Transforming the Global Landscape

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‘Landscape’ gaining ground...

- Global Landscape Forum, UNFCCC, landscape.org
- World Bank “Landscape approaches in Sustainable Development”
- Landscapes for People, Food and Nature
- CGIAR Program Water, Land and Ecosystems
- Platform Annual General Assembly 2014, Paris “Rethinking Rural Development__Opportunities for new partnerships and territorial approaches in a changing rural environment”
What is a 'Landscape'?
Strong feature of this century is *rapidity* of landscape transformation driven by large investment - can it be sustainable and socially inclusive?
Emerging feature is the dominance of *globalization, income and international trade* as major drivers of land use change.

“This globalization has major implications for governance...and adoption of sustainable practices”

Eric Lambin 2014 GLPOSM
Why Landscape?

• Agriculture, water, forests, and food security are all connected
• Landscape combines geographical and socio-economic approaches and interactions amongst sectors
• At the landscape scale, governance, ownership and ecology are integrated
• In landscapes we can achieve multiple goals, sustain communities, produce goods, store carbon, protect wildlife, biodiversity and ecosystem services
CIAT & Landscapes

- Managing the water-food-energy nexus in upper catchment smallholder farming landscapes
  - Kenya
  - Peru

- Ensuring sustainability and social inclusion during transitions from low intensity agriculture to larger scale farming
  - Colombia
  - Tanzania

- Building resilience to Climate Change
Water Food Energy

- Upland degradation, food insecurity, poverty
- Downstream hydropower, water supplies threatened
- 90% of Nairobi’s water
- 70% Kenya’s hydropower
- On what basis can investments be made that benefit upstream and downstream?

CIAT supplies evidence for payment for ecosystem services to TNC Water Fund, a public private partnership, first in Africa!

--- quantifying and valuing ecosystem services ---

Upper Tana Basin
Kenya
Land Use Dynamics 2001-2013

- Cereals (maize) biggest gains
- Forest and grassland biggest loses
- Within agricultural areas experiencing the most dynamic change

Nyeri
- tea, vegetables and grassland to cereals

Thika
- cereals and forest to tea and coffee
- agriculture to forest

Transition categories:
- Na to Na
- Ag to Na
- Na/Ag to Urban
- Na to Coffee
- Tea, Veg, Cereals to Coffee
- Na to Cereals
- Tea, Veg, Coffee to Cereals
- Na to Veg
- Tea, Cereals, Coffee to Veg
- Na to Tea
- Cereals, Coffee, Veg to tea
Many Sediment Sources in Landscapes

- 26% more sediment

Nyeri watershed

Quarries

No Quarries

Average Sediment Yield (T/ha)
Climate Change Futures?

Suitability Increased for
maize and beans in existing tea zones
coffee in some existing tea zones
tea in existing coffee and forest zones

Combined current trends and future suitability to develop future scenarios and resulting sediment loads

- Decreasing suitability (-1 to -30%)
- 10% increase
- 20% increase
- 30% increase
- 40% increase
- 50% increase
- No change (100% suitability)
- New suitability
Plausible Scenarios

Starbucks 60% tea \rightarrow coffee
Food Security 60% tea \rightarrow annual crops
Queen’s 40% annual crops \rightarrow tea

Change in Sediment Yield (%)
The Ministry of Environment in Peru established a new scheme for rewarding ecosystem services in the Cañete River basin and designated the basin as an official pilot for a national benefit-sharing program.

- If successful, the pilot will be scaled up and implemented in an additional fifty-three river basins.

- The ministry developed an ecosystem services law, aimed to foster more benefit-sharing mechanisms, scheduled to be ratified during 2014.

Financial, education and health benefits are now flowing to those caring for the environment upstream.
Green Growth

- Large internal and external investment
- Commercial agriculture, mining, hydropower
- Massive environmental change
- Will this development be sustainable and ‘green’ with benefits equitable?

In partnership with Gov’t and Corpica, CIAT monitors options to improve ecosystem services.

As a member of the Southern Agriculture Growth Corridor of Tanzania (SAGCOT) Green Reference Group, CIAT research will help manage equity and maintain soil health, ecosystem services, and be climate resilient.
What’s different?

• Institutions and partnership

• Integrating frameworks, e.g. ecosystem services

• Scale, bigdata, models, games

• Transitions, trajectories, pathways

• Multiple sector

• Negotiating Trade-offs

• Measure & Monitoring

• Anticipating climate change
Challenges

• Investing in ‘landscapes’
  – Multiple definitions
  – Investing in enabling institutions
  – Longer term requirements
  – Setting goals and monitoring progress
  – Embracing variability, managing complexity

See the Agriculture Ecosystem Blog for a piece arising from the Global Landscape Forum at UNFCCC 2013
wle.cgiar.org/blogs/2013/11/22/how-can-investing-in-landscapes-meet-a-bankers-bottom-line/
and
“Financing Strategies for Integrated Landscape Investments”
Landscapes for People, Food and Nature, 2014
Opportunities

To create sustainable futures in rural development:

• Support nascent sustainability agendas in developing countries and SDG’s

• Ensure development investment planning and implementation benefits from new tools and data, to be integrated and evidence based

• Embrace the remote drivers in landscapes, and opportunities for remote governance
Thank You