A CONCEPTUAL FRAMEWORK OF MALAWI AGRICULTURAL NAMAs
Round Table on Agriculture NAMAs-
Early Lessons

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Malawi Economic and Social Context

- Malawi population [about 13 million people]
  - 105 people per sq. km / 171 persons per sq. km of arable land.
  - Population growth rate of about 1.9% per annum

- Forests and woodlands provide 90% of Malawi’s energy

- Agriculture accounts for:
  - 43% of GDP
  - 85% of the labor force
  - 90% of export revenues

- Frequent food shortages due to extreme climatic events - rural exodus

- Industrial sector remains in its infancy - increasing the mining & manufacturing capacity is a key priority now

- Unreliable energy supply: frequent blackouts due to insufficient generation capacity

- Energy demand is projected to double in the next five years as compared to 2000
Malawi Policy Context: Setting the Framework for a NAMA

  - Recognizes climate change as one of the issues affecting environmental sustainability
  - Aims to ensure sustainable development as envisioned by the Vision 2020 since 1998

- **National Environmental Policy (NEP, 1996 revised 2004)**
  - Provides a framework for policies related to climate change
  - The Environmental Management Act - to enforce the NEP

- **Vision 2020**
  - Provides a framework for national development, policies and strategies
  - Emphasizes sustainable development
  - National Sustainable and Renewable Energy Programme (NSREP)
  - Aims at promoting the use of RES

- **Malawi Growth & Development Strategy 2006 - 2011 (MGDS); MGDS II, 2011 - 2016**
  - Recognizes climate change as a key priority

- **REDD strategy - under development**
  - National Climate change investment plan under development
  - National Climate change Policy - under development
  - National Climate Change Strategy yet to be developed
Malawi Institutional Context

National Council for the Environment (NCE)
(president & Cabinet, all Ministries, Malawi Chamber of Commerce & Industry)
- Advises and recommends the Minister
- Endorses projects

Designated National Authority - CDM
Environmental Affairs Department (EAD)
Secretariat of the NCCC

Technical Committee on the Environment
- Examines scientific issues referred to it
- Recommendations to the NCE

National Climate Change Committee (NCCC)
Government, NGO, private sector & academia
- Reviews climate change policies and programmes

Department of Forestry
- Coordination of the REDD strategy

Ministry of Finance and Development Planning
- Streamlines climate change in sectoral policies and in MGDS

Department of Energy
- Coordination of NSREP
Introduction

• Agriculture is the cornerstone of Malawi economy and the livelihoods of her people and yet the most vulnerable sector to adverse impacts of climate change

• The context in which agricultural actions and projects are to be implemented in Malawi is from the adaptation perspective with mitigation as co-benefits across the agricultural value chain

• To enhance agriculture resilience and adaptive capabilities and realize potential for NAMA Malawi needs technical and financial support, as it is an aid-dependent LDC.
Underlying principles of Agricultural NAMAs

- Must be voluntary in nature and covering the entire agricultural value chain
- Focus on increasing **sustainable** productivity, poverty reduction and sustainable development
- Country driven and based on national needs especially those of small holders farmers
- Takes into account the diverse agricultural systems and builds on existing practices
- Enhances adaptive capacity and resilience of the sector
- Has potential for co-benefits – carbon sequestration.
- Actions will not lead to commitments, conditionality and barriers within international economic system
Malawi Historic GHG Emissions

Data source: Government of Malawi, 2008. The split between Agriculture and LULUCF is based on the share presented in the 1994 GHG inventory.
Emission projections until 2020 – BAU

## A Menu of Technologies and Practices for enhancing Adaptation and Mitigation co-benefits in the agricultural sector

<table>
<thead>
<tr>
<th>Categories of Agricultural NAMAs</th>
<th>Technologies and Practices</th>
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<tbody>
<tr>
<td>Cropland management</td>
<td>Nutrient management, Tillage/residue management, Water management (e.g. small scale Irrigation), Improved varieties, Sustainable use of wetlands, Agroforestry</td>
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<tr>
<td>Sustainable management of Grazing land</td>
<td>Managing grazing Intensity, Pasture improvement (Reseeding, Species Introduction) and management, Water harvesting and management, Fire Management, Controlling invasive weeds</td>
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<tr>
<td>Livestock management</td>
<td>Improved feeds and feeding Practices, Animal Breeding Animal health care and management, Efficient marketing of livestock and livestock products</td>
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<tr>
<td>Restoration of Degraded Lands</td>
<td>Erosion Control, Integrated watershed management (IWM), Integrated Soil Fertility Management (ISFM)</td>
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<tr>
<td>Agricultural manure and waste management</td>
<td>Improved Storage and Handling, Anaerobic digestion (e.g. Biogas), More efficient use of manure as nutrient Source</td>
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Fig 1. Application of adaptation and mitigation actions to manage the effects of climate change and reduce GHG emissions

- Adaptation
- Mitigation

- Food production
- Income & poverty reduction
- Sustainable economic growth & development
- Sustainable intensification
- R&D: Increased production & storage of C M&E; MRV
- Sustainable Development

Function of time, investments & accruing benefits
What does Malawi intend to do?

Variety of measures in different sectors submitted as possible NAMAs

- Waste
- Energy use
- Industrial processes
- Agriculture
- LULUCF
- Total BAU

Data source: Government of Malawi, 2008
Possible reductions from proposed NAMAs

Data source: Government of Malawi, 2008. BAU simple extrapolation, reductions calculated with LEAP model
What does Malawi intend to do? – Agriculture

- Improved cultivation methods through use of zero-tillage or conservation farming
- Improved rice cultivation
- Agro-forestry incl. Crop rotation, mixed cropping and intercropping
- Improve management of manure
- Improved fertilizer management

Data source: Government of Malawi, 2008. Emission reductions quantified with Century model

Additional, non-quantified measures:
- Improved animal husbandry practices
Marginal Abatement Costs curve for selected CSA practices in Malawi

Source: FAO (Branca, Lipper, Sorrentino), 2012
Next steps

- Prepare more detailed concept notes for NAMAs so that they can be implemented as pilot NAMAs. Likely to be in the energy, forestry and waste sectors because:
  - High replicability potential
  - Entry points for business investments
- Agriculture, esp. restoration of degraded land and more efficient fertilizer may also be viable mitigation option due to potential co-benefits for food security and agricultural development
- may Seek international support for pilots (cost estimates to be refined)
- Establishment of a stakeholders’ consultation process on NAMAs to implement pilot NAMAs to learn:
  - to implement more NAMAs and
  - to build robust MRV system, possibly also for Biennial Update Report (2014)
The Needed methods and Tools

• Establish and strengthen national institutions
• Harmonization, standardization & quality assurance of methodologies for quantification of sinks and sources of emissions in the country
• Quantification and documentation of GHGs in agriculture (CO$_2$, CH$_4$, N$_2$O, CFC, HFC, Nox) under different management practices
• Develop tools for monitoring impacts of interventions.
Key Lessons

• AFOLU is greatest contributor to emissions in Malawi mainly because of use of biomass for energy and expansion of agricultural lands but mitigation options need to take into account possible trade-offs with food security and poverty reduction.

• Malawi’s institutional context and policy priorities take into account climate change and provide a good framework for the development of NAMAs and CRLEDs (climate resilient and low emission development strategies).

• Malawi has identified several mitigation options in key sectors in its 2nd National Communication according to several indicators (mitigation potential, costs, co-benefits).

• Those mitigation options constitute a great pool of actions for the identification of NAMAs.

• The national forum on NAMAs (November, 2011) identified some NAMA ideas and next steps including: (i) the approbation of NAMAs by the National Council for the Environment and stakeholder consultation processes and (ii) need for integrative technical and financing support that rewards multiple benefits (adaptation, mitigation, food security), which may require both public and private financing components (PPP).
Thank you

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