UNITED NATIONS DEVELOPMENT PROGRAMME ETHIOPIA

SUMMARY OF COMMISSIONED STUDY

ETHIOPIA

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Benishangul-Gumuz Regional State REDD+Design:

A Regional model for REDD+ under the UNFCCC Warsaw Framework

Acknowledgment

Dr. Tadesse Woldemariam, a consultant and General Manager at Biome Services PLC, was commissioned by UNDP to undertake this study and write this document.

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I. Introduction

Due to it high dependence on natural resources for economic development, Ethiopia is one of the highly vulnerable countries to the effects of climate change. On the other hand, it is not a major emitter of greenhouse gases that cause climate change, but has a huge potential to mitigate the climate change effect by storing substantial carbon stocks in about 15.3 million hectares of natural forests, wood lands, bamboo and plantation (NFI Report, 2016[1]). Cognizant of this, the government has initiated measures to conserve, develop and sustainably manage forests. This has been clearly demonstrated in the country's development plans (GTP- Growth and Transformation Plan) and long term strategy. The country's overarching medium to long term strategy, the 'Climate Resilient Green Economy (CRGE)' strategy was developed in 2011[2] . The CRGE vision is to build a climate resilient green economy and to make the country carbon neutral by 2025. To this end, the strategy identified eight key sectors that play key role in sustainable development. These include, Reducing Emissions from Deforestation and Forest Degradation (REDD+), soils, livestock, energy, buildings and cities, industry, transport and health (CRGE strategy, 2011[5]).

The forest (REDD+) and agriculture (soils, livestock) sectors play significant role in achieving the CRGE vision, since the two sectors are the sources of around 87% GHG emissions, and also have the highest emissions reduction potential (80%). The abatement potential of the forestry sector alone is over 50% of the total emission reduction target of the country, i.e., 131 $MtCO_2e$ of the 255 MtCO2e estimated reduction by 2030.

Ethiopia has been implementing a national REDD+ Readiness program since January 2013 through the World Banks Forest Carbon Partnership Facility (FCPF) program. Initiation and implementation of sub-national REDD+ programs is part of the national readiness process. In this line, the Government of Ethiopia has recognized the Oromia REDD+ program as a national REDD+ pilot program in May 2013. The Oromia REDD+ program design is nearly completed and entering implementation phase starting from mid-2016.

Building on the lessons learned from national REDD+ readiness process and the Oromia Regional REDD+ program design process, the Government of Ethiopia planned to gradually expand regional level REDD+ programs in four more regional states namely, Amhara, SNNP and Tigray and the Benishangul-Gumuz regional states. The first three are with the support from FCPF and its donors, while the Benishangul-Gumuz initiative is supported by the UN-REDD program, under the UNFCCC Warsaw Framework.

The UN-REDD targeted support project through UNDP and UNEP was initiated at the request of the Government of Ethiopia (GoE) in order to enhance the national REDD+ readiness process, by strengthening capacities of national and regional authorities to understand the multiple values of forests, to drive and coordinate the development of the various REDD+ components, and to design a model for decentralized REDD+ under the UNFCCC Warsaw Framework.

[1]National Forest Inventory Report 2016.
[2]CRGE. 2011. Climate Resilient Green Economy Strategy of Ethiopia, Green Economy Strategy. Federal Democratic Republic of Ethiopia, Addis Ababa.

The Benishangul Regional State is selected for design of model REDD program under the UNFCCC Warsaw Framework. The regional state is one of the nine states constituting the Federal Democratic Republic of Ethiopia. It is located in the northwestern part of the country, between 9°17'-12°06 N latitude and 34°04'-37°04' E longitude. It borders with Amhara regional state in the north and northeast, with Oromia regional state in the south and southeast, and with the Republic of Sudan in the west. With the total area of around 50,381 km^2, the region represents around 4.6% of the total land area of Ethiopia.

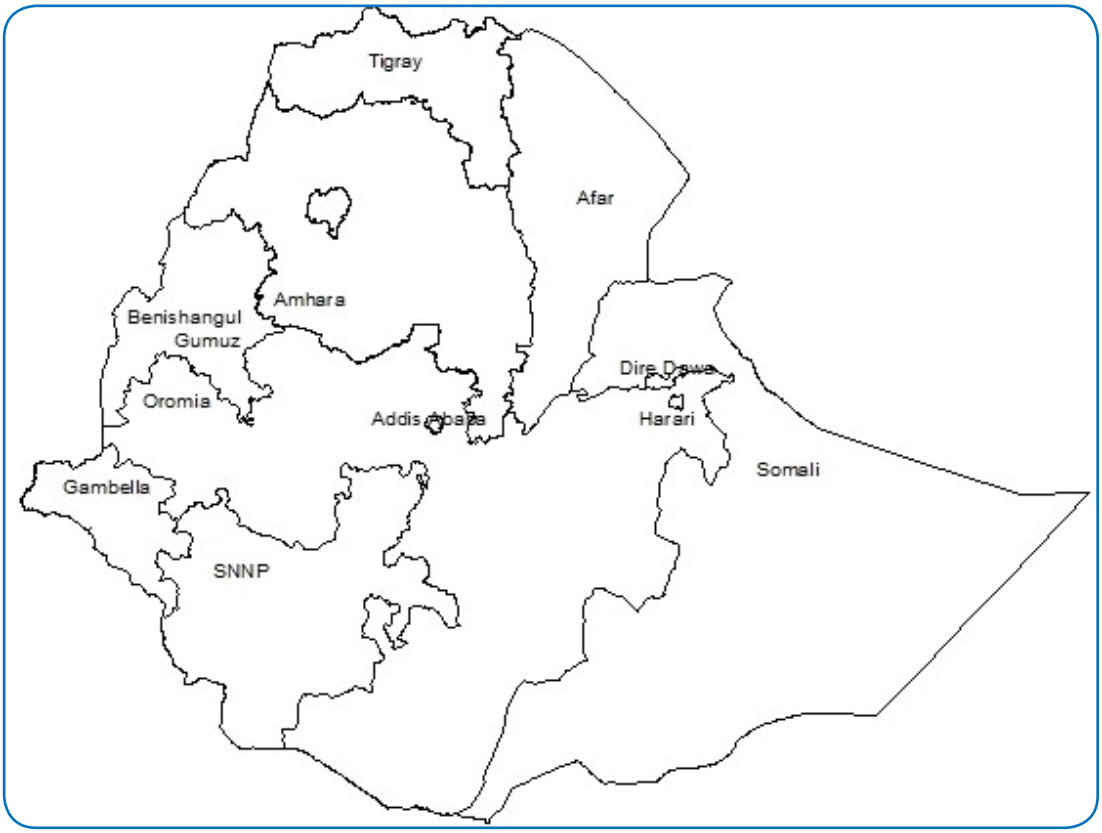

Figure 1. Map of Ethiopia with regional states boundaries

The regional state is endowed forest resources. There are three major natural vegetation types in the region:

- Dry Broadleaved Deciduous Forest (also called Combretum-Terminalia woodland and wooded grassland);
- Dry Evergreen Afromontane Forest, and
- Moist Evergreen Afromontane Forest

The Dry Broadleaved Deciduous Forest vegetation is by far the most dominant in the region. The Dry Broadleaved Deciduous Forest and shrub land vegetation together cover around 3.9 million ha. This is around 25% of the forest cover of Ethiopia, though the regional state only covers around 4.6% of the total area of the country.

The forest resources of Benishangul Gumuz can contribute to Ethiopia's ambition of building a climate resilient green economy, with zero carbon emission through implementation of REDD+ program. REDD+ - stands for Reducing emissions from deforestation and degradation, including forest conservation, sustainable management of forests, and enhancement of forest carbon stocks. REDD+ has been high on the international agenda over the last decade. Over 50% of emission reduction target in Ethiopia's CRGE strategy is estimated to come from implementation of REDD+.

2. Objectives

REDD+ is considered as a potential market-based climate change mitigation measure. It incentivizes forest stewards to sustainably manage existing forests and reduce emissions from deforestation and forest degradation, and also enhance carbon stocks through restoration and reforestation of degraded forests. The potential revenue generated from carbon credits of REDD+ can finance forest management and local development. Hence, UNDP, in collaboration with the Ministry of Environment, Forest and Climate Change (MEFCC) and UNEP initiated the Benishangul Gumuz REDD+ program.

UNDP Country office has hired REDD+ Technical Advisor to support the regional program design process, including institutional and technical capacity needs assessment, capacity building trainings, preparation of regional REDD+ program design documents like the roadmap, transition to investment and implementation framework. The REDD+ Technical Advisor, Dr. Tadesse Woldemaraim Gole, has finalized and submitted the reports in May 2016.

The program aims to develop a model regional program under the UNFCCC Warsaw Framework. This allows the GoE to build institutional and technical capacities of the regional authorities for coordination, in order to attract funding under the UNFCCC framework and engage into the REDD+ investment phase, through nationally coordinated policy and measures.

3. Methodology

In order to generate information and accomplish the tasks of designing pilot regional readiness and investment plans, documents analysis, consultation meetings, key informants interview, and field observations were conducted.

Document analysis: this involveed in-depth review of international, national and regional policy documents relevant for the forest sector and REDD+; synthesis of different national preparatory studies like drivers of deforestation, safeguards, National Forest Monitoring and MRV system for REDD+ readiness; national REDD+ strategy; national and regional state plans and strategies like CRGE and GTP2.

Key informants interviews and consultation meetings: Interviews were implemented through a series of open and semi-open questions raised to stakeholders relevant for the project at national and pilot regional state levels. Key actors (stakeholders) were defined/ identified together with the responsible parties (MEFCC, UNDP, UNEP).

The interviews were carried in person .Consultation meetings with experts were arranged as side events during inception workshop and training. Besides, consultation meetings with different sector heads and officials at different levels were held to get their opinion on the planned REDD+ related interventions and best ways of integrating/mainstreaming with existing programs and plans.

Stakeholders mapping and capacity needs assessment: Assessment of the key regional direct and indirect stakeholders at all levels (region, woreda, zone), and their current capacities and gaps in climate change, REDD+ and the role of sustainable forest management through consultation, observation and evaluation of existing human and physical resources, and institutional arrangements were conducted.

Training for awareness: An intensive training was organized to create a common level of understanding about REDD+ at the regional level. It was attended by over 56 participants drawn from key stakeholders, including administration, civil society and private sector at regional and sub-regional levels. Coordination and alignment with national REDD+ Secretariat: The national REDD+ Secretariat is developing national strategies, and has also conducted various studies at national level, like drivers of deforestation, safeguards, National Forest Monitoring and MRV systems. These national level works were reviewed, and the regional interventions were aligned with national strategies.

Assessments to revise and generate data: Various assessments were conducted through consultation, review of exiting documents, workshops and field visits, on regional drivers of deforestation, and strategic options for REDD+ in the region. Data on major land cover types and drivers of deforestation in each land cover stratum were generated through review of the national drivers of deforestation study report, field observation, interviews and consultation meetings with key stakeholders. Based, reviews of different national level studies like safeguards, the national strategies, plans and MRV systems in place, the data necessary for risks and opportunities for REDD+ Readiness and investment were generated. These were further qualified through consultation with relevant parties and key stakeholders through consultation meetings and validation workshops of the reports. Regional REDD+ Roadmap and investment: following the national REDD+ strategies and thematic studies, and the findings of regional assessment, a comprehensive roadmap towards full regional REDD+ readiness and investment in the frame of national architecture and UNFCCC Warsaw Framework were prepared.

4. Key outcomes

4.1 REDD+ key stakeholders mapping

The key REDD+ stakeholders in the region were identified mapped and consulted on different occasions. These include

- During inception workshop in Sept 2015
- During intensive training workshop on REDD+ in October 2015
  During consultation meetings of sectoral working groups

The identified REDD+ stakeholders include: the government (administration, council and sectoral bureaus), civil society organizations (faith based as well as social and economic based civil society groups), private sector, non-governmental organizations (NGOs), multi-lateral development partners (UNDP, UNEP, UNICEF, FAO, WFP, UNHCR and the World Bank), bilateral development partners (Germany, Canada and Finland), research institutions and universities.

4.2 Intensive training on REDD+

As part of the regional level capacity building and awareness raising activity, an intensive REDD+ training was organized for key stakeholders in the region. The training was conducted in Assosa on 20-24 October 2015. Participants were drawn from regional state level government agencies, NGOs, CSOs (including development associations and faith based organization), research institutions, Assosa University and schools environmental clubs representatives. It was attended by 56 participants drawn from key stakeholders in the region. The training materials used were based on those used in other similar trainings in the country and the UN-REDD modules. It covered various topics related to REDD+, from evolution of REDD+ to comprehensive steps and procedures to be followed to design REDD+ programs.

4.3 Proposal for regional implementation framework

REDD+ implementation requires coordination of a number of sectors and institutions. One of the tasks accomplished within this assignment is preparation of a proposal for implementation arrangement at regional state level. The proposal was prepared following the national REDD+ architecture. Draft national strategy and the proposed implementation framework of the Oromia REDD+ program were reviewed. The regional implementation framework proposal identified and elaborated different institutions for REDD+ implementation, including (i) REDD+ coordination institutions, (ii) REDD+ implementing institutions and (iii) REDD+ oversight institutions. Besides, it also elaborates framework for spatial and thematic area coordination among institutions and stakeholders at different administrative levels.

4.4 Proposal for integration of REDD+ instruments between national and regional levels

Ethiopia follows a federal government structure, with semi-autonomous regional states forming the federal government. The sub-national/regional REDD+ programs design follows the national architecture. REDD+ instruments like strategy and action plan, MRV, REL, and safeguards are generally developed at national level and adapted for the regional programs design. Carbon accounting and reporting are done at national level. The regional programs feed into the national program. For this to happen, a proposal for integrating REDD+ instruments between the two levels have been elaborated. The proposal outlined the focus of REDD+ at the regional state level, mechanisms for accounting systems integration, regulatory framework and institutional arrangements, and the types of incentives and their distribution.

4.5 Drivers of deforestation and forest degradation, and REDD+ strategy options at the regional state level

4.5.1 Drivers of deforestation and forest degradation

Data on the extent of the past forest cover in Ethiopia are scant and not consistent. Most early works on the forests of Ethiopia estimate that 'high forest' covered around 35-40% of the country by early 1900s. However, it is well known that that there is a continuous loss of the high forest in the country. For instance, the estimated rates of forest loss between 2000 and 2005 were 1.07% and 0.13% for the Ethiopia and the Benishangul Gumuz regional state, respectively.

Broadly, we can categorize drivers as planned and unplanned. Planned drivers are characterized by the deforestation and degradation resulting from policies or decisions affecting land cover. Planned drivers of deforestation and forest degradation in Benishangul Gumuz regional state include large and medium scale agriculture, hydropower dam construction, road construction, mining and urbanization and settlement. The planned drivers affecting forests and wood-lands often result from federal or region-level land use decision-making without full information of the local situation, including whether the land under question is covered by forest or wood-lands.

A diversity of unplanned drivers and agents are operating in Benishangul Gumuz. The main proximate unplanned drivers identified are small-scale agriculture, fuelwood collection in form of firewood and charcoal, livestock grazing, fire, illegal logging and overexploitation of non-timber forest products (NTFPs). Detailed descriptions of each unplanned drivers are provided in the analysis of drivers and strategic options report.

4.5.2 REDD+ Strategy Option

Policies and regulations that enable net ERs will be promoted at the Regional state level, building on the national REDD+ program. Three sector-based interventions and a cross-sectoral intervention are proposed: (i) forestry sector; (ii) agricultural sector; (iii) energy sector; and (iv) cross-sectoral interventions that involve integrated planning and policy.

a) Forest sector Strategy Options: Participatory Forest Management (PFM), tree planting outside of forest areas, and area enclosure/ assisted natural regeneration (ANR) were identified as forest REDD+ options. Considering a broader view of As PFM is broad in scope, it can comprise a wide range of interventions to reduce deforestation and forest degradation, including tree planting outside of forests and area enclosure/ ANR. The program targets around 1,010,000 ha including 10,000 ha of commercial plantation for fuelwood and sawlog production, 800,000 ha of natural forest for gum and resin and 200,000 ha of natural bamboo forest.

b) Agriculture Sector Strategy Option: The major actors in agriculture, causing significant deforestation and forest degradation, are both smallholder and large-scale investors. In the agriculture sector, Integratedland management, including extension services and adoption of soil and water conservation practices, climate smart agriculture, agroforestrty practices were identified as relevant strategic options for the region. Integrated land management is a broad approach and currently being implemented in major regional states of Ethiopia as Sustainable Land Management Program (SLMP). It implements practices that improve the conditions of environmental resources (land, water, and biodiversity) to meet human needs while sustaining and/or improving ecosystem services and livelihoods.

c) Energy Sector Strategy Options: The objective of this component is to address deforestation and forest degradation in the region resulting from unsustainable biomass energy use. To address deforestation and forest degradation related to biomass energy, sustainable biomass energy development (improved cookstoves production and dissemination, and improved kilns for charcoal production) is identified as strategic option. Improved cookstoves reduce fuel consumption by an average of about 20-22 %, while improved kiln for charcoal production increases charcoal yield by three fold (300% efficiency) as compared to the traditional practices.

d) Cross-sectoral Strategy Options: Reducing deforestation and forest degradation due to planned drivers like large-scale agriculture, infrastructure development (dams, roads, urbanization) and mining requires cross-sectoral policies and measures. The main cross-sectoral strategy options, that are for both planned and unplanned drivers are: (i) land use planning; (ii) tenure policies and laws reform; (iii) institutional capacity building; and (iv) education and communication.

4.6 Regional REDD+ roadmap and transition to investment

The roadmap for readiness and transition towards investment at regional level provides overview of the REDD+ initiative in the region, tasks that have been accomplished with the UN REDD+ targeted support project, management of REDD+ readiness (existing management arrangement, gaps and proposed arrangements), the readiness processes, including stakeholders consultation, development and selection of REDD+ strategies, implementation framework, including the technical, institutional and financial requirements, alignments with the national REDD+ program design, investment and work plans for readiness and implementation. The program has four components to be implemented over 5 year period, including completion of the readiness activities and implementation activities on ground. Indicative program costs, potential returns from ER payments and other co-benefits were also estimated.

As outlined above, the three key sectors strategic options for REDD+ are the forestry, agricultural and energy, along with some cross-sectoral interventions that involve integrated planning and policy. The three strategy options can reduce emissions by around 3.761 million tCO2e per year. By the end 5 years (i.e., ER of 4 years), it can generate over 15 million tCO2e. By the end of CRGE period, 2030, it can generate up to 48.9 million tCO2e. Assuming around USD 5 per tCO2e, the ER due to these strategy options can generate up to USD 18.8 million per year, which is way above the investment cost.

[4]WBISPP 2003. Benishangul-Gumuz Regional State: a strategic plan for the sustainable development, conservation, and management of the woody biomass resources. Woody Biomass Inventory and Strategic Planning Project, Addis Ababa.
[5]Tamirie Hawand. 2014. Desertification in Ethiopian highlands of Ethiopia. Norwegian Church Aid, RALA Report 200. Norwegian Church AID

By the end of the 5 years, the value of the ER for the years of implementation on the ground can generate USD 75.2 million, as compared USD 17.9 million investment cost. The project intervention is also expected to generate thousands of job opportunities for the local community.

4.7 Economic and environmental benefits of the forest beyond REDD+

Other economic and environmental benefits of the forest in the area include provision of different forest products (NTFPs like gums and resins, fuelwood, timber and bamboo), combating desertification and protecting important watersheds of critical for hydropower.

Forest products: The region has over 400,000 ha of lowland bamboo, with high potential for short rotation forest industry, and source of wood for most construction and fuel /energy 90% of the local population. The dry forests of the region also have the potential of producing around 630 tons of Gum Arabic from three acacia species and 260 tons of resins from Boswelia and Commifera species[4].

Combat Desertification: Ethiopia has suffered from recurring droughts. It is also affected by slowly advancing desertification processes. Around 71.5% of the country falls within the UNEP's definition of desertification, caused by overgrazing, deforestation, and poor farming practices[5]. The forest in Benishangul Gumuz services as the major green wall against the expansion of the Sahara desert on the one hand, and land degradation of the highlands.

Watershed protection for hydropower dams: The region is home of the largest hydropower dam in Ethiopia, the Grand Ethiopian Renaissance Dam under construction on the Blue Nile River. There are also several other smaller rivers with high potential for hydropower, like Other than the GERD on the Blue Nile, there are many rivers with high potential for hydropower, like Hoha, Beles, Dabus and Dindir rivers. Conservation of existing forests and further forest development on degraded areas will protect watersheds critical for these dams from siltation.

4. Conclusions

Benishangul Gumuz regional state has high forest cover. It covers less than 5% of the total area of Ethiopia, but possesses around 20% of the national forest areas. Implementation of REDD+ program is critical to achieve the national and regional targets in the development plan (GTP) and the Climate Resilient Green Economy strategy. A number of key stakeholders that can possibly implement, finance and support have been identified. The regional REDD+ implementation frameworks and mechanisms for integration with the national level program are also proposed, along with the required investments and institutional arrangements.

Implementation of the regional REDD+ program has multiple benefits. It can attract financial resources for forest conservation and local development, combat desertification by creating green wall against the expanding Sahara desert, protect critical watershed and dams downstream and enhance sustainable production of forest products. If the required investments and institutions are put in place, the regional REDD+ program can bring transformational change within five years.

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