Restoring Degraded Lands In Ethiopia
Agricultural Sector NAMA

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Agriculture in Ethiopia ... some facts

**Potential**

- Agriculture generates over 40 percent of the GDP and employs 80 percent of the population

- Smallholder farmers are the backbone of the sector, producing 90 percent of the country’s cereals, pulses and oilseeds

- Land degradation is a major cause of Ethiopia’s low and declining agricultural productivity, continuing food insecurity and rural poverty, particularly in the Highlands where most agricultural production takes place

  - About 85 percent of the land surface is considered prone to moderate – very severe soil degradation
  - Annual cost of land degradation are estimated to be at least 2-3 percent of the agricultural GDP

**Threats**
Soil degradation in Ethiopia

- Over 60% of the population living in areas that suffer from severe or very severe human-induced degradation.
Area of Focus

Ethiopian Highlands
- 1,500 to 2,400 Meters
- 2,400 Meters and above
Causes of land degradation in Ethiopia

- Extensive use of cropland without improving it (nutrient mining) and
- Deforestation
- Inappropriate farming practices and technologies
- Inadequate resources (financial, skills, etc)
- Improperly designed and constructed roads
- Forest burning and expansion of cultivated lands
The objective of the Nationally Appropriate Mitigation Action (NAMA) could be ...

... to develop business options around the restoration of degraded land on mountain slopes in the Highlands of Ethiopia, focusing on agroforestry, afforestation and reforestation activities.
Agriculture currently contributes over 50 percent to national GHG emissions, but...

...if options are carefully selected, the Land Restoration NAMA can deliver many benefits, including:

- climate change mitigation (e.g., 27.2 MtCO2e through yield increasing techniques; 32.2 MtCO2e through afforestation and reforestation)
- adaptation
- food security
- employment generation
The Process

Block 1. From a country’s priorities to specific NAMA ideas
- Identifying policy priorities and gaps
- Stakeholder mapping
- Prioritising NAMAs

Block 2. From a NAMA idea to a proposal
- Designing a NAMA proposal

Block 3. Putting a NAMA into action
- Sharing responsibilities
- Submission to the NAMA Registry
- Potential sources of support
How does the NAMA relate to Ethiopia’s climate policy framework and development plans?

Growth and Transformation Plan

- Achieve carbon-neutral middle income status by 2025 [...] by increasing agricultural productivity [...]

Climate Resilient Green Economy Strategy

- Improve crop and livestock production practices to increase food yields, hence food security and farmer income, while reducing emissions

- Protecting and re-establishing forests for their economic and ecosystems services, including as carbon stocks"
CRGE

Achieve middle-income status by 2025 while keeping GHG emissions at the current level

- Improve crop and livestock production practices
- Protect and re-establish forests

Land Restoration NAMA

NAMA

Other mechanism
Technology packages + Financing + Business plans + Capacity building tailored to socio-cultural, economic and environmental characteristics of each region.
# The Process – Data Collection

## Classification of degraded land

<table>
<thead>
<tr>
<th>Location</th>
<th>Altitude</th>
<th>Rainfall distribution</th>
<th>Soil type</th>
<th>Slope</th>
<th>Current land use</th>
<th>Area (in ha)</th>
<th>Information source</th>
</tr>
</thead>
</table>

## Option: Afforestation / Reforestation

<table>
<thead>
<tr>
<th>Favored tree species by community</th>
<th>Use</th>
<th>Recommended tree species</th>
<th>Use</th>
<th>Total mitigation potential (in tCO2e/ha)</th>
<th>Above ground mitigation potential (in tCO2e/ha)</th>
<th>Below ground mitigation potential (in tCO2e/ha)</th>
</tr>
</thead>
</table>
## 2,400+ Meter Areas

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Mountain</th>
<th>Woreds</th>
<th>Region</th>
<th>Nearest city/town</th>
<th>Location</th>
<th>Elevation(m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amba farit</td>
<td>worehelu</td>
<td>Amhara</td>
<td>Dese</td>
<td>Easting</td>
<td>39 00 00</td>
</tr>
<tr>
<td>2</td>
<td>Abuye meda</td>
<td>worehelu</td>
<td>Amhara</td>
<td>Dese</td>
<td>Easting</td>
<td>39.9 00 00</td>
</tr>
<tr>
<td>3</td>
<td>Kaka</td>
<td>Chilalo</td>
<td>Oromia</td>
<td>Arsi</td>
<td>Easting</td>
<td>39 00 00</td>
</tr>
<tr>
<td>4</td>
<td>Chilalo</td>
<td>Chilalo</td>
<td>Oromia</td>
<td>Arsi</td>
<td>Easting</td>
<td>39.3 00 00</td>
</tr>
<tr>
<td>5</td>
<td>Batu</td>
<td>Adaba</td>
<td>Oromia</td>
<td>Genale</td>
<td>Easting</td>
<td>39.7 00 00</td>
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<tr>
<td>6</td>
<td>Gara muleta</td>
<td>Girawa</td>
<td>Harari</td>
<td>Harari</td>
<td>Easting</td>
<td>41.8 00 00</td>
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<tr>
<td>7</td>
<td>Abune yossef</td>
<td>Ayna/lasta</td>
<td>Amhara</td>
<td>wolo</td>
<td>Easting</td>
<td>39.2 00 00</td>
</tr>
<tr>
<td>8</td>
<td>Ras dashen</td>
<td>Besesa</td>
<td>Amhara</td>
<td>Gondar</td>
<td>Easting</td>
<td>38.2 00 00</td>
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<tr>
<td>9</td>
<td>Guge</td>
<td>Wolokode</td>
<td>SNNP</td>
<td>Gamo Gofa</td>
<td>Easting</td>
<td>37.2 00 00</td>
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<tr>
<td>10</td>
<td>Tulu welel</td>
<td>Kelem/wolega</td>
<td>Oromia</td>
<td>Wolega</td>
<td>Easting</td>
<td>35 00 00</td>
</tr>
<tr>
<td>11</td>
<td>Gurarage</td>
<td>Chebo gurage</td>
<td>SNNP</td>
<td>?</td>
<td>Easting</td>
<td>38.3 00 00</td>
</tr>
<tr>
<td>12</td>
<td>Choke</td>
<td>Bichena</td>
<td>Amhara</td>
<td>Debre markos</td>
<td>Easting</td>
<td>39.9 00 00</td>
</tr>
</tbody>
</table>
NAMA Options

• Afforestation & Reforestation
  – Projects with a potential to sequester carbon dioxide and mitigate climate change, enhance biodiversity conservation by increasing the connectivity of forests adjacent to nature reserves, and improve soil and water conservation.
• A regeneration of *Juniperus procera* under *Eucalyptus globules* at Entoto. A good example of mixed stand development under natural conditions.
NAMA Options

• Agro forestry
  – Both traditional and modern land-use systems where trees are managed together with crops and/or animal production systems in agricultural settings.
  – Short term and quick return.
Thank You