed in 2010 and could be a key entry point to promote more efficient, sustainable methods of charcoal production, as well as to meet REDD+ objectives.
- *Fuel efficiency programmes.* REDD+ integration with such initiatives could allow for the channelling of funds to provide tax incentives and rebates for the purchase and distribution of fuel-efficient stoves. An assessment of the comparative rates of consumption in local communities before and after the roll-out of efficient stoves would be required to determine the benefits for REDD+ in terms of reducing wood and/or charcoal demand. Additionally, community education on the potential health and environmental benefits of efficient stoves will be necessary to ensure community uptake. REDD+ implementation must ensure that there is a strong focus on alternative energy use within national policy. Some examples of fuel efficiency programmes are included below:
 - *GTZ Programme for Basic Energy and Conservation (ProBEC) project.* This project follows a Programmatic CDM approach and focuses on pilot communities to promote efficient cooking stoves. The stoves have become widely accepted within these communities and 50% of households use them even though they are heavier than traditional Mbabula stoves.
 - *Sustainable Lusaka CDM project.* This project is showcasing how to use twig stoves. These stoves are a new and efficient way of using biomass for cooking. Three

⁵⁵ The Lusaka Agreement facilitates the enforcement of operations directed at illegal trade in wild fauna and flora.

thousand twig farmers are involved in this project and it is estimated that emission reductions due to reduced deforestation will be up to 15000 tonnes of CO₂ equivalent per annum⁵⁶.

- *National Protected Areas System.* The Zambian Wildlife Authority (ZAWA) is responsible for the PAs delineated by the national legislation. Throughout the 1980s, the PAs suffered significant wildlife losses as a result of poaching. Recently, a decentralisation of decision-making processes to local communities has reduced the pressure on PAs and game management areas, and consequently simplified the administration of these areas. Concomitant reforms of policies related to natural resource management (the Lands Act, Investment Act, Fisheries Policy and Forestry Policy), in conjunction with the ratification and domestication of various international conventions and protocols (such as RAMSAR and the CITES) have also strengthened institutional capacity with regards to protected areas management and collaborative natural resources management. The implementation of CBNRM areas currently occurs through 63 community resource boards. A project called the Reclassification of the Management of the Protected Area System (REMNPAS⁵⁷) was launched in 2006, with an aim to pilot public-private-community partnerships in and around GMAs. Lessons learned from these pilot projects are intended to be applied to potential future management of PAs, and to assist with the integration of successful conservation management across larger areas. These pilots are of particular relevance to REDD+ because the broad-based stakeholder interactions are similar to those which REDD+ needs to facilitate.

Forest Cover and Forest Emissions Monitoring Capacity

81. The capacity to monitor forest cover and emissions in Zambia is currently low. This expertise is limited to a few individuals, and access to relevant technology such as frequent high resolution spatial imagery, updated computing facilities and recent geographical information systems, is rare. MTENR has some capacity in the GIS and Remote Sensing Unit in the Forestry Department (which conducted an Integrated Land Use Assessment (ILUA)). Nonetheless, the unit does not generally have access to updated technical equipment and lacks the capacity to carry out these activities on a large-scale. Some additional expertise is available in the Survey Department (MoL), the Remote Sensing Centre (Ministry of Science and Technology) and various universities (e.g. the Copperbelt University and the University of Zambia). This technical capacity needs to be tapped into and expanded in order to facilitate the monitoring of forest and forest emissions. Furthermore, REDD+ will need to ensure that arrangements are made for long-term facilities and access to satellite imagery for the monitoring institutions.

⁵⁶ CDM Lusaka sustainable energy project 1. 2009. Available from: <http://cdm.unfccc.int/UserManagement/FileStorage/BMNT5J4Y6XW1U3ORADFK7EC8Z02PS> [accessed 17 February 2010]

⁵⁷ Available from: <http://www.remnpas.org.zm/>

Problem Analysis for REDD+ in Zambia

82. Zambia has approximately 50 million hectares of forest, 63% of which are relatively undisturbed, 26% are moderately disturbed and 5% are considerably disturbed⁵⁸. Converting these proportions into land areas shows that considerably disturbed natural forest equates to a very large area of 2.5 million hectares. Climate change also poses a significant threat to the forest resources within Zambia. For example, the regeneration of the miombo woodland, which usually occurs relatively rapidly, has already been hampered by drought and excessive temperatures⁵⁹.

Underlying causes of deforestation and forest degradation

83. The underlying causes of deforestation and forest degradation in Zambia include *inter alia*: i) charcoal and wood fuel use (for domestic, commercial and industrial uses); ii) timber production; and iii) unsustainable agricultural methods and land use practices (e.g. intense and frequent forest fires, illegal logging and short return *chitemene*). Migration within the country, natural disasters, infrastructure development, mining and mineral exploration are also contributing to deforestation and forest degradation, but to a lesser extent⁶⁰ than the aforementioned factors.

84. The production of charcoal (particularly from miombo woodland) for energy is a major cause of forest degradation and is driven by the fact that over 80% of Zambian households rely exclusively on this energy source, as they do not have access to alternative sources. Studies in miombo woodlands show that charcoal production removes approximately 50% of the total woody biomass; however, tree density has been shown to recover significantly within 12 to 29 years after clearing^{61,62}.

85. Unsustainable agricultural practices impact on deforestation and forest degradation primarily through the *chitemene* system (described in detail in paragraph 12). Whilst this system used to be sustainable, the scale on which it is currently practised and the new manner (see paragraph 13) in which it is practiced is threatening forests.

86. Charcoal and wood fuel use, timber extraction, and unsustainable agricultural and land use practices will in all likelihood, continue to threaten forests unless alternative energy sources are utilised, alternative livelihoods are sought, and sustainable agricultural methods are employed on a large-scale. Importantly, these initiatives are not directly related to forestry *per se*, which highlights the importance of non-forestry policies and measures within REDD+ strategies.

87. Mining also constitutes an important land use in Zambia and has particular relevance to REDD+ in that: i) land use changes that occur when new mining activities are undertaken result in deforestation, particularly for open cast mining; and ii) mining requires large quantities of wood for tunnel supports which also results in deforestation and forest degradation. Prior to 1962, the industry used firewood to generate electricity for copper smelting (causing the loss of 150,413 ha of woodland in the period 1937-1961), but it has since switched to hydroelectricity for power generation⁶³. Additional details on the root causes of deforestation and forest degradation are provided in Table 3 below.

⁵⁸ Integrated Land Use Assessment (ILUA) Zambia 2005-2008. Zambia Forestry Department, Ministry of Tourism, Environment and Natural Resources and Food and Agriculture Organisation.

⁵⁹ Zambia National Adaptation Programme of Action, September 2007.

⁶⁰ National Forestry Policy (draft), October 2009.

⁶¹ Chidumayo, E.N. 1991. Woody biomass structure and utilization for charcoal production in a Zambian miombo woodland. *Bioresource Technology*, 37: 43-52.

⁶² Chidumayo, E.N. 1993. Zambian charcoal production. *Energy Policy*, 21(5): 586-597.

⁶³ Chidumayo, E.N. 1989. Land use, deforestation and reforestation in the Zambian Copperbelt. *Land Degradation and Development*, 1(3): 209-216.

88. An assessment of the relative contributions of the principle drivers of deforestation is challenging because a comprehensive assessment has not been conducted to date. The ILUA quotes the relative contributions to deforestation of agricultural expansion, infrastructure development and wood/charcoal harvesting as being 65%, 25% and 5% of the total, respectively. However, it is believed that these figures (which are sourced from outdated literature sources) exaggerate the proportional effect of agricultural expansion. Generally, forest clearing for charcoal and fuel purposes thins and removes forest, and subsequent agricultural development of the area is carried out by further settlers. The financial attractiveness of charcoal production is a strong contributing factor to this process (charcoal burners can earn on average 50% more than the typical rural inhabitant), as is the belief that deforestation and settlement of an area compels the government to de-gazette the area and allow further settlement. Increasing urban and peri-urban energy demand is likely to increase charcoal prices and the concomitant deforestation in the absence of additional formal energy supply in the form of electricity.

Table 3: Root causes of deforestation and forest degradation in Zambia.

Root cause	Description of processes
Energy requirements	<ul style="list-style-type: none"> • Harvesting of trees for wood - based energy (firewood and charcoal). The charcoal industry in Zambia is particularly active with over 83% of Zambian households primarily dependant on charcoal for cooking and water heating⁶⁴. This is due largely to a lack of access to electricity. • Production of charcoal⁶⁵ and the collection of firewood provide an income for many rural communities, thus for REDD+ to be implemented successfully, the following conditions need to be met: i) alternative livelihoods need to be sought; and ii) the demand needs to be reduced through the provision of alternative fuels.
Unsustainable agricultural methods and land use practices	<ul style="list-style-type: none"> • Conversion of forest land to agriculture, principally through the <i>chitemene</i> system. This is a slash and burn system where crops are planted in the nutrient-rich ash resulting from the burning of forests. It is practised mainly in the north and central areas of Zambia. • Use of the <i>chitemene</i> system also leads to runaway fires due to poor maintenance of fire breaks. Fire management was allegedly better in the past, and this traditional knowledge should ideally be passed onto current farmers⁶⁶. • Uprooting of trees using tractors in the eastern and southern parts - the recovery of trees from this practice is negligible. • Deforestation and forest degradation due to poor farming methods/practices and timber logging, particularly in the Western Province⁶⁷. • Conversion of forest land to livestock grazing lands. Such lands are frequently burnt to provide fresh forage for livestock or to control tick populations. • Livestock trample and feed on seedlings thus reducing forest regeneration. • Undeveloped land tenure systems. • Expansion of commercial agriculture and cultivated lands into forest

⁶⁴ Available from: <http://www.hedon.info/TheZambiaCharcoalIndustry>

⁶⁵ Charcoal production is a particularly prevalent activity in Kafue in the Copperbelt. Much of this production is for urban consumption.

⁶⁶ House of Chiefs meeting, Tuesday 1st December 2009.

⁶⁷ Angolan refugees moved to this area 40 years ago and are particularly involved in the logging operations according to the chiefs interviewed (House of Chiefs meeting, Tuesday 1st December 2009).

	land.
Wood products	<ul style="list-style-type: none"> • Use of timber for construction within the mining industry⁶⁸, furniture manufacture, as well as for household use (e.g. building construction and fences). • Sanctioned timber concessions and also illegal logging operations facilitate access to forest roads and railways and allow farmers into the area. Loggers are also known to burn forests to improve access to timber in certain areas. • Inadequate monitoring of timber concessions results in deforestation and forest degradation in many parts of Zambia. Historically, an <i>induna</i>⁶⁹ system of forestry management and harvest regulation under the auspices of traditional chiefs⁷⁰ ensured that forests were not overexploited. The reduction of tribal authority at Zambia's independence and the implementation of communal land ownership replaced the <i>induna</i> system with timber concessions. However, the government lacks the technical capacity and staff to efficiently manage timber concessions, and consequently timber extraction tends to exceed sustainable levels.
Infrastructure development	<ul style="list-style-type: none"> • Additional rural infrastructure (such as roads into developing areas) is necessary to cope with the increasing rural population (the Copperbelt population, for example, increased from 412,000 to 1.4 million in the period 1962-1984⁷¹), thereby increasing the conversion rate of forest to agricultural land in surrounding areas. • Recent government policies are likely to accelerate this process with additional investment from various sources earmarked for rural development⁷². Integrating REDD+ into rural development processes will assist in reducing the potential impacts of such activities on forest carbon stocks. • Mining results in deforestation and forest degradation, directly via mining activities but also indirectly by attracting people into forested landscapes, and creating new roads in previously largely inaccessible forests⁷³.
Non-timber forest products	<ul style="list-style-type: none"> • Non-timber forest products include: medicine, food, crafts, shelter and recreation. Where utilisation is beyond sustainable use and management is inappropriate, forest degradation occurs. • Wild honey collectors frequently cut trees to access hives and to collect honey. Fires used to smoke out the bees from the hives and tree cavities can result in accidental wildfires and forest degradation. • Wild fruit collectors cut trees to access the fruits. • Hunters frequently use fire to clear undergrowth to allow for forest

⁶⁸ This requires vast amounts of wood for tunnel supports and sleepers - one estimate calculates mine usage at 410ha per annum in the Copperbelt region. [Limpitlaw, D. 2004. Key Challenges Facing The Mining And Minerals Sector In South Africa. Sustainable Development Practices on Mine Sites – Tools and Techniques, University of the Witwatersrand, 8-10 March. Johannesburg: Centre for Sustainability in Mining and Industry.]

⁶⁹ This was a system where the deforestation was regulated, taxes were collected, fines were levied, and a rudimentary system of forest management was employed. This system, which functioned well for generations, was dissolved at independence.

⁷⁰ Roper, J., and Roberts, R. W. 2006. Deforestation: Tropical Forests in Decline. Quebec: CIDA Forestry Advisers Network.

⁷¹ Chidumayo, E.N. 1989. Land use, deforestation and reforestation in the Zambian Copperbelt. Land Degradation and Development, 1(3): 209-216.

⁷² European Commission. 2007. Zambia - European Community Country Strategy Paper and National Indicative Programme for the period 2008-2013.

⁷³ House of Chiefs meeting, Tuesday 1st December 2009.

	<p>access and also to enable hunters to see greater distances within the forest. Fire is also used to provide fresh grass shoots to encourage grazing animals into a particular area.</p> <ul style="list-style-type: none"> • Caterpillar collectors cut down trees to collect caterpillars (for food and for sale at markets).
Environmental change	<ul style="list-style-type: none"> • Local communities in the Western Province are moving from the plains to woodlands because the floods in plains have in the past decade increased in intensity and extent⁷⁴.

Extent of carbon losses through deforestation

89. Carbon stocks in Zambian forests have recently been estimated using data collected during the ILUA (2005 – 2008). This work was commissioned by the FAO and is presented in the following document: Carbon stock assessment and modelling in Zambia, A UN-REDD Programme study⁷⁵. In this report, five different models are used to estimate the carbon stocks in various carbon pools. The models were developed using data from the ILUA, Zambian National Green House Gas Inventory, IPCC guidelines and national historical studies. Although Zambia lacks comprehensive national forest stock inventories, land use data and limited remote sensing data gave sufficiently high resolution data for model construction. The models meet IPCC good practice guidelines for reducing uncertainty and optimising model outputs, and are of sufficient resolution to meet Tier 2 specifications⁷⁶. The models estimate that the total carbon stock for natural forests ranges between 2652 and 3323 million tonnes of carbon. An average of the five model estimates for forests are shown in Table 4.

Table 4: Distribution of carbon stock by carbon pools in the different forest categories⁷⁷.

Forest type	Above ground biomass (Mt C)*	Below ground biomass (Mt C)*	Dead wood (Mt C)*	Litter (Mt C)*	Soil (Mt C)*	Total (Mt C)*	Area Average (t C ha⁻¹)⁺
Evergreen	24	7	4	4	25	64	78
Semi-evergreen	891	249	55	88	1058	2341	69
Deciduous	255	71	12	31	461	830	56
Other	3	0.7	0.5	0.3	4	8.5	61
Total	1173	328	72	123	1548	3244	66

*Mt C – million tonnes of carbon

⁺t C ha⁻¹ – tonnes of carbon per hectare

90. Carbon stock losses through deforestation and forest degradation were estimated based on an analysis of historical data sets. The annual decrease in above-ground carbon stocks ranges from 4.7 to 7.5 million tonnes of carbon as a result of deforestation, and 12.8-29.9 million tonnes of carbon due to both deforestation and forest degradation⁷⁸ (ILUA 2005-2008).

⁷⁴ House of Chiefs meeting, Tuesday 1st December 2009.

⁷⁵ Kamelarczyk, K.B.F. 2009. Carbon stock assessment and modelling in Zambia, a UN-REDD Programme study. FAO, UNDP and UNEP.

⁷⁶ IPCC. 2003. Good Practice Guidance for Land Use, Land use Change and Forestry. IPCC, Kanagawa, Japan.

⁷⁷ Adapted from Table 9 in Kamelarczyk (2009) by averaging the estimates produced by the five methods used to assess carbon stocks.

⁷⁸ Integrated Land Use Assessment (ILUA) Zambia 2005-2008. Zambia Forestry Department, Ministry of Tourism, Environment and Natural Resources and Food and Agriculture Organisation.

91. The total national wood biomass has also been calculated using satellite imagery⁷⁹. The results from this study were reported according to volume. The total growing stock for all land uses is estimated to be 2.9 billion cubic meters, 2.1 billion cubic meters of which is found in semi-evergreen miombo-dominated forests. The average growing stock is estimated at 39.1 cubic meters per hectare over all land use classes and forest types and the deforestation rate is estimated at 250,000-300,000 hectares per annum. The estimated loss in biomass would therefore be 9.8-11.7 million cubic meters of wood per annum⁸⁰. Studies to determine actual losses of carbon stocks from deforestation and forest degradation in Zambia's forests will be carried out during the implementation of the second phase of ILUA.

⁷⁹ Siampale, A. 2008. "The potential of carbon sequestration in the terrestrial ecosystems for Zambia" Paper presented at a conference on Carbon and Communities in Tropical Woodlands, University of Edinburgh, 16 – 18th June. Available online at: <http://www.eeo.ed.ac.uk/abs/MiomboConference/conferencedocument.pdf#page=36>

⁸⁰ The growing stock estimates are based on a study of satellite imagery by Siampale (2008) – Unpublished.

4. Strategies, including Lessons Learned and the Proposed Joint Programme

Implementation of Coordination Strategy

92. An approach to the coordination strategy to be followed still needs to be identified and agreed upon by the country for National REDD+. This approach needs to recognize the need to integrate the National REDD+ Strategy into national development planning processes and the need for high level commitment to the National REDD+ coordination process. The National REDD+ coordination mechanisms will be developed during the implementation of the NJP i.e. UN-REDD Phase 1.

93. The Environment and Natural Resources Management and Mainstreaming Programme (ENRMMP) was officially launched in December 2009 and has been identified as an appropriate partner programme for the NJP. It was established within MTENR to coordinate environmental resource management priorities and policies across the ten line ministries under whose auspices the relevant legislation is enacted⁸¹. The stated goal of ENRMMP, which is broadly aligned with the goals of REDD+, is: *"to contribute to reversing environmental damage, the maintenance of essential environmental and biological processes, and to achieving sustainability in natural resource utilisation for the benefit of the people"*. The primary ENRMMP objective of building capacity to lead policy development and support mainstreaming of environmental resource management in all relevant government bodies is of particular relevance. Furthermore, the ENRMMP was created in order to act as the umbrella vehicle for all interactions between cooperating partners in the environmental resources field, with specific reference to channelling funding for climate change. Given the mandate of the programme, and the lack of alternative high-level coordination mechanisms (see paragraph 113), the appropriate coordination arrangements for National REDD+ will be developed during the NJP.

Methodologies and Guidelines

94. The NJP will be implemented in a manner that follows UN-REDD operational guidelines⁸². National REDD+ will need to follow agreed upon standards and methodologies, as described in the IPCC Good Practice Guidance for Land Use, Land use Change and Forestry (GPG-LULUCF). These will need to be agreed to within the National REDD+ Strategy and used in any NJP activities that address standards and methodologies. The GPG-LULUCF describes methods for estimating, measuring, monitoring and reporting on carbon stock changes and greenhouse gas emissions. Three tiers are proposed by GPG-LULUCF for estimating carbon. Tier 1 is based on default assumptions and default values for carbon stocks e.g. of different forest types. In Tier 2, country-specific carbon stocks are applied to activity data, and disaggregated to appropriate scale. In Tier 3, countries use advanced estimation approaches that may involve complex models and highly disaggregated data including detailed maps based on remote sensing as well as *in-situ* measurements. Estimates of carbon provided by the use of Tier 3 yield the lowest uncertainties but involve the highest MRV costs. It should be noted that whilst the IPCC provides standards for carbon accounting, the UN-REDD Framework document recommends that REDD+ monitoring systems need to address a much broader set of parameters (biodiversity, ecosystem services, etc.) as well as generate affordable and timely knowledge for national decision-making and accounting.

95. Furthermore, guidance and decisions on standards and methodologies provided by the Subsidiary Body for Scientific and Technical Advice (SBSTA) will need to be followed. The SBSTA came to key conclusions concerning methodologies during the COP-15 conferences held in

⁸¹ Available from: http://www.mtenr.gov.zm/index.php?view=article&catid=42:environment-and-natural-resources-projects&id=125:environment-and-natural-resources-management-and-mainstreaming-programme-enrmmp&format=pdf&option=com_content&Itemid=106

⁸² UN-REDD Programme Rules of Procedure and Operational Guidance.

December 2009, which included⁸³: i) identifying drivers of deforestation and forest degradation resulting in emissions and the means to address these; ii) identifying activities within the country that result in reduced emissions and increased removals, and stabilisation of forest carbon stocks; iii) using IPCC guidelines as the base for estimating emissions from land use activities, removals by sinks, forest carbon stocks and forest area change; iv) encouraging developing countries to establish forest reference emission levels or forest reference levels using historic data, and adjust these to national circumstances⁸⁴; v) using national monitoring and reporting systems based on a combination of field measurements and remote sensing; and vi) building capacity in REDD+ countries to apply IPCC Guidelines, which will become an important focus.

96. Guidelines for National UN-REDD programme activities on the engagement with indigenous and forest-dependent communities should be upheld. These include: i) representation; ii) participation and inclusion; and iii) transparency and accountability (see Annex 7 for a full description)⁸⁵.

Development of alternative livelihoods

97. The strategy underpinning Zambia's national REDD+ process needs to clearly address how alternative livelihoods will be developed. This will require numerous activities including *inter alia*: i) identifying potential alternative livelihood options; ii) undertaking a multi-sectoral feasibility analysis of such options; iii) conducting a review of implementation mechanisms; and iv) undertaking an analysis of how they will be initiated (e.g. the extent to which micro-finance and policy reforms will be required). An initial analysis of alternative livelihood options in Zambia is given below. This will need to be elaborated upon in order to ensure that this is taken into account by the national REDD+ process. The strategy for the NJP includes an activity to further elaborate on this initial analysis (see strategy section).

98. Alternative livelihood options will need to be provided to communities that rely on income from the selling of charcoal, firewood and other wood and NTFPs. Additionally, alternative livelihood options will be required for those who rely on income-generating activities that transform forest to other land uses such as agriculture. Payment for ecological services should be considered, particularly for watershed management activities. Whilst alternative livelihoods alone will not reduce deforestation and forest degradation, they are an essential part of incentive bundles to reduce consumptive use of forests. In some cases, new livelihoods will not be feasible and in those cases encouraging the sustainable utilisation of resources will need to be pursued. Alternative livelihoods in forest communities may include *inter alia*: i) basketry; ii) sustainable beekeeping (producing honey and beeswax); iii) mushroom farming; iv) harvesting, preservation and sale of wild vegetables; v) fishing, in communities adjacent to water bodies; vi) fish farming; and vii) creating value addition to locally available products. Examples of changes in resource utilisation and current land use practices may include the following:

- i) sustainable harvesting of wood and NTFPs;
- ii) adoption of preservation methods for mushrooms, which can be sold in the off-season. (Communities will thereby generate income during the mushroom off-season which will potentially minimise the need to resort to harvesting other forest products);
- iii) improvement of agricultural productivity that will reduce the tendency to resort to expansion of cultivated lands or agriculture, including shifting cultivation; and

⁸³ Draft decision, UNFCCC CP15: Methodological guidance for activities relating to reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries. Available from: http://unfccc.int/files/na/application/pdf/cop15_ddc_auv.pdf

⁸⁴ This type of reference level has been classified as an historical adjusted in the Little REDD Book and was supported by the majority of Parties in recent submissions. Available from: www.theREDDdesk.org

⁸⁵ UN-REDD operational guidance: engagement of indigenous peoples and other forest dependent communities; working document. June 2009.

- iv) creation of village woodlots which will provide sources of wood in the medium- to long-term as a parallel strategy to complement other strategies.

99. Substantial support will be required for communities to successfully move to alternative livelihoods, resource utilisation and land use practices. This may include initial incentives, micro-financing and provision of technical training. There are already some success stories and lessons learned that can be drawn upon in this regard (see Annex 5). Additionally, there are NGOs and institutions that can be drawn upon for experience in particular areas that can assist in such transitions. For example, The Center for International Forestry Research (CIFOR) has had success with a beekeeping project that has helped communities reducing their dependence on wild hives by establishing bee reserves in woodlots near homesteads.

100. Importantly, it should be recognised that the provision of alternative energy sources and sustainable development need to occur in tandem with the process of securing alternative livelihood options and changing resource utilisation and land use practices. Comprehensive studies need to be carried out to outline solutions through integrated planning modelling (with systems such as T21⁸⁶) to understand the potential implications and effects of changing resource utilisation.

101. There is a need to harness and direct the transformation potential of REDD+ activities to help the forest sector to deal more effectively with deforestation and degradation. Ultimately, the forest sector needs to be positioned as an important pillar of a greener national economy that contributes to climate change mitigation, adaptation goals and human well-being.

Lessons Learned

Previous approaches to reducing deforestation and degradation of forests

102. Previous and current efforts to address deforestation and degradation of forests have included initiatives under the JFM, the Wood Land Management and the Plantation Management Systems. These are discussed in detail in paragraph 52. Some general lessons learned from these above mentioned initiatives are outlined below (see Annex 5 for further detail).

103. Success has been achieved where one or more of the following have been undertaken:

- Entrepreneurship and alternative livelihoods have been fostered. This has in some cases included the provision of micro-finance to promote such activities.
- Alternative energy, woodlots or sustainable forestry have been provided for necessary activities such as cooking, washing and livelihood activities such as fish curing.
- Community involvement has been promoted in the form of management structures at the community level, forest product user groups and forest patrols from the community. These have all increased local ownership and awareness of forest resources, thus resulting in reduced pressure on forest resources because the community decides as a collective how to utilise resources in a sustainable manner. In addition, the communication of policies, their contents and their purpose contributes greatly to community understanding and can result in positive behavioural changes.

104. Forest management and reduction of deforestation and forest degradation have failed where:

- Parallel structures were created to those already in existence such as traditional structures. This sidelines existing management and leadership and can create conflict.
- Income generating activities (IGAs) took too long to materialise and people quickly reverted to previous unsustainable utilisation of forest resources (this has occurred in some JFM cases).
- Rights to retention of IGAs were unclear, resulting in low commitment to JFM initiatives.
- Insufficient capacity building was received to address the full spectrum of learning required for JFM.

⁸⁶ Available from: www.threshold21.com

- Forest management plans were too complicated.
- The Forestry Department was not willing to work with agencies outside of the government such as NGOs in JFM initiatives. Linkages with such organisations are key for the success of many activities such as group formation, leadership skills, financial administration, training and marketing.
- IGA plans were too elaborate or unsustainable, which led to the failure of the new forest management plan. A step-wise or slower progression of change may be more sustainable in the long run.

Broader lessons learned⁸⁷

105. Broader lessons learned that have relevance to REDD+ include:

- In order for JFM to deliver results (assuming the appropriate legislative framework is put in place) there is a need to streamline coordination, strengthen local-level institutions in terms of representation, enhance participation and decision-making, and ensure the participation of marginalised groups. It has been reported that there were too few JFM pilot sites to obtain significant lessons from their implementation, and that Zambia would have benefited from more sites and a broader participation.
- The Forest Act needs to clearly articulate an easy-to-use transparent framework to enable revenue-sharing for the success of JFM as well as REDD+. Central to this is a significant reduction in funds apportioned to central government, as opposed to communities and local government. Furthermore, it needs to incorporate a deliberate policy of inclusion and support for the poor.
- A weak policy environment, lack of a planning and consultative model, and weak policy implementation and monitoring in general have been cited as major reasons for programme failures and high levels of poverty within Zambia. Consultation with stakeholders that are or may be affected by public policy is not compulsory, and there is a danger that the views of marginalised groups in society may not be heard.
- Notwithstanding the above point, community involvement in CBNRM programmes in the wildlife and natural resource management sectors have shown some successes. CBNRM is supported by both wildlife policy and legislation which allows for community involvement in decision making. The Zambia Wildlife Act of 1998 makes provision for this through CRBs. The reason frequently highlighted for the success of these CRBs is that the community gains ownership of the process. Additionally, chiefs are patrons to the CRB, performing functions of community mobilisation and conflict resolution, rather than being the absolute authority on the board (which was initially the case). The CBNRM model could be used as an example to guide the implementation of REDD+.
- The JFM model has committees which are not village-based and therefore lacks meaningful participation and democracy. By contrast, the CBNRM approach has greatly improved accountability and reduced misuse of community funds by making the village committee accountable.
- Lessons learnt from CBNRM show that devolution of authority is a critical prerequisite to ensure the success of CBNRM. Even though this has not been totally achieved under CBNRM, communities' rights over the benefits from wildlife have made available a cash income to poor rural communities which previously would not have had access to this revenue.
- Social cash transfer schemes are being piloted by the Ministry of Community Development and Social Services (MCDSS) at a community level and national level⁸⁸. The MCDSS aims to establish a national SCTS by 2012 as a means for assisting extremely poor households. The

⁸⁷ Information taken from Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

⁸⁸ Chiwele, D.K. 2010. Capacity and costs of cash transfer schemes in Zambia. International Policy Centre for Inclusive Growth. Brazil.

schemes are using structures created for the implementation of the Public Welfare Assistance System (PWAS) and can be used as an example to learn from for REDD+ benefit sharing.

106. Other lessons learned will be sought during the NJP to draw on experience from other projects in Zambia and other REDD+ programmes in other countries. For example, lessons can be sought from the Handei Village Forest Reserve and Kitulangalo Forest Area in Tanzania, where community based forest protection is being successfully implemented⁸⁹. These communities monitor and police their forest resources and have been equipped with many skills including mapping techniques using GIS/GPS and standard forest inventory methods through extensive training. This has increased the sense of community ownership of surrounding natural resources.

107. The government established local supply plantations in the provincial headquarters in order to provide timber resources for construction and other uses. Local supply plantations were also aimed at minimising the dependence of local communities on forest resources for timber. These initiatives, however, have not resulted in a reduction of deforestation and forest degradation.

108. In addition to these efforts, the National Tree Planting Programme was originally conceived as an annual event. The programme has generally failed but was resuscitated towards the end of 2009 with the appointment of Zambia's first president as its patron (see paragraph 79). All other National Tree Planting initiatives that have been attempted after 1990 have failed to arrest deforestation and forest degradation. This is because the post-1991 government was more focused on privatisation and industrial development than on environmental issues, and consequently these programmes received very little support (see paragraph 11).

Barriers to Implementing the NJP

Capacity to manage and implement REDD+ Readiness

109. There is no specific legal and policy framework for tackling climate change in Zambia⁹⁰. Consequently, no specific framework can be drawn upon to guide the institutionalisation of REDD+ at the various levels of implementation and planning. In order for the enabling framework to be put in place, there must be full institutional cognisance within the Zambian government that REDD+ is a cross-cutting concept that cannot be dealt with by one or two ministries. A substantial amount of capacity building will be required within government in order to put in place the appropriate framework. This is a significant barrier to the implementation of REDD+ Readiness activities.

110. There is also the risk that limited internal technical capacity in institutions could hamper the progress of NJP and National REDD+. For example, capacity to monitor forest cover is low within Zambia. Some expertise in forest cover monitoring does exist in the Survey Department (MoL), Remote Sensing Centre (Ministry of Science and Technology), the Forestry Department (MTENR), the Copperbelt University and the University of Zambia, but it is inadequate and requires bolstering. This highlights that there is a need for a monitoring unit for REDD+ within Zambia.

111. Additionally, inadequate skills and insufficient knowledge of climate change mitigation as well as insufficient cooperation between departments and sectors contribute to the Zambian government's limited capacity for implementing NJP and National REDD+⁹¹.

Understanding of REDD+

112. There is limited understanding of the benefits of REDD+ at the national, provincial and community levels. Specifically, the linkages between REDD+ as a climate change mitigation tool and

⁸⁹ Available from: www.communitycarbonforestry.org

⁹⁰ Zambia National Adaptation Programme of Action, September 2007.

⁹¹ Zambia National Adaptation Programme of Action, September 2007.

REDD+ as a tool to promote sustainable development (e.g. health benefits⁹² and gender benefits⁹³) and conservation (e.g. ecosystem services benefits) have not yet been fully realized. Inadequate understanding of REDD+ in general, can result in ineffective stakeholder engagement. This is a barrier that will need to be tackled both initially by the NJP, but also continuously by the government. Initially, the NJP can make in-roads into targeting decision makers and specific target groups. However, once a critical level of understanding has been reached, outreach will need to continue on a wide scale. It will be particularly important for Zambia to have a set of communication tools that clearly explain the many complex concepts associated with REDD+.

Coordination mechanisms

113. Other than the PDCCs and DDCCs, coordination structures and mechanisms are extremely limited. The absence of high-level natural resource coordination mechanisms is largely to blame for the ineffective management of natural resources. Policies are generally developed in a sector-specific manner, without a focus on enabling cross-sectoral linkages. MTENR, for example, holds regular meetings between departmental directors, however the focus is not on coordination or development of cross-sectoral management plans but rather on reporting and on the development of plans within sectors. Currently, the Forestry Department has sole responsibility for the Forestry Policy, whilst the exclusive management authority for the Wildlife Policy is ZAWA, despite the overlapping jurisdictions of these policies. The 2007 National Policy on Environment is expected to create coordination between these bodies, even though the policy itself is not supported by legislation. The lack of high-level coordination will impair the implementation of cross-sectoral REDD+ policies, unless an external coordination body is created or the Zambian government mandates a coordination policy for natural resource management.

Donor fatigue

114. Stakeholders have noted in coordination workshops that Zambia suffers from donor fatigue. In particular, there is a perception in many rural areas of Zambia, for example, that many aid projects have not delivered what they have promised. As a consequence, there is little faith in the longevity of donor projects. It has been noted that this may hamper efforts undertaken within the NJP even though REDD+ is not a donor project. However, there are two fundamental points that need to be raised in response to this concern:

1. The NJP will not be implementing on-the-ground REDD+ activities. Rather, the NJP will be preparing Zambia to develop mechanisms, systems and an enabling environment in order to participate in REDD+ and implement National REDD+ activities in the future.
2. REDD+ is going to be established as a financial mechanism. It will be 'performance based' and will rely on Zambia altering the fundamental nature of its economy. REDD+ is therefore very different from a donor project which relies on grant funding. It will instead be entirely driven by the country itself, and the finances received for implementing REDD+ activities will be payment for a service.

The fact that donor fatigue concerns are being raised highlights the assumption that few people understand what REDD+ is and how it will operate, reiterating the need to conduct substantial awareness raising amongst all stakeholders.

Gender inequality

115. Rural women often perform the majority of the land clearing for agriculture and firewood collection. However, due to their traditional roles in society, women are less likely to be involved in the information sharing processes and are therefore generally likely to remain uninformed about the NJP and the National REDD+ Programme. The NJP thus aims to empower women, youth and persons with special needs and strengthen gender equality. To achieve this, the project will ensure that such groups attend workshops and are part of interventions and management committees.

⁹² The use of cleaner fuels for cooking and heating can result in health benefits.

⁹³ The provision of alternative fuel/electricity can result in more free time for women.

Disaggregated indicators (e.g. number of women involved in stakeholder workshops) will be used to monitor the project performance in this regard.

Barriers to Implementing the National REDD+ Strategy

(These are barriers that are applicable to National REDD+ and not the implementation of the current NJP).

Livelihoods

116. Many communities involved in deforestation and forest degradation rely on the income they receive from selling of charcoal, firewood, other wood products, and agricultural products. For National REDD+ to be implemented successfully, the income they are receiving needs to be replaced either by alternative livelihoods or the provision of infrastructure and services (e.g. schools, hospitals, banks, roads and transport). If REDD+ is to be successful on a national scale, this will involve the provision of alternative livelihoods and income earning opportunities for hundreds of thousands of people. This is probably one of the most important barriers to REDD+, as even with the appropriate policy, legislative frameworks, well implemented policy and legislations, good governance and effective law enforcement, for example, REDD+ will be unsuccessful if local communities are not fully engaged and changing behaviour. Ultimately this requires fundamental changes in the economy and the development path of Zambia to ensure that sustainable livelihood options are created.

117. *Suggested actions:* The actions for this barrier are listed under Output 4.2. *Candidate activities for REDD+ identified.* Activity 4.2.3 identifies evidence-based alternative livelihood options under REDD+. This activity is also reinforced by Activities 3.5.1 through 3.5.4, which cover the approval of a benefit sharing framework under REDD+.

Poverty

118. Poverty poses a barrier to REDD+ because forests are a key resource on which many poor people depend. This is a particular problem in Zambia where 83%⁹⁴ of the rural population is poverty-stricken. Harvesting of forest products generates an income for rural communities to cover their basic needs (e.g. costs of medicines, building materials, education)⁹⁵. If poverty and the associated activities of rural communities that impact on forests are not addressed, National REDD+ is likely to fail. Consequently, the REDD+ benefit distribution system will need to take into account the rural poor and create a social security safety net.

119. Stakeholders noted that if communities involved in REDD+ go without income or energy for cooking for short periods, they will most likely revert back to former activities that promote forest degradation and deforestation. This is of particular concern because a shift from traditional farming methods to conservation agriculture or agroforestry as a result of REDD+ may cause farmers to incur income losses in the first few years. Alternative livelihoods will be required to build resilience for such situations in order to ensure the effectiveness of REDD+⁹⁶.

120. *Suggested actions:* Output 4.2 (*Candidate activities for REDD+ identified*) comprises the development of evidence-based alternative livelihood options under REDD+, and Activities 3.5.1 through 3.5.4 detail the approval of a benefit sharing framework to ensure that there is constant delivery.

Lack of forest management plans

121. Although Zambia has several generations of legislation governing forestry, there is a distinct lack of forest management plans for both protected forest and forests on customary land. In

⁹⁴ Available from: <http://www.ruralpovertyportal.org/web/guest/country/home/tags/zambia>

⁹⁵ Pers. Comm. Director of Forestry in Zambia.

⁹⁶ Ministry of Agriculture and Cooperatives meeting, Tuesday 1st December 2009.

addition, the Forestry Department generally lacks the capacity and infrastructure to fully implement those plans that have been formulated, rendering the utility of additional management plans extremely low.

122. *Suggested actions:* The NJP will enhance the capacity of REDD+ coordination and management bodies to address identified infrastructure requirements, and will recommend amendments to legislation and policies where necessary:
- a. Activity 1.1.2 in which institutional capacity building needs for national implementing partners and for coordination mechanisms in executing REDD+ Readiness process are addressed.
 - b. Activities 3.1.1 through 3.1.3 will ensure that the institutional capacity to implement REDD+ is developed.
 - c. Output 3.3 provides a framework for addressing the shortcomings or potential perverse incentives in current legislation.

Social and cultural norms

123. National REDD+ activities stand to provide numerous benefits to local communities within Zambia, yet they will require substantial behavioural changes from the rural communities. The following provide examples of perceptions of a few charcoal producers. When asked what would happen when all the trees are gone, one respondent replied: “*That’s a problem for the future*” whilst another replied: “*There are lots of trees, but not enough roads*”⁹⁷. Such mindsets may be difficult to change, as behaviour tends to be linked to cultural norms. This could pose a significant barrier to REDD+. For example, i) many people may not adopt new cooking methods as it is believed that some types of food are cooked better over charcoal (e.g. beans); and ii) certain farming methods (e.g. *chitemene*) are part of cultural norms and practices.

124. *Suggested actions:* REDD+ will not change social and cultural norms in the medium term. However, Activity 1.3.1 (*Develop a REDD+ communication strategy in Zambia*) and Activities 3.2.1 through 3.2.3 will address the changes in perceptions through reinforcing ongoing national activities such as agricultural and forestry extension activities.

Governance

125. Governance challenges as a barrier to the implementation of REDD+ relate particularly to the centralised system of managing forest resources. Inadequate participatory forest management systems, including benefit-sharing mechanisms, may lead to conflicts that may hinder the implementation of REDD+. The challenges include matters of land tenure and land uses that are not easily resolved. For instance, commercial logging licences are allocated by the government who also take royalties from the timber harvesting. In this way, forest resources at present largely benefit government and not the local communities. This may be minimised in the future as a result of review and revision of the Forestry Policy of 1998.

126. *Suggested actions:* The primary activities of relevance to this barrier are Activities 3.1.1 through 3.3.6 on strengthening the national governance framework and institutional capacity of REDD+. Additional actions for this barrier are:
- a. Activities 1.1.1 and 1.1.2 on establishing and operationalization of an institutional arrangements including capacity enhancement.
 - b. Integrate REDD+ readiness process into the national CC Response strategy.
 - c. Develop a REDD+ communication and advocacy strategy in Zambia.
 - d. Activity 4.2.3, which identifies evidence-based alternative livelihood options, and Activities 3.5.1 through 3.5.4 which relate to the development and approval of a benefit sharing framework.

⁹⁷ Pers.Comm. International Consultant, 30th November 2009.

Policy and legislation

127. It is largely unknown to what extent existing legislation supports REDD+ implementation. Furthermore, current policies and legislation are not implemented and enforced effectively e.g. EIAs through the Environmental Council of Zambia (ECZ) should be curbing deforestation impacts that are occurring due to mining. Currently, however, there is limited monitoring and enforcement of EIAs⁹⁸. In addition, there are a number of priority legal concepts which need thorough investigation such as carbon ownership and land tenure (described below).
128. An additional policy and legislation barrier that could undermine selected REDD+ strategies is the lack of capacity for strategy, policy and legislation implementation. At present, this is not happening in a comprehensive manner in the management of forestry and soil resources. This is evident in the existing widespread deforestation and forest degradation caused by charcoal production, firewood collection, timber production, unsustainable agricultural methods and unregulated settlements in forest reserves. Many of these primary drivers could be reduced through effective enforcement of legislation. For example, despite the fact that legislation exists prohibiting charcoal production from forest reserves, forest guards are so few in number that illegal charcoal producers and traders have been known to operate during the day. However, the enforcement of legislation alone will not be sufficient. Illegal operations in forests are driven by poverty and the subsequent need to earn money in order to survive. If enforcement is undertaken in isolation of livelihood creation programmes, then social injustices will occur and conflict will likely arise. This highlights some of the complexity surrounding REDD+ implementation, and the need for a well-coordinated sequence of interventions within forest areas.
129. *Suggested actions:* The strengthening of the existing legislative framework to facilitate REDD+ implementation is dealt with in Activities 3.3.1 through 3.3.6. More specifically, actions will entail reviewing existing legislation in terms of its applicability to REDD+ (3.3.1), and identifying aspects of the legislative framework that require strengthening (3.3.2). Lack of institutional capacity is addressed through activities in Output 1 (*Capacity to manage REDD+ Readiness strengthened*), as well as Activities 3.4.1 through 3.5.4. The lack of capacity for strategy, policy and legislation implementation is addressed through Activities 1.1.1 – 1.4.2 and Activities 3.4.1 – 3.5.4.

Land tenure

130. An absence of secure land tenure results in few people investing in customary land areas. Rather, people move from one area to another without practicing sustainable land management. Additionally, an absence of secure land tenure also hinders the capacity of tenants to access loans and investment to support economic or social opportunities. Thus, an absence of secure land tenure both promotes deforestation and degradation and impedes the ability of communities to protect and sustainably utilise forests. However, land tenure is an extremely sensitive issue that needs to be handled carefully. In Zambia, land is the powerbase of traditional leaders and it will be very difficult to change land tenure without major social infractions⁹⁹. Additionally, government and traditional leaders often do not share the same agenda with regard to land use and control and this may pose a barrier to National REDD+^{100, 101}.
131. Since resources on communal land are not private and cannot be privatised, communities have resource use rights but not resource management rights. This presents legal obstacles to

⁹⁸ General stakeholder meeting, Wednesday the 2nd December 2009.

⁹⁹ Meeting with the Ministry of Agriculture and Cooperatives (MACO), Tuesday 1st December 2009.

¹⁰⁰ Meeting with the Ministry of Agriculture and Cooperatives (MACO), Tuesday 1st December 2009.

¹⁰¹ Traditional leaders are allegedly settling people in forest reserves and this is leading to deforestation and forest degradation (stakeholder meeting, Wednesday 2nd December 2009).

the implementation of benefit sharing between government and local communities. This has been demonstrated through the implementation of the JFM, where although local communities can be ceded temporary management rights for a forestry area by means of a statutory instrument, the monetary benefits cannot legally be shared between government and any other entity¹⁰². Carbon ownership and benefit sharing are key concepts under REDD+ that need to be resolved and will require in-depth research in order to provide solutions for the Zambian situation. Whatever type of revenue-sharing system is devised must have a clear legal base with regard to ownership and criteria for payment. There is a particular danger that the administration of REDD+ at a national level may be so demanding that it absorbs a large proportion of the REDD+ payments, leaving minimal funds for incentivising communities and revenue-sharing. Benefit-sharing ideally should be embedded in overall development planning and should go far beyond providing financial rewards but engage in providing alternative (low-carbon, low-resource where possible) livelihoods¹⁰³.

132. Another equally important barrier that land tenure brings with it is that of rent-seeking. This could potentially be a significant problem in Zambia under the current land tenure system. Of particular concern is that the customary authority has the right to lease the land under the Lands Act of 1995, which could be tied to commercial joint ventures in either local forests and/or GMAs. This could result in rent-seeking, corruption, evictions of local communities and a host of activities that are not envisioned as either being part of the outcome of REDD+ or as being beneficial towards the success of REDD+. It is therefore critical that the current status of land tenure is fully understood in terms of its ramifications for the myriad problems raised above.
133. Even where land tenure is secure or where devolution of rights to communities occurs, most local communities presently lack sufficient frameworks to implement proper management and administration of REDD+ projects without considerable capacity building. Provision of land tenure and devolution of management rights will require political investment in the decentralisation policy of the PSRP and effective implementation of CBNRM policies on the part of government. It would also require major policy reform pertaining to land, decentralisation and CBNRM.
134. An example from Niger where a change in land tenure occurred (from communal to private ownership) showed immediate benefits as people started planting trees on their land, to pass down 'green assets' to their children¹⁰⁴. A systematic addressing of the legislative context and development of benefit sharing models would likely benefit Zambia in a similar manner. However, other policies and acts will also require review if REDD+ is to succeed. Carbon ownership and land tenure are key points of interest for investors as they will need to be protected by policy on these issues.
135. Certain stipulations of the Draft Land Policy of 2006, which has yet to be signed into law, would go some way towards mitigating the more pressing issues regarding land tenure. These include measures for group land rights under Customary Tenure (see Box 1 below).

¹⁰² Whiteman, A. (undated) An Appraisal of the Licensing and Forest Revenue System in Zambia. Project: TCP/ZAM/8925(A), Strengthening of revenue collection in the Forestry Sector. FAO and MTENR.

¹⁰³ Shmidt, L. 2009. REDD from an integrated perspective: considering overall climate change mitigation, biodiversity conservation and equity issues. German Development Institute discussion paper 4/2009.

¹⁰⁴ Pers. Comm. M. Zandomenighi, UNEP Programme Officer, Tuesday 1st December 2009.

Box 1: Stipulations of the Draft Land Policy of 2006 relevant to the implementation of REDD+.

4.3. Customary Tenure

Policy Measures

In order to advance the advantages of customary tenure practice, the government will:

- (a) Introduce group land rights to allow for registration of village, family and clan land as well as co-operatives;
- (b) encourage land holders in peri-urban and rural areas to establish land loans and savings associations to facilitate land and housing improvements;
- (c) collaborate with traditional authorities and other land stakeholders to review, harmonize and streamline customary land practices, usages and legislations governing land holding, land acquisition, usage and delivery with a view to unifying land administration and management;
- (d) set maximum holding size to land on the basis of capability and use suitability or technology;
- (e) recognise the rights of land users by defining these rights through formal survey and registration so that everyone, irrespective of social status, gender or origin can have similar rights to land;
- (f) ensure that non-citizens and foreign companies are not allowed to acquire land through transfer or purchase of customary land;
- (g) encourage successor in title to the throne to recognise title deeds issued upon grant of consent by their predecessor in order to protect and perpetuate the rights of the title holder;
- (h) continue to sensitise the public on the advantages of individual ownership of land through leasehold or customary tenure to improve the security of investments by improving land transferability and access to credit;
- (i) ensure that no chief shall recommend land for alienation without consulting his/her subjects; and
- (j) ensure and uphold that the final grant of land lies with the President in whom land is vested.

4.4. Leasehold Tenure

Policy Measures

In order to address the issue of leasehold the Government will:

- (a) Maintain the period of granting leasehold title for a period ranging from 1 year to 99 years based on advice from Land Use Experts;
- (b) set maximum holding size to land on the basis of capability and use suitability or technology;
- (c) provide guidelines that will enable allocation of land according to market value and ensure that land in urban areas attract higher prices than in rural areas; and
- (d) ensure that land that remains under-developed and unutilized within the specified period is repossessed.

136. *Suggested activities:* The issues related to land tenure are addressed through the following activities:

- a. Activities 1.1.1 and 1.1.2 on establishing and operationalization of institutional arrangements including capacity enhancement.
- b. Activities under Output 3.3 (*Strengthening legislative framework for REDD+ implementation*), particularly Activity 3.3.2 which assesses carbon ownership rights under different land tenure systems.
- c. Activities 3.5.1 through 3.5.4 related to the approval of a benefit sharing framework under REDD+.

Land use planning

137. Additional to the issue of land tenure, is the current lack of effective land use planning which is likely to impact on National REDD+. For example, land uses such as tobacco farming and *Jatropha curcas* oil production may pose a threat to National REDD+. China is currently seeking 500 000 ha of land in three districts in Zambia for *Jatropha curcas* plantations and this is likely to have a negative impact on National REDD+. Additionally, food security could be negatively impacted by such activities. Another point of concern is that REDD+ could negatively impact on biodiversity in non-forest systems if careful land use planning is not employed. By protecting and sustainably managing forests and woodlands, land use pressures will likely shift to other

ecosystem types such as grasslands. This will be particularly problematic if the root causes of deforestation and forest degradation are not adequately addressed.

138. *Suggested actions:* Activities addressing issues related to land use planning include:
- Activities 3.1.1 through 3.3.6 on strengthening the national governance framework and institutional capacity of REDD+, particularly Activity 3.2.3 where REDD+ is introduced into District Development Planning.
 - Activities 1.1.1 and 1.1.2 on establishing and operationalization of an institutional arrangements including capacity enhancement.
 - Activity 1.2.1 which integrates REDD+ readiness process into the national CC Response strategy.
 - Activity 1.3.1, which develops a REDD+ communication and advocacy strategy in Zambia.

Information and monitoring

139. At present there is a lack of data coordination within and between key institutions that will participate in REDD+. For example, there is no generally accepted data storing technique or data sharing agreements between government departments and ministries. It is thus difficult to acquire existing environmental data or to promote data sharing. Institutional memory is also a barrier to effective REDD+, as many documents on deforestation and forest degradation exist within Zambian ministries and institutions but their whereabouts or even existence are often not known.
140. To date, few studies have been undertaken that can be used to establish the baseline scenario of forest cover and carbon stocks in Zambia. There is thus limited data to work with and limited ability to develop forecast trends. The most effective means of establishing a reference is through remote sensing data and techniques. However, this data is very expensive and would require a large budget. It also requires technical capacity to use such data, and would require training of staff to ensure its sustainable use. There is, however, the ILUA 2005-2008 publication which can be used as a starting point while such capacity is being developed, and should be shared across all ministries.
141. In order to successfully implement monitoring processes for REDD+, cooperation between experts (see paragraph 81) and strengthening of scientific capabilities must be carried out. Capacity building through investment in training in the relevant skills will place Zambia in an important role as a resource centre for imparting training to other African countries in models and methodologies relating to forest carbon accounting under REDD+. This will be possible once functional institutional, legal, human and technological frameworks are in place.
142. Retention of skilled individuals is also paramount for a process of accelerated capacity building in the relevant fields. Government can assist this process by creating incentives for such individuals and prioritizing training in relevant institutions to protect their potential future earnings through REDD+.
143. *Suggested actions:* In order to overcome the abovementioned barriers, the NJP will undertake extensive reviews and collation of existing information and monitoring capacities. This will form the basis for further studies, modelling and the development of forecasts. Furthermore, it will provide guidance for the establishment of a data management system. The terms of reference for the Data Management System/Unit will include a mandate for data storage and sharing related to REDD+ activities. Specific activities of relevance to this barrier include:
- Activities 3.1.1 through 3.3.6 on strengthening the national governance framework and institutional capacity of REDD+.

- b. Activities 1.1.1 and 1.1.2 on establishing and operationalization of an institutional arrangements including capacity enhancement.
- c. Activity 1.2.1 on integration of REDD+ readiness process into the national CC Response strategy.
- d. Activity 1.3.1 on developing a REDD+ communication and advocacy strategy in Zambia.
- e. Activities 5.1.1 through 5.2.5 will develop national MRV capacity.
- f. Activities 6.1.1 through 6.2.7 will assist in the establishment of baseline estimates of forest cover and carbon stocks.

Infrastructure/transport

144. Forest officials often have inadequate transport (e.g. bicycles for covering hundreds of kilometres of poorly maintained roads, with dangers such as elephants and lions) and thus are not able to access all areas of the forests they are charged with protecting. In order for National REDD+ to be successful this barrier will need to be overcome. Infrastructure limitations such as lack of office equipment, old computers and outdated software will also hamper the implementation of REDD+.
145. *Suggested actions:* The NJP will enhance the capacity of REDD+ coordination and management bodies to address identified infrastructure requirements. Specifically, the following activities address infrastructural shortcomings:
- d. Activity 1.1.2 in which institutional capacity building needs for national implementing partners and for coordination mechanisms in executing REDD+ Readiness process are addressed.
 - e. Activities 3.1.1 through 3.1.3 will ensure that the institutional capacity to implement REDD+ is developed.

Capacity to manage and implement National REDD+ Readiness

146. Existing policies and legislation which can play a role in National REDD+ are not being adequately enforced. For example, PAs are presently undergoing considerable deforestation and forest degradation according to some stakeholders¹⁰⁵. This is illegal and suggests that there is insufficient capacity to uphold existing policies and enforce legislation.
147. Capacity within NGOs and CBOs is not currently sufficient for the implementation of REDD+ activities. Yet, these types of organisations will likely play a critical role in REDD+ activities such as providing capacity building in livelihood changes. Technical capacity building needs to be undertaken in these organisations and guidance provided on a long-term sustainable basis by various key ministries.
148. Many persons involved in technical vocations applicable to REDD+ may also require significant technical capacity building. District forest officials have, for example, been identified as very under-resourced¹⁰⁶. Their lack of capacity is evident in *inter alia*: provision of extension services; collection of baseline information; setting targets; developing monitoring tools; and managing databases.
149. *Suggested actions:* Capacity barriers for the REDD+ Readiness process are addressed through the following activities:
- f. Activities 1.1.1 and 1.1.2 on establishing and operationalization of an institutional arrangements including capacity enhancement;

¹⁰⁵ House of Chiefs meeting, Tuesday 1st December 2009.

¹⁰⁶ Chundama, M. 2009. Preparing for REDD in dryland forests: Investigating the options and potential synergy for REDD payments in the miombo eco-region (Zambia country study). International Institute for Environment and Development (IIED), London, UK.

- g. Activities 3.1.1 through 3.3.6 on strengthening the national governance framework and institutional capacity of REDD+;
- h. Activities 2.1.1 through 2.2.2 on establishing broad-based stakeholder support for REDD+ address the issues of NGO/CBO capacity shortfalls;
- i. Activities 5.1.1 through 5.2.5 on strengthening MRV capacity;
- j. Activity 1.3.1 related to development of a REDD+ communication and advocacy strategy in Zambia.

Complexity of the drivers of deforestation and forest degradation

150. The successful implementation of National REDD+ will depend on the effective tackling of the drivers of deforestation and forest degradation. However, currently, there is an incomplete understanding of the drivers of deforestation and forest degradation as well as conflicting reports and different recommendations on how to deal with them (see Table 2 page 23 and
151. Table 3 page 38). Furthermore the linkages between cause and effect are complex as highlighted by the numerous barriers and complex responses discussed in paragraphs 109 - 135, and the solutions will not be easy to establish. Furthermore, many activities will need to be undertaken simultaneously, as described above in this barriers section.
152. In addition, there is insufficient knowledge of the impacts that deforestation and forest degradation of forests have on *inter alia*: local climate; soil quality; water quantity and quality; and local flora and fauna, all of which have significant implications for rural communities' livelihoods. This lack of knowledge may be remedied by carrying out in-depth studies to quantify the benefits of effective environmental and natural resource management (e.g. effects of REDD+ activities on watershed function). Development planning tools such as T21¹⁰⁷ will be of critical importance for modelling the complex array of factors, discussed above, predicting effects of certain policies and importantly, avoiding unintended negative consequences of such policies.
153. *Suggested actions*: Activities 4.1.1 and 4.1.2 identify drivers of deforestation and forest degradation, and identify relevant bodies within governmental and non-governmental structures for addressing these issues. The potential effects of policy changes are addressed in Output 3.3 (*Legislative framework to facilitate implementation of REDD+ strengthened*).

Sustainability

154. The National REDD+ Programme will need to ensure that key sectoral and national developmental plans are aligned with the National REDD+ Strategy. High level commitment in government will also need to be sought.
155. The participation of a wide range of key ministries will also be a critical requirement for the success of National REDD+ in Zambia. This is because National REDD+ will require multi-sectoral solutions across a range of levels from activities at community levels to the national government levels (e.g. formulation of enabling policy, legislative and institutional frameworks).
156. To ensure sustainability of National REDD+, existing structures will need to be used at national, provincial, district and community levels – e.g. the ENRMMP, PDCCs, DDCCs and ADCC. Furthermore, the project implementation team will express to the CCFU the need of including REDD+ in the development of the NCCRS to ensure consistency and effective long-term planning at a national scale.
157. A wide range of stakeholders (government, private sector, public sector, civil society, NGO's and CBO's) will be involved in the implementation of National REDD+ interventions in order to

¹⁰⁷ Available from: <http://www.threshold21.com/>

enhance consensus building and create a collaborative, sustainable approach to the development of REDD+ initiatives.

158. Sustainability will also depend on equitable and transparent benefit-sharing mechanisms. The benefits received by local communities will need to at least match the costs incurred by them in not undertaking deforestation and forest degradation.

Risks

159. There are numerous risks to the implementation of REDD+. These will require in-depth investigation. A selection of these risks is discussed below.
160. Risks to permanence of carbon stocks will need to be identified. These may include ecological risks such as fires, natural disasters, pests and diseases. The likelihood of many of these occurring may be exacerbated as the climate warms as a result of climate change. Another notable point is that climate change may change the distribution of woodlands and forests and, although this will occur over a number of years, may impact on carbon stocks in the long term. Land use planning will therefore need to take climate change into account in order to manage Zambia's carbon stocks effectively. Additional risks to permanence could include changes in government and civil unrest in the country. Furthermore, regional instability could prompt migration into the country, thereby increasing pressures on natural resources.
161. It is particularly important that REDD+ is not perceived as a separate entity operating against the interests of national development. Rather, it should be nested within more integrated approaches that include a general drive towards a low-carbon economy and adaptation to climate change¹⁰⁸. Although many of the international conventions such as the UNFCCC and the CBD operate separately, this should not be the case within a country, and all social and environmental concerns will need to be carefully considered during implementation of REDD+.

¹⁰⁸ Cotular, L and Mayers, J. 2009. Tenure in REDD: start up point or afterthought? Natural Resource Issues No. 15. International Institute for Environment and Development. London, UK.

5. Results Framework

Programme Goal: To prepare Zambian institutions and stakeholders for effective nationwide implementation of the REDD+ mechanism.

Programme Objectives:

- i) Build institutional and stakeholder capacity to implement REDD+;
- ii) develop an enabling policy environment for REDD+;
- iii) develop REDD+ benefit sharing models; and
- iv) develop MRV systems for REDD+.

Outcome 1. Capacity to manage REDD+ Readiness strengthened

This outcome will build capacity support for executing the NJP by integrating it into the national development planning process and overall climate change strategy. Communication is also a key aspect of this outcome with analysis of lessons learned and establishment of a communication framework. In addition, capacity will be built with respect to financial and managerial support. The outputs are as follows:

Output 1.1: REDD+ Readiness coordination and management bodies established and functioning.

This output assesses and addresses the capacity needs for REDD+ within institutional structures. The objectives of this output are to establish a principal organisational body for the day-to-day operation of the NJP and to extend the mandates of supporting institutes to advance the NJP implementation. The activities are:

1.1.1 Develop National REDD+ Readiness institutional arrangements.

Sub-activities:

- Establish and support the operating of the UN-REDD REDD+ Coordination Unit, Technical Committee and working groups on specific subject areas.
- Expand the mandates of Sector Advisory Groups (SAG) on environment and tourism to include REDD+.
- Develop institutional and management arrangements for implementation of REDD+ Readiness activities.
- Support high-level coordination and technical interactions between the Government of Zambia and partners involved in REDD+ Readiness Activities, utilising existing mechanisms where possible.¹⁰⁹

1.1.2 Assess institutional capacity building needs for national implementing partners and for coordination mechanisms in executing REDD+ Readiness process.

1.1.3 Develop the identified immediate capacity needs.

1.1.4 Procure technical assistance for the REDD+ Coordination Unit.

Output 1.2: REDD+ Readiness Process integrated into the national development planning process.

This output integrates REDD+ into the national development planning process and national climate change strategy. The activities are:

1.2.1 Integrate UN-REDD Readiness Process into the NCCRS.

Output 1.3: Communication and advocacy strategy as input in overall climate change strategy developed and implemented.

¹⁰⁹ This sub-activity recognises the assistance available to the Zambian Government from its international partners and aims to build capacity for technical knowledge sharing for REDD+. Coordination arrangements for existing donors through the Joint Assistance Strategy will be assessed.

Knowledge and the understanding of what REDD+ can bring in terms of benefits and responsibilities varies considerably among stakeholders in Zambia. It is thus important to establish an effective mechanism for communicating and disseminating results of the REDD+ programme development. The activities are:

1.3.1 Develop a REDD+ Communication Strategy in Zambia.

Sub-activities:

- Set the communication objectives.
- Identify target audiences.
- Develop key messages.
- Develop appropriate mechanisms for disseminating results and progress according to the target audiences, i.e. identify communication tools.
- Establish performance indicators.
- Lobby for the integration of the Communications Strategy in the Climate Change Communication and Advocacy Strategy developed by the CCFU.

1.3.2 Test and implement the new Communication Strategy and ensure linkages with the CCFU communication activities.

Sub-activities:

- Develop and implement a communication plan over a three year period.
- Evaluate and monitor the implementation of the Communication Strategy.

Output 1.4: Mapping and gap analysis of relevant initiatives undertaken.

Current development activities may in some cases fall under the umbrella of REDD+ activities. These processes need to be assessed, and the additional necessary activities identified. This output will enhance the process of knowledge dissemination. Lessons learned from REDD+ related initiatives, undertaken by NGOs, the private sector and bilateral partners, will be compiled and distributed. The activities are:

1.4.1 Analyse previous, ongoing and planned initiatives relevant to REDD+.

1.4.2 Share lessons pertinent to implementing REDD+ from the above initiatives, both at a national and local scale.

Outcome 2. Broad-based stakeholder support for REDD+ established

This outcome requires the involvement of a wide range of stakeholders, ranging from local community groups and the general public to government departments and international donors. It is therefore of critical importance that an effective means of stakeholder participation is established to ensure the timely implementation of REDD+ in Zambia. The outputs are as follows:

Output 2.1: Stakeholders engagement process functioning.

REDD+ requires commitment and involvement from affected stakeholders and it is therefore necessary to develop a stakeholder engagement framework. A key element of this framework is to promote a continuous and proactive engagement process within REDD+ in Zambia. This output will establish an information sharing and coordination platform between the National REDD+ process and the relevant initiatives undertaken by NGOs, the private sector and bilateral partners. The stakeholders' advisory group will ensure that the experiences from the field are fed into the National REDD+ Strategy and that sub-national REDD+ demonstration activities are in line with the general national REDD+ framework and development of the MRV system. This output will also support the outreach to wider stakeholders through existing mechanisms such as Sector Advisory Groups, the House of Chiefs, Provincial and District Development Coordinating Committees and community based groups. The activities are:

2.1.1 Review existing stakeholder engagement process and identify gaps for improvement. This will include potential future stakeholders as well as stakeholders presently involved in initiatives relevant to REDD+.

Sub-activities include:

- Establish a REDD+ stakeholders' advisory group. Develop criteria for selecting key stakeholders to the group. Develop the ToRs of the group including a regular schedule of meetings and other information sharing mechanisms.
- Develop guidelines and a framework for engaging with stakeholders at all levels: national, provincial, district and community level.
- Provide necessary support and resources for the implementation of the engagement process.
- Support capacity and provide information and advice for stakeholder representatives to engage and contribute to the development of REDD+ in Zambia.

2.1.2 Strengthen existing platforms for discussing REDD+ issues within the context of government's policy setting process.

Output 2.2: Conflict resolution and redress mechanism reviewed.

Stakeholder conflicts are likely to occur due to conflicting interests related to REDD+. In order to resolve these issues, an institutional framework that employs conflict-resolution strategies and appropriate arbitration processes must be developed. The activities are:

2.2.1 Review existing conflict resolution mechanisms and recommend the most appropriate mechanism.

2.2.2 Develop new conflict resolution and arbitration mechanisms.

Outcome 3. National governance framework and institutional capacities for the implementation of REDD+ strengthened

This outcome builds the capacity for Zambia to effectively execute REDD+ nationally. It will develop the institutional, legal and financial mechanisms for supporting REDD+ related initiatives. The outputs are as follows:

Output 3.1: Institutional capacity to implement REDD+ framework developed.

This output builds sustainability within the REDD+ programme. An initial scoping and needs assessment will provide a foundation for capacity development. Furthermore, engagement with stakeholders and awareness raising on REDD+ will be undertaken to develop a long-term plan for the REDD+ programme. The activities are:

3.1.1 Undertake human and financial capacity needs assessment to address longer term institutional requirements to implement REDD+ (building on Output 1.1).

3.1.2 Address priority needs.

3.1.3 Identify additional funding sources for further capacity needs.

Output 3.2: National REDD+ Strategy process integrated into the national development planning process.

This output will address the adoption of the National REDD+ Strategy as it continues to evolve. Integration of the National REDD+ Strategy into the long-term goals of the national development plan will ensure viability over the programme lifetime, and will enable the incorporation of relevant global level initiatives into the National REDD+ Strategy and national development planning process. In this regard it is highly recommended that principles of the UNDP's Governance Centre "country-led government assessments process" be integrated into the National REDD+ Strategy, and that the NJP collaborates closely with this initiative.

A monitoring framework will be developed for the REDD+ process beyond the immediate UN-REDD Programme activities. The framework will respond to the need to monitor and report on the safeguards of the international REDD+ mechanism, which are expected to include transparent and effective national governance structures, stakeholder participation, conservation of natural forests and biodiversity and other social and environmental benefits.

The monitoring framework will, to the extent possible, rely on the existing country-led frameworks, including the monitoring framework of the SNDP, the Governance Secretariat governance survey and M&E framework, Afrobarometer and the African Peer Review Mechanism. A participatory review and verification of the monitoring framework will be built into the stakeholder engagement process.

The activities are:

- 3.2.1 Support the development of a National REDD+ Strategy through consultation with appropriate stakeholders.
- 3.2.2 Introduce REDD+ into District Development Planning.
- 3.2.3 Develop a monitoring framework for key governance factors and social and environmental impacts pertinent to REDD+ implementation.

Output 3.3: Legislative framework to facilitate implementation of REDD+ strengthened.

This output addresses the legislative structures within Zambia for implementation of REDD+. Capacity building for developing the appropriate Zambian legislative framework will include an assessment of relevant existing legislation and researching carbon ownership and land tenure. The activities are:

- 3.3.1 Review existing relevant legislation in terms of its applicability to REDD+.
- 3.3.2 Identify aspects of the legislative framework that need strengthening. (Harmonisation of legislation and policies across sectors will for example be required.)
- 3.3.3 Undertake a legal review to establish details on ownership of carbon in different land tenure systems.
- 3.3.4 Develop an appropriate regulatory process for developing, managing and monitoring carbon trading agreements.
- 3.3.5 Identify changes to legislation required to channel REDD+ finances.

Output 3.4: Mechanism to administrate and channel REDD+ finance established.

An effective mechanism to channel REDD+ funding through all levels of stakeholder involvement is of paramount importance for ensuring that REDD+ financing reaches grass-roots levels. The funding mechanism can potentially make use of extant channels, but will likely require modification after stakeholder interaction. Effective channelling of finance is necessary if deforestation and forest degradation activities are to be altered. Linkages can potentially be made with the Global Mechanism¹¹⁰, which will be establishing similar mechanisms for UNCCD/SLM as a whole in Zambia. The activities are:

- 3.4.1 Assess the available options for channelling of REDD+ finance, including options through the national budget and special fund mechanisms. This will include reviewing relevant models in Zambia and internationally.
- 3.4.2 Undertake broad-based consultation with relevant stakeholders.
- 3.4.3 Establish the mechanism for managing REDD+ finance.

¹¹⁰ The Global Mechanism is a body formed under the auspices of the UN Convention to Combat Desertification that focuses on promoting sustainable development. Available from: <http://global-mechanism.org/>

Output 3.5: Benefit sharing model approved.

This output will determine the form of benefits derived by stakeholders involved in REDD+. It is anticipated that the nature of benefits will vary depending on the project type and stakeholder requirements. The activities are:

- 3.5.1 Assess and develop a range of benefit distribution options and payment mechanisms.
- 3.5.2 Undertake a broad-based consultation with project participants and other stakeholders to establish the most appropriate form and timing of benefits to be delivered through the REDD+ programme (e.g. service delivery/cash transfers).
- 3.5.3 Assess the different proposed benefit sharing approaches through cost-benefit analysis.
- 3.5.4 Assess tax implications for all REDD+ beneficiaries.
- 3.5.5 Develop criteria and guidelines for sharing benefits under the REDD+ mechanism.

Outcome 4. National REDD+ strategies identified

Community-based REDD+ strategies need to be developed to counteract the drivers of deforestation. These need to be socially and economically viable alternatives to deforestation to prevent losses being incurred by stakeholders. If any economic loss is incurred by communities, or the benefits are not transparent, sufficient or tangible, rates of deforestation and forest degradation are unlikely to be effectively reduced. The outputs are as follows:

Output 4.1: Drivers of deforestation and forest degradation assessed.

This output aims to identify the drivers of deforestation and forest degradation. There is considerable research available in this field, providing different recommendations for possible action. This research will be assessed, and agencies responsible for addressing the identified drivers will be identified or established. The activities are:

- 4.1.1 Review existing studies and undertake required additional analyses. Effort should be made to locate and reference the large amount of research available on causes of Zambian deforestation, and to review the extent and spatial distribution of forest degradation to ascertain drivers. The global mechanism will be undertaking studies on the economic value of land in Zambia which will have particular relevance for this activity¹¹¹.
- 4.1.2 Identify key national, provincial, district and community-level institutions/bodies responsible for addressing the drivers of deforestation and forest degradation¹¹².

Output 4.2: Candidate activities for REDD+ identified.

This output will identify appropriate activities for shifting forest resource use and thereby reducing deforestation and forest degradation. It will incorporate global best practice guidelines, and identify those activities and technologies that provide the most cost effective ways to achieve the target reductions. The suggested activities are:

- 4.2.1 Identify global best practices and benchmarking for forest management and REDD+ activities, and tailor practices to Zambian conditions to ensure the identification of suitable activities.
- 4.2.2 Identify and map multiple benefits of REDD+ implementation.
- 4.2.3 Identify evidence-based alternative livelihood options under REDD+.
- 4.2.4 Consult experts on the development of a framework addressing opportunity costs for key stakeholders as well as cost abatement curves and follow up actions.
- 4.2.5 Support the incorporation of relevant global level initiatives into the National REDD+ Strategy and national development planning process.

¹¹¹ Linkages with GM should be sought. This was communicated by Elsie Attafuah of GM to the international consultant.

¹¹² Such as the MTENR.

Outcome 5. MRV capacity to implement REDD+ strengthened

This outcome will use existing methodologies to establish an effective MRV System for REDD+. The expected outputs are as follows:

Output 5.1: REDD+ integrated with forestry inventory system (ILUA).

This output assesses the current forest inventory system in terms of its compatibility with the REDD+ MRV System. Refinement of the inventory system will be iterative in nature and will need to ensure that lessons learned at each stage are integrated into the system. In the framework of ILUA¹¹³, a database will be established and data will be evaluated for its strengths and incorporated into the MRV implementation. More specifically the data will be evaluated in terms of possibilities for use in the greenhouse gas inventory calculations. Clear collaboration is needed with the ILUA (second phase) through the FAO-Finnish programme, in order to be able to strengthen joint work and data sharing opportunities.

The specific activities are:

- 5.1.1 Provide full fungibility with the ILUA database and information system.
- 5.1.2 Integrate environmental data with socio-economic data.
- 5.1.3 Provide input for ILUA data management improvements.

Output 5.2: Operational Forest Monitoring System established and institutionalized.

This output ensures the longevity of the REDD+ MRV System, and ensures that regional approaches and outcomes can be compared. It also ensures that the REDD+ methodologies adopted will be current and applicable to Zambian systems. Shortcomings and benefits of extant project monitoring systems will be assessed and will inform the development of a national approved methodology of carbon accounting.

The specific activities in order to set up such a monitoring system in an operational manner are:

- 5.2.1 Set up a cell for geographical information analysis (based on existing capacity in land survey) and training of personnel at GIS unit, Forestry Department/MTENR.
- 5.2.2 Develop a geographically explicit database for all types of land use related information.
- 5.2.3 Develop an end-user interface for database management and queries¹¹⁴.
- 5.2.4 Select support tools for REDD+ policies and measurements¹¹⁵.
- 5.2.5 Establish linkages with regional geographical information systems (e.g. CSIR, Peace Parks, and others)¹¹⁶.

Output 5.3: Greenhouse gas emissions and removals from forest lands estimated and reported.

This output will collate and analyse the greenhouse gas emissions data produced from the REDD+ MRV System. An effective feedback mechanism with a single data distribution source will enable parallel monitoring by civil society, and thereby ensure transparency. A training course is foreseen to increase local capacity and to explain the methodology for the GHG inventory and monitoring, as well as an in-depth explanation of the IPCC Guidelines. Capacity development will be provided for the national institution that will report GHGs data to UNFCCC and for other reporting requirements. The activities are:

¹¹³ ILUA is based on FAO National Forest Assessment and Monitoring System (NFMA) methodology, but additionally it is aimed at in-depth analysis and policy dialogue between stakeholders across inter-sectoral variables that cover resource data on forestry, agriculture and livestock and their use.

¹¹⁴ The monitoring system should result in a user-friendly interface database and GIS system, with easy access to data over time. This will allow for the calculations of greenhouse gases in a consistent manner.

¹¹⁵ This will assist policy makers in the REDD+ process.

¹¹⁶ Linkages with already existing databases, GIS systems and sub-national initiatives will be established in order to avoid duplication and to ensure the database has joint data sharing capabilities.

- 5.3.1 Study needs and gaps for a fully compliant UNFCCC/IPCC greenhouse gas inventory (see Annex 7.1 for a detailed background to the UNFCCC/IPCC greenhouse gas inventory).
- 5.3.2 Develop and deliver a training course on greenhouse gas inventory methodology and IPCC Good practice guidelines.

Outcome 6. Assessment of Reference Emission Level (REL) and Reference Level (RL) undertaken

The objective of this outcome is to support Zambia in its ability to report on emission reductions through REDD+ related activities. The expected outputs are as follows:

Output 6.1: Historical rates of forest area and carbon stock changes reviewed.

This component has two main outcomes, namely the definition of RELs and RLs for Zambia. Zambia will define one national REL and one national RL, but to support REDD+ implementation Zambia will also define RELs and RLs at sub-national level. The sub-national RELs and RLs will be defined at provincial level or at project level which will depend on decisions on REDD+ implementation of the Zambian authorities. These activities will also define criteria and indicators to establish sub-national RELs and RLs. More details are provided in Annex 7.3. The specific activities are:

- 6.1.1 Assess historical forest area (changes) at the national level.
- 6.1.2 Assess historical greenhouse gas emission and removal rates at the national level.

Output 6.2: National circumstances assessed.

The assessment of the different national circumstances is a key element for the application of the UNFCCC principle of “common but differentiated responsibilities” and it is the only factor (criteria) that has been used so far in the context of the UNFCCC to adjust human induced greenhouse gas related data.

The definition of the Zambian national circumstances will be established in order to be used to adjust the historic data. The assessment of the Zambian national circumstances will be based on the analysis of the socio-economic data and on the analysis of future projections of Zambia development and on potential changes in forest land cover. This output will also integrate historical trends with predicted growth of local economies in order to identify priority threatened areas. Trend and forecast modelling will be carried out. The assessment of national circumstances should contain the following information:

- Geographical characteristics, including climate, forests, land use and other environmental characteristics.
- Population, including growth rates, distribution, density and other vital statistics.
- Economy, including energy, transport, industry, mining, tourism, agriculture, fisheries, waste, health and services sector.
- Education, including scientific and technical research institutions.
- Any information considered relevant by the Party, e.g. information relating to Article 4.8, 4.9 and 4.10, of the UNFCCC.

The specific activities are:

- 6.2.1 Assess the opportunity cost of land providing REDD+ benefits in relation to other land uses (e.g. mining, agriculture, etc.).
- 6.2.2 Assess the national socio-economic conditions.
- 6.2.3 Assess needs and resources for sustainable development.
- 6.2.4 Review expected trends for forest area changes.
- 6.2.5 Collect economic data on other sectors relevant to deforestation (such as *inter alia* mining, settlements, road infrastructure development and agriculture).
- 6.2.6 Identify and map the most threatened forests.

6.2.7 Undertake mapping of other forest co-benefits (biodiversity, non-carbon benefits, etc).

Table 5: Results Framework

Table 57 Results Framework										
JP Outputs	Participating UN organization-specific Outputs	Participating UN organization ¹¹⁷	Participating UN organization corporate priority	Implementing Partner	Indicative activities for each Output	Resource allocation (in \$) and indicative time frame*				Total
						Y1	Y2	Y3		
Outcome 1: Capacity to manage REDD+ Readiness strengthened.										
Output 1.1: REDD+ Readiness coordination and management bodies established and functioning.		UNDP		MTENR, MFNP, MACO, MEWD, and other key relevant ministries.	1.1.1 Develop National REDD+ Readiness institutional arrangements. Sub-activities: <ul style="list-style-type: none">Establish and support the operating of the UN-REDD RCU, Technical Committee and working groups on specific subject areas.Expand the mandates of Sector Advisory Groups (SAG) on environment and tourism to include REDD+.Develop institutional and management arrangements for implementation of REDD+ Readiness activities.Support the high-level coordination and technical interaction between Government of Zambia and partners involved in REDD+ Readiness Activities, utilising existing mechanisms where possible.¹¹⁸ 1.1.2 Assess institutional capacity building needs for national implementing partners and for coordination mechanisms in executing REDD+ Readiness process. 1.1.3 Develop the identified immediate capacity. 1.1.4 Procure technical assistance for RCU.	289,720	242,991	242,991		775,702

¹¹⁷ In cases of joint programmes using pooled fund management modalities, the Managing Agent is responsible/accountable for achieving all shared joint programme outputs. However, those participating UN organizations that have specific direct interest in a given joint programme output, and may be associated with the Managing Agent during the implementation, for example in reviews and agreed technical inputs, will also be indicated in this column.

¹¹⁸ This sub-activity recognises the assistance available to the Government of Zambia from its international partners and aims to build the capacity for technical knowledge sharing for REDD+. Coordination arrangements for existing donors through the Joint Assistance Strategy will be assessed.

Output 1.2: National REDD+ Readiness process integrated into the national development planning process.		UNDP		MTENR, MFNP, MEWD, MoL, and other key relevant ministries.	1.2.1 Integrate UN-REDD Readiness Process into the NCCRS.	28,037	0	0	0	28,037
Output 1.3: Communication and advocacy strategy as input in overall climate change strategy developed and implemented.		UNEP		MTENR, MACO, and other key relevant ministries.	1.3.1 Develop a REDD+ Communication Strategy in Zambia. Sub-activities: <ul style="list-style-type: none"> Set the communication objectives. Identify target audiences. Develop key messages. Develop appropriate mechanisms for disseminating results and progress according to the target audiences i.e. identify communication tools. Establish performance indicators. Lobby for the integration of the Communications Strategy in the Climate Change Communication and Advocacy Strategy developed by the CCFU. 1.3.2 Test and implement the new Communication Strategy and ensure linkages with the CCFU communication activities. Sub-activities: <ul style="list-style-type: none"> Develop and implement a communication plan over a three year period. Evaluate and monitor the implementation of the Communication Strategy. 	56,075	56,075	46,729		158,879
Output 1.4: Mapping and gap analysis of relevant initiatives undertaken.		UNDP		MTENR, MoL, and other key relevant ministries.	1.4.1 Analyse previous, ongoing and planned initiatives relevant to REDD+. 1.4.2 Share lessons pertinent to implementing REDD+ from the above initiatives, both at a national and local scale.	28,037	0	0	0	28,037
JP Outputs	Participating UN organization-specific Outputs	Participating UN organization	Participating UN organization corporate priority	Implementing Partner	Indicative activities for each Output	Resource allocation (in \$) and indicative time frame*				Total
						Y1	Y2	Y3		
Outcome 2: Broad-based stakeholder support for REDD+ established.										

Output 2.1: Stakeholders engagement process functioning.		UNDP		MTENR and other key relevant ministries.	<p>2.1.1 Review existing stakeholder engagement process and identify gaps for improvement. This will include potential future stakeholders as well as stakeholders presently involved in initiatives relevant to REDD+.</p> <p>Sub-activities include:</p> <ul style="list-style-type: none"> Establish a REDD+ stakeholders' advisory group. Develop criteria for selecting key stakeholders to the group. Develop the ToRs of the group including a regular schedule of meetings and other information sharing mechanisms. Develop guidelines and a framework for engaging with stakeholders at all levels: national, provincial, district and community level. Provide necessary support and resources for the implementation of the engagement process. Support capacity and provide information and advice for stakeholder representatives to engage and contribute to the development of REDD+ in Zambia. <p>2.1.2 Strengthen existing platforms for discussing REDD+ issues within the context of government's policy setting process.</p>	84,112	98,131	98,131		280,374
Output 2.2: Conflict resolution and redress mechanism reviewed.		UNDP		Ministry of Justice and Legal Affairs, MTENR, and other key relevant ministries.	<p>2.2.1 Review existing conflict resolution mechanisms and recommend the most appropriate mechanism.</p> <p>2.2.2 Develop new conflict resolution and arbitration mechanisms.</p>	28,037	9,346	9,346		46,729
JP Outputs	Participating UN organization- specific Outputs	Participating UN organization	Participating UN organization corporate priority	Implementing Partner	Indicative activities for each Output	Resource allocation (in \$) and indicative time frame*				Total
						Y1	Y2	Y3		
Outcome 3: National governance framework and institutional capacities for the implementation of REDD+ strengthened.										

Output 3.1: Institutional capacity to implement REDD+ framework developed.		UNDP		MTENR, MCDSS, MLGH, and other key relevant ministries.	3.1.1 Undertake human and financial capacity needs assessment to address longer term institutional requirements to implement REDD+ (building on Output 1.1). 3.1.2 Address priority needs. 3.1.3 Identify additional funding sources for further capacity needs.	0	93,458	74,766		168,224
Output 3.2: National REDD+ Strategy process integrated into the national development planning process.		UNDP		MTENR and other key relevant ministries.	3.2.1 Support the development of a National REDD+ Strategy through consultation with appropriate stakeholders. 3.2.2 Introduce REDD+ into District Development Planning. 3.2.3 Develop a monitoring framework for key governance factors and social and environmental impacts pertinent to REDD+ implementation.	37,383	28,037	28,037		93,458
Output 3.3: Legislative framework to facilitate implementation of REDD+ strengthened.		UNDP		MTENR, Ministry of Justice and Legal Affairs, and other key relevant ministries.	3.3.1 Review existing relevant legislation in terms of its applicability to REDD+. 3.3.2 Identify aspects of the legislative framework that need strengthening. (Harmonisation of legislation and policies across sectors will for example be required). 3.3.3 Undertake a legal review to establish details on ownership of carbon in different land tenure systems. 3.3.4 Develop an appropriate regulatory process for developing, managing and monitoring carbon trading agreements. 3.3.5 Identify changes to legislation required to channel REDD+ finances.	70,093	46,729	46,729		163,551
Output 3.4: Mechanism to administrate and channel REDD+ finance established.		UNDP		MTENR, MFNP, and other key relevant ministries.	3.4.1 Assess the available options for channelling of REDD+ finance, including options through the national budget and special fund mechanisms. This will include reviewing relevant models in Zambia and internationally. 3.4.2 Undertake broad-based consultation with relevant stakeholders. 3.4.3 Establish the mechanism for managing REDD+ finance.	9,346	18,691	65,420		93,457

Output 3.5: Benefit sharing model approved.		UNDP		MTENR, MFNP, MCDSS, and other key relevant ministries.	3.5.1 Assess and develop a range of benefit distribution options and payment mechanisms. 3.5.2 Undertake a broad-based consultation to establish the most appropriate form and timing of benefits to be delivered through the REDD+ programme (e.g. service delivery/cash transfers). 3.5.3 Assess the different proposed benefit-sharing approaches through cost- benefit analysis. 3.5.4 Assess tax implications for all REDD+ beneficiaries. 3.5.5 Develop the criteria and guidelines for sharing the benefits for activities under the REDD+ mechanism.	46,72 9	70,09 3	70,09 3		186,916
JP Outputs	Participating UN organization- specific Outputs	Participating UN organization	Participating UN organization corporate priority	Implementing Partner	Indicative activities for each Output	Resource allocation (in \$) and indicative time frame*				Total
						Y1	Y2	Y3		
Outcome 4: National REDD+ strategies identified.										
Output 4.1: Drivers of deforestation and forest degradation assessed.		UNEP 4.1.1 / FAO 4.1.2		MTENR and other key relevant ministries.	4.1.1 Review existing studies and undertake required additional analyses. Effort should be made to locate and reference the large amount of research available on causes of Zambian deforestation, and to review the extent and spatial distribution of forest degradation to ascertain drivers. The global mechanism will be undertaking studies on the economic value of land in Zambia which will have particular relevance for this activity. 4.1.2 Identify key national, provincial, district and community-level institutions/bodies responsible for addressing the drivers of deforestation and forest degradation.	37,38 3	37,38 3			74,766 (18,691 UNEP / 56,075 FAO)
Output 4.2: Candidate activities for REDD+ identified.		UNEP		MTENR, MFNP, and other key relevant ministries.	4.2.1 Identify global best practices and benchmarking for forest management and REDD+ activities, and tailor practices to Zambian conditions to ensure suitable activities are identified. 4.2.2 Identify and map multiple benefits of REDD+ implementation. 4.2.3 Identify evidence-based alternative livelihood options under REDD+. 4.2.4 Consult experts on the development	37,38 3	37,38 3	42,05 6		116,823

					of a framework addressing opportunity costs for key stakeholders as well as cost abatement curves and follow up actions. 4.2.5 Support the incorporation of relevant global level initiatives into the National REDD+ Strategy and national development planning process.					
JP Outputs	Participating UN organization-specific Outputs	Participating UN organization	Participating UN organization corporate priority	Implementing Partner	Indicative activities for each Output	Resource allocation (in \$) and indicative time frame*				Total
						Y1	Y2	Y3		
Outcome 5: MRV capacity to implement REDD+ strengthened.										
Output 5.1: REDD+ integrated with forestry inventory system (ILUA).		FAO		MTENR, MFNP, and other key relevant ministries.	5.1.1 Provide full fungibility with the ILUA database and information system. 5.1.2 Integrate environmental data with socio-economic data. 5.1.3 Provide input for ILUA data management improvements.	93,458	74,766	46,729		214,953
Output 5.2: Operational Forest Monitoring System established and institutionalised.		FAO		MTENR and other key relevant ministries.	5.2.1 Set up a cell for geographical information analysis (based on existing capacity in land survey) and training of personnel at GIS unit, Forestry Department/MTENR. 5.2.2 Develop a geographically explicit database for all types of land use related information. 5.2.3 Develop an end-user interface for database management and queries. 5.2.4. Select support tools for REDD+ policies and measurements. 5.2.5. Establish linkages with regional GIS (e.g. CSIR, Peace Parks and others).	261,862	261,862	168,224		691,589
Output 5.3: Greenhouse gas emissions and removals from forest lands estimated and reported		FAO		MTENR and other key relevant ministries.	5.3.1 Study needs and gaps for a fully compliant UNFCCC/IPCC greenhouse gas inventory. 5.3.2 Develop and deliver a training course on greenhouse gas inventory methodology and IPCC Good practice guidelines.	140,187	140,187	65,421		345,794
JP Outputs	Participating UN organization-specific Outputs	Participating UN organization	Participating UN organization corporate priority	Implementing Partner	Indicative activities for each Output	Resource allocation (in \$) and indicative time frame*				Total

	specific Outputs					Y1	Y2	Y3		
Outcome 6: Assessment of Reference Emission Level (REL) and Reference Level (RL) undertaken.										
Output 6.1: Historical rates of forest area and carbon stock changes reviewed.		FAO		MTENR and other key relevant ministries.	6.1.1 Assess historical forest area (changes) at the national level. 6.1.2 Assess historical GHG emission and removal rates at the national level.	140,187	140,187	65,421		345,794
Output 6.2: National circumstances assessed.		FAO		MTENR and other key relevant ministries.	6.2.1 Assess the opportunity cost of land providing REDD+ benefits in relation to other land uses (e.g. mining, agriculture, etc.). 6.2.2 Assess the national socio-economic conditions. 6.2.3 Assess needs and resources for sustainable development. 6.2.4 Review expected trends for forest area changes. 6.2.5 Collect economic data on other sectors relevant to deforestation and forest degradation (such as <i>inter alia</i> mining, settlements, road infrastructure development and agriculture). 6.2.6 Identify and map the most threatened forests. 6.2.7 Undertake mapping of other forests co-benefits (biodiversity, non-carbon benefits, etc).	186,916	140,187	56,075		383,178
UN organization 1 UNDP***	Programme Cost **					621,496	607,477	635,513		1.864,486
	Indirect Support Cost**					43,504	42,523	44.486		130,514
UN organization 2 FAO***	Programme Cost					841,121.50	794,392,40	401,869.10		2,037,383
	Indirect Support Cost					58,879	55,607	28,131		142,617
UN organization 3 UNEP***	Programme Cost					112,149.50	93,458.03	88,785.14		294,393
	Indirect Support Cost					7,850	6,54	6,215		20,608
Total	Programme Cost					1,574,766	1,495,327	1,126,168		4,196,262
	Indirect Support Cost					110,234	104,673	78,832		293,738
Project Total										\$4,490,000

*Resource allocation may be agreed at either output or indicative level.

**Please read the [Explanatory Note on Harmonized Financial Reporting to Donors](#) and its Annexes for guidance on how these terms should be interpreted.

*** These amounts differ from the total because annual breakdowns for each component still need to be provided by some UN organisations.

6. Management and Coordination Arrangements

Management of Readiness

162. The institutional arrangements for National REDD+ will be developed during the implementation of the NJP. The institutional arrangements described below pertain to the NJP.
163. The ENRMMP under the MTENR will facilitate the NJP through two parallel structures: i) a REDD+ Coordination Unit (RCU); and ii) a Multi-sectoral Technical Committee [See Annex 8 for Terms of Reference (ToR)].
164. The REDD+ Coordination Unit will be housed in the Forestry Department of the MTENR. Its role is to administrate the daily functioning of the NJP, to coordinate workshops and consultants, and to carry out monitoring and evaluation. The full role and ToRs are detailed in Annex 8. Long term technical assistance will be provided by the UN organisations.
165. The Multi-sectoral Technical Committee will be chaired by the Forestry Department and will include key line ministries as well as NGO's, CBO's and the private sector (see Figure 4). The Multi-sectoral Technical Committee will meet on a regular basis, every quarter¹¹⁹. The ToRs for the Multi-sectoral Technical Committee are detailed in Annex 8. Additional thematic working groups under the Multi-sectoral Technical Committee will be added as required during programme implementation. These thematic working groups will focus on specific issues, and will have participants from each relevant ministry. Their ToRs will be formulated and members appointed by the Multi-sectoral Technical Committee.
166. Key line ministries will each have a REDD+ focal point/person that will engage in the workings of the NJP and enable effective communication and access to information.
167. The joint support from UNDP, FAO and UNEP is being led by the UN Resident Coordinator's office. UNDP support is focused on the forestry policy review, facilitating stakeholder consultations and general coordination functions. FAO is supporting the development of the methodology for assessing carbon stocks and emissions and UNEP is providing support for the development of a communication plan. The funding logframe outlines these broad organisational roles, and additional details relevant to the monitoring framework will be finalised between UN organisations.

¹¹⁹ The timing of the meetings will be determined and agreed upon during the inception phase of the programme.

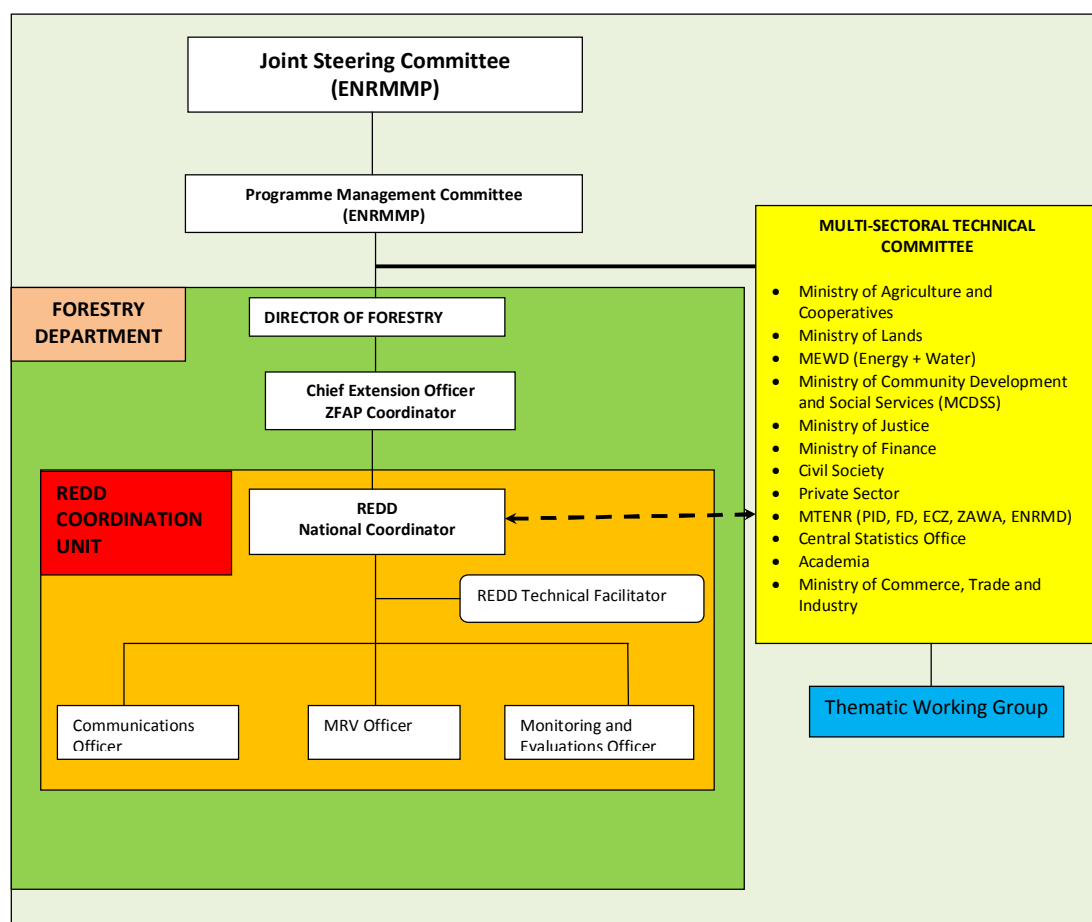


Figure 4: Proposed UN-REDD implementation institutional framework. For further details see Annex 8

Overview of the Overall UN-REDD Programme Structure

Policy Board

168. The UN-REDD Policy Board provides overall leadership and sets the strategic direction of the UN-REDD Programme. It decides on Programme financial allocations, in line with the budget parameters set out in the UN-REDD Framework Document, and develops monitoring mechanisms, with a view to ensuring country wide success. The UN-REDD Policy Board ensures coordination with REDD+ actors at a global scale, such as the World Bank's FCPF participants' committee. The UN-REDD's ToR and the Programme Rules of Procedure and Operational Guidance for the UN-REDD Policy Board are available on the UN-REDD Programme website. <http://www.un-redd.org/>. See also the UN-REDD Workspace for eligible users <http://www.unredd.net/>.

Secretariat

169. The UN-REDD Secretariat serves the Policy Board, using the capacities of the participating UN organizations, research institutions and recognized experts. It ensures policies and strategies decided by the Policy Board are implemented and adhered to. The UN-REDD Secretariat manages the NJP review process. It also manages the UN-REDD's overall monitoring and evaluation function which includes *inter alia* monitoring allocations to and delivery by the country joint programmes; and tracking Programme-wide progress and ensuring that monitoring mechanisms are applied.

170. The Secretariat's main roles can be summarised as follows:

- Policy Board support.

- Partner and external relations.
- Quality assurance and oversight of NJPs.
- Quality assurance and oversight of the International Support Functions described in the Global Joint Programme (hereafter referred to as the "Global Joint Programme").
- Monitoring and knowledge management.

Participating UN Organizations' Coordination Group

171. The Participating UN Organizations' Coordination Group consists of representatives of the three UN agencies: FAO, UNDP, and UNEP. The Coordination Group has the main function of ensuring active, participatory and well-coordinated engagement by the agencies, in order to implement the goals and objectives of the overall UN-REDD Programme. The Coordination Group is also to provide oversight of the Secretariat consistent with the strategic directions and decisions provided by the Policy Board.

Administrative Agent

172. The UNDP Multi-Donor Trust Fund (MDTF) Office is the Administrative Agent of the UN-REDD Fund. The MDTF Office manages the distribution of resources and serves as the administrative interface with donors. UNDP's accountability as the Administrative Agent is set out in the policy "UNDP's Accountability when acting as Administrative Agent in MDTFs and/or UN Joint Programmes using the pass-through fund management modality".

173. The MDTF Office as Administrative Agent is responsible for:

- Receipt, administration and management of contributions from donors.
- Disbursement of funds to the Participating UN Organization, in accordance with the instructions of the UN-REDD Policy Board.
- Provision of support to FAO, UNDP and UNEP in their reporting functions.
- Compilation of consolidated narrative and financial reports for the Policy Board through the Inter-agency UN-REDD Secretariat, national steering committees and for donors.

The Administrative Agent may undertake additional functions at the request of the Participating UN Organizations.

Overview of Expected Management Arrangements at the National Level

UN Resident Coordinator

174. The NJP will be supported by the UN Resident Coordinator in her/his strategic leadership of the UN Country Team and relationships with national authorities. The UN Resident Coordinator will provide ongoing oversight to the NJP, ensuring the participating UN organizations are meeting their obligations. The UN Resident Coordinator is entrusted with supporting the overall programme design under the government's leadership, ongoing programmatic oversight of the NJP activities and UN coordination with the National REDD+ Office where such an office exists. The UN Resident Coordinator also facilitates ongoing monitoring and evaluation of the NP activities in conformity with UN standards and any guidance provided by the UN-REDD Secretariat or Policy Board. On receipt of consolidated country level reports, the UN Resident Coordinator will provide an overall assessment of the NJP's progress and results. UN Resident Coordinators are encouraged to keep Country Team members fully-informed on UN-REDD NJP activities. The UN-REDD Programme also looks to UN Resident Coordinators to reach out to NGOs, CSOs, national governments and non-resident UN agencies, where appropriate.

Programme Management Committee

175. A Programme Management mechanism will be established to provide operational coordination to the NJP and integration under the UNDAF thematic structures in place at the country level. In the Zambian NJP this is the REDD+ Coordination Unit (RCU). The establishment of a country-led National REDD+ Office will provide day-to-day management of

the NJP, coordinate National REDD+ activities, ensure whole-of-government responses, and integrate REDD+ into national development planning processes. Pooled financial management will be run from the RCU (see Annex 8) and the details of the cash transfer mechanism will be finalised during the Harmonised Approach to Cash Transfer (HACT) analysis conducted during the inception phase.

National REDD+ Committee

176. A National REDD+ Steering Committee mechanism will be established to provide operational coordination to the NJP and integration of the NJP under the UNDAF thematic structures at the country level. In the Zambian NJP, this role will be played by the Multi-sectoral Technical Committee (see Figure 4).
177. Activities supported by UN-REDD at the country level are expected to take the form of Joint UN Programmes whereby multiple UN Organisations collaborate around a common programmatic goal. Funds will be channelled to individual organisations to meet their commitments to the Joint National Programme through the Administrative Agent.

7. Fund Management Arrangements

International fund management arrangements

178. The UN-REDD Collaborative Programme utilises the 'pass-through' modality for fund management. Participating UN organisations, in this case FAO, UNDP and UNEP, assume full programmatic and financial accountability for the funds received from the Administrative Agent.
179. Each Participating UN Organisation shall decide on the execution process with its partners and counterparts following the organisation's own regulation and rules. National governments, Regional Development Banks and NGOs can receive funding through a Participating UN Organisation and act as executing agencies. Participating UN Organisations shall be entitled to deduct their indirect costs on contributions received according to their own regulations and rules, taking into account the size and complexity of the particular programme. Any indirect costs will be reflected in the Joint Programme submitted to the Inter-agency UN-REDD Secretariat. Indirect costs will not exceed 7% of the project budget. These costs cover general oversight, management, and quality control, in accordance with its financial regulations and rules. Specialised service delivery costs for programme and project implementation may be recovered directly, in accordance with the respective Participating UN Organisations' policies.
180. Each Participating UN Organisation will use the funds disbursed to it by the Administrative Agent from the UN-REDD Programme MDTF to carry out the activities for which it is responsible, as set out in this document, as well as for its indirect costs. The Participating UN Organisation will commence and continue to conduct operations for the UN-REDD Programme as set out in the UN-REDD MoU or as instructed by the UN-REDD Policy Board. The Participating UN Organisations will not make any commitments above the approved budgets, as amended from time to time by the Policy Board. If there is a need to exceed the budgeted amounts, the Participating UN Organisation concerned will submit a supplementary budget request to the UN-REDD Policy Board, through the Inter-agency UN-REDD Secretariat.
181. The Administrative Agent will ensure consistency of the approved Joint Programme with the applicable provisions of the Standard Administrative Arrangements (SAA) entered between donors and the Administrative Agent, and the MOU between the Participating UN Organisations and the Administrative Agent.
182. Funds will be released in accordance with the UN-REDD Programme Rules of Procedure. These procedures require the Inter-agency UN-REDD Secretariat to submit the following to the Administrative Agent:
- Copy of the signed NJP document with the approved budget.
 - Submission Form, signed by the Chair of the Policy Board.
183. Where approved NJPs have an expected duration of more than two years, or where otherwise agreed with the UN Resident Coordinator, funds shall be released on an annual instalment basis. Where approved NJPs have an expected duration of less than two years, funds may be released as a single instalment.
184. For the first instalment, the funds shall be transferred on the basis of the first year annual work plan attached to the signed NJP document, presented by the respective UN Resident Coordinator.
185. Subsequent annual instalments shall be released on instruction from the respective UN Resident Coordinator, on the following basis:
- Receipt of the next annual work plan approved by the Programme's National REDD+ Steering Committee (or equivalent mechanism).

- Evidence that a formal review of the Programme's progress has been undertaken not more than three months earlier, either in the form of an annual progress report (if the timing coincides) or through the minutes of the National REDD+ Steering Committee (or equivalent mechanism) where this has been discussed.
- Only when the combined commitments against the existing advance have exceeded 70%.

186. Upon receipt of the necessary documentation, the Administrative Agent shall release funds to the Participating UN Organisations as set out in Section II of the MoU for the Multi-Donor Trust Fund¹²⁰. The Administrative Agent shall notify the Participating UN Organisations and the UN Resident Coordinator when the funds have been transferred. Each Participating UN Organisation shall establish a separate ledger account for the receipt and administration of the funds disbursed to it by the Administrative Agent.

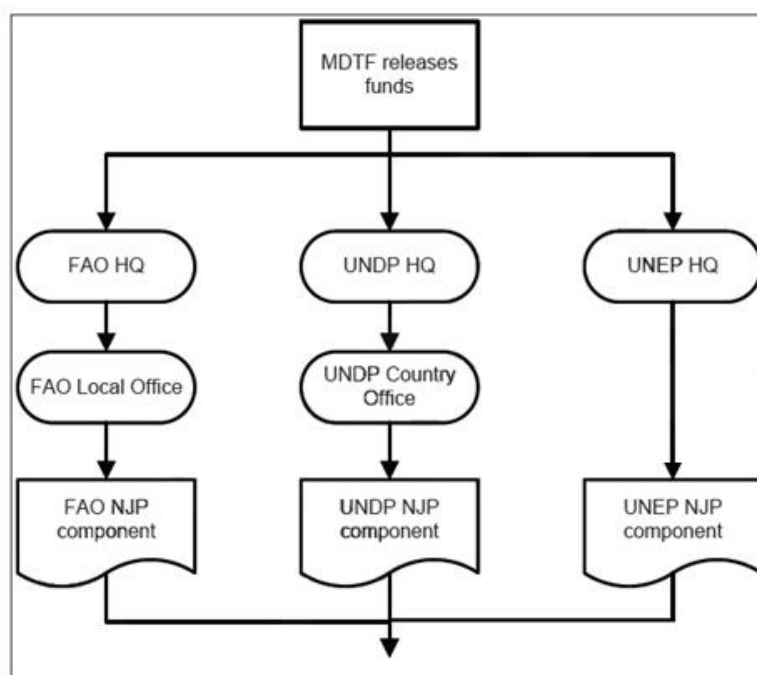


Figure 5: Flow of Funds for NJPs.

187. The specific cash transfer modalities for the Participating UN Organisations are:

- **FAO:** the FAO local office will transfer funds to the relevant national partners on a reimbursement basis. Funds will be managed according to FAO financial rules and regulations.
- **UNDP:** funds will be transferred from the UNDP/BDP/EEG to the UNDP Country Office. Fund utilisation will be according to the UN Harmonised Approach to Cash Transfers (HACTS). The payment will take the form of "direct cash transfer", "direct payment" or "reimbursement". Funds will be managed in accordance with UNDP financial rules and regulations.
- **UNEP:** the Nairobi office shall manage its programme funds in accordance with UNEP's financial rules and regulations. Accountable advances will be transferred to the selected partners in this Joint Programme, following the designated modalities outlined in the agreements and/or subcontracts with UNEP.

¹²⁰ Available from: <http://www.undp.org/mdtf/UN-REDD/overview.shtml>

188. However, the intention is to adopt the Harmonized Approach to Cash Transfers (HACT) approach once the HACT micro-assessments for the relevant national counterparts have been completed. As such, the local fund management will be determined during the project's Inception Period. Once the assessments have been approved, each UN agency will abide by the application of the HACT in the country to determine the fund transfer modality to national counterparts and each UN agency will use the same funds transfer modality with the same national counterpart. The completion of the micro-assessments is a requirement to be completed during the Inception Phase. Until such time as the micro-assessments are completed, the NJP will follow the 'direct payment' modality when transferring funds to the national counterparts'.

8. Monitoring, Evaluation and Reporting

Table 6: Joint Programme Monitoring Framework

Result	Indicator	Means of verification	Collection Method	Responsibilities	Risks and assumptions
Outcome 1: Capacity to manage REDD+ Readiness strengthened.	<ul style="list-style-type: none"> Institutional framework to manage REDD+ Readiness adopted. Proportion of stakeholders perceiving the REDD+ coordination unit as effective in implementing and coordinating the REDD+ readiness process. 	<ul style="list-style-type: none"> Progress reports Workshop Reports Evaluation Reports 	<ul style="list-style-type: none"> Reporting by MTENR. Semi-Structured Interviews, Partnership survey and review of secondary data: Mid-Term and Project Completion. 	MTENR	The slow implementation of REDD+ Readiness by the GRZ may negatively impact on project outcomes.
Outputs					
Output 1.1: REDD+ Readiness coordination and management bodies established and functioning.	<p>1.1.1 National REDD+ Readiness institutional arrangements in place and functioning.</p> <p>1.1.2 Proportion of identified capacity gaps that are addressed.</p>	<ul style="list-style-type: none"> Progress reports. Workshop proceedings. Capacity needs report. 	<ul style="list-style-type: none"> Review of records at UNDP&MTENR. Progress reports. 	MTENR MCT MACO MEWD RCU	<p>1.1.1 Delays in appointment & recruitment of staff.</p> <p>1.1.1 Limited ownership and understanding of the UN-REDD programme in government beyond MTENR.</p> <p>1.1.4 Shortage of expertise on REDD in the country.</p>
1.2: REDD+ Readiness process integrated into the national development planning process.	<p>1.2.1 National Climate Change Response Strategy with REDD+ Readiness Process in place and implemented.</p> <p>1.2.2 Plans to integrate UN-REDD+ mechanisms into National Development Plans in Place.</p>	<ul style="list-style-type: none"> Progress reports. Copy of Drafts and final Strategy documents. Minutes of the Climate Change strategy consultative meetings. 	<ul style="list-style-type: none"> Reporting by MTENR (CCFU and RCU), MEWD, MoL & Other relevant ministries. Reporting by MFNP (National Development Plan progress and evaluation reports). Review of records and the draft strategy. 	MTENR (CCFU & RCU), MFNP, MEWD, MoL Forestry Department	1.2 Delays in reaching consensus on the climate change response strategy.

1.3: Communication and advocacy strategy as input in overall climate change strategy developed and implemented.	1.3.1 REDD+ Communication Strategy developed. 1.3.2 Climate Change Communication and Advocacy Strategy with REDD readiness communication in place and implemented.	<ul style="list-style-type: none"> • Progress reports. • Copies of Strategy Documents. • Workshop Reports. • Technical Reports. 	<ul style="list-style-type: none"> • Reporting by RCU and CCFU. • Review of records at the RCU and CCFU. 	MTENR (CCFU & REDD+ Coordination Unit)	1.3.1 Scattered and incoherent messages on climate change hamper the effectiveness. 1.3.2 Delays in reaching consensus on the Communication and Advocacy strategy.
1.4: Mapping and gap analysis of relevant initiatives.	1.4.1 Report on gaps, ongoing and planned initiatives relevant to REDD+ available. 1.4.2 Lessons pertinent to implementing REDD+ shared.	<ul style="list-style-type: none"> • Progress reports. • Copy of Study report and Lesson learnt document. 	<ul style="list-style-type: none"> • Reporting by RCU and CCFU. • Review of records at the RCU and CCFU. 	MTENR (CCFU & RCU)	
Result	Indicator	Means of verification	Collection Method	Responsibilities	Risks and assumptions
Outcome 2: Broad-based stakeholder support for REDD+ established.	<ul style="list-style-type: none"> • Information sharing and coordination platform between UN-REDD+ process and stakeholders (NGOs, Other government departments, private sector and bilateral partners) established. 	<ul style="list-style-type: none"> • Progress reports • Workshop Reports. • Minutes of meetings • Evaluation Reports • Survey reports 	<ul style="list-style-type: none"> • Reporting by MTENR (RCU) and other implementing partners. • Semi-Structured Interviews and review of secondary data: Mid-Term and Project Completion. 	RCU	Conflicts among stakeholders as regards roles in the project leading to uncoordinated implementation of REDD+.
Outputs					
2.1: Stakeholders engagement process functioning.	2.1.1 Report on the review of the stakeholder engagement process (including gaps identified) is completed and disseminated. 2.1.2 UN-REDD+ stakeholders advisory group established and functional. 2.1.3 A framework and guideline for stakeholder engagement at national, provincial,	<ul style="list-style-type: none"> • Progress reports • Workshop reports • Minutes of meetings 	<ul style="list-style-type: none"> • Reporting by RCU. • Review of records at the REDD+ coordination unit and MTENR 	MTENR (RCU)	2.1.3 Reaching consensus on the extent and nature of stakeholder consultation required. 2.1.4 Limited ownership and understanding of UN-REDD programme in government beyond MTENR.

	<p>district and community levels is in place.</p> <p>2.1.4 Number of joint planning, consultative and review meetings held between UN-REDD+ and stakeholders (Other government departments, NGOs, Private Sector and bilateral partners) held.</p> <p>2.1.5 Number of civil society participants in joint planning, consultative, and review meetings.</p> <p>2.1.6 Proportion of female participants in stakeholder in joint planning, consultative and review meetings.</p>				2.1.5 Limited human and financial resources for civil society participation.
2.2: Conflict Resolution and redress mechanism reviewed.	<p>2.2.1 Report on the review of existing conflict resolution mechanisms is completed and disseminated, and its recommendations implemented.</p> <p>2.2.2 New conflict and arbitration mechanisms developed and in place.</p>	<ul style="list-style-type: none"> • Reports • Progress reports • Conflict resolution or arbitration manuals/Guidelines 	<ul style="list-style-type: none"> • Reporting by MoJ • Reporting by RCU. 	Ministry of Justice (MoJ) MTENR	2.2 Political interference particularly in land-related issues
Result	Indicator	Means of verification	Collection Method	Responsibilities	Risks and assumptions
Outcome 3: National governance framework and institutional capacities for the implementation of REDD+ strengthened	<ul style="list-style-type: none"> • Framework for implementation of UN-REDD+ readiness in place. • Financial and benefit-sharing models adopted 	<ul style="list-style-type: none"> • Progress reports • Reports • Evaluation Reports 	<ul style="list-style-type: none"> • Reporting by RCU. • Semi-Structured Interviews and review of secondary data: Mid-Term and Project Completion 	MTENR, MCDSS & MLGH	The slow pace of policy modification may mean that identified policy changes are not implemented in a timely fashion.
Outputs					

3.1: Institutional capacity to implement REDD+ framework developed	<p>3.1.1 Report on human and financial capacity needs to address longer term institutional requirements to implement REDD+ completed and disseminated.</p> <p>3.1.2 Partnership strategy to facilitate sourcing of additional financial resources for capacity building in place.</p> <p>3.1.3 Number of agreements and MOUs for accessing additional financial resources in place.</p> <p>3.1.4 Number of South_South cooperation learning tours on REDD+ undertaken</p>	<ul style="list-style-type: none"> • Progress reports • Reports • Copy of partnership strategy. • Copies of Agreements and MOUs. • Mission reports. 	<ul style="list-style-type: none"> • Reporting by MTENR (RCU), MCDSS & MLGH. • Review of records at MTENR and other relevant ministries. 	MTENR MCDSS MLGH	<p>3.1.1 Delays in implementing government reforms: restructuring of the Forestry Department and decentralization.</p> <p>3.1.2 & 3.1.3 Developed country interest on REDD+ not sustained.</p>
3.2: National REDD+ Strategy process integrated into the national development planning process	<p>3.2.1 National REDD+ Strategy developed through consultative process.</p> <p>3.2.2 % of districts with development plans that have integrated REDD+ readiness mechanisms.</p> <p>3.2.3 Monitoring framework for governance, social, economic and environmental impacts pertinent to REDD+ implementation is in place.</p>	<ul style="list-style-type: none"> • Progress reports. • Reports. • Copy of monitoring framework. • Minutes of REDD advisory groups. 	<ul style="list-style-type: none"> • Reporting by MTENR (RCU), MLGH & MFNP. • Review of records at MTENR, MLGH, MFNP and other relevant ministries. 	MTENR, MFNP & MLGH	<p>3.2.2 Limited ownership and understanding of UN-REDD programme in government beyond MTENR.</p> <p>3.2.3 Lack of political will to disclose governance and other sensitive information.</p>
3.3: Legislative framework to facilitate implementation of REDD+ strengthened.	<p>3.3.1 Report on the review of existing legislation in terms of applicability and gaps in relation to REDD+ is available and its recommendations have been addressed.</p> <p>3.3.2 Report on legal review to establish the ownership of carbon in different land tenure systems completed</p>	<ul style="list-style-type: none"> • Progress reports • Reports • Copy of draft bills, laws, policy documents, Acts and Bi-laws revised. • Law enactment records at the National Assembly of Zambia 	<ul style="list-style-type: none"> • Review of records at MTENR, MoJ & National Assembly of Zambia. • Reporting by MTENR (RCU) and MoJ. 	MTENR & MoJ	3.3 Delays in implementing legislative reforms.

	<p>and disseminated.</p> <p>3.3.3 Report on the appropriate regulatory process for developing, managing and monitoring carbon trading agreements completed and disseminated.</p> <p>3.3.4 Report on necessary changes to policies and legislation for optimising REDD+ implementation completed and disseminated.</p> <p>3.3.5 Action plan for Legal changes required to channel REDD+ finances in place.</p> <p>3.3.6 Number of policies, laws, Acts and by-laws revised to incorporate REDD+ requirements.</p>				
3.4: Mechanism to administrate and channel REDD+ finance established.	<p>3.4.1 Report on options for channelling REDD+ finance, including the national budget and special fund mechanisms completed and disseminated.</p> <p>3.4.2 Number of consultative meetings held</p> <p>3.4.3 System for managing REDD+ finance established.</p>	<ul style="list-style-type: none"> • Progress reports • Reports • National budget documents • Forum reports and policy briefs • Review of systems at MFNP and other implementing ministries. 	<ul style="list-style-type: none"> • Review of records at MTENR and MFNP. • Reporting by MTENR (RCU), MFNP and Other implementing Ministries. 	MTENR & MFNP	<p>3.4 Delays in the international decisions for REDD+ funding.</p> <p>3.4.3 Delays in reaching consensus on administration of climate change funds including REDD+ fund.</p>
3.5: Benefit-sharing model approved.	<p>3.5.1 Number of benefit distribution options and payment mechanisms assessed.</p> <p>3.5.2 Report on the assessment of different proposed benefit-sharing approaches through demonstration projects completed and disseminated.</p> <p>3.5.3 Number of benefit</p>	<ul style="list-style-type: none"> • Progress reports • Reports • Consultative meeting reports • Copies of leaflets, brochures and newsletters on benefit sharing mechanisms developed. • Review of systems at 	<ul style="list-style-type: none"> • Reporting by MTENR (RCU), MFNP, MCDSS and Other implementing Ministries. • Review of records at MTENR and MFNP. 	MTENR, MFNP, MCDSS and other relevant ministries.	3.5 Difficulties in reaching consensus on equitable benefit-sharing.

	<p>distribution options and payment mechanisms developed.</p> <p>3.5.4 Mechanisms for delivering REDD+ benefits determined through broad-based consultations with landowners and other stakeholders.</p> <p>3.5.4 Report on tax implications for all REDD+ beneficiaries completed and implemented.</p> <p>3.5.5 Criteria and guidelines for sharing the benefits for activities under the REDD+ mechanism are in place.</p>	MFNP and other implementing ministries.			
Result	Indicator	Means of verification	Collection Method	Responsibilities	Risks and assumptions
Outcome 4: National REDD+ strategies in place.	<ul style="list-style-type: none"> % of REDD+ stakeholder organisations and agencies utilising up to date evidence in planning. 	<ul style="list-style-type: none"> Progress reports. Reports. Evaluation Reports. 	<ul style="list-style-type: none"> Reporting by RCU. Semi-Structured Interviews and review of secondary data: Mid-Term and Project Completion 	MTENR	Poor co-ordination among implementing and executing institutions leading to delays in deliverables.
Outputs					
4.1: Drivers of deforestation and forest degradation assessed.	<p>4.1.1 Report on drivers of deforestation and forest degradation completed and disseminated.</p> <p>4.1.2 Key national, provincial, district and community level agencies responsible for addressing the drivers of deforestation and forest degradation identified and oriented.</p>	<ul style="list-style-type: none"> Progress reports. Reports. Training workshop reports. National, Provincial and District development plans. 	<ul style="list-style-type: none"> Reporting by MTENR & MACO. Review of records at MTENR and MACO. 	MTENR	

4.2: Candidate activities for REDD+ identified.	<p>4.2.1 Identify global best practices and benchmarking for forest management and REDD+ activities, and tailor practices to Zambian conditions to ensure suitable activities are identified.</p> <p>4.2.2 Multiple benefits of REDD+ implementation identified and mapped.</p> <p>4.2.3 Evidence-based alternative livelihood options under REDD+ are identified</p> <p>4.2.4 Expert consultation on development of a framework addressing opportunity costs for key stakeholders as well as cost abatement curves and follow up actions completed.</p> <p>4.2.5 Relevant global level initiatives are incorporated into National REDD+ Strategy and national development planning process.</p>	<ul style="list-style-type: none"> • Progress reports • Reports 	<ul style="list-style-type: none"> • Reporting by MTENR, MCDSS & MFNP. • Review of records at MTENR, MCDSS & MFNP. 	MTENR, MCDSS, MFNP and other relevant ministries.	<p>4.2.3 Difficulties in identifying suitable livelihoods in certain communities.</p> <p>4.2.5 Limited ownership and understanding of UN-REDD programme in government beyond MTENR.</p>
Result	Indicator	Means of verification	Collection Method	Responsibilities	Risks and assumptions
Outcome 5: MRV capacity to implement REDD+ strengthened.	<ul style="list-style-type: none"> • Recommendations from MRV reviews implemented. • Procedures and management of REDD+ MRV systems adopted. 	<ul style="list-style-type: none"> • Reports • Progress reports 			Delays in the release of funds could impede progress and prevent deliverables being achieved on time.
Outputs					
5.1: REDD+ integrated with forestry inventory system (ILUA).	5.1.1 Full fungibility with the ILUA database and information system is provided.	<ul style="list-style-type: none"> • Publications • Progress reports • Workshop 	<ul style="list-style-type: none"> • Reporting by MTENR. • Review of records in 	MTENR, MoL, other relevant ministries	Overlap of functions between ILUA and MRV – roles and complementarities

	<p>5.1.2 Environmental data are integrated with socio-economic data.</p> <p>5.1.3 ILUA data management is improved.</p>	proceedings	MTENR and ILUA second phase.		must be carefully explored.
5.2: Operational Forest Monitoring System established and institutionalized.	<p>5.2.1 A cell for geographical information analysis and personnel training is established.</p> <p>5.2.2 A geographically explicit database for all types of land use related information is established and populated.</p> <p>5.2.3 An end-user interface for database management and queries is designed and implemented.</p> <p>5.2.4 Support tools for REDD+ policies and measurements is selected.</p> <p>5.2.5 Linkages with regional geographical information systems are established.</p>	<ul style="list-style-type: none"> • Workshop proceedings • Reports • User feedback from website (database interface) 	<ul style="list-style-type: none"> • Reporting by MTENR. • Review of records in MTENR. 	MTENR	<p>5.2.1 Delays in cell establishment and personnel training leading to programme delays.</p> <p>5.2.2 Overlap of functions between ILUA and MRV – roles and complementarities must be carefully explored.</p>
5.3: Greenhouse gas emissions and removals from forest lands estimated and accurately reported.	<p>5.3.1 A fully compliant UNFCCC/IPCC greenhouse gas inventory is developed.</p> <p>5.3.2 Training course on greenhouse gas inventory methodology and IPCC Good Practice Guidelines is developed and delivered.</p>	<ul style="list-style-type: none"> • Progress reports • Workshop proceedings • Reports 	<ul style="list-style-type: none"> • Reports from MTENR and MEWD. 	MTENR, MEWD	Delays in fund release could lead to delays in project delivery.
Result	Indicator	Means of verification	Collection Method	Responsibilities	Risks and assumptions

Outcome 6: Assessment of Reference emission level (REL) and Reference Level (RL) undertaken.	<ul style="list-style-type: none"> Report on the dynamics of forest cover and carbon stock. 	<ul style="list-style-type: none"> Reports 			Limited human resources in the country may limit project implementation.
Outputs					
6.1: Historical rates of forest area and carbon stock changes reviewed.	6.1.1 Report on historical forest area changes at the national level developed. 6.1.2 Historical greenhouse gas emission and removal rates at the national level assessed.	<ul style="list-style-type: none"> Progress reports Reports Publications 	<ul style="list-style-type: none"> Reporting from MTENR (RCU) and other relevant ministries. Review of records from MTENR and other relevant ministries. 	MTENR	6.1 Delays in cell establishment and personnel training leading to programme delays.
6.2: National circumstances assessed.	6.2.1 The opportunity cost of land providing REDD+ benefits in relation to other land uses assessed. 6.2.2 National socio-economic condition assessed. 6.2.3 Needs and resources for sustainable development assessed. 6.2.4 Report on expected trends for forest area changes completed. 6.2.5 Assessment of economic data on other sectors relevant to deforestation completed. 6.2.6 The most threatened forests are identified and mapped. 6.2.7 Other forest co-benefits assessed and mapped.	<ul style="list-style-type: none"> Reports Publications 	<ul style="list-style-type: none"> Reporting from MTENR, MoE, MFNP and other relevant ministries. Review of records from MTENR and other relevant ministries. 	MTENR, MoE, MCDSS, MFNP, other relevant ministries.	6.2.2, 6.2.3 Poor coordination between implementing agencies, leading to project delays. 6.2 Broad assessment scope may be challenging in the specified time period.

Monitoring and Risk Management

189. Activities carried out by the Participating UN Organisations shall be subject to internal and external audit as articulated in their applicable Financial Regulations and Rules. In addition, the Secretariat will consult with the Participating UN Organisations on any additional specific audits or reviews that may be required, subject to the respective Financial Regulations and Rules of the Participating UN Organisations.
190. Participating UN Organisations will provide a summary of their internal audit key findings and recommendations for consolidation by the MDTF Office and submission to the Policy Board and National REDD+ Committee as applicable.
191. The Government, particularly the Executing Agency or Lead Implementing Partner, and the Participating UN Organisations, shall jointly conduct scheduled/annual planning and review meetings for all activities covered in the results framework, monitoring and evaluation plan and work plans covered by this Joint Programme. This will include an assessment of the risks and assumptions to determine whether they are still holding.
192. As part of the project assurance functions, the Risk Log will be reviewed on a quarterly basis (see Annex 11). In the case of any changes in risk and issue status, these will be discussed with the RCU for Counter Measures/Management Response. The UN-REDD Programme Social Principles Risk Assessment Tool will be applied during the Inception Phase in order to assist in the updating of the Risk Log.

Evaluation

193. The UN-REDD Secretariat will establish an Evaluation Plan which ensures that all national programmes will undertake a final evaluation, which will assess the relevance and effectiveness of the intervention, and measure the development impact of the results achieved, on the basis of the initial analysis and indicators described at the time of programme formulation. Furthermore, the Secretariat from time to time shall lead reviews of the national programmes as necessary.

Reporting

194. The Participating UN Organizations are required to provide narrative reports on results achieved, lessons learned and the contributions made to the NJP. The information shall be consolidated by the Programme Manager into a narrative report every six months and submitted to the Programme Management Committee. The reports will then be forwarded by the UN Resident Coordinator to the UN-REDD Secretariat. The UN-REDD Secretariat shall provide the Policy Board updates on the implementation progress of the NJP every six months, based on information received from the UN Resident Coordinator. The UN-REDD Secretariat will establish a Reporting Plan and the UN-REDD Secretariat may establish reporting requirements that go beyond the current requirements to the MDTF Office. The UN Resident Coordinator will assist in ensuring the Participating UN Organizations at the country level provide the necessary information. The UN-REDD Coordination Group shall also follow-up with the relevant officers and representatives of the Participating UN Organizations. The UN-REDD Secretariat is currently developing a UN-REDD Disclosure Policy.
195. The Administrative Agent will provide regular updates on the financial status of the MDTF to the Policy Board, for review and action as appropriate.
196. Participating UN Organizations in receipt of UN-REDD resources will be required to provide the Administrative Agent with the following statements and reports:

- Narrative progress reports for each 12 month period ending 31 December, to be provided no later than three months after the end of the applicable reporting period.
- Annual financial reports as of 31 December of each year with respect to the funds disbursed to it from the Joint Programme Account, to be provided no later than four months after the end of the applicable reporting period.
- A final narrative report and financial report, after the completion of all National Programme activities financed from the UN-REDD MDTF, to be provided no later than 30 April of the year following the financial closing of Programme activities.
- A final certified financial statement, to be provided no later than 30 June of the year following the financial closing of Project activities.

197. The Administrative Agent shall prepare consolidated narrative progress and financial reports consisting of the reports referred to above submitted by each Participating UN Organization, and shall provide those consolidated reports to the respective Resident Coordinators and subsequently to the UN-REDD Policy Board through the Secretariat.

198. Subsequently, in accordance with the MoU and the SAA, the Administrative Agent will submit consolidated narrative and financial reports to all UN-REDD Programme donors. Agreed standard UNDG financial and progress reporting formats will be utilised. The Administrative Agent will also submit to donors a certified annual financial statement (Source and Use of Funds).

199. Information given to the press, to the beneficiaries of the UN-REDD Programme, all related publicity material, official notices, reports and publications, shall acknowledge the role of the UN-REDD donors, the UN Agencies, and any other relevant parties.

200. Whenever possible and to the extent that it does not jeopardize the privileges and immunities of UN Agencies, and the safety and security of their staff, UN Agencies will promote donor visibility on information, project materials and at project sites, in accordance with their respective regulations, rules, policies and procedures.

9. Legal Context or Basis of Relationship

201. The Participating UN Organizations (FAO, UNDP and UNEP) have signed a MoU to implement the UN-REDD Collaborative Programme, which came into effect on 20th June 2008 and ends 20th June 2012.
202. This Joint Programme document is consistent with the cooperation/assistance agreements signed by the lead UN agencies involved in this programme with the Government of Zambia. For the UNDP, this Document is pursuant to the Country Programme Action Plan and the Standard Basic Assistance Agreement (SBAA) signed with the Government of Zambia. All provisions in the SBAA therefore apply to this document. Consistent with Article III of the SBAA, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.
203. The implementing partner shall:
- put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; and
 - assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.
204. The UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.
205. On the part of the FAO, this document is consistent with the basic agreement with the Government of Zambia.
206. The FAO Representative shall represent the organization in Zambia, and shall be responsible within the limits of the authority delegated to him/her, for all aspects of the organization's activities in the country. In the effective performance of his/her functions, the FAO representative shall have access to appropriate policy and planning levels of government in the agriculture, fishery and forestry sectors of the economy, as well as, to central planning authorities. He/she shall maintain close liaison with the government's coordinating agency for external assistance and thereby serve to keep all the appropriate government agencies fully informed on all aspects of the policies and procedures of FAO's programme in Zambia.
207. For UNEP, in line with its position as a non-resident agency with a global mandate for technical cooperation and capacity building, the signed NJP project document shall be the legal basis of UNEP's relation with the Government of Zambia within the context of this programme. UNEP will work in close coordination with the programme management team.
208. The Participating UN Organizations agree to undertake all reasonable efforts to ensure that none of the funds received pursuant to UN-REDD are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by Participating UN Organizations do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999)¹²¹. This provision must be included in all sub-contracts or sub-agreements entered into under this programme document.

¹²¹ Available from: <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>

10. Work Plans and Budgets

209. The work plan and budget of this National Programme have been developed jointly by the three Participating UN Organizations and the Government of Zambia. The work plan details the expected outcomes, outputs and activities to be carried out within the programme, the implementing partners, time frames and planned inputs from the Participating UN Organizations. An annual work plan and budget will be produced each year for each Participating UN Organization, subsequent to the decisions of the annual/regular reviews. Each work plan will be approved by the UN-REDD Secretariat and signed by the implementing partners.

Table 7: Implementation plan 2010 (annual work plans to be finalised once project time frame is established)

UN organization-specific Annual targets	UN organization	Implementing Partner	Activities	Resource allocation (\$) and time frame					
				Time frame				Category	Cost
				Q1	Q2	Q3	Q4		
Outcome 1: Capacity to manage REDD+ Readiness strengthened									
Output 1.1: REDD+ Readiness coordination and management bodies established and functioning.	UNDP	MTENR, MFNP, and other key relevant ministries.	1.1.1 Develop National REDD+ Readiness institutional arrangements. Sub-activities: <ul style="list-style-type: none">Establish and support the operating of the UN-REDD, RCU, Technical Committee and working groups on specific subject areas.Expand the mandates of SAG on environment and tourism to include REDD+.Develop institutional and management arrangements for implementation of REDD+ Readiness activities.Support the high-level coordination and technical interaction between Government of Zambia and partners involved in REDD+ Readiness Activities, utilising existing mechanisms where possible.¹²²					Personnel	42,000
								Contracts	86,720
								Training of counterparts	48,500
								Other direct costs	112,500
								Output Total	775,702
								Total Year 1	289,720
			1.1.2 Assess institutional capacity building						

¹²² This sub-activity recognises the assistance available to the Zambian Government from its international partners and aims to build the capacity for technical knowledge sharing for REDD+. Coordination arrangements for existing donors through the Joint Assistance Strategy will be assessed.

			needs for national implementing partners and for coordination mechanisms in executing REDD+ Readiness process. 1.1.3 Develop the identified immediate capacity. 1.1.4 Procure technical assistance for RCU.						
Output 1.2: National REDD+ Readiness process integrated into the national development planning process.	UNDP	MTENR, MFNP, MEWD, MoL and other key relevant ministries.	1.2.1 Integrate UN-REDD Readiness Process into the NCCRS.					Personnel	8,450
								Contracts	
								Training of counterparts	19,587
								Other direct costs	
								Output Total	28,037
								Total Year 1	28,037
Output 1.3: Communication and advocacy strategy as input in overall climate change strategy developed and implemented.	UNEP	MTENR, MACO and other key relevant ministries	1.3.1 Develop a REDD+ Communication Strategy in Zambia. Sub-activities: <ul style="list-style-type: none"> Set the communication objectives. Identify target audiences. Develop key messages. Develop appropriate mechanisms for disseminating results and progress according to the target audiences i.e. identify communication tools. Establish performance indicators. Lobby for the integration of the Communications Strategy in the Climate Change Communication and Advocacy Strategy developed by the CCFU. 1.3.2 Test and implement the new Communication Strategy and ensure linkages with the CCFU communication activities. Sub-activities:					Personnel	8,400
								Contracts	24,400
								Training of counterparts	18,200
								Other direct costs	5,074
								Output Total	158,879
								Total Year 1	56,075

			<ul style="list-style-type: none">Develop and implement a communication plan over a three year period.Evaluate and monitor the implementation of the Communication Strategy.						
Output 1.4: Mapping and gap analysis of relevant initiatives undertaken.	UNDP	MTENR and other key relevant ministries.	1.4.1 Analyse previous, ongoing and planned initiatives relevant to REDD+. 1.4.2 Share lessons pertinent to implementing REDD+ from the above initiatives, both at a national and local scale.					Personnel	14,000
								Contracts	
								Training of counterparts	
								Other direct costs	14,037
								Output Total	28,037
								Total Year 1	28,037
Outcome 2: Broad-based stakeholder support for REDD+ established									
Output 2.1: Stakeholders engagement process functioning.	UNDP	MTENR and other key relevant ministries.	2.1.1 Review existing stakeholder engagement process and identify gaps for improvement. This will include potential future stakeholders as well as stakeholders presently involved in initiatives relevant to REDD+. Sub-activities: <ul style="list-style-type: none">Establish a REDD+ stakeholders’ advisory group. Develop criteria for selecting key stakeholders to the group. Develop ToRs of group including a regular schedule of meetings and other information sharing mechanisms.Develop guidelines and framework for engaging with stakeholders at all levels: national, provincial, district and community level.Provide necessary support and resources for implementation of the engagement process.Support capacity and provide information and advice for stakeholder representatives to engage and contribute to development of REDD+ in Zambia.					Personnel	32,300
								Contracts	18,800
								Training of counterparts	15,012
								Other direct costs	18,000
								Output Total	280,374
								Total Year 1	84,112

			2.1.2 Strengthen existing platforms for discussing REDD+ issues within the context of government's policy setting process.						
Output 2.2: Conflict resolution and redress mechanism reviewed.	UNDP	Ministry of Justice and Legal Affairs, MTENR, and other key relevant ministries.	2.2.1 Review existing conflict resolution mechanisms and recommend the most appropriate mechanism. 2.2.2 Develop new conflict resolution and arbitration mechanisms.					Personnel	18,200
								Contracts	
								Training of counterparts	
								Other direct costs	9,837
								Output Total	46,729
								Total Year 1	28,037
Outcome 3: National governance framework and institutional capacities for the implementation of REDD+ strengthened.									
Output 3.1: Institutional capacity to implement REDD+ framework developed.	UNDP	MTENR, MCDSS, MLGH and other key relevant ministries.	3.1.1 Undertake human and financial capacity needs assessment to address longer term institutional requirements to implement REDD+ (building on Output 1.1). 3.1.2 Address priority needs. 3.1.3 Identify additional funding sources for further capacity needs.					Personnel	
								Contracts	
								Training of counterparts	
								Other direct costs	
								Output Total	168,224
								Total Year 1	0

Output 3.2: National REDD+ Strategy process integrated into the national development planning process.	UNDP	MTENR and other key relevant ministries.	<p>3.2.1 Support the development of a National REDD+ Strategy through consultation with appropriate stakeholders.</p> <p>3.2.2 Introduce REDD+ into District Development Planning.</p> <p>3.2.3 Develop a monitoring framework for key governance impacts factors and social and environmental impacts pertinent to REDD+ implementation.</p>					Personnel	19,500
								Contracts	
								Training of counterparts	15,800
								Other direct costs	2,083
								Output Total	93,457
								Total Year 1	37,383
Output 3.3: Legislative framework to facilitate implementation of REDD+ strengthened.	UNDP	MTENR, Ministry of Justice and Legal Affairs, and other key relevant ministries.	<p>3.3.1 Review existing relevant legislation in terms of its applicability to REDD+.</p> <p>3.3.2 Identify aspects of the legislative framework that need strengthening. (Harmonisation of legislation and policies across sectors will, for example, be required).</p> <p>3.3.3 Undertake a legal review to establish details on ownership of carbon in different land tenure systems.</p> <p>3.3.4 Develop an appropriate regulatory process for developing, managing and monitoring carbon trading agreements.</p> <p>3.3.5 Identify changes to legislation required to channel REDD+ finances.</p>					Personnel	36,800
								Contracts	
								Training of counterparts	24,600
								Other direct costs	8,6973
								Output Total	163,551
								Total Year 1	70,093
Output 3.4: Mechanism to administrate and channel REDD+ finance established.	UNDP	MTENR, MFNP and other key relevant ministries.	<p>3.4.1 Assess the available options for channelling of REDD+ finance, including options through the national budget and special fund mechanisms. This will include reviewing relevant models in Zambia and internationally.</p> <p>3.4.2 Undertake broad-based consultation</p>					Personnel	7,400
								Contracts	

			with relevant stakeholders. 3.4.3 Establish the mechanism for managing REDD+ finance.					Training of counterparts	
								Other direct costs	1,945
								Output Total	93,456
								Total Year 1	9,345
Output 3.5: Benefit sharing model approved.	UNDP	MTENR, MFNP, MCDSS and other key relevant ministries.	3.5.1 Assess and develop a range of benefit distribution options and payment mechanisms. 3.5.2 Undertake a broad-based consultation with project participants and other stakeholders to establish the most appropriate form and timing of benefits to be delivered through the REDD+ programme (e.g. service delivery/cash transfers). 3.5.3 Assess the different proposed benefit-sharing approaches through cost-benefit analysis. 3.5.4 Assess tax implications for all REDD+ beneficiaries. 3.5.5 Develop the criteria and guidelines for sharing the benefits of activities under the REDD+ mechanism.					Personnel	19,850
								Contracts	8,960
								Training of counterparts	5,600
								Other direct costs	12,318
								Output Total	186,915
								Total Year 1	46,728
Outcome 4: National REDD+ strategies identified									
Output 4.1: Drivers of deforestation and forest degradation assessed.	UNEP/FAO	MTENR and other key relevant ministries.	4.1.1 Review existing studies and undertake required additional analyses. Effort should be made to locate and reference the large amount of research available on causes of Zambian deforestation and forest degradation, and to review the extent and spatial distribution of forest degradation to ascertain drivers. The global mechanism will be undertaking studies on the economic value of land in Zambia which will have particular relevance for this activity. 4.1.2 Identify key national, provincial, district and community-level institutions/bodies responsible for addressing the drivers of					Personnel	18,700
								Contracts	14,000
								Training of counterparts	

			deforestation and forest degradation.					Other direct costs	4,683
								Output Total	74,766
								Total Year 1	37,383
Output 4.2: Candidate activities for REDD+ identified.	UNEP	MTENR, MFNP and other key relevant ministries.	<p>4.2.1 Identify global best practices and benchmarking for forest management and REDD+ activities, and tailor practices to Zambian conditions to ensure suitable activities are identified.</p> <p>4.2.2 Identify and map multiple benefits of REDD+ implementation.</p> <p>4.2.3 Identify evidence-based alternative livelihood options under REDD+.</p> <p>4.2.4 Consult experts on the development of a framework addressing opportunity costs for key stakeholders as well as cost abatement curves and follow up actions.</p> <p>4.2.5 Support the incorporation of relevant global level initiatives into the National REDD+ Strategy and national development planning process.</p>					Personnel	14,500
								Contracts	13,650
								Training of counterparts	4,000
								Other direct costs	5,238
								Output Total	116,823
								Total Year 1	37,383
Outcome 5: MRV capacity to implement REDD+ strengthened									
Output 5.1: REDD+ integrated with forestry inventory system (ILUA).	FAO	MTENR, MFNP and other key relevant ministries.	<p>5.1.1 Provide full fungibility with the ILUA database and information system.</p> <p>5.1.2 Integrate environmental data with socio-economic data.</p> <p>5.1.3 Provide input for ILUA data management improvements.</p>					Personnel	41,850
								Contracts	30,600
								Training of counterparts	8,408
								Other direct costs	12,600

								Output Total	214,953
								Total Year 1	93,458
Output 5.2: Operational Forest Monitoring System established and institutionalized.	FAO	MTENR and other key relevant ministries.	5.2.1 Set up a cell for geographical information analysis and training (based on existing capacity in land survey) of personnel at GIS unit, Forestry Dept/MTENR. 5.2.2 Develop a geographically explicit database for all types of land use related information. 5.2.3 Develop an end user interface for database management and queries. 5.2.4 Select support tools for REDD+ policies and measurements selected. 5.2.5 Establish linkages with regional GIS (e.g. CSIR, Peace Parks and others).					Personnel	89,762
								Contracts	92,500
								Training of counterparts	32,600
								Other direct costs	47,000
								Output Total	691,589
								Total Year 1	261,862
Output 5.3: Greenhouse gas emissions and removals from forest lands estimated and reported.	FAO	MTENR and other key relevant ministries	5.3.1 Study needs and gaps for a fully UNFCCC/IPCC compliant greenhouse gas inventory. 5.3.2 Develop and deliver a training course on greenhouse gas inventory methodology and IPCC Good practice guidelines.					Personnel	64,800
								Contracts	63,187
								Training of counterparts	
								Other direct costs	12,200
								Output Total	345,794
								Total Year 1	140,187
Outcome 6: Assessment of Reference Emission Level (REL) and Reference Level (RL) undertaken									
Output 6.1: Historical rates of forest area and carbon stock changes reviewed.	FAO	MTENR and other key relevant ministries	6.1.1 Assess historical forest cover (changes) at the national level. 6.1.2 Assess historical greenhouse gas emission and removal rates at the national level.					Personnel	53,107
								Contracts	77,200

								Training of counterparts	
								Other direct costs	9,880
								Output Total	345,794
								Total Year 1	140,187
Output 6.2: National circumstances assessed.	FAO	MTENR, and other key relevant ministries	6.2.1 Assess the opportunity cost of land providing REDD+ benefits in relation to other land uses (e.g. mining, agriculture, etc.). 6.2.2 Assess the national socio-economic conditions. 6.2.3 Assess needs and resources for sustainable development. 6.2.4 Review expected trends for forest area changes. 6.2.5 Collect economic data on other sectors relevant to deforestation (such as <i>inter alia</i> mining, settlements, road infrastructure development and agriculture). 6.2.6 Identify and map the most threatened forests. 6.2.7 Undertake mapping of other forest co-benefits (biodiversity, non-carbon benefits, etc).					Personnel	54,206
								Contracts	82,600
								Training of counterparts	24,300
								Other direct costs	25,810
								Output Total	383,178
								Total Year 1	186,916
Total Planned Budget									\$4,490,000
Including*	Total UN organization 1 (UNDP) \$ 1,995,000								
	Total UN organization 2 (FAO) \$ 2,180,000								
	Total UN organization 3 (UNEP) \$ 315,000								

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12. Annexes

Annex 1: A review of Community-Based Natural Resource Management

The text in Annex 1 is predominantly from: Mbewe, B., Makota, C., Hachileka, E., Mwitwa, J., Chundama, M. and Nanchengwa, M. 2005. Community Based Natural Resource Management in Zambia.

Community Based Natural Resource Management (CBNRM) policy exists under wildlife management, which is implemented by ZAWA through CRBs in GMAs. Nationally, the CBNRM Forum which is managed by WWF brings together members of CRBs and other CBNRM practitioners to engage for the purpose of advancing CBNRM.

The first two decades of pioneering CBNRM were challenging as much as they were frustrating. Initiatives that focused primarily on wildlife conservation spurred national discussion that has now translated into national consensus that CBNRM is the right way to manage wildlife and other natural resources outside national parks. As the CBNRM concept permeated various levels of society, politicians and local leaders alike began to frequently press for a larger share of the revenue benefits to be returned to community constituencies for their efforts in conserving and producing wildlife. Today, public debate focuses on how to move the CBNRM process forward. Some of the conclusions from the early CBNRM initiatives included the following:

- Demonstration that CBNRM is a workable system for wildlife management in at least some GMAs, and may be applicable to others. Revenues from wildlife utilisation can be shared between identified beneficiaries - communities, resource management agency and national government. However, illegal off-take of wildlife in the late 1980s and early 1990s continued partly because the individual returns from hunting far outweighed a resident's share in the benefits that the projects could deliver.
- Community mobilization for CBNRM presented an opportunity for developing and utilising a sub-district structure of local governance which had not been envisioned before in Zambia for the management of natural resources.
- For the first time, communication among stakeholders was encouraged and brought key stakeholders together to allow for greater political, technical and financial support to implement CBNRM. This constituted a critical feature to its success and future strength.
- Triggered change in attitudes and practice during the first two decades that consequently spurred initial formal changes in policy and legislation in support for CBNRM, especially in wildlife.
- Political interference and a lack of transparency affected CBNRM in view of the fact that Zambia was still emerging from a highly centralised command and control economy, and that government and communities needed time to adjust to market economy approaches.

Current CBNRM Initiatives in Zambia

The early CBNRM activities in the Luangwa valley were well intentioned programmes attempting to achieve wildlife conservation through the involvement of local people. Even though CBNRMs were

weakened by design problems¹²³ or resulted in the empowerment and entrenchment of local elite¹²⁴, the concept of CBNRM has gained wider acceptance and a number of other CBNRM projects have emerged, supported by various organizations, and covering other sectors such as fisheries, forestry, water resources, sustainable agriculture and tourism development. Furthermore, the major evaluations of CBNRM pointed out significant weaknesses in the interventions which delayed real progress. For instance, the narrow view of conservationists who had initially designed the early programmes was expanded with new thinking from social scientists, and development and institutional experts. New CBNRM initiatives in other sectors emerged, while the old ones were transformed into "second-generation CBNRM"¹²⁵. Some of these include the following:

(a) CBNRM in Wildlife Management

The Zambia Wildlife Authority Community Based Management Programme is an umbrella programme that outlines a framework for CBNRM in the wildlife sector. The programme developed as a result of the need to have an all encompassing approach to CBNRM in the wildlife estate (in the GMAs as well as the wildlife areas in 'open areas'). The key focus of the programme is to provide extension support to CBNRM initiatives across the country focusing on:

- *Development of supportive CBNRM policy for wildlife.* Following the collation of CBNRM experiences in the wildlife sector, ZAWA has embarked on the development of CBNRM policy for the wildlife sector. Its main purpose will be to guide the implementation of community participation and benefit-sharing in the wildlife sector. The policy is also expected to clearly articulate the expected roles and responsibilities of all the stakeholders such as government, ZAWA, communities, traditional leaders and NGOs,
- *Local level institutional development and capacity building for Community Resource Board (CRBs).* Under the ZAWA CBNRM programme the CRB, a statutory local level body that evolved out of the former Wildlife Management Sub-authority and Integrated Resource Development Boards (IRDB) under Administrative Management Design for Game Areas (ADMAGE), is entrusted with the legal responsibility of managing wildlife on community land through a co-management relationship with Zambia Wildlife Authority. CRBs are legally registered under ZAWA as CBOs to uphold all legal responsibilities as required under the Wildlife Act. A CRB, in conjunction with the ZAWA is expected to negotiate 'co-management agreements' with hunting and photographic safari operators; manage the wildlife under its jurisdiction within quotas specified by ZAWA, appoint village scouts and, in consultation with ZAWA, develop land use management plans¹²⁶. The CRBs represent a significant shift towards a more democratic approach to community involvement than in the past, when chiefs dominated decision making at a community level.
- *Community based monitoring.* Activities for managing wildlife such as planning, law enforcement actions, staffing, setting quotas, and land use planning all need basic information. To guide these actions, monitoring information about wildlife population levels, legal and illegal hunting, habitat conditions, and human disturbances is required. ZAWA intends making community based participation a permanent feature of their CBNRM programme, by integrating community participation in the monitoring system.

South Luangwa Area Management Unit

¹²³ Matenga, C.R. 1999. "Community-based Wildlife Management Schemes in Zambia: Empowering or Disempowering Local Communities?" Paper presented at a conference on African Environments – Past and Present, St Antony's College, University of Oxford, 5-8 July.

¹²⁴ Dalal-Clayton, B. and Child, B. 2003. Lessons from Luangwa: The story of the Luangwa Integrated Resource Development project, Zambia. London, England: International Institute for Environment and Development.

¹²⁵ Dalal-Clayton, B. and Child, B. 2003. Lessons from Luangwa: The story of the Luangwa Integrated Resource Development project, Zambia. London, England: International Institute for Environment and Development.

¹²⁶ Jones, B. 2004. Synthesis of the current status of CBNRM policy and legislation in Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe. Draft Report. WWF SARPO Regional Project for community-based natural resources management (CBNRM) capacity building in Southern Africa.

During the restructuring of the former Department of National Parks and Wildlife Service into the Zambia Wildlife Authority, the wildlife estate was reorganized into area management units. On 1 January 1999, LIRDP became the South Luangwa Area Management Unit in preparation for the proposed full transformation of the NPWS into the ZAWA. The South Luangwa Area Management Unit is an administrative unit of ZAWA that is responsible for managing the South Luangwa National Park and its adjacent GMA units and for developing co-management with the communities living in Lupande GMA.

A reorganization of the CBNRM activities was undertaken which resulted in the South Luangwa Area Management Unit CBNRM programme. The reorganized CBNRM programme focused on improving performance in relation to the clarity of objectives, performance management and devolving of financial and managerial authority. The new CBNRM approach for the South Luangwa Area Management Unit reversed the top down approach previously adopted under LIRDP. Eighty percent of wildlife revenues were channelled back to the village level through the village action groups. The move towards allowing communities to decide how to allocate revenues including the right to determine where revenues would be allocated, led to a radically improved allocation and perception of benefits¹²⁷.

(b) Joint Forest Management Committees

The Forest Act (1973) removed all provisions enshrined in the 1941 Act for local and rural authority participation in forest exploitation and resulted in sidelining benefit-sharing as a topical issue. However, the Zambia Forestry Action Plan noted that the lack of active participation of key stakeholders and communities, combined with several other factors, contributed to seriously hampering the sector's performance. The new Forest Policy was approved in 1998, replacing the old policy dating from 1965. It outlines a considerable change in the management of Zambia's forest, encouraging the active involvement of local communities in the protection, management and utilisation of forest resources. It introduces the concept of revenue sharing between government and local communities, and presents different approaches to be implemented in the management of forest reserves and open areas (under customary land).

The Forest Act (1999) provided for a sense of ownership and benefits sharing, but has not yet commenced. There are serious accountability problems in this sector, and it is said that well under 10% of revenues are collected, concessions are abused, and illegal logging is rife. Implementation of the Joint Forest Management Project (Finnish International Development Agency (FINNIDA) funded) is somehow ongoing in selected depleted forests in Central, Luapula and Copperbelt provinces.

(c) Fisheries co-management

Even though the Fisheries Act (1974) had long considered local communities as key stakeholders, no legal framework was put in place to support the co-management arrangements for the management of fish resources. Recently however, the preparation and implementation of the 1996 Agriculture Sector Investment Programme (ASIP), a policy framework that promotes decentralization, has moved the fisheries policy in the direction of community-based resource management.

Selected major fisheries have experimented with co-management approaches around Lake Mweru, Lake Bangweulu and Lake Kariba. The origin of existing or emerging fisheries co-management projects in these areas can be found in the ongoing democratization process taking place in Zambia.

¹²⁷ Dalal-Clayton, B. and Child, B. 2003. Lessons from Luangwa: The story of the Luangwa Integrated Resource Development project, Zambia. London, England: International Institute for Environment and Development.

Pressure on the decentralised government policies, accompanied by pressure from international donor agencies to introduce co-management or at least establish a more democratic process in the formulation of fisheries policy objectives, resulted in the development of pilot initiatives in several locations around the country. All the co-management arrangements began just a few years ago, and it would be premature at this stage to draw any firm conclusions as to the outcome in terms of sustainability (resource stewardship), equity (effects on stakeholders in terms of benefit distribution, representation and information), efficiency (in comparison with other management arrangements) and management system resilience.

However, co-management implemented for artisanal gill-net fishery initiated in 1994 on Lake Kariba suggests problems with establishing effective linkages between user groups as a result of: the forced settlement of itinerant fishers into villages with arbitrary boundaries; the incomplete representation of stakeholder interests on management committees; and a lack of human capital in organizational skills. The high levels of organizational costs and the absence of human capital in democratic traditions seriously weakened this attempt at co-management.

Current state of CBNRM and its relevance to REDD

Despite the wide acceptance of CBNRM in Zambia, evaluations on the subject elucidate the fact that there are a number of constraints and challenges for the development and success of CBNRM initiatives that may have relevance to REDD in Zambia. These are summarized as follows:

- Absence of an overall national policy on CBNRM to ensure effective coordination and communication among all stakeholders;
- limited capacity at national and local level for CBNRM implementation/development;
- weak organizational structures among communities and limited support to these structures to lobby government for CBNRM support;
- management of the CBNRM process undertaken by government without involvement of intermediary organizations such as civil society;
- no real socio-economic, financial and institutional sustainability created by CBNRM programmes; and
- lessons have been very clear, that rural communities can play a meaningful part in PA management but the institutions that regulate them must be strengthened for them to do this effectively.

For REDD to be anchored within future CBNRM processes, these constraints need to be addressed and the challenges encountered need to be viewed as opportunities. Institutional and policy changes taking place in the fisheries, forestry, wildlife and perhaps even the water sector provide opportunities to engage in participatory CBNRM policy formulation process. The harmonization of policy and legislation would also provide an enabling environment for good governance and effective CBNRM. Improving capacity for delivering on CBNRM requires clear roles and responsibilities of stakeholders in CBNRM and the need to empower the entities responsible for delivery so that they can meet expected roles and responsibilities. The situation of mistrust that exists between government and communities requires building new partnerships involving NGOs or CBOs to act as intermediaries. NGOs can therefore act as the transparent broker between government and communities in CBNRM initiatives. Clearly the bottom line is how local communities can be sustainably empowered to engage in effective partnerships in CBNRM for REDD implementation. Prerequisites for effective engagement for the communities would include:

- i) The devolution of clear and unambiguous rights to the resources in question (e.g. the right for communities to decide who they can sell, to whom and for how much, the right to benefit from resources and the right to be able to make management decisions).
- ii) Access to information, making information gathering an essential part of a community's ability to effectively negotiate a partnership.
- iii) Basic skills development (organizational, entrepreneurial etc.) over time.

Annex 2: Elements of Free, Prior and Informed Consent¹²⁸

Free: should imply no coercion, intimidation or manipulation.

Prior: should imply consent has been sought sufficiently in advance of any authorization or commencement of activities and respect time requirements of indigenous consultation/consensus processes.

Informed: should imply that information is provided that covers (at least) the following aspects:

- a. The nature, size, pace, reversibility and scope of any proposed project or activity;
- b. the reason/s or purpose of the project and/or activity;
- c. the duration of the above;
- d. the locality of areas that will be affected;
- e. a preliminary assessment of the likely economic, social, cultural and environmental impact, including potential risks and fair and equitable benefit-sharing in a context that respects the precautionary principle;
- f. personnel likely to be involved in the execution of the proposed project (including Indigenous Peoples, private sector staff, research institutions, government employees and others); and
- g. procedures that the project may entail.

Consent: Consultation and participation are crucial components of a consent process. Consultation should be undertaken in good faith. The parties should establish a dialogue allowing them to find appropriate solutions in an atmosphere of mutual respect in good faith, and full and equitable participation.

Consultation requires time and an effective system for communicating among interest holders. Indigenous Peoples should be able to participate through their own freely chosen representatives and traditional or other institutions. The inclusion of a gender perspective and the participation of indigenous women is essential, as well as participation of children and youth, as appropriate. This process may include the option of withholding consent. Consent to any agreement should be interpreted as Indigenous Peoples have reasonably understood it.

Source: Excerpt from the Report of the *International Workshop on Methodologies Regarding Free Prior and Informed Consent* E/C.19/2005/3, endorsed by the UNPFII at its Fourth Session in 2005.

¹²⁸ Excerpt from the Report of the International Workshop on Methodologies Regarding Free Prior and Informed Consent E/C.19/2005/3, endorsed by the UNPFII at its Fourth Session in 2005.

Annex 3: List of potential stakeholders for National REDD+

Potential stakeholders to be consulted for National REDD+ include *inter alia*:

- Traditional leaders
- The House of Chiefs
- Local communities
- Local authorities
- Private sector (including *inter alia* timber merchants, mining, construction industry)
- Agriculture sector
- Researchers and academic institutions
- Government officials
- Officials from relevant ministries and departments (including Resource Scientists and Regional Scientists)
- Co-operating partners
- Relevant NGOs
- Relevant CBOs
- Traditional healers
- Zambia Wildlife Authority
- National Heritage Conservation Commission
- Environmental Council of Zambia

Please note that this list will be assessed and expanded upon during the UN-REDD programme.

Annex 4: Overview of the Draft Forest Policy of 2009

GUIDING PRINCIPLES

Inappropriate policies, institutional arrangements and poor management effectiveness have led to the current poor status of the forestry sector. The objectives of the forestry sector cannot be realized using strategies which have guided forestry management and development over the past several decades. In order to meet these objectives, future strategies need to be guided by a new set of guiding principles. Hence, this forestry policy is based on the following guiding principles:

- Broad based participation in sustainable forest and land management;
- Equity and responsibility in benefit sharing mechanisms and full consideration of gender;
- Forest management based on research and extension services;
- Enhance biodiversity management and conservation;
- Enhance the role of forests in the abatement of climate change;
- Precautionary measures to be taken prior to investment and in the introduction of harmful or invasive plants and GMOs;
- Effective governance through decentralization of forest management.

OBJECTIVES OF THE DRAFT NATIONAL FOREST POLICY OF 2009

- i. To ensure the integrity, productivity and the development potential of the forest resources.
- ii. To ensure adequate protection and management of forests by empowering local communities, traditional leaders and other stakeholders.
- iii. To improve the role of forests in the provision of ecosystem services and abatement of climate change.
- iv. To regulate and manage the exploitation of forest products and ecosystem services.
- v. To promote the role of the private sector in the sustainable and equitable development of the forestry industry in Zambia that respond to the national sustainable development criteria.
- vi. To ensure the establishment and sustainable management of forest resources for wood fuel production.
- vii. To support the development of value adding to non-wood forest products.
- viii. To ensure the maximum contribution of the forestry sector to the national economy and the forestry industry.
- ix. To ensure gender equity, the youth, HIV/AIDS and the interests of persons with special needs are mainstreamed in all aspects of forestry management, industrial development, production and utilisation of forest products and services, and for the forestry extension, training and education sub-sectors.
- x. To develop research expertise, facilities, an institutional framework and create an enabling environment to meet forestry research needs.
- xi. To strengthen and develop human capacity with extension skills and a service delivery framework to effectively and efficiently meet stakeholders needs.

xii. To develop and broaden skills and knowledge of personnel involved in forestry management and development, and support to training institutions.

xiii. To ensure that international obligations are carried out to engender a contribution to efforts at the international level to increase environmental and socio-economic benefits that accrue from sustainable management of forest resources and, reduce emissions from deforestation and degradation and the impact of greenhouse gas emissions.

Annex 5: Success stories

The following are success stories from projects that are presently reducing rates of deforestation and forest degradation in Zambia, which were provided by stakeholders during the 5th UN-REDD stakeholder meeting on Wednesday 2 December 2009.

1. **Mwena Local Forest in the Samfya District.** The Provincial Forestry Action Programme (PFAP), a JFM structure, is reducing pressure on forests in the Mwena Local Forest by providing villagers with alternative livelihoods (such as basketry, beekeeping and mushroom farming). Keys to the programme's success include the following:
 - Constant communication with villagers, including constantly updating them on progress.
 - Listening to the needs of the villagers (e.g. firewood was needed to cure fish and PFAP implemented a sustainable forestry plan in this regard).As a result of the PFAP, the local people are patrolling the forests in some areas without the involvement of the Forestry Department. The government has promoted PFAP by making micro-finance available to villagers (under the Forestry Development Facility). This has enabled villagers to develop a carpentry industry, which provides schools and hospitals with furniture.
2. **Mupya West Forest Reserve.** Senior Chief Kalindawalo in Petauke District is increasing the area under conservation in his district by trading one existing reserve for another area of land.
3. **Northern Province.** The NGO ('intweli mpanya') is improving agricultural productivity and reducing pressure placed on forests by illegal charcoal production. The Finnish Embassy has provided \$200 000 funding to intensify production of food crops (e.g. millet, sorghum and cassava) and is assisting with the creation of markets as a source of alternative income.
4. **Muhongo Local Forest.** Communities in the Muhongo Local Forest (approximately 4000 hectares in the Mwinilunga District) have formed structures for user groups, e.g. beekeeping and mushroom farming. The women within the local community have also formed a revolving fund. These ventures have reduced pressure on forests.
5. **Dambwa Forest Reserve in Livingstone.** This is one of the forest areas in Zambia which was being over-exploited by illegal charcoal production. The PFAP, a JFM structure, introduced management structures at the community level. As a result, a substantial reduction in the movement of charcoal along the highway into Livingstone Town was noticed. There has also been a noticeable improvement in the regeneration of the forests.
6. **ILA National Forest in Namwala District.** This reserve was also being encroached upon by the local communities and illegally exploited. During the introduction of PFAP, the communities were brought onboard and the problems were resolved with unanticipated ease. For example, the illegal squatters moved out willingly from inside the forest reserve without much expense, once the policies regarding the forest reserve were explained to local communities.

Annex 6: Summary of relevant lessons learned regarding Joint Forestry Management (JFM) in Zambia

1. *Lessons learned from Joint Forestry Management in Zambia: PFAP II. Government of the Republic of Zambia. Ministry of Tourism, Energy and Natural Resources: Forestry Department*¹²⁹.

- Involve and integrate the traditional authority in JFM and utilize coordination structures as this renders the community structures for JFM implementation socially legitimate. Furthermore, this prevents the community structures from being regarded as structures parallel to the historically accepted and respected traditional authority structures.
- The traditional authority, if well utilized, could be a cost-effective and formidable force for conflict management, defining the boundaries of local rules and thereby assisting in enforcement of collaborative forest management.
- Integrate the District Council into the community structure as this allows the JFM structures to be recognized and intricately linked to the overall national decentralization plan, which will be implemented in the District Councils in Zambia.
- Implement Income Generating Activities (IGAs) as quickly as possible in order to maintain the number of active community members. For example, as a result of the considerable amount of time taken to implement IGAs through the support of this programme, a number of the larger communities (who were members of the user groups) abandoned the JFM arrangement, resulting in a drastic reduction in the number of active community members.
- Define rights concerning the retention of benefits from IGAs and ensure that they are mutually accepted. This guarantees higher levels of commitment to the sustainable management of the JFMA
- Ensure sustainability through a 'learning by doing' approach. For example, the delayed implementation of the firewood collection activities have led to the user groups forgetting the basic elements of sustainable firewood collection management systems, which are clearly articulated in the management plans.
- Develop regular downward feedback loops for communicating the activities of the VRMCs and FMCs to the user groups and the community at large to assure community members that they are adequately represented by these structures. This should be in the form of a provision that is incorporated into the constitution of the Community Trust and management plan. This provision should be regarded by the user groups as a right rather than a privilege. Key characteristics of this shift are delegation and accountability. Thus mechanisms must be in place for the appointment and replacement of leadership (constitutions) and assessments of performance in terms of achievement of goals, effective controls over natural resource and financial assets (management plans).
- Develop simple tools for the monitoring of the status of resources and trends in the JFM areas. These tools should be low cost and easily transferrable to community members for implementation.
- Build capacity in order to address the full spectrum of learning transfers within the members of the Community Trusts. The implementation of a policy that covers the teaching of trainers in

¹²⁹ Kokwe, M. 2007. *Lessons learned from Joint Forestry Management in Zambia: PFAP II. Government of the Republic of Zambia. Ministry of Tourism, Energy and Natural Resources: Forestry Department.*

forestry management and the development of a communication strategy and information sharing system that promotes learning transfer should be pursued in future, in order to make capacity building efforts more efficient. Ensure that capacity building activities are adaptive and tailored to meet the challenges of the dynamic nature of natural resource based management

2. *Lessons Learned from Joint Forest Management in Zambia: The experiences of PFAP II. June 2005.*

Community Structures for JFM

- Focus on parties who are willing and interested to work within the JFM process instead of trying to include everyone. Dictating the composition of the committee structures for JFM in law does not take into consideration the variety of situations often encountered at the community level. However, care needs to be taken to keep the wider community informed of what is happening so as not to actively exclude any potentially willing parties.
- Consider community structures as 'legal entities' in order to avoid failure of JFM.

Procedures for Establishing JFM areas

- Increase the direct income of community members by an adjusted forest fee scheme; this is likely to offer a better alternative than revenue sharing. In all the seven PFAP II pilot areas, commercial exploitations, which would involve the issuing of a concession by the Forestry Department, are not an option. However, revenue sharing only seems feasible in such a scenario. Therefore the emphasis by the communities and the Forestry Department on revenue sharing in JFM is unfortunate.

Management Plans

- Formulate a simple technical management plan. The Forest Act of 1999 requires a technical management plan for JFM areas. This is not necessary and a simple plan is likely to be sufficient, particularly in the initial stages of community management. Miombo woodland, with its many uses, is rather complex and it is tempting to formulate complicated plans. Focusing on the important issues at hand and drawing up a simple plan is recommended. A two-phased approach with initially a very simple outline of activities and local rules, followed later by a full management plan, is proposed.

Scaling up of JFM

- Ensure that any expansion of JFM is accompanied by a full training programme to bring everyone involved on board. In the PFAP pilot areas, Forestry Department staff have benefited from short-term, project-specific training opportunities. At field level, for the most part, staff readily took on board the concepts and methodologies required to support communities in planning JFM. The very limited human and financial resources at district level are the main constraints to replication of JFM throughout the country.
- Involve NGOs in JFM. Activities including *inter alia* group formation, leadership skills and financial administration training and marketing could all be delivered by NGOs. However, the Forestry Department's willingness to work with agencies outside government is insufficient and requires improvement.

Income Generating Activities

- Prioritise the likely sustainability of the Income Generating Activities (IGA) in question when choosing which forest-based IGAs to promote, as this is arguably the most important factor. Although this may not be achievable within the short-term, limits on extraction should be decided upon and properly controlled by communities. The mandatory chain to follow should be:
 1. **Short term aim:** get the community involved in forestry and stipulate initial rules and restrict access to the forest. This may not be based entirely on sustainable management, but rather ending the open access to the resource is the key achievement here (one to three years).
 2. **Medium term aim:** collect information and work towards sustainable solutions (one to five years).
 3. **Long term aim:** establish and practice sustainable forestry with full community involvement.

Annex 7: Guidelines for National UN-REDD Programme Activities¹³⁰

Representation

Indigenous Peoples and other forest dependent communities shall be represented on National REDD Steering Committees or equivalent bodies, where established.

Participation and Inclusion

In order to be endorsed by the UN-REDD Inter-agency UN-REDD Secretariat for approval by the UN-REDD Programme Policy Board, draft National Programmes (NPs) must submit minutes of a 'validation meeting' of National Stakeholders (where established: the National REDD Steering Committee), including Indigenous Peoples' representative(s). The representative(s) who participate(s) in the 'validation meeting' must subscribe to one of the following criteria:

Option i. Representative(s):

- is selected through a participatory and consultative process;
- has previous experience working with the government and UN system;
- has demonstrated experience serving as a representative, receiving input from, consulting with, and providing feedback to, a wide scope of civil society/Indigenous Peoples' organizations; or

Option ii. Representative(s)

- participated in a UN-REDD Programme scoping and/or formulation mission and sit(s) on a UN-REDD Programme consultative body established as a result of the mission; or

Option iii. Representative(s)

- is an individual(s) recognized as legitimate representative(s) of a national network of civil society and/or Indigenous Peoples' organizations (e.g. the Global Environment Facility (GEF) Small Grants National Steering Committee or National Forest Programme Steering Committee).

The 'validation meeting' will be one step of a wider consultation and engagement strategy and will be documented as an annex to the Programme Document.

The NJP consultation and engagement strategy should effectively involve Indigenous Peoples and other forest dependent communities, together with civil society organizations in all stages. This consultation and engagement strategy should be adopted throughout programme design, implementation, and monitoring and evaluation, and should adhere to the same guiding principles as mentioned in Part 2 of UN-REDD Operational Guidance¹³¹. In countries that are also developing programmes under the Forest Carbon Partnership Facility (FCPF), it is encouraged that the UN-REDD Programme and FCPF undertake one collaborative consultation process. See Annex 1 of the Operational Guidance on Best Practice for Consultation.

National Joint Programmes should include activities and resources to support ongoing consultation, engagement and partnership to ensure that national UN-REDD activities take into account current priorities and concerns articulated by representatives of local communities and other forest dependent communities.

¹³⁰ UN-REDD operational guidance: engagement of indigenous peoples and other forest dependent communities; working document. June 2009.

¹³¹ UN-REDD operational guidance: engagement of indigenous peoples and other forest dependent communities; working document. June 2009.

As addressed in the UN Declaration on the Rights of Indigenous Peoples and ensuring FPIC, NJPs will assess the impact of UN-REDD Programme activities on Indigenous Peoples' and other forest dependent communities' rights prior to taking decisions on such activities.

Transparency and Accountability

Outcome documents from consultations such as meeting minutes, reports, work plans, and roadmaps for implementation should be circulated to local community organizations for an assessment of their accuracy, publicly accessible, and reflected, as appropriate, in NJP documents, on the UN-REDD website, and submitted to the Policy Board annually.

The UN Resident Coordinator will distribute annual reports on UN-REDD Programme activities to Indigenous Peoples and civil society networks through the Indigenous Peoples' and other forest dependent community's representative on the National REDD Steering Committee in order to ensure transparency and accountability.

The UN Resident Coordinator is responsible for ensuring that the NJP abides by the UN's Standards and Declarations. As an additional safeguard, a complaint mechanism (to be elaborated in more detail and build upon existing grievance mechanisms, where they exist) will be established by the Inter-agency UN-REDD Secretariat to ensure that activities supported by the UN-REDD Programme do not result in the violation or erosion of the rights of Indigenous Peoples and other forest dependent communities. The procedure and contact information for making complaints will be posted on the UN-REDD Programme website.

Annex 8: Determining background emission rates and setting up MRV for REDD+ in Zambia

Annex 8.1: Background to the UNFCCC/IPCC GHG inventory

Background

Under the UNFCCC, Parties have established a measurement, reporting and verification system that will simultaneously address the range of national circumstances and result in comparable numbers between Parties. In this respect Conference of the Parties (COP) requested the IPCC to develop Guidance and Guidelines to assist countries in producing inventories that are accurate in the sense of being neither over nor underestimates and in which uncertainties are reduced as far as possible. Regarding the estimation of emission and removals from forest land, the IPCC has released several guidance and guidelines. For the purpose of the development of a new methodology for a NFI, references will be made to the most updated Guidance¹³² and Guidelines¹³³.

Thus following the methodological approach suggested by the IPCC, the minimum objective of countries which are willing to participate in a mitigation mechanism (e.g. REDD+) under the Climate Change Convention, should be to compile a GHGs inventory with estimates on carbon stock changes within a known uncertainty (Tier 2 or Tier 3 level). To meet this condition, a country needs to have: (i) country specific estimates of emission factors (by a NFI for the emission factors associated to forest land); (ii) multi-temporal inventory data and (iii) uncertainty estimates associated with any data reported.

These minimum requirements are shown in the IPCC decision tree (Figure 6) to identify reporting tier levels for key source category (under the expected REDD+ mechanism, all emissions and removals from forest land will be considered as a key source category).

¹³² IPCC Report on Good Practice Guidance for Land Use, Land-Use Change and Forestry (LULUCF). 2003.

¹³³ IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4: Agriculture, Forestry and other Land Use (AFOLU) 2006.

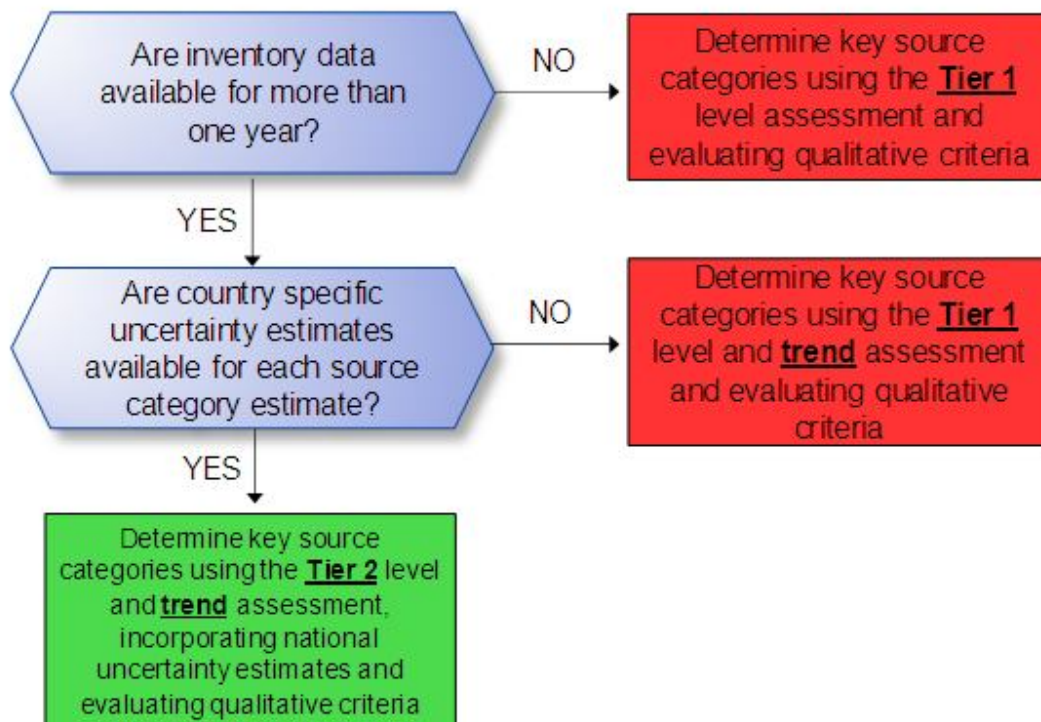


Figure 6. IPCC decision tree to identify reporting tier levels for key source category (adapted from Figure 7.1 in the IPCC 2000 Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories).

To obtain country specific estimates of the emission factors and to respond to the UNFCCC completeness reporting principle, it is necessary to develop a NFI measurement protocol that will provide estimates for the five IPCC carbon pools (aboveground biomass, belowground biomass, dead wood, litter and soil organic matter). The carbon stock change estimates that a country which will have to submit through its greenhouse gas inventory will also have to consider all the possible transfers (yellow arrows) between pools (Figure 7). It is important to note that in theory countries following IPCC guidelines may not report on certain carbon pools, but this may only occur if countries are able to demonstrate that there are no emissions originating from these pools. In the case of deforestation and degradation it will be impossible to apply this approach, as emissions are originating from all the carbon pools.

Carbon Pools and Flows (LULUCF & AFOLU)

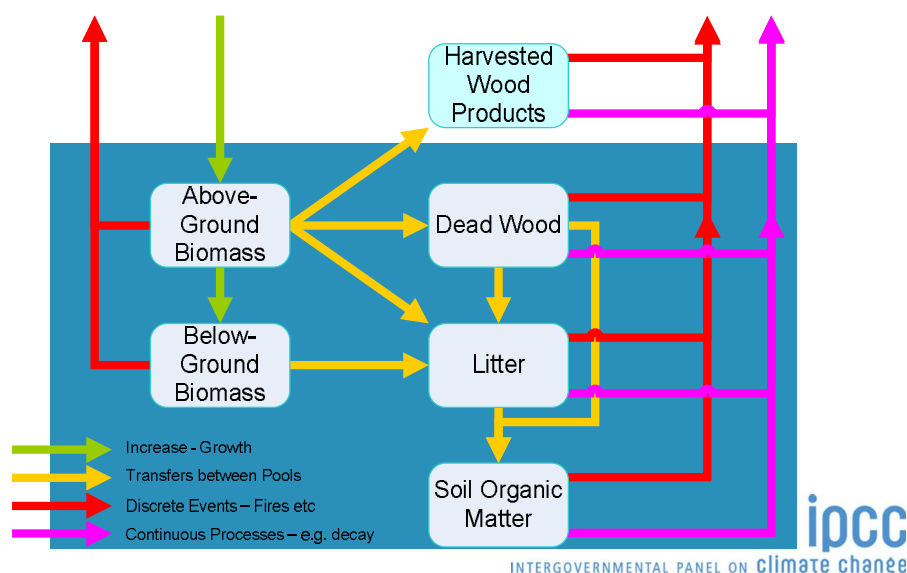


Figure 7. Generalized carbon cycle of terrestrial AFOLU ecosystems showing the flows of carbon into and out of the system as well as between the five C pools within the system (adapted from Figure 2.1, Vol. 4, IPCC AFOLU Guidelines 2006).

In the assessment of the different carbon pools it is likely that the most typical and important example of incomplete estimates will arise from the lack of reliable data for the soil organic matter carbon pool. Indeed, evidence from official reports¹³⁴ suggests that only a very small fraction of developing countries currently report data on soil carbon, even though emissions from soils following deforestation are likely to be significant in many cases. In this case, it is important to note that in a REDD+ context, not reporting data on soil carbon does not mean 'not overestimating the emissions', but rather 'not overestimating the reduction of emissions'. In practice, if soil is not accounted for, it is very likely that the total emissions from deforestation will be underestimated in both periods. However, assuming the same emission factor (EF) in the two periods for the most disaggregated reported level (e.g. a forest type converted to cropland) and provided that the area deforested is reduced from the reference to the assessment period, the reduced emissions will also be underestimated. In other words, although neglecting soil carbon will result in a REDD+ estimate which is not complete, this estimate will be conservative. However, this assumption of conservative omission of a pool is no longer valid if, for a given forest conversion type, the area deforested is increased from the reference to the assessment period¹³⁵.

Hence, before a country will be allowed to not report certain carbon pools under the expected REDD+ mechanism, future methodological guidance from the IPCC for estimating emissions in an REDD+ context will be necessary. In the meantime, countries may consider the use of a model that could be used consistently and may provide estimates with associated uncertainties.

¹³⁴ e.g. UNFCCC 2005a; UNFCCC 2005b; FAO 2006.

¹³⁵ Grassi, G., Monni, S., Federici, S., Achard, F. and Mollicone, D. 2008. Applying the conservativeness principle to REDD to deal with the uncertainties of the estimates. Environmental Research Letters 3: 035005.

Multi-temporal inventory data. Almost all Annex I countries that are using a NFI to assess emission factors for forest land (39 Parties out of 41) are using more than one NFI to support carbon stock change estimates. The countries that are using data from only one NFI (e.g. Canada) were able to report on a temporal dynamic of the different carbon pools (in forest land remaining forest land) using models based on criteria such as the forest age class distribution. In the case of tropical countries, this solution could perhaps be adopted for some forest types, but in general this will not be practical for all the humid tropical forest types, as forest stand structure is unevenly aged. Thus a different solution needs to be adopted for countries that through a single NFI would like to report on changes in emission factors for forest land remaining forest land. A possible approach could be through a stratification of forest land based not only on the forest type but also on its use.

Moreover, there are also two other important elements to consider for a possible stratification system: (i) countries will have to report on carbon stock changes only if these are human induced; in that respect the IPCC is suggesting to use the 'managed land' concept as a proxy to discriminate the human induced emission (note that this means that the country territory will have to be divided between managed and un-managed land and that only changes in managed land will have to be estimated and reported); and (ii) in many tropical countries in the last 20 years, the main source of emission in forest land remaining forest land has been represented by un-managed and intact forest area (un-exploited) that have been converted to managed forest area (exploited) through selective logging or through other degradation processes.

Considering all these elements, a country may adopt a land classification scheme such as the one presented in Figure 8.

In this classification scheme, all the forest types which fall in the managed land will be further subdivided (two separated strata) into two 'forest types': exploited and un-exploited. This solution allows countries to have separate sets of emission factors per forest type and thus allows countries to report on change in carbon stocks in forest land remaining forest land, once the countries will have multi-temporal activity data on the extension of exploited and un-exploited forest (these data should be provided by the Land Monitoring System – see Outcome 6).

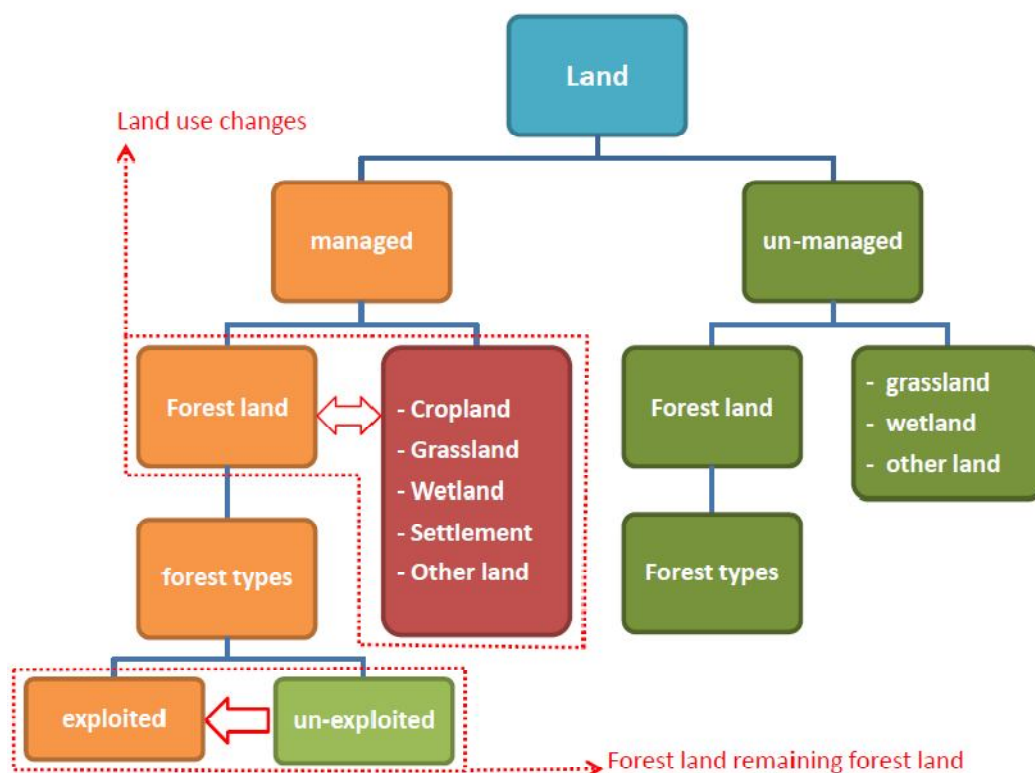


Figure 8. Land classification/stratification scheme based on forest type and forest use. With this scheme a country may report on changes in carbon stock due to land use change activities (afforestation, reforestation and deforestation) reporting differences in emission factors between forest land and cropland, grassland, wetland, settlement and other land; and it may report on changes in carbon stock in forest land remaining forest land reporting differences in emission factors between exploited and un-exploited forest types.

Uncertainty estimates are an essential element of a complete NFI and for an inventory of greenhouse gas emissions and removals. They should be derived for both the national level and the trend estimate, as well as for the component parts such as emission factors, activity data and other estimation parameters for each key source category.

Uncertainties should be reduced as far as is practicable during the process of compiling a NFI, and it is particularly important to ensure that the model and the data collected are fair representations of the real forest status. An uncertainty analysis should be seen, first and foremost, as a means to help prioritise national efforts to reduce the uncertainty of inventories in the future, and guide decisions on methodological choice. For this reason, the methods used to attribute uncertainty values must be practical, scientifically defensible, and robust enough to be applicable to a range of categories of emissions by source and removals by sinks, methods and national circumstances.

The basis for uncertainty analysis relies on two main statistical concepts: the Probability Density Function¹³⁶ (PDF) and confidence interval¹³⁷. Following the IPCC indication, quantitative uncertainty

¹³⁶ Probability density function: describes the range and relative likelihood of possible values. The PDF can be used to describe uncertainty in the estimate of a quantity that is a fixed constant and whose value is not exactly known or it can be used to describe inherent variability. The purpose of the uncertainty analysis for the emission inventory is to quantify uncertainty in the unknown fixed value of total emissions as well as emissions and activity pertaining to specific categories (IPCC 2006).

analysis should be performed by estimating the 95% confidence interval of the emissions and removals estimates for individual categories and for the total NFI.

There are several broad causes of uncertainty: lack of completeness, model, lack of data, lack of representativeness of data, statistical random sampling error and measurement error. Some of these causes of uncertainty and in particular their quantitative estimates could be addressed through the application of the Probability Theory. In this respect it is crucial to develop a NFI sampling strategy where the probability of an element to be included in an arbitrary sample of the population is known and where each element in the population has a positive inclusion probability.

The ILUA second phase project will address these issues of the NFI needs.

Basic methods

In the IPCC Good Practice Guidance, the most common simple methodological approach is to combine information on the extent to which a human activity takes place (called activity data or AD) with coefficients which quantify the emissions or removals per unit activity, which are called emission factors (EF). The basic equation (Figure 6) is:

$$Emissions = AD * EF$$

(Equation 1)

Though this simple equation is widely used, the 2006 IPCC AFOLU Guidelines also contain mass balance methods, for example the stock change methods used in the AFOLU sector which estimates C emissions from changes over time in carbon content of living biomass and dead organic matter pools.

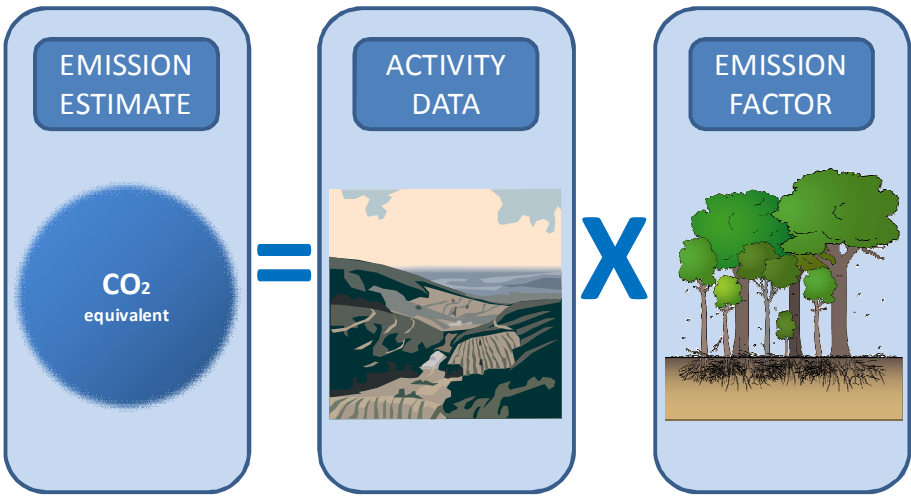


Figure 9. Activity data is defined as 'Data on the magnitude of human activity resulting in emissions or removals taking place during a given period of time', while emission factors is defined as 'A coefficient that relates the activity data to the amount of chemical compound which is the source of later emissions'.

A monitoring system under the UNFCCC will have to provide data on (1) forest area and forest area changes and (2) carbon stock (emission factors) and carbon stock changes.

¹³⁷ Confidence Interval: The true value of the quantity for which the interval is to be estimated is a fixed but unknown constant, such as the annual total emissions in a given year for a given country. The confidence interval is a range that encloses the true value of this unknown fixed quantity with a specified confidence (probability) (IPCC 2006).

Regarding the activity data the IPCC indicates that: 'Countries should characterize and account for all relevant land areas in a country consistently and as transparently as possible. Data should reflect the historical trends in land use area.'

Traditional NFIs (mainly based on field measurements) can be used to estimate and report activity data. In almost all Annex I countries, activity data related to forest land are assessed through data originating from NFIs. Unfortunately, with only a few exceptions (e.g. India), in almost all the developing countries (Non-Annex I), there are no NFIs that could be used to assess historical trends in land use and land use changes. For these countries, the only operative and practical way to represent land in a consistent and transparent approach with a retrospective time frame of 20 years is the use of satellite remote sensing data which are available globally since 1990. The use of satellite data would allow a country to fulfil the reporting requirements indicated in Approach 3 for land representation of the IPCC AFOLU 2006 Guidelines. For these reasons, the estimate on the activity data should be realised through a positive combination of a satellite land monitoring system and a NFI (Fig. 7). The satellite land monitoring system will guarantee completeness and consistency of the activity data estimates while the NFI will provide information to train and to reduce the uncertainty of the land monitoring system, while on the other hand the satellite monitoring system will also have to provide fundamental information for the correct methodological development and implementation of the NFI (e.g. land use maps, forest stratification, forest type distribution, detection of disturbances, rare events, etc.)

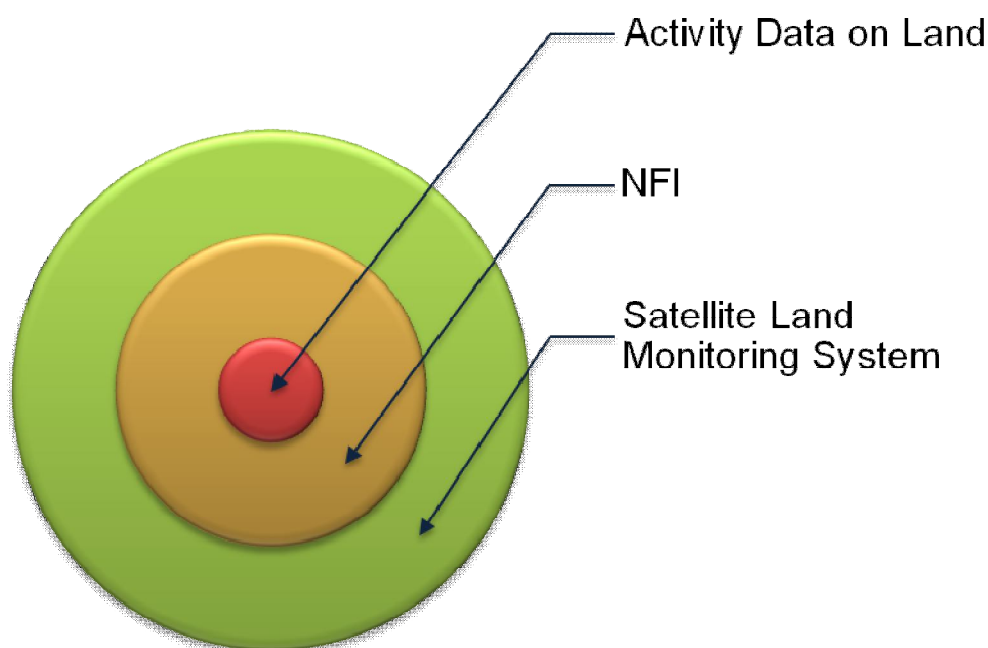


Figure 10. Activity data on land as target. This scheme is a graphical representation of the integration between the Satellite Land Monitoring System and NFI in order to estimate activity data. The satellite system is broader, capable to have a complete vision of the whole national territory, while the NFI is narrow, based on a probability sampling scheme, but it provides the right information to guide the full system on the target: accurate and consistent estimate of land activity data.

In general, activity data on land should be:

- adequate, i.e. capable of representing land use categories, and conversions between land use categories, as needed to estimate carbon stock changes and greenhouse gas emissions and removals;
- consistent, i.e. capable of representing land use categories consistently over time, without being unduly affected by artificial discontinuities in time-series data;

- complete, which means that all land within a country should be included, with increases in some areas balanced by decreases in others, recognizing the bio-physical stratification of land if needed (and as can be supported by data) for estimating and reporting emissions and removals of greenhouse gases; and
- transparent, *i.e.* data sources, definitions, methodologies and assumptions should be clearly described.

The descriptions of land use follow the framework of:

- land use category *i.e.* the broad land use reported as either land remaining in a land use category (*i.e.* remaining in the same use throughout the inventory time series) or land converted to a new land use category (representing a change in land use);
- sub-category *i.e.* refers to national circumstances (*e.g.* different forest types or areas of grazing within forest land) that are estimated and reported separately but do not duplicate land in the broad land use category;
- land use categories and sub-categories may be further stratified on the basis of land use practices and biophysical characteristics in order to create more homogeneous spatial units as may be used for emissions estimation.

Regarding carbon stocks, a NFI may/should provide the basis for assigning emission factors and stock change factors at least for forest land. A NFI may support any IPCC carbon stock estimation approaches such as gain and loss, stock difference and models and may deliver data. The emissions and removals of CO₂ related to forest activities are based on changes in ecosystem carbon stocks and are estimated for both forest land remaining forest land, as well as forest land converted from and to another land use.

For the forest land use category, carbon stock changes are estimated for all strata or subdivisions of forest land area (*e.g.* climate zone, forest type, management regime, *etc.*). Carbon stock changes within a stratum are estimated by considering carbon cycle processes between the five carbon pools. The generalised flowchart of the carbon cycle (Figure 7) shows all five pools and associated fluxes including inputs to and outputs from the system, as well as all possible transfers between the pools. The carbon cycle includes changes in carbon stocks due to both continuous processes (*i.e.* growth and decay) and discrete events (*i.e.* disturbances like harvest, fire, insect outbreaks, land use change and other events). Continuous processes can affect carbon stocks in all areas in each year, while discrete events (*i.e.* disturbances) cause emissions and redistribute ecosystem carbon in specific areas (*i.e.* where the disturbance occurs) and in the year of the event, thus it is important that the NFI methodology will allow data collection for both continuous and discrete processes.

Annex 8.2: Establishment of an operational land monitoring framework
The proposed MRV system for Zambia is as follows:

Measurement strategy

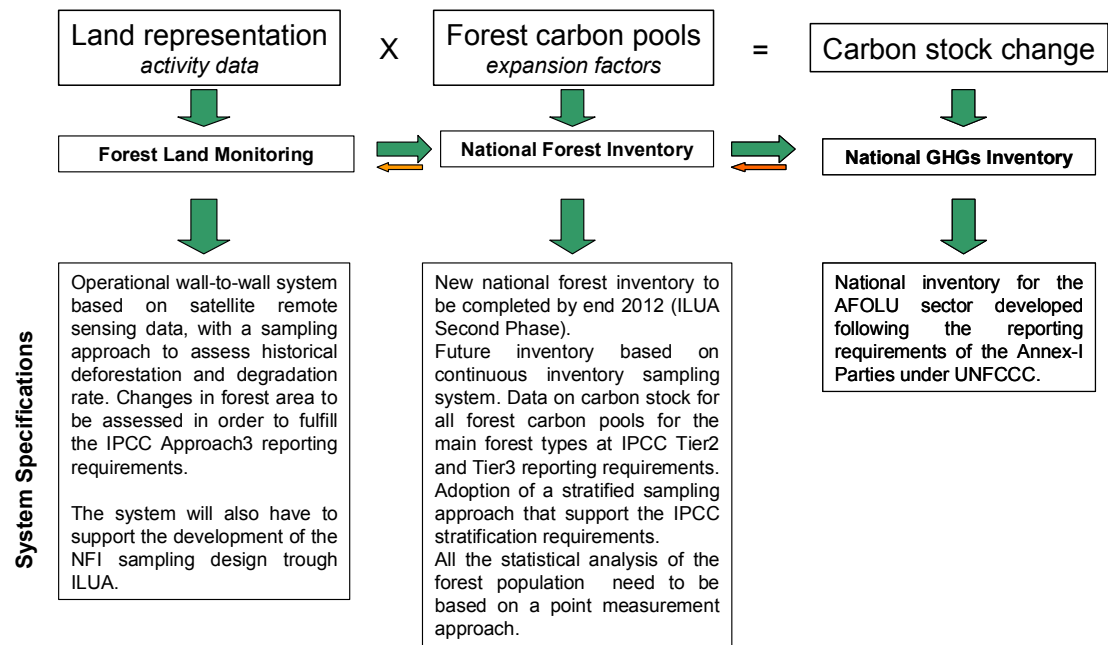


Figure 11. The proposed MRV system for Zambia

The first step towards the implementation of a full Monitoring, Reporting and Verification (MRV) system is to monitor activity data through an Operational Monitoring System (OMS) by classifying the entire national territory into land use and land use change classes. In the AFOLU sector, activity data consists in the extent of land use and its change alone or in combination with other forest characteristics. The five activities relevant to REDD+ are deforestation, forest degradation, SMF and enhancement of carbon stocks. These AD will subsequently be matched with the appropriate carbon stock, emissions, removal factors and other relevant data to estimate carbon removals and emissions.

The management strategy described here is an operational wall-to-wall system based on satellite remote sensing data that monitors annual changes in land use with a sampling approach that must be consistent with historical deforestation and degradation rate assessments, in line with IPCC requirements. This section for REDD+ provides initial guidelines on steps to take in preparing an management strategy (5. 1), followed by a detailed description of the methodological framework for an management strategy to monitor land use and land use change (5.2).

Technical and capacity needs: Zambia will evaluate its current training and resource needs to implement the OMS in a timely cost-efficient manner. A Remote Sensing-GIS laboratory, a technical coordination unit, and trained personnel to run them are required.

Table 8 includes information on costs to consider at this stage and subsequent closely linked requirements. These requirements also apply to the following 2.2 section.

Table 8. General summary of costs linked to technical and capacity training/building.

Material resources	Human Resources	Governmental Needs
Remote Sensing Data (Landsat, CBERS, IRS free of cost images).	Capacity training/building: both for Remote Sensing analyses and ground validations.	A monitoring, reporting and verification unit to coordinate the efforts at each step. This unit will act as the connection link between the Government and UNFCCC representatives.
Specialized hardware (computers, GPS, etc).	RS-GIS coordination responsible and a well trained team.	
Specialized software: RS and GIS programs.	National multi-agency coordinator responsible to act as the intermediary between the OS results and the reporting & verification steps.	
Fast and reliable internet connection.	Reporting and verification experts	
Data Storage Units.		

A National Remote Sensing Centre (NRSC) was established in 2008 and is housed by the National Institute for Scientific and Industrial Research in the Ministry of Science and Technology. Given NRSC is still in its infancy stage, they are looking for finance and mobilising human resources to start its operations. The mandate of the NRSC should be to coordinate activities in Remote Sensing, ensure the acquisition, processing and delivery of remotely sensed data to educational, public and private institutions, including general public. NRSC is also looking for possibilities to build up a satellite data receiving station in Zambia. Currently, several departments and organizations aim to build their capacity in GIS and RS, including FD, ECZ, ZAWA, the MACO, and the Survey Department (in MoL), so these could be used as a basis for GHG calculations.

Institutional arrangements and governance: Our proposed OMS focuses on carbon monitoring but it clearly synergizes with other governmental efforts (e.g. biodiversity conservation monitoring, strengthening of regulatory deforestation measures, etc). Countries will need to evaluate how this carbon-based OS will interact with their existing and future national policies (e.g. development, conservation, deforestation regulation, etc). Countries will also have to define how to involve and coordinate the different stakeholders (e.g. governmental departments, NGO's, etc). A clear distribution of competences, responsibilities and accountability for each executing agencies is needed.

The implementation of the MS requires a series of considerations regarding the spatial and temporal scales needed to obtain optimum monitoring results, which will always be a cost-benefit decision. Important criteria for selecting remote sensing data and techniques are:

- Adequate land use categorisation scheme;
 - appropriate spatial resolution;
 - appropriate temporal resolution for estimating of land use conversion;
 - transparent methods applied in data acquisition and processing; and
 - availability of accuracy assessment;
- i) Adequate land use categorisation: The selected satellite(s) need to distinguish the IPCC land categories, and further country-defined sub-categories and stratifications in a consistent and temporally reliable way. More than one satellite might be needed to differentiate among all the selected land categories.
 - ii) Minimum Mapping Units: There may be different spatial units for the detection of forest and of forest change. It is good practice to select a Minimum Mapping Unit (MMU) between 1 to 5 hectares. Remote sensing data analyses become more difficult and

more expensive with smaller MMU (i.e. more detailed MMU's increase mapping efforts and usually decrease change mapping accuracy).

- iii) Temporal monitoring windows: Zambia should concentrate their monitoring efforts on those months where data is compromised by less cloud contamination (e.g. dry season). However, for certain areas it might be necessary to use data from different months due to availability problems and cloud persistence. A reference date should be established to standardize the time threshold for each reporting period (e.g. from the 1st of August in $t=0$ to the 1st of August in $t=1$). Corrections should be applied if data availability or sub-national differences in seasonality periods force one to include images outside the considered reference date for reporting.
- iv) Wall-to-wall versus sub-sampling remote sensing approaches: It is good practice to apply wall-to-wall approaches that guarantee complete, consistent, transparent and adequate monitoring of LU and LUC.
- v) Remote Sensing (RS) data selection and LU change delineation: The most commonly used types of RS data are: 1) aerial photographs, 2) satellite imagery using visible and/or near-infrared bands, 3) satellite or airborne radar imagery and 4) lidar. Combinations of different types of remote sensing data (e.g., visible/infrared and radar; different spatial or spectral resolutions) might very well be used for assessing different land use categories or regions. The budget will constrain the quality and quantity of satellite images to acquire. In general terms, easier to monitor land categories and easier land changes should rely on lower resolution products to minimize costs and to allocate budget for more detailed requirements of remote sensing analysis (e.g. degradation). A complete remote sensing system for tracking land use conversions can include many sensor and data type combinations at a variety of resolutions. As a minimum requirement, it is recommended to use Landsat-type remote sensing data (30m resolution) for each annual reporting period. Presently the only free global mid-resolution (30m) remote sensing imagery are from NASA US archive (USGS). Brazilian/Chinese remote sensing imagery from the CBERS satellites as well as Indian IRS data are also now freely available for Zambia. Algorithms to detect LU changes will have to be tailored to each country and to each selected sub-strata (e.g. for each forest type, management practice, and selected carbon pool). Specific categories and sub-categories are likely to require different detection thresholds.
- vi) Analysis, processing and interpretation of multi-temporal RS imagery:
 - Pre-processing: Geometric corrections (geo-location accuracy < 1 pixel, i.e. <30m for Landsat imagery), cloud removal, radiometric transformations.
 - Processing/Analysis: A hybrid approach combining automated digital segmentation and/or classification techniques with visual interpretation should be preferred as simple, robust and cost effective method. Classification techniques might differ for each LU/LUC category and sub-category(ies), depending on spectral separability needs.
 - Post-processing (confusion matrices and accuracy assessment): Classification processes must come with information on the accuracy of the area estimates. Ancillary data must be used to assess the quality of the final data. Land use area uncertainty estimates are required as an input to overall uncertainty analysis. It is good practice to run ground validation tests to identify the quality of the final LU/LUC products. Confusion matrices and KHAT statistics are required to produce omission and commission statistics for each selected category and sub-category(ies). Countries also count on national data on LU obtained through periodic

FRA: The methodology developed for this activity covers almost all the REDD reporting requirements (IPCC Approach 3) but needs some improvement on the land use legend (e.g. wetland).

- vii) Assurance and Quality Control: The process to obtain data on LU and LUC is not free of errors. Besides the accuracy assessment associated to the LU/LUC map, it is good practice to run a general Quality Control (QC) to evaluate the accuracy of the measurements taken in the field, the data compilation and the data analysis. The QC must be run by an independent external body. Detailed information has to be included on all methodologies so that sources of errors of each methodological step can be tracked (e.g. data pre-processing, data processing, data post-processing uncertainties).

Multiphase implementation of REDD+ through MRV

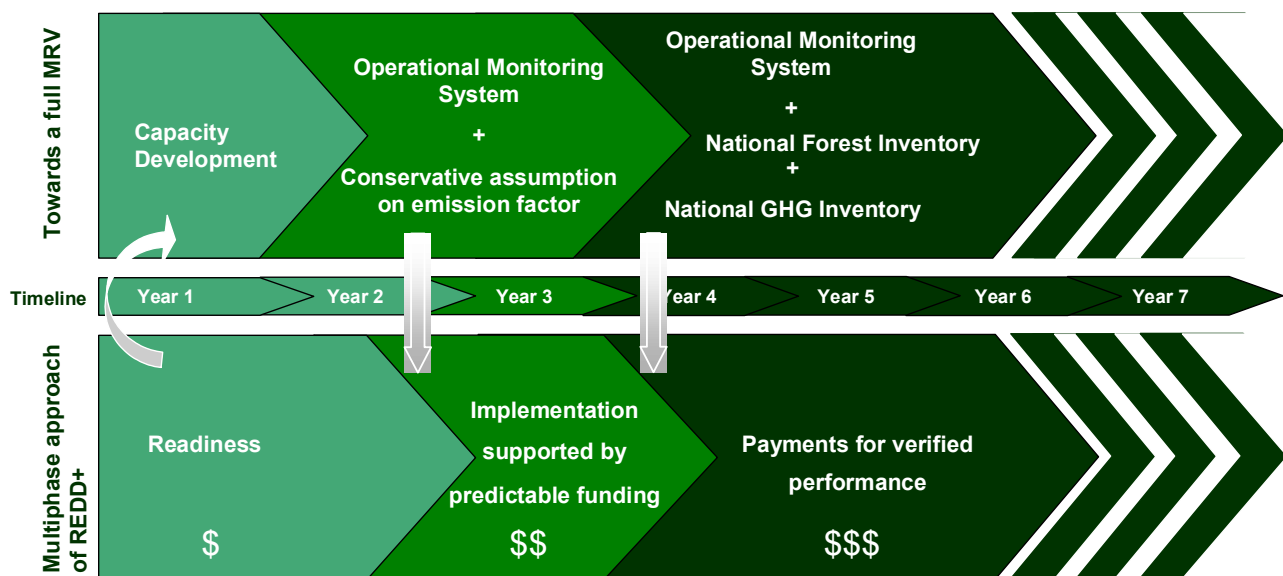


Figure 12. Multiphase implementation of REDD+ through MRV.

Annex 8.3: Deriving an Reference Emission Level and Reference Level for Zambia

The RELs and RLs at national and sub-national level are key elements used to define and quantify the mitigation objectives that Zambia would like to reach through the implementation of REDD+. In doing so, Zambia will have to start establishing its national REL and RL. Once the national REL and RL will be defined and be approved by the UNFCCC, Zambia will have to define a national strategy for REDD+ implementation according to possible and potential emission reduction and removals enhancement.

The REL and RL for Zambia will be developed starting from the historical data and will be adjusted for the national circumstances, thus the objective of this component is the establishment of the historical emissions level and the adjustment to national circumstances. Historical forest area will be assessed. Several regional studies regarding historical trend on forest area have been realized in Zambia, mainly by ESP, FSP, FRMP and FAO. These studies were mainly realized through field inventory, only a few by means of satellite remote sensing data. To assess the activity data, it will be evaluated whether it will be more appropriate to follow a sampling (JRC-FAO) or a wall-to-wall (SDSU-WHRC) methodological approach. In order to ensure consistency with the historic data and the future estimates, the methodologies that will be adopted to estimate activity data for REL and RL should be the same methodologies that Zambia will adopt for its new Satellite Land Monitoring System (see Outcome 5).

Zambia will assess its historical data to assess REL and RL using RS data from 1990 to 2005. The justification for doing this is that starting from 1990, it is possible to use the most comprehensive satellite data sets at national scale. This choice should allow Zambia to have two-three data points of intervals from five to ten years to assess the historic trend in forest area extension. In order to ensure data consistency between the assessment of the historical data on emission and removals and the assessment of forest carbon stock changes during REDD+ implementation, the measurement on the historic data will be realized by the same technical structures as those that will be used for the national MRV system (see Outcome 5).

The assessment of the estimates for the historic carbon stock changes will be realized following the methodological indications of the most recent Guidance (IPCC GPGs 2003) and Guidelines (IPCC AFOLU 2006). The estimates will be based on combinations of remote sensing data and field inventory data.

Annex 9: Terms of Reference

Multi-sectoral Technical Committee

The Multi-sectoral Technical Committee will be made up of representatives from various institutions and will be a forum to build consensus and get technical advice on various issues related to national development, especially on issues linked to drivers of deforestation. Secretarial services will be provided by the RCU and the National Coordinator will ensure that all documents relevant to meetings are circulated in time to ensure informed advice and decisions are sought during the meetings. The committee will meet at regular intervals as stipulated by the guiding principles of the Committee. The Committee will recommend actions of policy nature to the Joint Steering Committee and those of technical nature to the RCU for action. The Multi-sectoral Technical Committee will be made up of members from the following Ministries and institutions:

- a. Ministry of Agriculture and Cooperatives
- b. Ministry of Lands
- c. MEWD (Energy + Water)
- d. Ministry of Community Development and Social Services (MCDSS)
- e. Ministry of Justice
- f. Ministry of Finance
- g. Civil Society
- h. Private Sector
- i. MTENR (PID, FD, ECZ, ZAWA, ENRMD)
- j. Central Statistics Office
- k. Ministry of Commerce, Trade and Industry
- l. Academia

These members will act as REDD+ focal points within each ministry. The Multi-sectoral Technical Committee will also include members from NGOs (such as the Zambia Community Based Natural Resource Management Forum (ZCBNRMF), an 'apex' organisation for NGOs working in natural resource issues), CBOs and the private sector.

Responsibilities of the Multi-sectoral Technical Committee will include the following:

- Provide overall technical guidance on programme activities and enhance stakeholder and institutional consensus building.
- Enhance coordination and collaborative approach of programme activities across institutions and ensuring effective partnership between implementing ministries and institutions.
- Advice on issues brought to its attention by the RCU aimed at strengthening effective implementation of the programme.
- Advise on defining the functions, responsibilities, and delegation of powers for the implementing agencies and the RCU.
- Oversee and manage the activities undertaken by Working Groups formulated to address specific areas.
- Make policy-related recommendations to the Joint Steering Committee of the Environment and ENRMMP.
- Provide guidance on the implementation of REDD activities by various institutions.
- Review workplans and reports of the REDD implementation and make recommendations.
- Review proposed activities and make recommendations on the need for specific in-depth studies.
- Advise on the identification of strategies and development of the National REDD+ Strategy.
- Provide a forum for technical advice and adherence of REDD demonstration projects that will feed into the National REDD+ Strategy.

Thematic Working Groups

The Thematic Working Groups will be made up of experts in a particular theme drawn from key institutions and individual experts as required. The Thematic Working Groups will be to provide in depth considerations on specific topics, and to make recommendations on needed actions. The working groups will consult with local communities and relevant parties where necessary, according to best practice as described in the UN-REDD Operational Guidance for Stakeholder Engagement document¹³⁸, in order to ensure participation and representation. The composition and duration of operation of working groups will vary according to the identified needs. The recommendations of the Thematic Working Groups will be presented to and discussed within the Multi-sectoral Technical Committee.

REDD+ Coordination Unit (RCU)

The RCU will work closely with the Multi-sectoral Technical Committee to facilitate the NJP. It will be responsible for the following:

- Facilitating day to day management of the NJP.
- Contracting of consultants when need arise.
- Undertaking monitoring and evaluation of the implementation of NJP.
- Ensuring that the National REDD+ Strategy is prepared through a consultative process.
- Coordinating workshops and consultants.
- Providing operational guidance to the NJP.
- Coordinating national REDD+ activities.
- Ensuring whole-of government responses.
- Integrating REDD+ into national development planning processes.
- Managing pooled finances.

The RCU will be housed within the Forestry Department of MTENR. Long-term technical assistance will be provided by the United Nations organisations (UNDP, FAO and UNEP) and will be procured by the RCU in order to ensure that the relevant roles are adequately filled and the unit possesses appropriate knowledge to facilitate REDD+ implementation in all sectors. The RCU will have the following implementation units and staff:

A. REDD+ National Coordinator

Under the immediate supervision of the Chief Extension Officer, the REDD+ National Coordinator will administer and coordinate the REDD Initiative, and work as a team member in the Forest Management Unit of the Forestry Department. Additionally, the National Coordinator will control the quality of the NJP by ensuring high standards of the activities that are undertaken. Other staff within the RCU will report directly to the National Coordinator and the Multi-sectoral Technical Committee will work closely with the National Coordinator.

Responsibilities

- Representing the GRZ in reviewing and approving annual and quarterly work plans and budgets.
- Representing the GRZ in approving and signing contractual documents related to the implementation of the UN-REDD programme.
- Chairing the programme management committee.
- Serving as secretary to the Programme Executive Board, thus being responsible for ensuring that decisions taken by the board are acted upon.
- Liaising with all national and international development partners contributing to REDD readiness to ensure coordination among agencies.

¹³⁸ UN-REDD Operational Guidance: Engagement of Indigenous People and Other Forest Dependent Communities. Working Document, June 2009.

- Reviewing and approving ToRs for consultants and companies qualified to provide specific inputs to the programme, and to review and approve the selection of consultants and companies.
- Giving presentations or describing progress and results of the programme for national and international workshops and other events.
- Ensuring high level political commitment to REDD within the GRZ.
- Facilitating ongoing monitoring and evaluation of Fund-supported activities in conformity with UN standards and any guidance provided by the Technical Committee.
- Initiating, coordinating, supporting and monitoring the overall project activities implemented in collaboration with the partners.
- Managing close coordination of activities among the partners and other similar institutions implementing REDD process within Zambia.
- Liaising with the Ministries in developing a National REDD+ Strategy in close collaboration with working groups of the interdisciplinary team.
- Initiating, managing, and coordinating various project activities, as well as preparing the project reports and project proposals where necessary that will feed into the National REDD+ Strategy.
- Assuming the responsibility of head of the RCU and carrying out responsibilities for approval and maintenance of the funds.
- Reporting programme progress quarterly to the Director of Forestry through the Chief Extension Officer.
- In collaboration with the accountants, following rules for overall management, ensure financial aspects monitoring and facilitate programme auditing.
- Ensuring that programme funding transferred to the partners to implement specific activities is effectively used for the purpose.
- Making recommendations for the recruitment of consultants and working closely with such technical assistance in order to generate required results.
- Organising routine meetings of Multi-sectoral Technical Committee and programme partners and acting as member secretary of the Multi-sectoral Technical Committee.
- Enabling and supporting dissemination of results and research findings to targeted partners at the national level, and with other stakeholders.
- Working as a team player to seek support from other relevant partners to promote the REDD process.
- Working closely with the Working Groups of interdisciplinary teams and maintaining professional collaboration with colleagues from partner institutions.

With reference to the ILUA II Project (MRV development) the National Coordinator will be responsible for:

- Ensuring that the information provided by ILUA II can be used optimally in the anticipated REDD mechanism.
- Working closely with other RCU members to implement the project activities as planned.
- Ensuring coordination with ILUA II activities and REDD+ activities to avoid overlaps and gaps.
- Participating in planning, running and servicing forums as planned in the programme.
- Providing recommendations to the ILUA National Coordinator on establishing the national approach and long term monitoring process of REDD+.
- Ensuring that the MRV system developed meets both international and local level forest management and stakeholder's needs.

Qualifications

- Post graduate degree in Environmental Science, Natural Resource Management, Environmental Economics, or similar.
- At least five years of working experience on conservation and resource management in Zambia.

- Strong inter-personal skills, especially oral communication skills.
- Proficiency in both spoken and written English.
- Good computer literacy, and hands on experience with data management and data analysis desired.

B. MRV Officer

The MRV Officer will work with the REDD+ National Coordinator and focal points for REDD+ at MTENR. The objective of the MRV Officer is to lead the process of developing robust monitoring and reporting systems in order to meet national and international requirements. The technical expert will also be expected to link the work of the REDD+ programme (MRV) to that of the NFI ILUA for Zambia. Both are relevant in helping Zambia prepare for REDD+.

Responsibilities:

- Preparing, in collaboration with the REDD+ national coordinator, an updated detailed work plan for the MRV and submitting it to the project team for review.
- Working closely with the REDD+ coordinator and the other national counterpart personnel to implement the MRV activities as planned.
- Working closely with the REDD+ coordinator to refine the approach to national forest carbon and tree resources assessment based on the FAO approach to MRV and taking into consideration MRV needs for Zambia.
- Assisting the REDD+ coordinator and the other national counterpart personnel in elaborating a training programme to the national staff assigned for the implementation of the office and in field MRV activities.
- Assisting the national counterpart personnel and other national and international personnel to strengthen FD for future carbon monitoring and information management.
- Assisting the Forestry Department in planning, running and servicing the workshops and seminars planned in the MRV (including *inter alia* informative seminar, workshops on the MRV approach, information and capacity building needs and MRV findings).
- Assisting in securing wide consultation to establish national consensus on the MRV approach and long-term monitoring process.
- Assisting in selecting and procuring equipments and supplies for the MRV component of the REDD+ national programme.
- Assisting in organising and supervising the fieldwork for timely implementation of the MRV activities.
- Assisting in supervising the mapping activities and deployment of the needed resources.
- Preparing, in collaboration with the REDD+ coordinator, periodic progress reports on MRV for submission to FAO and the Government of Zambia.
- Preparing the Terminal report of the MRV.

Qualification: The expert should have an advanced University degree in Forestry/Environment or related field, at least 10 years of relevant experience in the field of forest resources monitoring and assessment, relevant experience in developing countries, strong background in remote sensing, forest inventory design and planning and in forestry policies. He/she must be competent in forest information system development and information management and have confirmed experience in capacity building, forest modelling and MRV implementation.

C. Communications Officer

In consultation with the National Coordinator, the Communications Officer will play a key role in improving the visibility of the UN-REDD Programme by raising awareness of the UN-REDD Programme internally and externally. The Officer will also ensure that appropriate outreach programmes and plans meet the required standards. The Communications Officer will be responsible for sourcing, writing and editing new content/articles for the UN-REDD Programme website, e-Newsletter, relevant publications, and will also undertake evaluation of the communication and outreach strategies and make recommendations. He/she will be under the direct supervision of the National Coordinator.

Responsibilities:

- Facilitate the development of the communication strategy.
- Organise venue and materials required for Technical Committee meetings.
- Identify success stories and promotes their communication to key audiences.
- Establish appropriate information-sharing relationships with NGOs, government agencies and academic institutions in the region.
- Establish effective systems for management of communications materials (e.g. photographs, publications, reports).
- Ensure that events including study tours, regional meetings, and national-level activities are organised as planned.
- Produce high quality communication materials, including press releases, news and magazine articles, newsletters, technical reports, updated website information, brochures, etc.

D. Monitoring and Evaluation Officer

The M&E Officer will report to the National Coordinator. He/she will assist the programme team (including implementing partners) in the planning, implementation, and delivery of reports, knowledge products and other results approved in the programme document and AWP. Furthermore, the M&E expert will provide support on the ground, where necessary, to closely evaluate progress and barriers and to prepare detailed quarterly, annual, and other monitoring reports.

Responsibilities:

- Designing and implementing a system to identify, collect, analyze, document and disseminate lessons learned.
- Establishing the overall results-based M&E strategy in accordance with M&E plans outlined in the programme document.
- Providing timely information regarding the performance of the programme to the Technical Committee, Project Coordinator, and RCU.
- Developing questionnaires and other data collection tools (together with subject matter specialists), for collecting information to be reported in technical M&E reports.
- Guiding and coordinating the review of the NJP, including:
 - a. Providing technical advice for the revision of performance indicators.
 - b. Conducting a baseline study at programme initiation (together with an expert consultant).
 - c. Identifying and deciding on: i) sources of data; ii) data collection methods; iii) data collectors; iv) frequency of data collection; v) cost of data collection; and vi) data analyses.
 - d. Ensuring that all critical risks are identified.
- Coordinating the preparation of all programme reports. This will include guiding programme staff and executing partners in preparing their progress reports in accordance with the approved reporting formats (e.g. quarterly progress reports, annual programme reports, inception reports, and *ad hoc* technical M&E reports) and ensure their timely submission.

- Training and involving primary stakeholder groups in the monitoring and evaluation of activities in order to facilitate participatory planning and monitoring.

In addition, the following staff will be recruited by the UNDP under the UN-REDD 'quickstart' programme:

E. Financial Management Assistant

This will facilitate pooled financial management at the RCU to coordinate the advances from the three UN organisations.

F. Driver/Admin Assistant

Annex 10: Logical Framework Matrix

Table 9: Logical Framework Matrix

Result	Implementing Partner	Related Activities	Indicator	Baseline	Proposed target	Means of verification	Risks and assumptions
Outcome 1: Capacity to manage REDD+ Readiness strengthened.	MTENR, MFNP, MEWD, MoL, MCT, MACO		<ul style="list-style-type: none"> Institutional framework to manage REDD+ adopted (yes/no). 	<ul style="list-style-type: none"> no 	<ul style="list-style-type: none"> yes 	<ul style="list-style-type: none"> Progress reports Workshop proceedings 	The slow implementation of REDD+ Readiness by the GRZ may negatively impact on project outcomes.
Outputs from Outcome 1: 1.1: REDD+ Readiness coordination and management established and functioning. 1.2: REDD+ Readiness process integrated into the national development planning process. 1.3: Communication and advocacy strategy as input in overall climate change strategy developed and implemented. 1.4: Mapping and gap analysis of relevant initiatives undertaken.							
Result	Implementing Partner	Related Activities	Indicator	Baseline	Proposed target	Means of verification	Risks and assumptions
Outcome 2: Broad-based stakeholder support for REDD+ established.	MTENR, Ministry of Justice and Legal Affairs		<ul style="list-style-type: none"> Stakeholder workshops held. Number of women involved in stakeholder workshops. Procedures to facilitate stakeholder engagement systems adopted (yes/no). 	<ul style="list-style-type: none"> 3 workshops held unknown no 	<ul style="list-style-type: none"> x workshops held 50% yes 	<ul style="list-style-type: none"> Progress reports Workshop proceedings Reports 	Conflicts among stakeholders as regards roles in the project leading to uncoordinated implementation of REDD+.
Outputs for Outcome 2: 2.1: Stakeholders engagement process functioning. 2.2: Conflict Resolution and redress mechanism reviewed.							
Result	Implementing Partner	Related Activities	Indicator	Baseline	Proposed target	Means of verification	Risks and assumptions
Outcome 3: National governance framework and institutional capacities for the implementation of REDD+ strengthened.	MTENR, Ministry of Justice and Legal Affairs, MCDSS, MLGH, MFNP		<ul style="list-style-type: none"> Procedures to facilitate institutional capacity and legislative framework adopted. Financial and benefit-sharing models adopted (yes/no). 	<ul style="list-style-type: none"> Forest policy under review no 	<ul style="list-style-type: none"> Changes to national policy approved yes 	<ul style="list-style-type: none"> Progress reports Reports Awareness and capacity impact studies at mid- and end-term 	The slow pace of policy modification may mean that identified policy changes are not implemented in a timely fashion.

Outputs for Outcome 3: 3.1: Institutional capacity to implement REDD+ framework developed. 3.2: National REDD+ Strategy process integrated into the national development planning process. 3.3: Legislative framework to facilitate implementation of REDD+ strengthened. 3.4: Mechanism to administrate and channel REDD+ finance established. 3.5: Benefit-sharing model approved.							
Result	Implementing Partner	Related Activities	Indicator	Baseline	Proposed target	Means of verification	Risks and assumptions
Outcome 4: National REDD+ strategies identified.	MTENR, MFNP, MCT, MoE, MCDSS, MLGH		<ul style="list-style-type: none"> List of appropriate REDD+ candidate activities produced. 	<ul style="list-style-type: none"> 9 REDD+ candidate activities identified 	<ul style="list-style-type: none"> All REDD+ candidate activities identified 	<ul style="list-style-type: none"> Report 	Poor co-ordination among implementing and executing institutions leading to delays in deliverables.
Outputs from Outcome 4: 4.1: Drivers of deforestation and forest degradation assessed. 4.2: Candidate activities for REDD+ identified.							
Result	Implementing Partner	Related Activities	Indicator	Baseline	Proposed target	Means of verification	Risks and assumptions
Outcome 5: MRV capacity to implement REDD+ strengthened.	MTENR, MFNP, MCDSS		<ul style="list-style-type: none"> Recommendations from MRV reviews implemented. Procedures and management of REDD+ MRV systems adopted. 	<ul style="list-style-type: none"> No REDD+ elements captured in the national MRV system no 	<ul style="list-style-type: none"> 100% of the REDD+ elements captured in the national MRV system yes 	<ul style="list-style-type: none"> Reports Progress reports 	Delays in the release of funds could impede progress and prevent deliverables being achieved on time.
Outputs for Outcome 5: 5.1: REDD+ integrated with forestry inventory system (ILUA). 5.2: Operational Forest Monitoring System established and institutionalized. 5.3: GHG emissions and removals from forest lands estimated and reported.							
Result	Implementing Partner	Related Activities	Indicator	Baseline	Proposed target	Means of verification	Risks and assumptions
Outcome 6: Assessment of REL and RL undertaken.	MTENR, MFNP, MCDSS, MLGH		<ul style="list-style-type: none"> Report on the dynamics of forest cover and carbon stock. 	<ul style="list-style-type: none"> No reference scenario 	<ul style="list-style-type: none"> Reference scenario completed 	<ul style="list-style-type: none"> Reports 	Limited human resources in the country may limit project implementation.
Outputs for Outcome 6: 6.1: Historical rates of forest area and carbon stock changes reviewed. 6.2: National circumstances assessed.							

Annex 11: Risk Log

Description of risk	Potential consequences	Counter measure/ management response	Type	Probability and Impact	Owner	Submitted by/updated by	Last Update	Status
Slow implementation of REDD+ Readiness by the GRZ.	May negatively impact on project outcomes.	Substantial capacity building within government throughout UN-REDD implementation.	Strategic, Operational	P=3 I=3				
Slow pace of policy modification.	Identified policy changes are not implemented in a timely fashion.	Substantial capacity building within relevant ministries throughout UN-REDD implementation.	Strategic, Operational	P=3 I=2				
Limited human resources in the country.	May limit project implementation.	Substantial capacity building within government throughout UN-REDD implementation.	Operational	P=2 I=3				
Delays in the appointment and recruitment of staff	May hamper project implementation.	High level buy-in to ensure rapid staff procurement.	Operational	P=2 I=4				
Limited ownership and understanding of UN-REDD programme in government beyond MTENR.	Slow progress of NJP and REDD+	Substantial capacity building within government throughout UN-REDD implementation.	Strategic, Operational	P=2 I=3				
Shortage of expertise on REDD in the country.	Slow progress of NJP and REDD+	Substantial capacity building within government throughout UN-REDD implementation.	Strategic, Operational	P=3 I=3				
Delays in reaching consensus on the climate change response strategy.	Slow progress of NJP and REDD+	Facilitate decision-making by convening workshops with appropriate stakeholders.	Strategic, Operational	P=2 I=3				

Scattered and incoherent messages on climate change.	Hamper the effectiveness of the Climate change communication and Advocacy Strategy.	Raise awareness with relevant stakeholders with regards to climate change. Additionally, ensure that the Climate Change Communication and Advocacy Strategy should include strong, clear and consistent messages related to climate change.	Strategic, operational.	P=3, I=2				
Delays in reaching consensus on the Communication and Advocacy Strategy.	Hamper the implementation of the Climate change communication and Advocacy Strategy.	Set realistic deadlines in discussion with stakeholders.	Strategic, operational	P=2 I=2				
Delays in reaching a consensus on the extent and nature of stakeholder consultations required.	May hamper project implementation.	Set realistic deadlines with relevant stakeholders.	Strategic, operational	P=2 I=2				
Limited human and financial resources for civil society participation.	May hamper project implementation and/or effectiveness.	Effective administration, capacity building and planning to maximise on available resources.	Strategic, operational	P=2 I=2				
Political interference particularly in land-related issues.	May hamper the implementation of project activities.	Substantial capacity building within government throughout UN-REDD implementation.	Political	P=2 I=4				
Delays in implementing government reforms: restructuring of the Forestry Department and decentralization.	May hamper project implementation and/or effectiveness.	High level buy-in to ensure limited delays.	Political	P=2 I=3				
Developed country interest on REDD+ not sustained.	Limited success of project activities.	Substantial capacity building within government throughout UN-REDD implementation. Raise awareness of						

		communities to the benefits associated with the programme; build on the experience of other projects undertaking community-level interactions; ensure grassroots participation from early planning stages through community participation.						
Lack of political will to disclose governance and other sensitive information.	Slow progress of NJP and REDD+.	Raise awareness within government institutions about the importance and relevance of REDD+.	Political	P=3 I=3				
Delays in implementing legislative reforms.	Slow progress of NJP and REDD+.	Raise awareness within government institutions about the importance and relevance of REDD+.	Political, organisational	P=3 I=3				
Delays in the international decisions for REDD+ funding.	Slow progress of NJP and REDD+.	Keep abreast of opportunities for REDD+ funding through all markets: formal and informal, in order to maintain momentum with rolling out projects on the ground. Approach donors for additional funding until such decisions are undertaken.	Political, organisational	P=2 I=3				
Delays in reaching consensus on administration of climate change funds including REDD+.	Slow progress of NJP and REDD+.	Ensure high level buy-in to ensure decision making is taken at a high level.	Political, organisational	P=2 I=2				
Difficulties in reaching consensus on equitable benefit-sharing.	Poor implementation; Slow progress of NJP and REDD+.	Ensure high level buy-in to ensure decision making is taken at a high level.	Political, organisational	P=2 I=3				
Difficulties in identifying suitable livelihoods in certain	Poor implementation; Slow progress of NJP and REDD+.	Undertake intensive literature review regarding potential livelihood options, in	Regulatory, organisational	P=3 I=4				

communities.		particular of lessons learned of similar projects piloting alternative livelihoods to ensure that appropriate livelihoods are selected and piloted. Importantly, community members must be consulted during the process.						
Overlap of functions of ILUA and MRV.	Poor implementation; Slow progress of NJP and REDD+.	Roles and complementarities must be explored during project implementation.	Organisational	P=2 I=2				
Delays in cell establishment and personnel training.	Poor implementation; Slow progress of NJP and REDD+.	Set realistic deadlines and follow project work plans.	Operational.	P=2 I=2				
Broad assessment scope may be challenging in the specified time period (related to assessments to be undertaken as part of Outcome 6).	May result in unrealistic assessments and the production of results that do not adequately reflect the actual situation.	Set realistic deadlines in consultation with relevant stakeholders and select realistic and representative sample size.	Operational.	P=2 I=2				
Limited development of internal technical capacity in institutions.	Poor implementation; Slow progress of NJP and REDD+.	Substantial capacity building within government throughout UN-REDD implementation.	Strategic, Operational	P=3 I=3				
Communities may not adopt REDD+ activities.	Limited success of project activities.	Raise awareness of communities to the benefits associated with the programme; build on the experience of other projects undertaking community-level interactions; ensure grassroots participation from early planning stages through community participation.	Strategic	P=2 I=4				

Communities involved in REDD+ go without income or energy for cooking for short periods.	Communities revert to former activities that promote forest degradation and deforestation.	Specific focus within REDD+ alternative livelihood development on building resilience for such periods.	Organisational, Strategic	P=3 I=3				
Poor enforcement and monitoring of policies/legislation.	No change in forest management; Policies are not implemented.	Promotion of national support for the training and supply of relevant supervisory and enforcement bodies.	Regulatory	P=3 I=3				
Enforcement of REDD+ policies in the absence of suitable livelihood creation programmes and land tenure revision.	Creation of social injustices; Rent-seeking; Corruption; Evictions of local communities.	Prioritise a review and revision of land tenure; Ensure valid alternative livelihoods are developed.	Regulatory	P=2 I=4				
Inadequate participatory forest management systems and forest benefit-sharing mechanisms developed.	Conflict between beneficiaries and non-beneficiaries; Poor community uptake and reduced project effectiveness.	This may be minimised in the future as a result of the consultative review and revision of the Forestry Policy carried out in 2009.	Operational, Strategic	P=2 I=5				
Poorly-developed land use plans cause leakage of activities to areas outside of forests.	Negative impact on non-forest biodiversity.	Assessment of leakage potential in land use strategy development.	Strategic, Regulatory	P=2 I=2				
Ecological risks such as fires, natural disasters, pests and diseases exacerbated as the climate warms as a result of climate change.	Reduced carbon stocks in forest ecosystems.	Robust environmental monitoring.	Environmental	P=3 I=4				

Changing distribution of woodlands and forests in response to climate change.	Unpredictable effects on long-term carbon storage.	Land use planning must take local climate change models into account.	Environmental	P=2 I=4				
Poor coordination among implementing and executing agencies.	Delays in deliverables.	Clear project management arrangements; Comprehensive M&E programme (Output 3.2) will pick up early warning signs.	Political	P=4 I=3				
Delays in release of funds.	Impeded progress and prevention of deliverables being achieved on time.	Effective administrative planning.	Organisational	P=3 I=3				
Conflicts among stakeholders as regards roles in the project.	Uncoordinated approach to project implementation.	Clear statement of each stakeholder's role in the stakeholder involvement plan.	Organisational, Political	P=3 I=2				
Failure to address gender equity and women's empowerment.	Inequitable distribution of project benefits.	Capacity building in gender analysis, accountability and mainstreaming; Adopting gender affirmative action in all project activities.	Organisational	P=3 I=3				
Regional instability could prompt migration into the country.	Increased pressure on natural resources.	Reduce impacts of population on natural resources.	Political, Regulatory	P=2 I=3				