Reciprocal Commitments for Addressing Forest-Water Relationships

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The Context

- Growing awareness and research into forest-water relationships.
- Increasing stress points, multiple competing uses
- Implications for SDGs, especially SDG 1 (poverty), 6 (clean water) and 15 (life on land)
Forest and Tree-based Landscapes

Water quantity

Water quality

Variability of water flows

Human uses of water across the rural-urban continuum

Drivers:
- Climate change
- Demographic change
- Urbanisation
- Economic transformation

Mediating factors:
- Topography
- Geology
- Soil types
- Vegetation types

Implications for ES and HWB
- SDGs, esp SDG 1, SDG 6 and SDG 15
- Winners and losers

Tradeoffs: up/downstream

Tradeoffs: at local scale

Tradeoffs: for different uses

Negotiating and governing reciprocity and interdependence
- PES & RWA
Trade-offs in the forest-water relationship

• Between alternative land uses
• Between material well-being and ecosystem services
• Between different uses of water within a watershed
• Between hydrologically connected upstream and downstream users of forests and water
• Within communities of both upstream and downstream users
Western Himalayas
Case Study: overview

• ESPA-funded project: *Political Economy of Water Security, Ecosystem Services and Livelihoods in the Western Himalayas*

• Six small town case studies located through the Himalayas: Palampur and Rajgarh in Himachal Pradesh; Mussoorie and Nainital in Uttarakhand, India; and Bidur and Dhulikhel in Nepal.

• Examined the relationship between water supply and urbanisation.
Himalayas Case Study: Trade-offs

Between uses of water and land:

• Migration to small towns leads to increased demand for water (‘downstream’). Increased demand for water due to changes in upstream agriculture (Rajgarh, Himachal Pradesh).

• Building in upstream areas affecting town water supply in Nainital.

Between water users

• Increased conflict between rural and urban users, even where shared access agreements existed such as at Bidur and Dhulikhel in Nepal.

• Increased demand in the summer months due to tourism.
Reciprocal commitments

1) Mediation through established social practices

2) Payments for Ecosystem Services—typically downstream water users paying upstream service providers to maintain the provision of a high quality water supply. e.g. water funds in Latin America.

3) Reciprocal Watershed Agreements – agreements between stakeholders in a landscape, but not necessarily subject to the strict conditions of a PES. e.g. In RWAs in Bolivia, upstream service providers receive compensation such as beehives and fruit trees.
Outcomes for Poverty Alleviation

• Social differentiation in access to services.

• Heterogeneity in both upstream and downstream communities—different levels of wealth and poverty.

• For schemes to benefit the poor, they must be included. Not always the case. Membership may be skewed towards the wealthier members of the community e.g. RWAs in Bolivia (Grillos, 2017)
Himalayas Case Study: RWAs

- An RWA agreement was implemented between three upstream hamlets and Palampur Municipal Council.
- Imposed land use and access restrictions on the forest area in exchange for a relatively small yearly payment.
- Difficulties in the maintenance of RWAs highlights power asymmetries within and between communities.
- Variation in the ability of downstream users to pay: Dhulikhel Water Users’ Committee in Nepal has agreed a progressive tariff structure.
The Future

• Towards water-sensitive forest and tree-based landscape management to reduce poverty and improve human wellbeing

• Need to identify ‘critical water zones’ across these landscapes - locations which are identifiable as impacting the hydrological system, and where changes in the patterns of landuse can result in variations in hydrological regimes.

• Decision making in ‘data poor’ contexts

• Maintaining the water bearing capacity of these landscapes, addressing negative drivers (through regulation/incentives)

• Importance of the political economy context: unequal power and dominance of existing interests