WORKSHOP ON
INSTITUTIONS FOR ECOSYSTEM SERVICES
October 27-29, 2014
Workshop Objectives

• Encourage sharing and discussion on research methods and tools to study the links between institutions and ecosystem services

• Synthesize lessons about institutional arrangements needed to ensure that ecosystem services projects are able to deliver benefits to local resource users and produce local, regional, and national global environmental benefits

• Identify policies and program interventions that can strengthen these institutions

• Outline priorities for future research, policy, and project implementation, particularly of relevance for PIM, WLE, and FTA programs
“There can be no peace without equitable development; and there can be no development without sustainable management of the environment in a democratic and peaceful space. This shift is an idea whose time has come.”

Wangari Maath, Nobel Peace Prize Recipient 2004
What are Ecosystem Services?

“the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life”

Daily 1997

“the combined actions of the species in an ecosystem that perform functions of value to society.”

Walker and Salt 2006
Provisioning Services

Products obtained from ecosystems

• Food
• Fresh water
• Fuel
• Fiber
• Biochemical Products

Regulating Services

Benefits obtained from regulation of ecosystem processes

• Climate regulation
• Hydrological regimes
• Reduction of natural hazards
• Pollution control
• Detoxification processes

Cultural Services

Material and non-material benefits of ecosystems

• Spiritual and Inspirational
• Recreational
• Aesthetic
• Educational
• Historical
• Traditional Livelihoods and knowledge

Supporting Services

Services necessary for the production of all other ecosystem services:

• Soil Formation
• Nutrient Cycling
• Primary production

MEA 2006
Kate Raworth, *Donut Economics*
Decisions and actions influencing forests, trees and agroforestry

- Matching options: context, objectives
- Consequences and stakeholders: change
- Option [context matching, alternatives]
- Negotiating, building coalitions for change
- Capacity development, communication
- Patterns in space & time
- Drivers
- Getting the diagnosis right, monitoring change
- Tools, data sets
- Models

Experiments

Understanding consequences of (in)action

Scientific network
Institutions for Ecosystems Services

Property Rights

Global

International

State

Collective Action

Space

Nation

Community

Plot

Time

Short

Long

Greenhouse gases

Transboundary River Basins

Forests

Reservoirs

Watershed management

IPM

Biodiversity

Terracing

Check dams

New seeds

Soil Carbon

Agroforestry

Institutions for Ecosystems Services
Lags in Ecosystem Services

Time lag: Years between service produced and received

Local

10

2

10

3

10

0

Spatial lag: Proximity between producer and consumer (km)

Watershed

Intra-watershed

Global

Increasing importance of institutions for ecosystem services

Fremier and DeClerck et al (2013)

Direct services

Ecological benefit/facilitator

Carbon Sequestration

Connectivity: Climate response

Flood Buffering

Connectivity: Reproduction

Sediment Reduction, Channel Filtration

Pollination, Predation

Connectivity: Forage

Scenic Beauty

Local Watershed Intra-watershed Global
What do we know?
Why Biodiversity Matters

- Helps manage pests and diseases
- Contributes to nutrition and health
- Adapts to climate change
- Contributes to ecosystems and forests
Lessons from others/literatures:

• To effectively maintain ecosystems, improve well-being and securing access/tenure of people to those ecosystems, need to:
  – Build on existing local knowledge and values including a ‘sense of place’
  – Take into account community initiatives and people’s motivations (intrinsic and extrinsic),
  – Recognize complexities, avoid oversimplifying solutions and learn from experience rather than repeating the same mistakes,

• Three categories of PES: rewards, incentives, market

High local demand for well-managed resource facilitates collective action

a)
- Conserve biodiversity (C)
- Reduce natural resource degradation (C)
- Promote sustainable land management (C)
- Conserve water (C)
- Conserve soil (C)
- Reduce negative impacts of agriculture (C)
- Increase farmer incomes (L)
- Enhance food security (L)
- Improve crop productivity (A)
- Diversify food production (A)
- Reduce risk and vulnerability (CC)
- Mitigate or adapt to climate change (CC)
- Reduce conflict (L)
- Improve health or nutrition (L)
- Improve livestock productivity (A)
Collective action requires local rules, which take time to establish.
Figure 1 | Beyond the boundary. The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.
It requires trust, which takes time to build
What do we know

• This is about the emergent properties of land management that people aren’t able to address individually
• ES requires a multiscale approach, but at the very least a landscape approach
• For wicked problems you have to have **engaged research**. Can we be doing the research that would allow organizations to do this better.
BSMs in Coello: Citizens Call for Action (CAC)

CAC: a collective action processes that seeks to empower the most vulnerable groups that have been traditionally excluded from negotiation and decision-making processes through knowledge development and sharing (Candelo et al. 2008)

**Co-creation of knowledge**
Who is who and who does what

**Stakeholders dialogue on most appropriate institutional mechanisms**
28 BSMs

**Watershed Monitoring Committee**

Transversal themes/ actions

Capacity building / literacy of vulnerable groups:
- Hydrology (WaterWorld, AguaAndes, WEAP)
- Political participation
- Legal empowerment
- Conflict management
- Project management
Methodology: PAR

In our work, dual functions:
(a) as research methods → in-depth understanding of complex SES in our sites
(b) in parallel, as social intervention methods to catalyze collaboration and good governance through iterative learning.
There is a need to connect field and farm level land use decisions to ecosystem service provision at local landscape scales.

Change agenda; Repair ecosystem services and improve livelihoods.

Can mapping and visualisation tools help?

Why ‘local’ landscapes?
  – encompasses fields and farms from 10 – 1,000 km²
  – scale at which many ES initially manifest
  – Informal institutions
  – need for both binding and bridging social capital
Institutions for Ecosystems Services

**Property Rights**

- **Global**
  - International
- **Nation**
- **Community**
- **Plot**

**Space**

- **New seeds**
- **Soil Carbon**
- **Agroforestry**
- **Check dams**
- **IPM**
- **Biodiversity**
- **Terracing**
- **Watershed management**
- **Reservoirs**
- **Forests**
- **Transboundary River Basins**
- **Greenhouse gases**

**Time**

- **Short**
- **Long**

**Collective Action**

- **State**
Why benefit-sharing?

The crisis related to natural resources is not a crisis of availability, but of sharing (Nkhata et al. 2014)

Sharing benefits, rather than water, has become the main concern of individuals (Tafesse 2009)

Benefit-sharing can tell us who is in and who is out of the game

Focusing on sharing, rather than simply caring can help us overcome power imbalances
Pagella/Sinclair Conclusions

• Visualisations of ES provision, at local landscape scale, can change perceptions of ES providers about land use options, and willingness of policy makers to act.

• Policy needs to be implemented at local landscape scales if many ES are to be effectively managed, but the agency to act at this scale rarely exists.

• Need for new institutional arrangements at local landscape scale, if the synergies and trade-offs amongst impacts of land use change on ES provision are to be effectively managed.
PES has outsiders’ demand for the services, so doesn’t fit Ostrom’s design rule of locally valued resource

• This has important implications for scale matching. How do local scale priorities match global scale ones?
PES

PAYMENTS
PANCEAS

PEOPLE
PROCESS
POWER
POLICIES
Where are locally/globally consumed ecosystem services derived from?

These conceptual frameworks can be expanded to explore a broader suite of ecosystem services.

Can inform mapping data needs?
Regulating services are undervalued, and the victims of agriculture’s negative externalities

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- Literature on incentive-based policies focuses on additionality, opportunity costs, spatial targeting, conditionalities, participation and poverty. Recommendations for **efficiency**.

- Many programs are not efficient based on those criteria, especially government-led programs. (Wunder, 2007; Ferraro and Simpson, 2002; Börner and Wunder, 2008; Pagiola, 2008; Wunder et al., 2008; Wünscher et al., 2008...
- Less known on **how programs are chosen** and designed (historical, political and social factors). (Andriamahefazafy et al., 2011; Brown et al., 2011; Corbera and Schroeder, 2011; de Koning et al., 2011; Hajek et al., 2011; Kosoy et al., 2008; Le Coq et al., 2013...)

- Fewer analyses take into consideration the debate in the field of **public policy theory**. (Corbera et al., 2009; Le Coq et al., 2012 and 2013; Yashiro et al., 2013; Ananda, 2013)

- Many large scale schemes are **government policies**, therefore the importance of understanding them within the public policy debate.
Theoretical framework

Multiple Streams Framework

Problem stream
- Indicators
- Focusing events
- Feedback

Politics stream
- National mood
- Organized political forces
- Political and administrative structure and changes

Policy stream
- Perceived technical feasibility
- Perceived value acceptability

Policy Window
- Routine
- Spillover
- Discretionary
- Random

Policy Instrument

Policy Entrepreneur
- Access
- Resources
- Strategies

Institutional Analysis and Development (IAD) Framework

Context

Biophysical/Material Conditions

Attributes of the Community (including needs)

Rules (Institutions)

Action Situation

Actors (preferences)

Action Resources

Patterns of Interaction

Evaluative Criteria

Outcomes

Institutional Analysis and Development (IAD) Framework
Institutional Analysis and Development (IAD) Framework

- Context
  - Ecological research, modeling
  - Stakeholder analysis, surveys, etc.
  - Institutional Analysis

- Action Situation
  - Biophysical / Material Conditions
  - Attributes of the Community
  - Institutions

- Action Resources
  - Actors (preferences)
  - Action Research

- Patterns of Interaction

- Outcomes
  - Evaluation Criteria
  - Measurement of ES/livelihoods?

Institutional Analysis and Development (IAD) Framework
Research Questions

• **Measurement and valuation** of ES themselves
  – What difference does an ES approach make?
  – Multi- versus single (Systems Approaches)
  – Including tools for negotiating trade-offs and synergies
    • Across space, time (generations), and society
    • Strong meso-scale work linking ES to Value -> weak above and below.
  – Questions of equity – whose values?
  – Lack of research in the livelihood values of ES (food security, risk reduction, resource sharing)
  – Does landscape (biophysical, socio-ecological, institution) provide a common language for ES management.
Research Questions

• Role of institutions in delivering those benefits
  – What is the responsibility of institutions recognizing/verbalizing indirect values?
  – Critical role of institutions in negotiation of trade-offs (strong equity element here)
  – What is the range of modalities?
    • PES, Markets, extension, rules
  – Under what conditions are these modalities effective (Latin America: strong state; Africa: weak state).
    • Contextualising institutional arrangements.
  – Benefits to institutional actors?
  – What are the implications for how institutions operate and interact?
  – Strong emphasis on co-production/trust -> how does this translate to national scales and up?
  – Is the role of (P)ES service delivery, or creating an institutional space? (ecology vs. society).
  – Can you deliver on an ES agenda where institutions are weak or does this necessitate a resilience approach.
Research Questions

• How do we intervene.
  – Need for systems thinking within institutions.
  – Action research, monitoring of process, awareness of the role of research (Mode 2: Engaged research)
  – Awareness raising -> risk management, livelihood improvements?
  – Engaging with policy, politics and power?
  – Identifying policy windows and opportunities.
Key Messages

• We need institutions to deal with ES that cross scales and boundaries.
• Provision of ES at scale requires collective action.
  – Raise awareness on ES at implementation level.
  – Understanding of the ES context is fundamental.
• ES is about good governance (accountability, equity, transparency, negotiation).
• Supportive role by the state (institutions) is critical for ES.
• Information is as important as process in managing the benefits of ES
• Need for methods to understand and negotiate trade-offs and synergies
  – Recognition of community and the commons
  – Greater Inclusion of the State
  – Greater engagement with the Private Sector
  – Capacity of ES/CPR management to deal with conflict