Landscape Planning to Mitigate and Adapt to Climate Change

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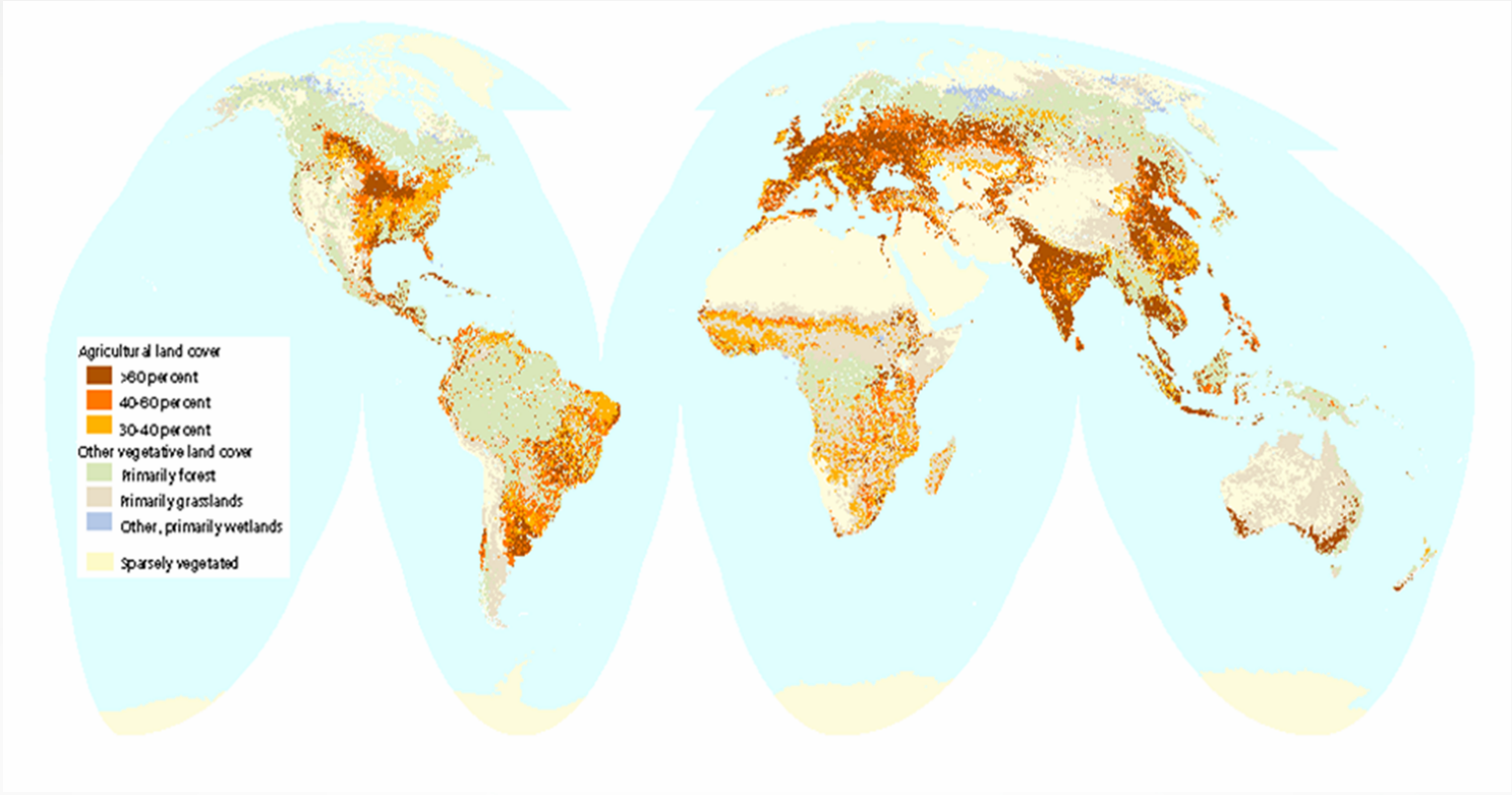
Agricultural landscapes :critical for climate, biodiversity & ecosystems, as well as food



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PAGE Agricultural Extent

Agriculture and climate change

- Large impact of climate change on agriculture – need for adaptation
- Agriculture as a major source of GHGs –need for emissions reduction
- Land use sector potential for reducing GHG— need for sequestration

ACTION AT SCALE

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Moving to large landscape approaches

- REDD+ (jurisdictional)
- Bonn Challenge for Forest Landscape Restoration
- Alliance for Climate-smart Agriculture
- Agriculture Green Growth
- Zero Net Land Degradation
- 20X20 Latin America
- African Landscapes Action Plan

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Example: Landscape transformation in Ethiopia

- Operating since 2002, 400,000 hectares degraded land rehabiliated in 451 sub-watersheds, 125,000 direct beneficiaries, 40% female
- Menu of 48 activities in AE/E and Livelihoods and Local Level Participatory Planning Approach
- Impacts in Tigray:
  - Investment in re-vegetation, terracing, community and farm-scale water harvesting restored water (ground, farm, streams)
  - Irrigation & improved soil organic matter increased crop production 200-400%
  - Dependence on food aid during droughts reduced from 90 to 10% households
  - Transformation within 5-10 years
  - Climate mitigation at landscape scale
- Institutionalization of approach

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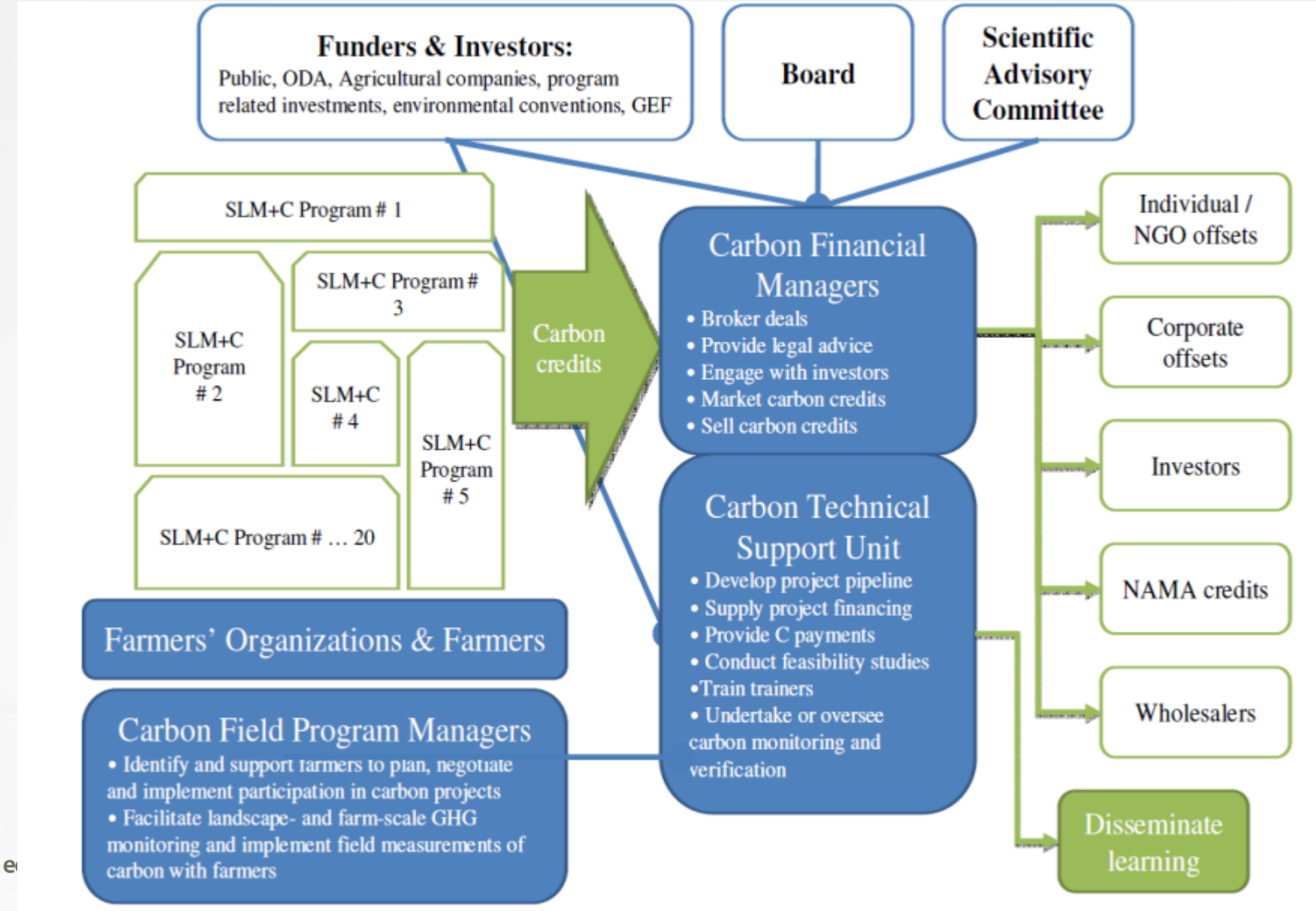
Advantages of landscape-scale action for climate mitigation and adaptation

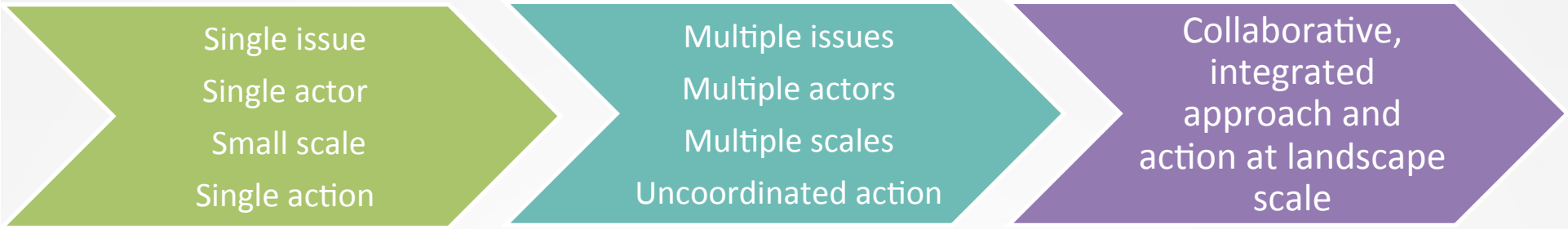
1) Negotiate least-cost solutions for emission reduction & sequestration
2) Engage large set of local institutions
3) Choose carbon-rich land use & management changes that maximize co-benefits for groups in the landscape
4) Maintain large buffers in the landscape
5) Integrate climate benefits into mainstream ag, land, cons. investment
6) Potential for **large** climate benefits

Realize economies of scale and synergies in project finance & development



Landscapes for food, fiber, water, energy, health, livelihoods, biodiversity, ecosystem, climate

How do we accomplish all of these objectives?



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Integrated landscape management

1. Long-term collaboration among different groups
2. Management objectives to achieve multiple benefits
3. Maximize synergies and mitigate tradeoffs
4. Participatory, adaptive management
5. Supportive market and policy frameworks

More than 80 communities of practice

Climate-smart agricultural landscapes

Integrated landscape approaches that include climate adaptation and mitigation in management objectives.

- Climate-smart field and farm practices
- Diversified land use across the landscape
- Interactions across the landscape managed to enhance mitigation and adaptation
- Strengthened landscape resilience

But—climate is rarely the principal driver/motivator for action; lead with the local co-benefits

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Use field and farm scale practices that mitigate and adapt

Restore degraded lands

Farm & feed with perennials

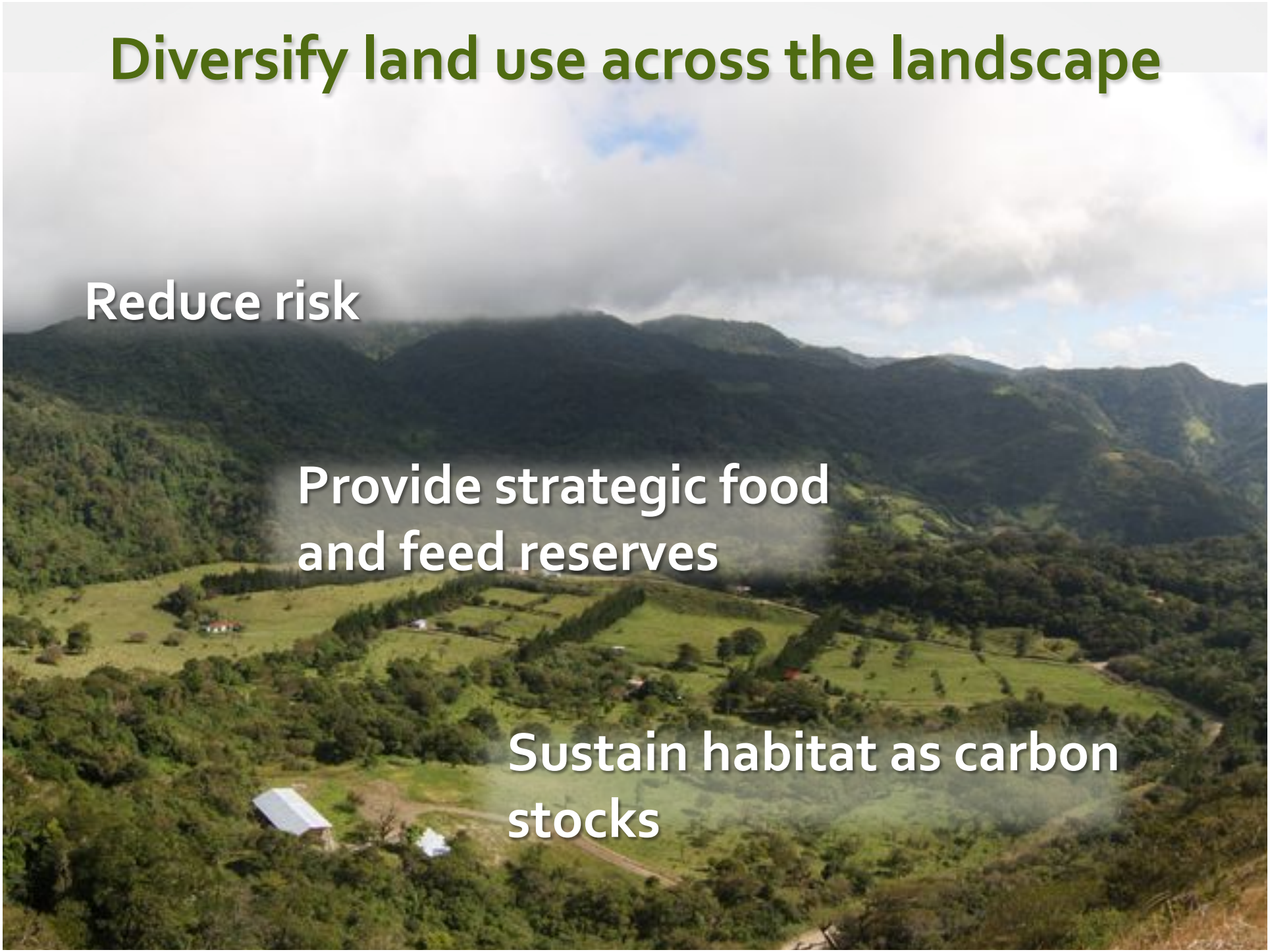
Enrich soil carbon

Sustainable livestock systems

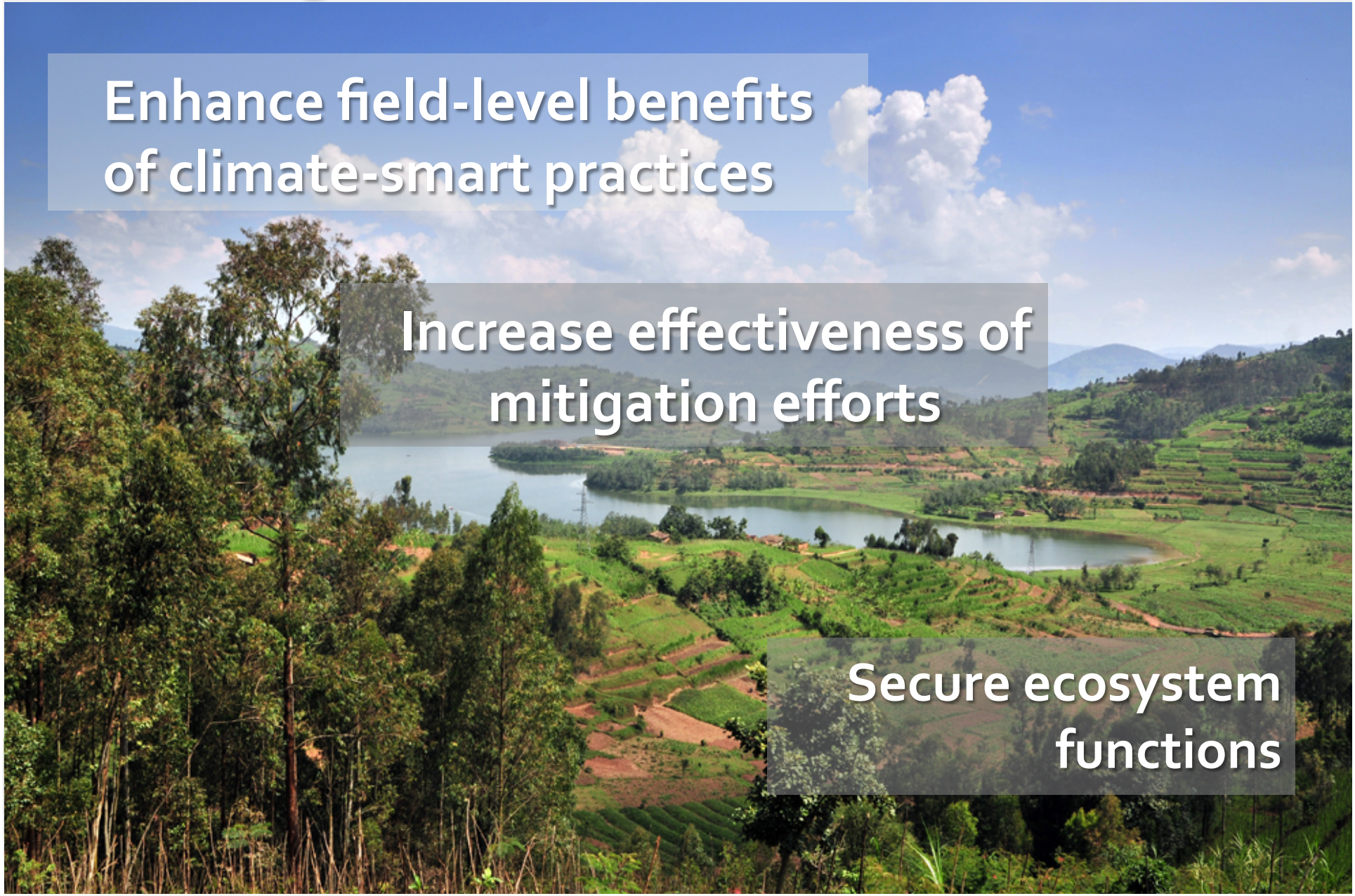
Efficient water management

Protecting natural habitat

Diversify land use across the landscape

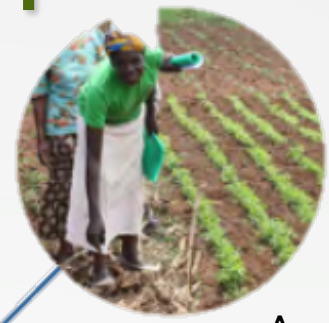


Manage interactions across land uses



Strengthen landscape resilience

Livelihood Resilience



Agroecosystem Resilience

Resilient Landscapes

Institutional Resilience

Ecosystem Resilience

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Implementing climate-smart landscapes: Key Processes

1. Multi-stakeholder planning
2. Supportive landscape governance and resource tenure
3. Financing for integrated landscape investments
4. Tracking multiple dimensions of change

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Kericho-Mau Landscape, Kenya

Features of Kericho case

Context for collaborative action

- Strong structure, organization, management, financing of Kenyan tea industry
- Commitments from multinationals and Kenya Tea Development Agency (>500K smallholders) to achieve Rainforest Alliance Certification
- Coordination between multinationals and smallholders
- High industry interest in addressing adaptation

Steps towards a climate-smart landscape

- Upscale climate-smart training for smallholders
- Optimize fuelwood consumption, sustainably manage eucalyptus
- Support a 'community of practice' to transfer knowledge, technology and support joint planning
- Engage strongly with Water Resources Users Associations (WRUAs) and Community Forest Associations (CFAs)

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On-farm practices

Landscape planning and coordination

Energy systems

Research and Development

Supportive policy and finance

Conclusions

- Adaptation, mitigation and livelihoods activities are most efficiently planned and managed together
- Multi-stakeholder planning and coordination are needed to manage these multiple objectives
- Effective implementation of climate-smart agriculture at scale requires a "landscape approach"
- "Landscape thinking' calls on specialists and specialized institutions to conceive of their work as contributions to multifunctional landscapes, through active engagement in collaborative work

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Thank you!

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