Forests, Agriculture and Climate Change Mitigation

Key issues, program design guidelines and policy recommendations

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(with Seth Shames, Jeff Hatcher-RRI, Courtney Wallace)

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Overview

1) Interconnections between agriculture, forests and climate change

2) Integrating landscape interventions

3) Implications of integrated strategies for national and international policy

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Diverse landscape dynamics

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Positive inter-dependence of agriculture, forests and climate

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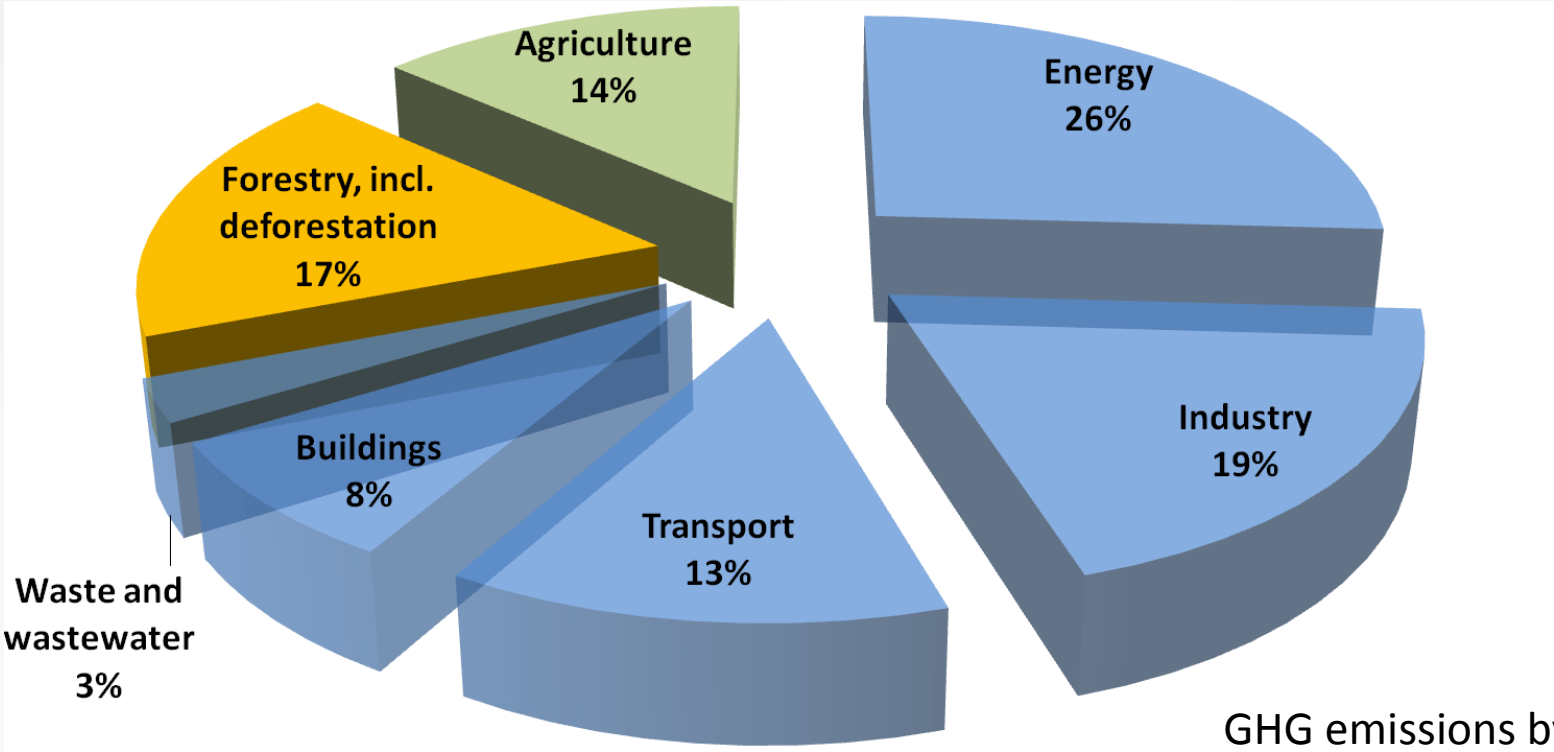
Agriculture and land use: 31% of global greenhouse gas emissions



GHG emissions by sector in 2004, Source: IPCC

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Yet agriculture-forest-climate also in conflict…

Local agricultural drivers of deforestation

- Shortening of forest fallows in shifting cultivation systems under population pressure
- Agricultural land degradation
- Natural growth of agricultural population
- Uncontrolled agricultural burning
- New market opportunities create incentives to clear

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Agricultural policy drivers of deforestation

- Private commercial agricultural concessions in public lands
- Private commercial agricultural and ranching development through new land purchases/leases
- Insecure tenure rights for land stewards
- Agricultural investment programs led/supported by government
- Large-scale migration

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Agricultural intensification alone is NOT enough to protect forests, climate, ecosystems

- "Borlaug Hypothesis" – Intuitive, but misleading
- Country experience: 34 countries—yes, 161 – no
- Why? Many markets not local; food demand is price-elastic; farmers diversify; success attracts immigrants
- Ecosystem services from farms are just as important as forests in many regions

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Inter-sectoral investment/policy conflicts

Sectoral Investment	Positive impact on:	Negative impact on:
Increased nitrogen fertilizer for agriculture	Income from agriculture Food security (+/-)	Watershed health GHG emissions Biodiversity
Expansion of public parks and protected areas	Biodiversity Watershed health GHG sequestration & emissions reduction Income from tourism	Agric'l production Biomass energy
Private commercial biofuels development	Biomass energy GHG emissions reduction Income from agriculture	Watershed health Food security
Large-scale water resource development	Agricultural production Food security (+/-) Commercial income	Biodiversity Watershed health (?) GHG emissions Income from tourism
Export crop development	Agricultural production Income from agriculture	Food security (+/-) Biodiversity Watershed health GHG emissions

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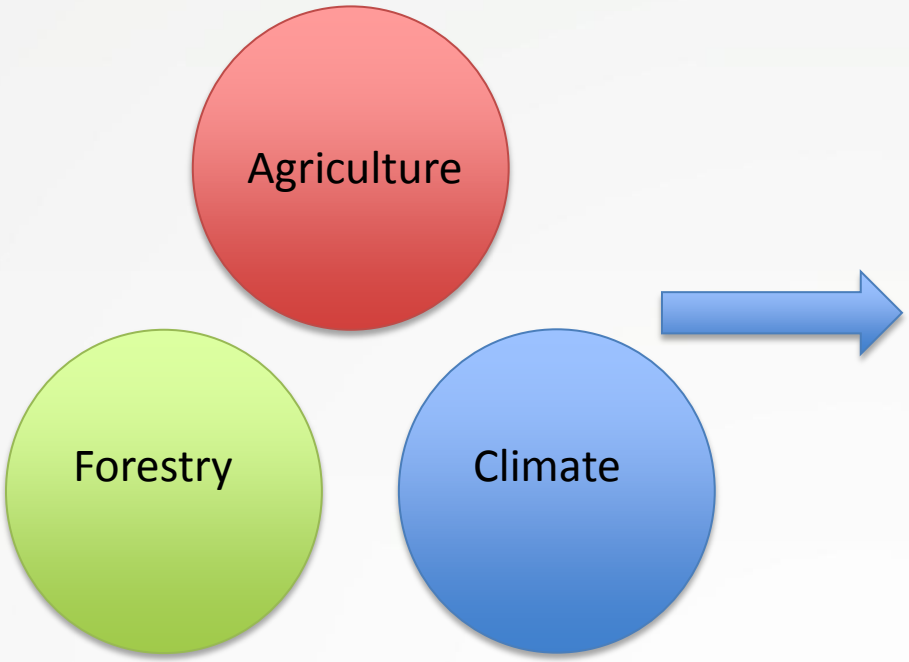
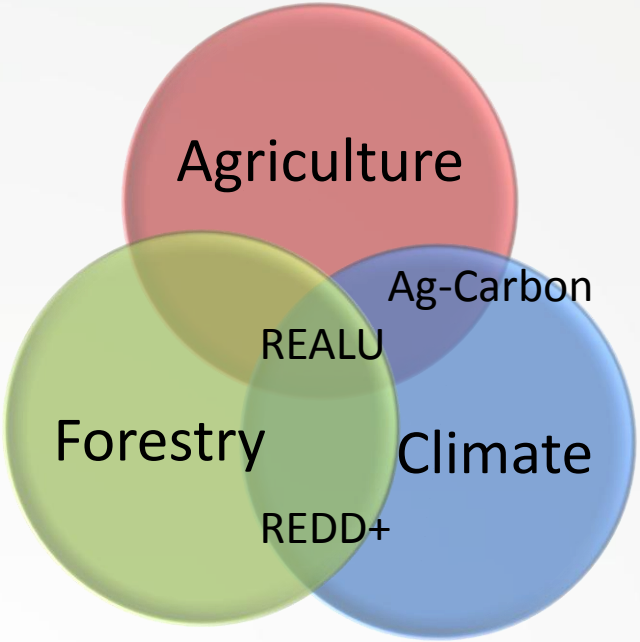
Essential to link communities of practices

From silos...



...to synergy



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A new approach to climate: REALU--Reduced Emissions from All Land Uses

- Whole-landscape approach to reducing emissions and managing carbon stocks
- Full accounting scheme for all transitions that affect carbon storage

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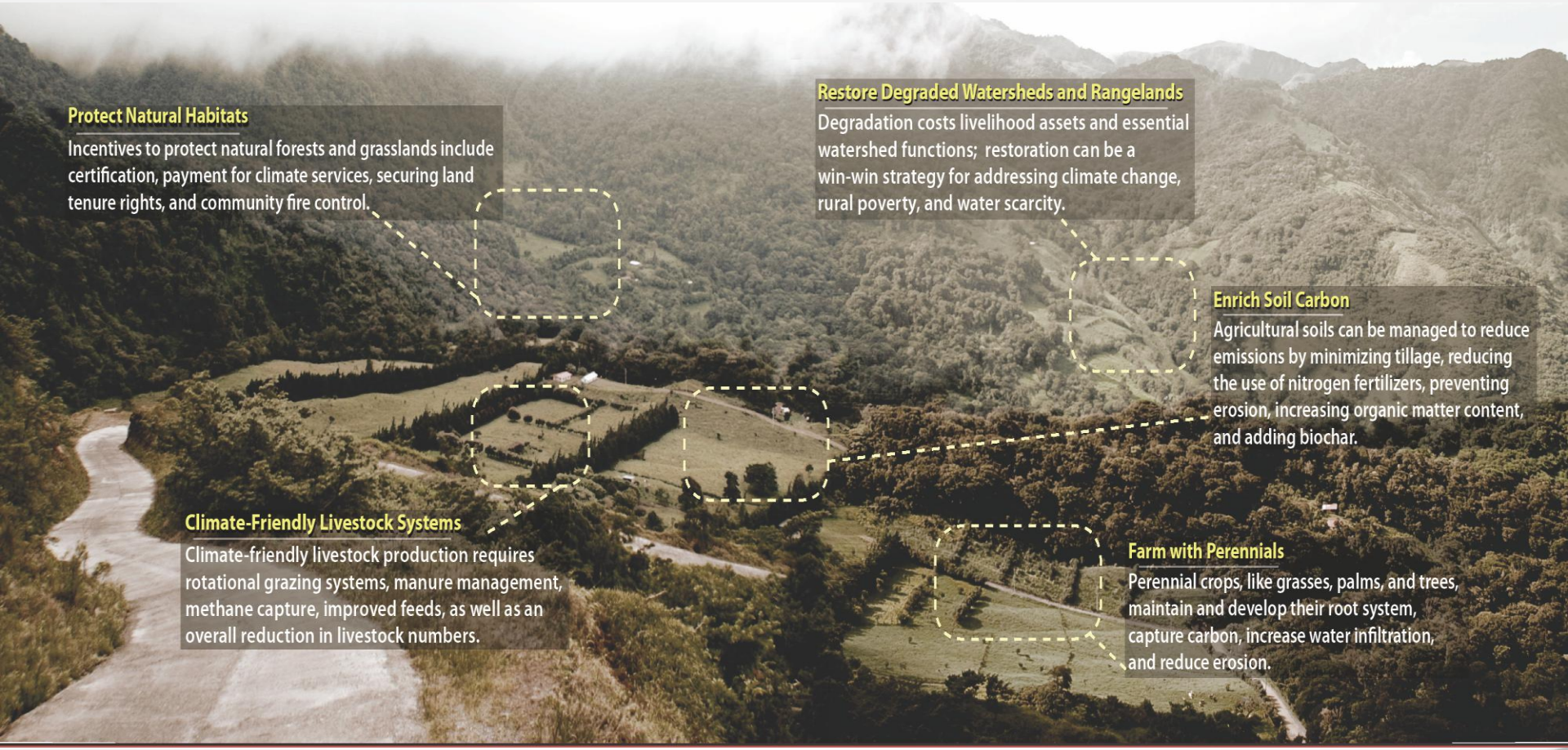
Climate-smart agricultural landscapes:
Food, livelihoods, mitigation, resilience, ecosystems



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Strategies for integrated (ecoagriculture) farm and landscape management

In farmed areas:

- Farming systems mimic natural ecosystems
- Diverse crop species and varieties
- Minimal agricultural pollution
- Increase agricultural productivity
- Ecologically-compatible soil, water , vegetation mgmt
- Farm management to protect wild species

In non-farmed areas:

- Habitat corridors through production areas
- Conservation reserves that benefit local farming communities
- Critical riparian and watershed areas kept in natural vegetation

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Integrate through cross-sector, multi-stakeholder landscape planning & action

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Harmonize sectoral policies to manage the agriculture-forest-climate interface

- Facilitated dialogue
- Joint planning
- Coordinated implementation
- Reshaping sectoral work
- Building capacity for inter-sectoral design

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Clarify and secure agricultural and forest tenure and resource rights

- Secure farmer & community land rights & resource access
  - Reward good resource stewardship with stronger rights
  - Formalize local peoples' rights to flows and payments from ecosystem services
- Limit large-scale agricultural concessions in public and communal lands
- Address conflicts between different rights-holders
  - Invest in land rights mapping and delimitation
  - Negotiate national/local restrictions on public land access
  - Negotiate local by-laws on private/communal resource management
- Recognize long-term dynamics

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Design national climate action within REALU framework & climate-smart ag'l strategies

- Clean Development Mechanism (including soil carbon)
- National Adaptation Program of Action (NAPA's)
- Nationally Appropriate Mitigation Activities (NAMA's)
- Support through bilateral donor funding

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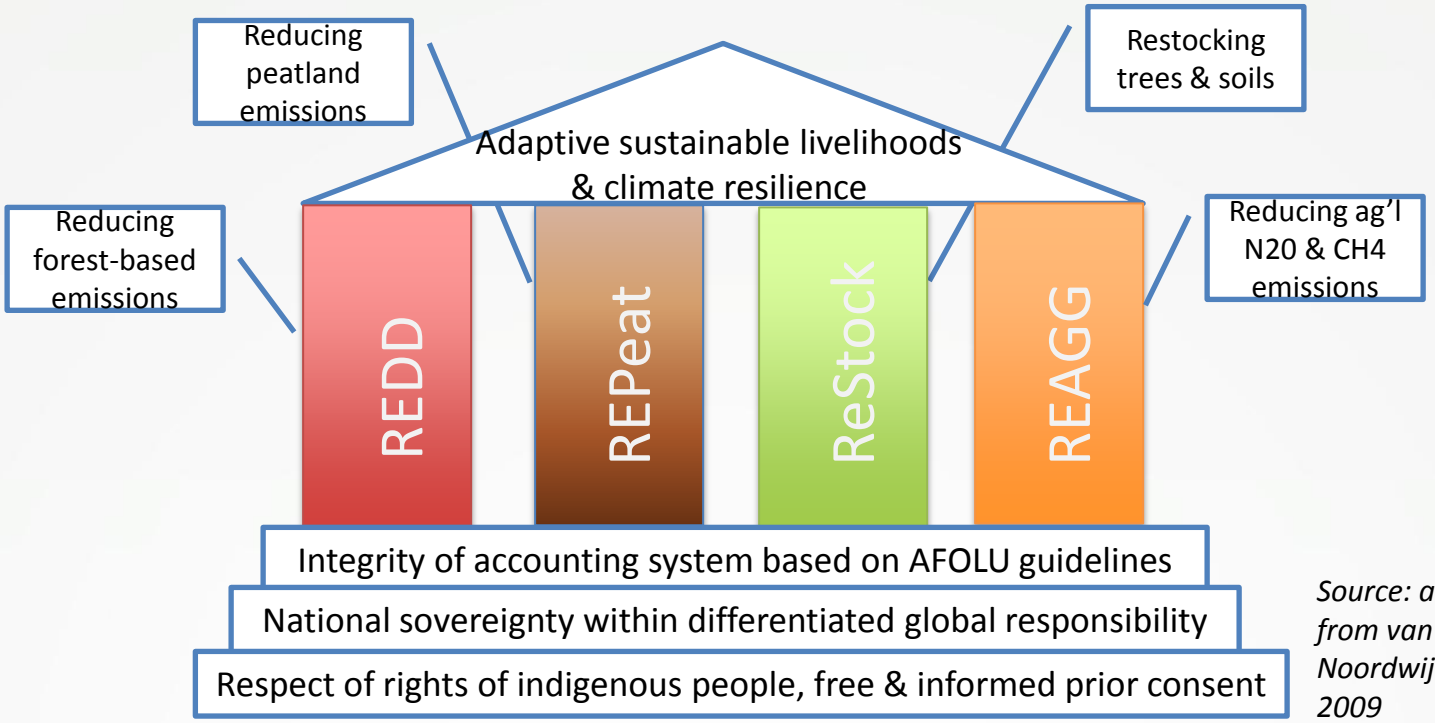
Adapt GHG accounting for REALU: nest plans at national level, track multiple outcomes



Source: adapted from van Noordwijk et al 2009

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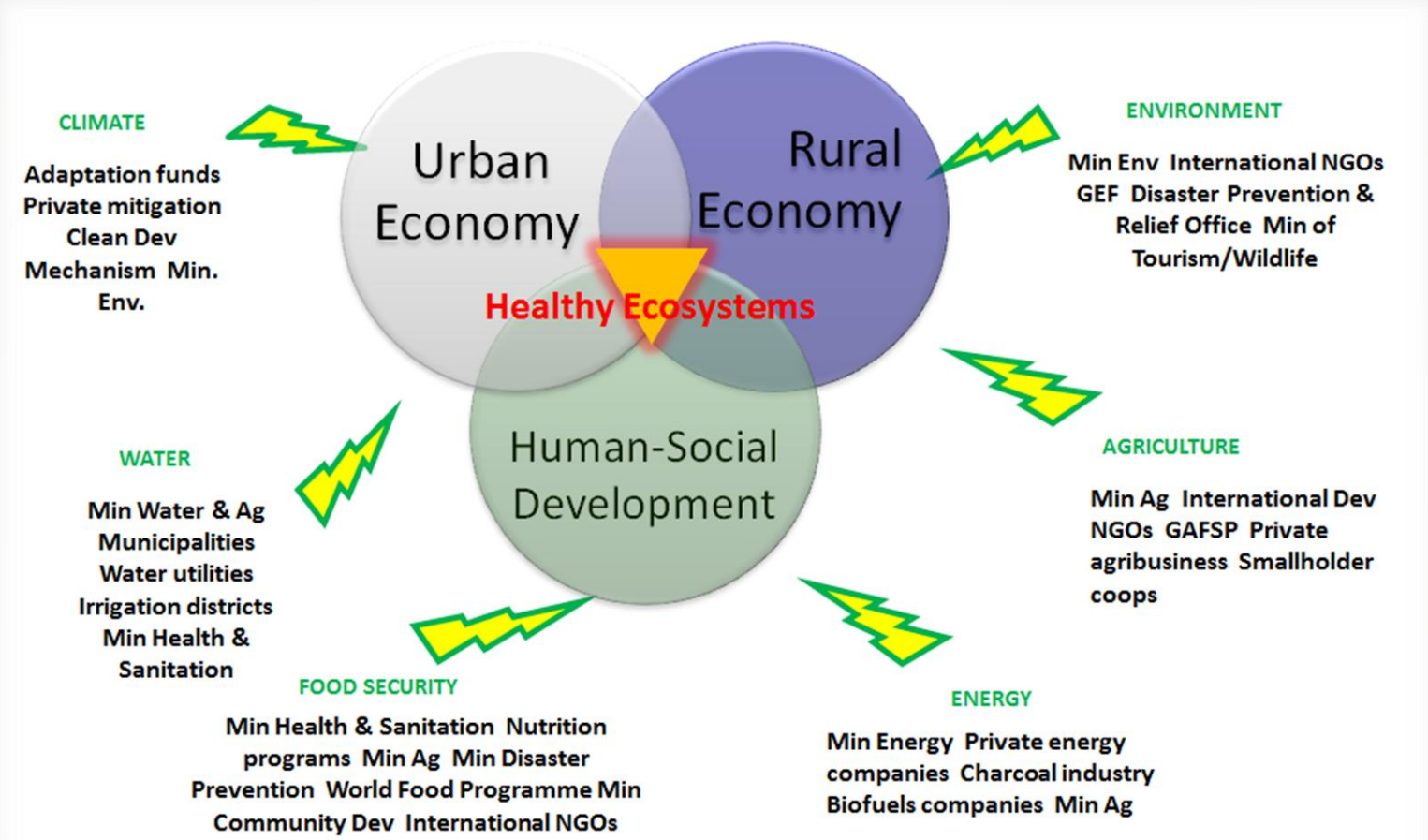
Link climate finance to agricultural development finance



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Promote international policy supporting climate-smart landscapes

- Establish UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) for Climate-Smart Agriculture
- Integrate land-use mitigation and adaptation in international climate policy and finance (UNFCCC negotiations; Green Climate Fund fast-start financing)

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Landscapes for People, Food and Nature

An International Initiative for Dialogue, Learning and Action

Thank you

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