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NATIONAL PROGRAMME
POLICY BRIEF

FOREST MANAGEMENT PRACTICES WITH POTENTIAL FOR REDD+ IN ZAMBIA

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This policy brief reviews and describes forest and land management practices; assesses and prioritises the forest and land management practices for their potential for REDD+; and, develops an analytical framework that demonstrates suitable forest and land management practices with the greatest potential for REDD+. Recommendations for optimally suitable forest management categories, approaches and management structures at the local level for the successful implementation of REDD+ in Zambia are provided. Key threats to Zambia's environmental resources are primarily caused by anthropogenic activities, and include unsustainable agriculture practices, charcoal production, illegal harvesting, mining operations and expansion, and poor governance. Natural or human-influenced climate change is a threat magnifier. Ecosystem and species diversity changes are directly affected by anthropogenic activities in areas under protection, encroachment, or by direct exploitation of resources. Forest management practices are grouped into the protected areas system, commercial plantations of *Eucalyptus* and *Pinus* species, certification standards for natural and plantation forests, joint forest management (JFM) and management of forests on customary land. Land management practices with relevance to forest management include the chitemene system, agroforestry, conventional smallholder agriculture, conventional commercial agriculture, improved conservation agriculture, beekeeping and community-based natural resources management (CBNRM). Forest management and land use categories most suitable for REDD+ are agroforestry practices, management of bee reserves for beekeeping, JFM (in protected forest areas and forests on customary land) and CBNRM.

Forest Management Practices

Protected areas (PAs), established under the Forest Act No. 39 of 1973 and Wildlife Act of 1998 are the local forests (LFs), national forests (NFs), national parks (NPs) and game management areas (GMAs). The protected area system for Zambia covers about 40 percent of Zambia's land surface. Zambia has a substantial area of forested PAs of the International Union for Conservation of Nature (IUCN) Class I & II with World Resources Institute (WRI) estimating 683 Class I & II PAs with an extent of 31 million hectares. Seven categories of public-managed (PAs) are

legally recognized. **NFs** are established to conserve water catchments and biodiversity. The Forestry Department (FD) manages protected forests (PFs). Harvesting or other activities are restricted in NFs unless under special licences authorised by the FD. Management tools for NFs and LFs are management plans and the licensing for harvesting. **LFs** are established to meet the needs for timber and non-timber forest products (NTFPs) of local people. Institutional arrangements governing LFs are the same as those for NFs. Harvesting of wood products from LFs is through licences authorised by the FD while the harvesting of NTFPs is strictly regulated. **NPs and GMAs** are designed to protect biodiversity. Harvesting of any products including wood and NTFPs in addition to wildlife from the NPs is prohibited. Hunting and human settlements are only allowed in GMAs. Zambia Wildlife Authority (ZAWA) manages the NPs while GMAs are managed in collaborative arrangements with the local community. Management tools for the NPs and GMAs are management plans.

Pre-independence District Forest Management Plans were established prior to 1964 within a land-use (LU) planning framework based on the forest and other natural resources (NRs) endowment of a district. Based on the NRs inventory of a respective district, the forest area of the district was demarcated for various uses and conservation requirements such as areas for wood provision to the local communities, water conservation, biodiversity conservation, and agricultural activities for the local population Commercial Plantation establishment was driven by the need to supplement limited timber supply from low-yielding indigenous forests with plantation timber for the mining industry. Commercial plantations consist of species of *Eucalyptus* and *Pinus.* Major plantations on the Copperbelt are managed by the semi-autonomous Zambia Forestry and Forest Industries Corporation. Management tools for plantations are plantation management plans. Forest certification is a system of voluntary standards and conformance used to demonstrate the practice of Sustainable Forest Management (SFM). There are currently no natural or plantation forests that are certified in Zambia. JFM is a management approach that divides management responsibility and returns from a JFM forest between government, forest-based communities, private sector and NGOs. JFM has only been piloted with no current forests under an established JFM arrangement. Forest management on customary land is the oldest forest management practice in Zambia even though little has been documented regarding the practice. The Barotse NRs management system is the forerunner to institutionalised national forest management in Zambia. Forest management on customary lands has been confined to management for non-wood forest products (NWFPs), sacred groves, natural springs, burial grounds and special royal hunting and burial areas.

Past and Existing Land Use & Management Practices

Shifting cultivation is a form of traditional agroforestry (AF) and in northern Zambia the chitemene system represents a special form of AF in which large trees are pollarded or lopped to harvest branches, which are piled and burnt to fertilize the cropland. A number of food crops (maize, cassava, millet, beans) are grown in the cropland in well developed cropping patterns over a cycle of three years. The field is then abandoned and left fallow to allow for regeneration from tree stumps. Agroforestry is a LU system in which trees and shrubs are grown or managed in association with crops or animals in the same land unit and provides service and productive functions**. Conventional smallholder agriculture** is a form of agriculture where there is clear-felling of trees to allow for ease of weeding and fertilizer application and burning of organic matter at land preparation to cut down on the labour requirement for ploughing. Farmers compensate decline in fertility and grazing after several cropping cycles by opening up natural forests for cropland. **Conventional commercial agriculture** includes development of a farm field, farm forestry and application of methods that maximize productivity of land. Large tracts of forest land are cleared to meet the market demand for crops. **Conservation agriculture** emphasises

limited use of inorganic fertilizers and minimum tillage to conserve moisture and soil fertility. An example is tree-crop intercropping and efficient cycling of organic matter from crop residues, thus discouraging burning of organic matter. Organic farming, if it is successful, could contribute to creating permanent agriculture for small-scale farmers. The relationship between beekeepers and the woodland is multi-faceted. Beekeepers are dependent on the forest, but damage the forest when they harvest bark for hives. The success of improved technologies such as top bar hives can eventually offset the use of bark hives. CBNRM is focussed on four main elements: sustainable use as a conservation paradigm; economic incentives assigned to a resource enhances value realized by the community; devolution of management from government to local institutions and collective proprietorship.

Technical Considerations for REDD+ Implementation

National REDD+ implementation is dependent on reliable and credible systems for measuring, reporting and verifying (MRV) changes in carbon stocks. Minimal capacity needed for measuring and reporting carbon stocks exists nationally. Opportunities exist to establish an MRV system with support from the National Joint Programme (NJP) and the second phase of the Integrated Land Use Assessment of Zambia (ILUA II). NJP and ILUA II should technically synchronize so ILUA II feeds into national MRV. The MRV system should be designed in the context of effective forest and land management practices. Capacity is built at local community level in the monitoring of carbon stocks. Stakeholder collaboration is established with institutions with competencies in GIS/RS applications and the MRV system needs to comply with the Intergovernmental Panel on Climate Change (IPCC) guidelines. PAs offer advantages in terms of baseline, additionality, leakage, land tenure security and permanence. The certification and JFM options also offer good possibilities for the establishment of baselines as management is dependent on comprehensive inventory of resource endowment in well demarcated zones.

Policy and Legislative Considerations for REDD+ Implementation

Sustainable Forest Management (SFM) and REDD+ require cross sector approaches and need a harmonised policy and legal framework for effective implementation. Existing resources under the NJP are better used to influence policy and cross-sector collaboration notwithstanding the comprehensive communication component to be developed under REDD+ strategy. The forest sector should take advantage of the Environmental Management Bill that requires all sectors to develop environmental strategies as a pathway for harmonising implementation of REDD+ compatible policies with sectors that impact on forests and forest resources.

Institutional Considerations for REDD+ Implementation

Governance at all levels is a critical issue for effective REDD+ implementation. Pro-poor REDD+ require improvements in governance at all levels. REDD+ could be informed and contribute to improved governance from community based organizations (CBOs) to the upper tiers of government. An incentive based REDD+ model designed on engagement with the private sector in various forms of private-public-partnerships is an overall principle for REDD+ success. REDD+ focuses on sustainable use rather than resource conservation by establishing an adapted enterprise-based institutional framework with the following elements: business enterprises focussed on sustainable utilization of forest resources; capacity building through experiential learning and institutional-wide participatory forest management approaches; robust institutional linkages for collaborative management; sustainability strategy;

REDD+ sustainability strategy secured through intricate linkages of institutional structures at both district and community levels to legally recognised mainstream structures; innovative financing mechanisms securing a financial base beyond external carbon based funding; activities that are economically viable supported by a forest and land resource base with comparative advantages to supply the raw materials for the identified enterprises; and, adherence to management plans that encourage and support sustainable use practices. Institutional strategic elements include: community and partnership definitions, roles and responsibilities; boundary definitions; tenure, access and exclusion rights; equity and benefit sharing; and environmental considerations.

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