Why a landscape perspective is important in agroecological transitions

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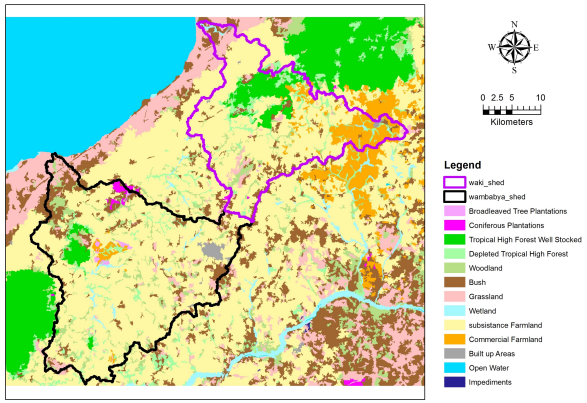
What is a landscape?

- A distinct area of land that is larger than a single farm
  - District – administrative
  - Watershed – hydrological
  - Agroclimatic zone
  - Road access to markets and urban centres
  - Proximity to protected areas such as national parks, forests and wetlands

- An area where biophysical elements interact through ecological and human connections

Uluguru Mts, Tanzania

Western Usambaras, Tanzania



Rivers Waki and Wambabya watersheds, Uganda

Sources: FAO, 2012; Scherr et al., 2012; Milder et al., 2014; Sayer et al., 2017

Motivation for AE transitioning

VALUES - Dignity. Recognition. Environmental sustainability. Future generations

VISIONS - immediate and long term emergencies and opportunities

- Small scale farmers:
  - Earn a living income to afford good food, education and healthcare
  - produce the right balance of food needed for healthy and sustainable diets
  - Farming that can be integrated with other sources of livelihood or farming that transitions beyond production to value addition

Communities:

- Social organisations and networks that protect individuals and widen their opportunities
- Secure culture and land tenure
- Markets
- Sustainable access to natural resources beyond farm

National governments:

- Rural development
- Employment – youth
- Social protection

Why AE from a landscape perspective?

Biophysical interconnections

- Smalls-cale farms with other non-farm ecosystems in landscape mosaics
- Ecological flows beyond farm boundaries – pollinators, pests, pathogens, soil erosion, pollution, invasive species, species range
- Carbon cycle, water cycle, nitrogen cycle etc.

Human socio-economic interactions

- Small-scale farms are key intervention points for various ecosystem concerns
- Small-scale farmers interact with each other and with other stakeholders
- Farmer decisions are influenced by broader frameworks markets, institutions and governance

Tradeoffs and synergies

Landscape approach

- Addressing multiple environmental and livelihood considerations at large spatial scales
- Managing farm and off farm benefits, challenges, opportunities and aspirations
- Engaging in policy and institutional processes

Farmlands as part of a system interconnected with other people's farms, grazing areas and uncultivated areas

Cumulative impacts of farm-level decisions

Negotiation between diverse stakeholders – inclusion, tension, power

Some approaches

- Collective action
- Inter-sectorial dialogue and action - land sparing and sharing
- Policy regulation
- Conservation and development – Participatory ecosystem management, revenue sharing, payments for ecosystem services

South Western Uganda

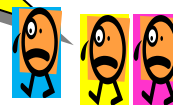
Example: Effectiveness of some practices in Sasumua watershed, Kenya

Landuse practices	Sediment yield reduction (%)	Reduction in surface runoff (%)	Increase in base flow (%)	**Establishment cost per ha (Ksh)**	**Annual maintenance cost per ha (Ksh)**
Contour farming with trees	49	16	8	15,000	2,000
Grass filter strips	38	ns	ns	15,000	1,000
Grass waterway	41	ns	ns		
Terraces	85	22	10	50,000	5,000

Mwangi et al. 2011 ICRAF Policy Brief

Data can be used in stakeholder negotiation e.g. Sasumua watershed, Kenya

We are willing to pay more for assured regularity of flows



Nairobi water users

We are willing to accept payment for improving land use for reducing sedimentation

Upland farmers

Payments for Ecosystem Services can make a strong business case – net savings in sediment treatment

Science

- We have no authority to increase tariffs
- Sediment treatment savings are small change
- We pay multiple levies to government

Nairobi Water Company

We cannot pay land owners under the existing policy

Government water fund

Mwangi et al. 2011 ICRAF Policy Brief

Thank you