Exploring Agroforestry Interventions in Flood Based Livelihoods Systems.

Fostering Leadership in Climate-Smart FBLS for Sustainable Investments in Africa and Asia
15-24 May 2017
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Outline:

• Definition of Agroforestry
• Tree Benefits
• Examples: Chad, Ethiopia, Kenya, Malawi, Zambia, West Africa
• Important Questions
Maize farming in a *Faidherbia* agroforest in Mbarali District, Southern Highlands, Tanzania. 2008
Photo: Saidu Mkomwa
Definitions

• **Basic Definition** - Agroforestry is agriculture with trees

• **Comprehensive Definition** - Agroforestry is the practice and science of the interface and interactions between agriculture and forestry, involving farmers, livestock, trees and forests at multiple scales
  
  (ICRAF Strategy 2017-2026).
Tree Benefits

a) Sequestering carbon from the atmosphere
b) Bringing up water and nutrients from depth
c) Providing a framework for above and below-ground biodiversity to flourish
d) Improving microclimate
e) Building up soil organic matter and thus soil carbon
f) Offering new farm diversification enterprises
g) Making agricultural landscapes more resilient
h) Recording climate history
Maize with Gliricidia Sepium: A bumber Harvest
Long-term maize yield without fertilizer in a *Gliricidia* system

[Graph showing maize grain yield (t/ha) over years with specified events: P stopped, Flood, Drought, P addition resumed, Drought.]
### Faidherbia Trial Results in Zambia

*Maize yield - zero fertiliser*

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Faidherbia</td>
<td>4.1</td>
<td>5.1</td>
<td>5.6</td>
</tr>
<tr>
<td>Without Faidherbia</td>
<td>1.3</td>
<td>2.6</td>
<td>2.6</td>
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</tbody>
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Number of trials:

- With Faidherbia: 15
- Without Faidherbia: 40

*10mx10m spacing*
Malawi National Agroforestry Food Security Programme
Impact of fertilizer trees on maize yield under farmer management

<table>
<thead>
<tr>
<th>Plot management</th>
<th>Yield (t/ha)</th>
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<tbody>
<tr>
<td>Maize only</td>
<td>1.30</td>
</tr>
<tr>
<td>Maize + fertilizer trees</td>
<td>3.05</td>
</tr>
</tbody>
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2011 Survey of farms in six districts (Mzimba, Lilongwe, Mulanje, Salima, Thyolo and Machinga)
Kenyan Farmlands: Bold policy to achieve >10% tree cover on farms through a National Evergreen Agriculture Programme
Kenya - Kajiado
Invasive species
Lamu County Kenya
December 2011: Ethiopian Prime Minister announces national programme to establish 100 million *Faidherbia* trees in farmers’ fields
Ethiopia - Tigray
Major Agroforestry Regions in West Africa and Directions of Expansion
Goz Beida Chad
Goz Beida Chad
Important Questions

• **Where do people living in Flood farming areas source of tree products?** e.g. fruit, nuts, oils, beverages, gums, resins, latex, flavours, leaves for food and nutrition, fodder for livestock, timber, fuel wood and biomass for energy production, and medicines that treat disease).

• **What needs to be done to strengthen AF in flood farming systems?**
THANK YOU