A procedure for screening and selecting potential forest sites for REDD+ pilot development in Ethiopia

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1. Background

Ethiopia is a participant country of the World Bank's Forest Carbon Partnership Facility (FCPF) and has launched the REDD+ Readiness Process in January 2013. Piloting REDD+ is an important part of REDD+ Readiness process aiming at generating lessons to the national REDD+ strategy. The current piloting project has targeted selected regional sites while the Oromia Region is well underway in the design of a state level REDD+ program. The aim of the upcoming REDD+ pilots is for the REDD+ Secretariat and sub-national governments to work together on preparatory activities that are necessary in documenting '***bankable' REDD+ Pilot Projects***', that would be ready to receive further financing from GoE's CRGE Facility, development partners, private investors, or other climate and carbon finance sources (REDD+ Pilot Technical Note, May 2014).

Pilot site selection will target three Regional States (SNNPR, Amhara and Tigray regional states) where one pilot site is selected in each regional state. The three regional states have different forest resource bases, livelihood strategies, socio-economic and biophysical characteristics. A successful identification of potential pilot sites in all the 3 regions presupposes the setting up of a selection criteria that considers a range of attributes (climate, biophysical, socio-economic) of the potential pilot sites, and the potential for scaling up the pilots at regional state level.

This report proposes a set of relevant criteria drawn from different sources (WB Technical Note and literature on REDD+ development in other parts of the world), with due consideration for national and local conditions. The evaluation of the selection criteria involves compiling a comprehensive list of indicators and grouping a set of indicators as Critical and non-critical criteria on the basis of relative significance of indicators. Moreover, to increase objectivity of the selection procedure, an attempt is made to use quantitative rating (with each indicator given a score of 1, least desirable to 3, most desirable) for criteria that can be quantified. Where it is unrealistic to develop quantitative scoring, a qualitative scoring is considered.

Therefore, the objective of this document is to come up with a set of comprehensive criteria that will result in realistic site selection and demonstrate to policy makers and other project developers how a REDD+ project can meaningfully achieve emissions reduction, carbon

sequestration, forest conservation and improved well-being of participating forest-adjacent communities.

2. Assessment Criteria

The selection criteria for pilots in the three regions (Amhara, SNNP, and Tigray) should take into consideration the regional states' local conditions and focus on sites that enable testing the type of activities that could be part of the implementation strategy in the respective regional state. That means, the pilot activities should be those that can be scaled up at larger landscapes level to implement regional state level programs. The pilot project may include interventions of emission reduction or carbon sequestration activities like participatory forest management, assisted natural regeneration and SLM.

In regional states where restoration/ reforestation is a major likely strategic option, the priority should be to have a pilot project that tests forest restoration/ enhancement activities. If the site also has significant natural forest cover, the intervention at landscape level can be an integration of reducing deforestation/degradation on the remnant forests and restoration/enhancement of forest on the broader landscape. On the other hand, in regional states that have high forest cover, and also have great potential for conservation of existing forests through implementation of various REDD+ activities such as the establishment of PFM, pilot sites to test such activities should be selected.

Broadly speaking, the assessment considers three main groups of criteria: carbon related technical criteria, feasibility of effective project implementation, and social and environmental co-benefits. Depending fulfilment of the technical criteria, pilot project within a regional state can be either REDD+ that aims at reducing deforestation/degradation, or enhancement/ restoration of degraded forest.

N0	Proposed Criteria	Critical	Not Critical at prescreening stage
	1. Carbon related technical Issues (Most Critical Criteria)		
A	Size of the forest/landscape	X	
B	Carbon density	X	
C	Compelling baseline	X	

D	Leakage risk	X	
E	Biophysical risks		X
F	Additionality	X	
	2 Carbon related technical for forest restoration		
A	Size of unused and degraded land available		
B	Presence of plantation forest or restored forest area		
C	Carbon sequestration potential		
D	Site conditions		
E	Environmental priority areas		
	2. Feasibility of effective project implementation		
A	Likelihood of effective project intervention (driver type)	X	
B	Presence of potential partners		X
C	Opportunity Cost	X	
D	Population size of forest dependent communities		X
E	Levels of local community organizations (e.g. undergoing PFM arrangements, governance)		X
	3. Social & Environmental co-benefits		
A	Potential for poverty alleviation		X
B	Biodiversity conservation values		X
C	Cultural values		X
D	Watershed protection service		X

3. The Approach and the Selection Criteria

Two different approaches will be employed in selecting pilot sites in the three regions. This approach aims at testing a strategic option most relevant in the regions with the potential to be up-scaled at regional level. The sites for intervention can be large forest areas under threat of deforestation or large degraded areas set-aside for forest restoration/carbon stock enhancement, or a combination of both. For a region(s) with less than three candidate forest areas with over 50,000 ha, but has large degraded areas with potential for restoration, then a site that is large areas available for forest/landscape restoration will be selected. Here, the approach will be a watershed approach with the aim of restoring/afforesting the landscape with forest patches taken as nucleus. On the other hand, if a regional state has more than three candidate forest areas, each

covering over 50,000 ha, a site that fulfill other critical criteria will be selected for REDD+ pilot that aims are reducing emissions from deforestation/ degradation.

3.1 Carbon related technical for REDD+ Pilot

A. Forest area: Extensive areas of forest imply economies of scale and high carbon gains (as long as there is a clear deforestation baseline). Large forests tend to have low edge effects and are therefore less costly to protect per hectare. Preference will be given to local sites with forest blocks of several thousand hectares, which are under considerable threat. Localities will be considered to be more viable and will be scored highly if they have forest blocks aggregating to over 75,000 ha.

Scoring

3 = >75,000 ha

2 = 50,000-75,000 ha

1 = < 50,000 ha

B. Carbon density: Forests with higher carbon densities will tend to have higher baseline emissions when they are cleared and therefore a higher potential for emission reductions. Where local-level biomass (carbon) measures are not available at present, scoring will have to follow forest types with defined differences in biomass stocks. Therefore, for example, woodlands will be ranked lower than evergreen forests (montane forest), based on their carbon values.

Scoring:

3 = the proposed area is predominantly moist tropical montane type (with IPCC average carbon stock of over 100 ton C/ha)

2 = the proposed area is predominantly dry montane forest type (with IPCC average carbon stock of 50-100 ton C/ha)

1 = the proposed area is predominantly woodland or scrub land (with IPCC average carbon stock of less than 50 ton C/ha)

C. Compelling baseline (current deforestation rate): In carbon accounting terms, a baseline describes the scenario in the absence of the implementation of the project. In this case, it describes the amount of deforestation and degradation that would occur, based on historical trends. When there is a compelling and quantifiable case indicating that deforestation threats are

real then this will result in a potential for avoiding related emissions. Baselines for carbon crediting are likely to be based on historical trends and, therefore, local sites with high historical deforestation rates will be scored high as this indicates a higher potential for carbon credit revenues. Data availability is important in evaluating this criterion. Also, the time period for a historical analysis will have to be determined according to data that can be generated and that credibly describes the without-project scenario. As a starting point, a reference period of 10 years prior to project start will be chosen. In this context, the following thresholds seem to capture a common range of deforestation.

Scoring:

3 = Deforestation rate > 2%

2 = Deforestation rate 1-2%

1 = Deforestation rate < 1%

D. Leakage risks: Leakage describes the risk that the implementation of a project to reduce deforestation causes in increasing deforestation / forest degradation elsewhere. Leakage can be caused through market effects (e.g. shifts in timber production) or through direct movement of deforestation agents to other locations ("activity shifting"). The higher the risk, the greater will be the buffer needed. This criterion will be considered in relation to the drivers that the project seeks to address and how mobile the involved agents of deforestation are. Cases where leakage is likely and cannot be effectively addressed will be given a low score.

Scoring:

3 = Low leakage risk which can be effectively controlled

2 = Low leakage risk which cannot be effectively controlled or medium to high leakage risk which can be effectively controlled.

1 = Medium to high risk which cannot be controlled

E. Biophysical risks: Districts with forests that are at a high risk of destructive fires, are prone to pests and disease, or other destructive agents will be scored low. Whilst it is recognized that fire is part of the natural ecological dynamics in some areas, this criterion focuses on the *frequency of intensive, often human-induced*, wildfires that result in damage to the natural

woodland or forest. Absence or very low incidence of destructive fires will be the preferred scenario.

3= low risk of fire, disease, pest or other biophysical factors

2= medium risk of fire, disease, pest or other biophysical factors

1= high risk of fire, disease, pest or other biophysical factors

F. Additionality: Additionality is fundamental to qualify a carbon project as having avoided emissions compared to the business-as-usual scenario (baseline). Primarily it has to be demonstrated that generating carbon revenues (or expecting to do so) is critical to overcoming barriers to project implementation that would otherwise exist. It has to be assessed, whether barriers really do exist in the baseline scenario and would not be overcome without carbon finance e.g. because government mandates for conservation are effective, profitable forest management enterprises are now in place etc.

Scoring

3= The area is not a national park or any other legal production and has no funding to ensure sustainable use

2= the area is a protected forest area, but lacks finance and institutions for law enforcement

1= the area is a protected forest or landscape with some funding for law enforcement

3.2 Carbon related technical criteria for forest enhancement/restoration

A. Size of unused and degraded land available: If the available degraded land is large, the resulting ecological and social benefits from restoration are also great. The potential site for restoration should also be communal area or clusters of several communal areas within a broad landscape, and that can already been set-aside for restoration (currently unused) and will not cause and displacement of the local community or loss of agricultural production.

Landscape in a key watershed covering over 100,000 ha, of which about 10% or 10,000 ha or more is available for restoration is preferred. Besides, the smallest restoration plot size should be a strip or a patch bigger than or equal to 5 ha. If the area has more than 5000 ha natural forest, it is an advantage and qualifies the area for a combined REDD and restoration related intervention.

Scoring

3= Presence of a cumulative potential area for restoration greater than or equal to 15,000 ha with a total landscape of over 150,000 ha of which over 5,000 ha is natural forest.

2= Presence of a cumulative potential area for restoration of 10,000 to 15,000 ha, within a total land scape of over 100,000 ha of which 1,000 -5,000 ha is a natural forest.

1= Presence of a cumulative potential area for restoration of less than 10,000 ha with a total landscape of less than 100,000 ha of less than 1,000 ha is a natural forest.

B. Presence of plantation forest or restored forest area: This provides a benchmark (i.e. species used, growth rates achieved, markets supplied) for use in planning rehabilitation. Such demonstration areas can be especially valuable where forestry has not been a traditional land use.

Scoring

3= Presence of a cumulative plantation or restored forest area greater than or equal to 1,000 ha.

2= Presence of a cumulative plantation or restored forest area of 500 to 1,000 ha.

1= Presence of a cumulative plantation or restored forest area less than 500 ha.

C. Carbon sequestration potential

The carbon sequestration potential of a site depends on various biophysical and climatic conditions, plant species, soil depth and fertility, rainfall, temperature and the like. In selecting potential sites, the ability to increase carbon storage must be assessed carefully. Based on existing information, either from plantations or restored forest areas, a baseline annual carbon storage potential should be estimated.

3= Ex ante estimated potential of sequestering more than 4 tons CO2e per ha annually

2= Ex ante estimated potential of sequestering 3-4 tons CO2e per ha annually

1= Ex ante estimated potential of sequestering less than 3 tons CO2e per ha annually

D. Site conditions

Relatively deep soil with annual rainfall has greater potential for successful forest restoration, and carbon sequestration. However, it is less likely to find land that can be free and available if it has deep soil. Hence, the amount of rainfall is taken as proxy to select sites with better potential for successful restoration.

Scoring

3= Sites with average annual rainfall of over 1000 mm

2= Sites with average annual rainfall of about 750-1000 mm

1= Sites with average annual rainfall of less than 750 mm

E. Environmental priority areas: areas with significant environmental problems, such as uplands with eroding slopes, watersheds of important dams/rivers or polluted areas affecting other land users in the landscape are priority for restoration. The most relevant environmental issue is related to eroding slopes within watershed of important dams or rivers. Based on slopes' sensitivity to erosion, it can be categorized as: highly fragile if the slope is over 60%; moderately fragile if the slope is 30-60% and less fragile if the slope less than 30%. This sensitivity is also recognized in national land use policy, which designates highly fragile areas for non-agricultural environmental protection purposes, moderately fragile areas for agriculture only with appropriate soil and water conservation measures are taken and the less fragile slope for agriculture and other economic use.

Scoring

3= sites with more than 30% of the total landscape categorized as highly fragile and located within valuable watershed for dams/water systems protection

2= sites with 10-30% of the total landscape area highly fragile, or over 50% of the total area categorized as moderate to highly fragile and located within valuable watershed for dams/water systems protection

1= less than 10 highly fragile, and a relatively stable landscape with low contribution to watershed protection for dams/water systems

3.3 Feasibility for successful project implementation

A. Likelihood of effective project interventions: Being able to design effective management interventions and project activities that can address deforestation and degradation drivers is a function of the nature of the drivers themselves, as well as the ability of project proponents to effectively tackle them. This determines whether drivers are within community or government scope to control based on experience and capacity on the ground.

Scoring:

3 = Realistic potential to effectively tackle the three top deforestation/degradation drivers mostly within community control;

2 = Realistic potential to effectively tackle the three top deforestation/degradation drivers only partially within community control

1 = Realistic potential to effectively tackle the three top deforestation/degradation drivers outside community control or non-existent

B. Opportunity cost: Opportunity costs are critical in determining whether actions to address drivers of deforestation and forest degradation or forest restoration can be realistically and sustainably implemented. The project will not be sustainable where, in addressing the drivers of deforestation or degraded forest areas restoration, the foregone revenues or subsistence needs exceed the benefits (monetary and non-monetary). For example, forest businesses like charcoal near urban centers are likely to be too lucrative to be addressed through REDD benefits. Districts in which addressing deforestation / degradation drivers implies a high opportunity cost will be given a low score. A positive net-gain especially on the side of communities will be considered to be more desirable. At this stage only a preliminary assessment is possible, based on available data or proxies of the potentials of the nominated sites. In areas where forest is traditionally managed to generate income for the livelihood of the local community (e.g. medicinal plants, bamboo, forest coffee, honey, spices, gums and resins production), REDD/ restoration project is complementary to sustainable forest management. In such situations, gains from REDD/forest restoration project implementation may exceed opportunity costs. Hence, presence of forest based livelihood will be taken as proxy.

Scoring*:*

3 = gains likely to exceed opportunity costs (additional revenue from more than one NTFPs produced in a sustainably managed forest)

2 = gains likely to just exceed opportunity costs (additional revenue from at least one NTFP produced in a sustainably managed forest)

1 = gains are less than opportunity costs (no additional revenue from forest management/ no NTFP).

C. Population density: The ratio of community size to forest area will be considered. It is likely that pressures on the forest are harder to manage in cases with a high ratio and that livelihood benefits of the project will be reduced. Sites with large numbers of people and very small areas of forest will be given a low score compared with those with small populations and larger forest areas. In addition, available (not forested and not used for agriculture or settlement) community land will be important when considering the level of flexibility the project will have in implementing alternative activities to reduce deforestation. Examples of interventions requiring land availability include expansion of small-scale agriculture and tree planting.

Scoring

3= Sites with small numbers of people and very large forest area

2= Sites with medium numbers of people and medium forest area

1= Sites with large numbers of people and very small areas of forest

D. Presence of strong potential implementing partners (non-state actors): Sites with a high number of strong project partners that may reinforce or accelerate the project development and implementation activities will be preferred.

Scoring

3 = >2 potential implementing partners

2 = 1-2 potential implementing partners

1 = no potential implementing partner

E. PFM in operation or other natural resources management agreement: Participatory forest management (PFM) is the involvement of forest-adjacent communities in sharing the responsibilities and the benefits from forest management. PFM indicates an advanced process of forest management including establishment of community institutions and development and implementation of forest management plans. For the success of project implementation, it is best to select sites where agreement of PFM arrangement is near completion, or there is some form of organized forest/ natural resources user groups. Selecting landscape/forests under community management ensures that communities can access benefits coming from REDD. It also ensures that REDD interventions selected are responsive to local needs and are sustainable.

Scoring

3 = PFM or other NRM agreements in place i.e., resource management plans and by-laws are approved at the local level

2 = PFM or other NRM agreements in the making i.e., resource management plans have been submitted to the local level authorities for approval; and clear bi-laws for members have been discussed and negotiated, but is not yet signed

1 = PFM or other NRM agreements are at early stages or not yet initiated

3.4. Social and Environmental co-benefits

A. Biodiversity value: Biodiversity co-benefits from addressing deforestation and degradation drivers are integral to the National REDD+ Scope. REDD projects in areas with high biodiversity values are likely to fetch a better price on voluntary markets and be perceived as contributing to higher national and international benefits. Such forests may also tend to get non-market co-funding for achieving REDD. A landscape will be given preference if it contains ***threatened*** or ***endemic species*** or has a suite of habitat types or particularly threatened habitats.

Scoring

3= Presence of high number flora & fauna diversity (over 200 species), and intact key ecosystems, with high level of endemism (over 10%) and threatened species of flora and fauna

2= Presence of medium number flora and fauna diversity (100-200 species), and slightly modifies key ecosystems, with medium level of endemism (5-10%) and threatened species of flora and fauna

1= Low number flora and fauna diversity (less than 100 species), and degraded habitats, with low level of endemism (less than 5%) and threatened species of flora and fauna

B. Potential for poverty alleviation: Local forest sites with medium to high levels of poverty will be preferred. REDD+ is more likely to make significant impact on human livelihoods in these localities than in localities with richer populations, and a project has the potential to create new livelihood options where there are currently few alternatives. In giving preference to

localities (forest sites) with high poverty levels, the project also has the potential to contribute to the national development agenda.

Scoring

3= Presence of high level of poverty (over 40%)

2= Presence of medium level of poverty (25-40%)

1= Presence of low level of poverty (less than 25%)

C. Cultural values: Forests can have a number of social values apart from direct values. Any REDD+ project with local peoples will impact the cultural landscape and the relationships between people and nature – this is likely to have a major bearing on the success or failure of the project. The quality of cultural analysis in project design and monitoring can be central to its success. The cultural value of a forest area is difficult to quantify but qualitative information from adjoining communities will help in rating forests for REDD+ projects.

Scoring

3= Most planned project interventions strongly comply with the traditional/ cultural practices of forest use and conservation, and value systems

2= Most planned project interventions slightly comply with the traditional/ cultural practices of forest use and conservation, and value systems

1= Most planned project interventions do not comply with the traditional/ cultural practices of forest use and conservation, and value systems

D. Watershed protection service: Forests and Trees affect the hydrologic behavior of a watershed, including the quantity and quality of stream flow, erosion, and sedimentation. In general, natural forests yield the highest quality of water of any ecosystem. The role of trees and forests can be viewed in terms of watershed protection, enhancement of water resources, and watershed rehabilitation. Protection of watersheds in the highlands of Ethiopia are very important for protection of hydropower and irrigation dams, and agricultural lands downstream.

Forest areas/ landscapes that are found in upstream of important dams and river systems are given priority, and score high.

Scoring

3= Forest areas/ landscapes for restoration within a watershed that has current or potential for more than one large dams for hydropower, irrigation and vast areas for diverse economic development downstream

2= Forest areas/ landscapes for restoration within a watershed that has current or potential for a dam for hydropower, irrigation and areas for diverse economic development downstream

1= Forest areas/ landscapes for restoration within a watershed that has little potential for large hydropower/ irrigation dams downstream

4. Weighing

In assessing the above criteria, weighing of critical issues will be achieved through a logical stepwise sieving as well as giving regard to critical criteria in each category. The first and most important screening phase is the assessment of the **technical feasibility** of the project. Here quantitative data is critical in determining carbon stocks, forest area, their level of threat and potential risks in addressing these threats and additionality of project intervention. Sites will be ranking based on the total scores of the technical criteria.

The second sieving process will be the **feasibility of project implementation** taking into account mitigation of fire and leakage risks. These criteria should focus on those sites that are already considered to be technically viable. Use of both qualitative and quantitative information from existing documents and wide stakeholder consultation is critical in determining those sites where the deforestation/degradation drivers can be effectively addressed through REDD. The key criteria in this category are **opportunity cost** and **likelihood of designing effective interventions,** and **levels of local community organizations**. Similarly, sites will be ranked based on cumulative scores of these criteria.

The third sieve is the assessment of social and environmental co-benefits. Selection among these can be achieved by using qualitative criteria. Social & environmental co-benefits are broad

criteria that can be used in deciding high-potential sites. A key issue to note in this process is that whilst quantitative scores of 1 to 3 give an indication in the ranking between sites, total sums play a role in the selection process. Here again, sites will be ranked according to their cumulative scores.

Finally, sites that score 1 to 3 rank in at least **two** of the categories will be selected for further assessment. The scores of the sites under the three categories will then be summed up and one with the highest score will be selected for piloting.