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Highlights and Lessons Learned from the 3Ps Project: Sri Lanka Pilot





Project Context and Overview

Buddhi Marambe University of Peradeniya



Mainstreaming Nature in Policy and Investment Decisions

Final Project Report

Supporting Food Security, Energy Security & Livelihoods Through Strategic Watershed Management

Sri Lanka







3Ps pilot projects around the world









Upper Mahaweli Watershed (UMW)

- A crucial area for Sri Lanka's water resources
- Encompasses a mountainous region in the Central Highlands
- Includes parts of Kandy & Nuwara Eliya districts, and home to Mahaweli River, the country's



Sri Lanka: supporting food and energy security & livelihoods through strategic watershed management

Approaches included:

- Model sediment origins in the Upper Mahaweli Watershed
- Prototype approach to prioritize watershed interventions and investment options
- Build awareness of natural capital approaches among key institutions
- Training of Trainers to build technical skills for future ecosystem modeling



Photo courtesy of ADB.



Sri Lanka: supporting food and energy security & livelihoods through strategic watershed management

Key outcomes:

- Opportunities identified for targeted and science-based watershed investments that support local livelihoods and downstream irrigation and hydropower infrastructure
- Increased in-country capacity to incorporate natural capital approaches, and conduct natural capital assessments



Photo courtesy of ADB.



Prioritizing watershed investments for water, food and energy security

Lisa Mandle, Rafael Schmitt & Nadine Trahan Natural Capital Project, Stanford University







Goal: Identify nature-based watershed investments in the Upper Mahaweli catchment that support downstream irrigation and energy needs and local livelihoods







Erosion in the Upper Mahaweli catchment compromises downstream water quality and obstructs irrigation and hydropower infrastructure needed for water, food and energy security.

Where can land use interventions, such as restoration or improved management practices, be made that:

- Minimize sedimentation of irrigation infrastructure,
- Reduce reservoir storage loss and operation and maintenance costs,
- And provide co-benefits for upstream agricultural livelihoods, ecosystems, and ecosystem services?



Prioritization approach



- Which activities in which locations maximize benefits?
- What is the maximum benefit (or suite of benefits) possible at a given cost level?



Example results: where could restoration reduce downstream sediment the most for a given cost?





Example results: where could restoration reduce downstream sediment the most for a given cost?





Conclusions

- Natural capital assessments can identify and prioritize watershed interventions to meet multiple objectives including downstream benefits, local livelihoods
- Understanding returns-on-investment of nature-based approaches can provide the foundation for targeted policy and finance options
- Opportunity to further refine initial approach with additional information on potential management options, benefits of interest, implementation costs for Upper Mahaweli, and to adapt elsewhere in Sri Lanka





Capacity Development

Kim Bonine Natural Capital Project, Stanford University Lalith Suriyagoda University of Peradeniya



Sri Lanka Training on Natural Capital Assessments and Accounting



<u>WHERE</u> people or infrastructure are located relative to natural capital affects who can benefit

Sustainable development Unaustainable development

2.1/ Modeling approach – Modeling ecosystem services

Q1: Identify forest areas providing the top 30% of each service

SEASONAL WATER YIELD

GREEN & BLUE CARBON







TOURISM



Stanford University

InVEST models





InVEST Recreation model Theory

 WHERE ARE PEOPLE VISITING ACROSS A LANDSCAPE? (WHICH PLACES ARE MOST POPULAR FOR TOURISM?)

- WHAT FEATURES OF THE LANDSCAPE ARE DRAWING TOURISTS?
- How might management actions affect future tourism?



InVES

PROSPER



Natural capital accounting



Natural capital assessment and accounts in support of

Stanford Natural Capital Project

Measuring progress with natural capital accounts UN SEEA EA framework

- The United Nations System of Environmental Economic Accounting Ecosystem Accounting (UN SEEA EA) is a statistical framework for organizing data about natural capital and ecosystem services and tracking change over time.
- UN SEEA EA includes five types of accounts: ecosystem extent, ecosystem condition, ecosystem service (physical), ecosystem service (monetary), and ecosystem asset accounts.

Stanford Natural Capital Project



Sources: United Nations et al. (2021): System of Environmental-Economic Accounting — Ecosystem Accounting (SEE ACI (White cover publication, pre-edited test subject to official editing), https://seea.un.org/sizes/seea.un.org/hies/documents/TA/seea_ea_white_cover_linal.pdf United Nations. (2022); System of Environmental Economic Accounting Ecosystem Accounts. https://seea.un.org/ecosystem-accounting/



Integration into policy and finance

Natural capital approaches inform policy and finance mechanisms, which enable best practices and technologies for stewarding and restoring natural capital. All of which can secure and enhance natural capital and human wellbeing.



Policy and Finance Examples:

- Spatial planning and zoning
- Government payments/subsidies
- Regulatory mechanisms
- Water funds
- Market-based mechanisms (including eco-certification, impact investing, insurance, and voluntary carbon offsets)
- Multilateral and bilateral mechanisms (including debt-for-nature swaps and REDD+ funding)





Training outcomes

Key challenges for integrating natural capital approaches in Sri Lanka



Percent of respondents selecting answer



Perceived level of knowledge			
Торіс	Pre- training	Post- training	% Increase
Natural capital	1.8	3.0	67%
Ecosystem services	2.3	3.4	44%
Natural capital assessments	1.6	3.2	99%
Natural capital accounting	1.5	2.8	84%
InVEST modeling software	1.8	2.4	31%
Average	1.8	2.9	62%



Lessons learned and next steps

Buddhi Marambe University of Peradeniya



3Ps Project Collaborators









Project Funders





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Thank you

