Valuing Water in Policy and Practice

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Forest Trends Water Initiative

Natural Capital Symposium

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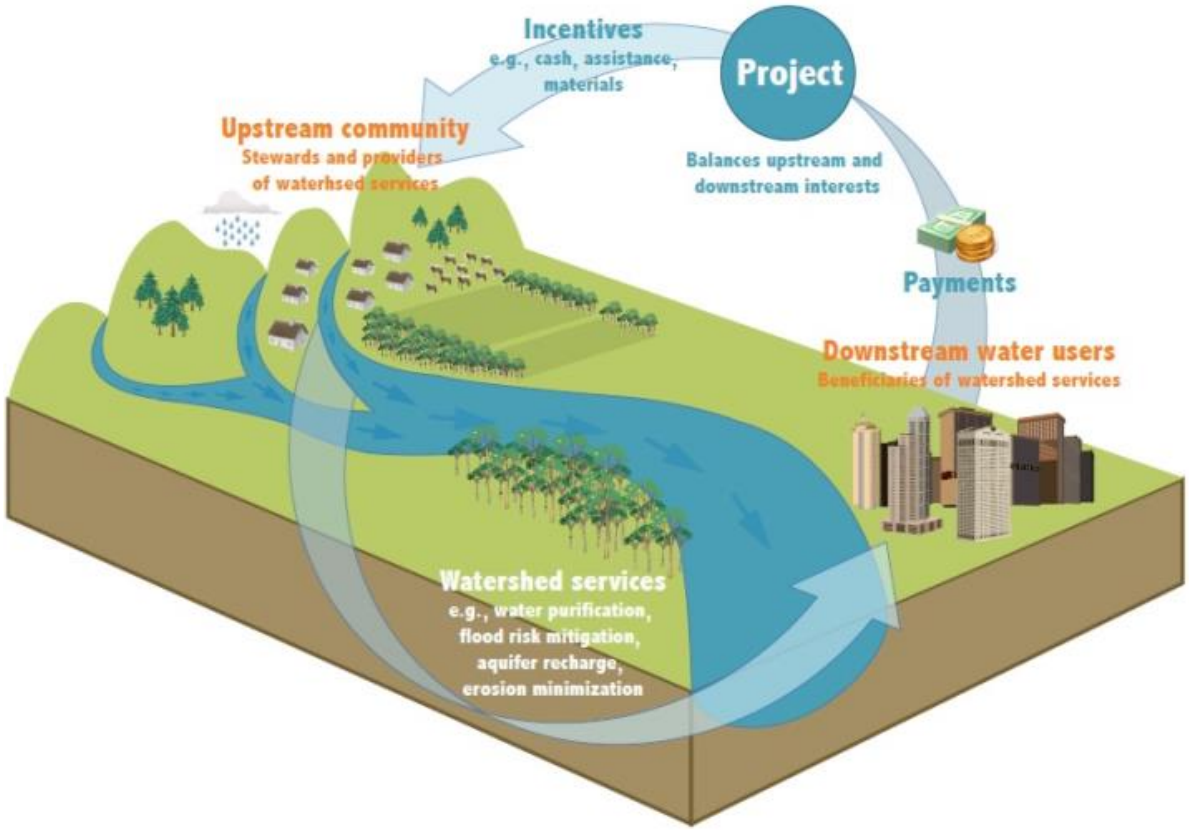
Multiple Values of Water

- Ecologists/hydrologists measure concentrations of pollutants, nutrients, pathogens, flow rates, yield (annual, seasonal), runoff /recharge rates
- Hydroelectric company cares about magnitude and reliability of flows, and absence of sediment
- Consumers care about access, absence of pathogens and toxins, lack of odor, clarity, taste
- Farmers care about – predictable supply during growing season, absence of salts, toxins, & excessive sediments, flood damage

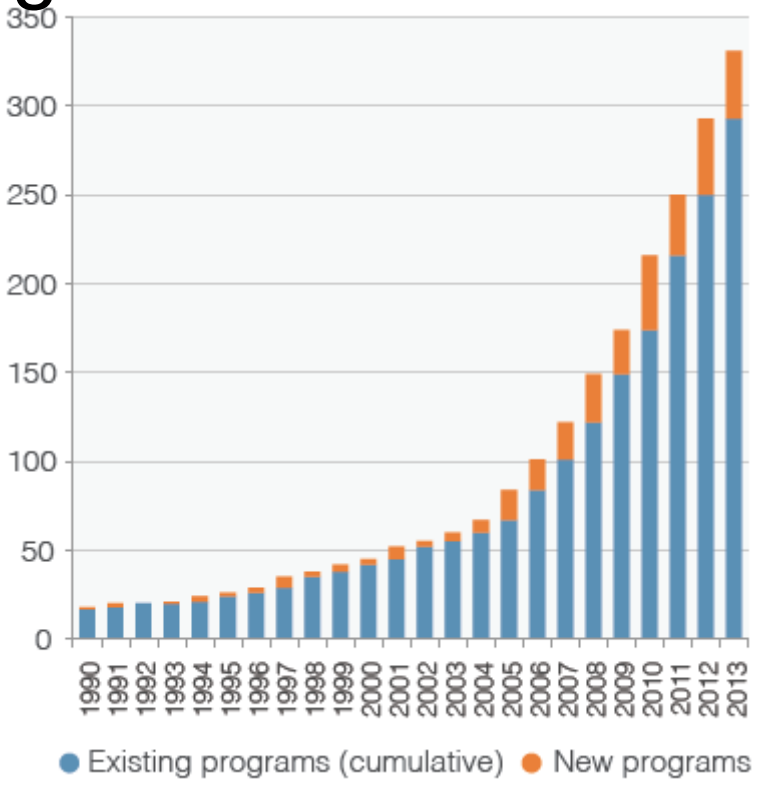
Water Initiative

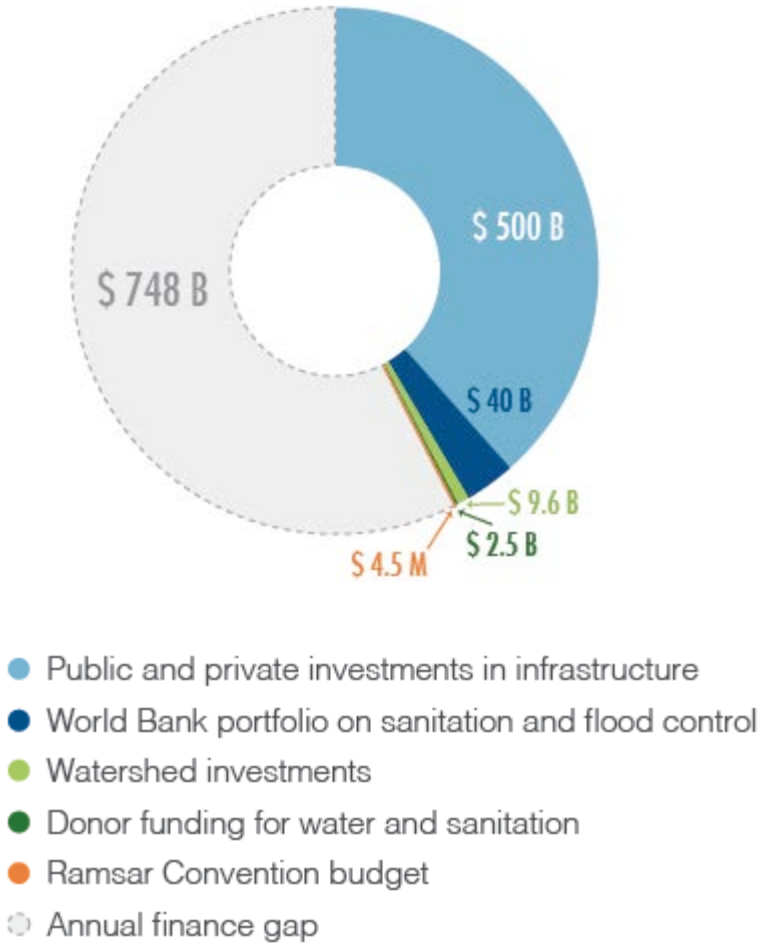
Investments in Watershed Services

Natural infrastructure of watersheds: more *cost-effective*, *sustainable alternatives* to traditional water resource management, while also providing *environmental co-benefits*, supporting communities *and livelihoods*.



Natural capital investments for water increasing – but traditional infrastructure still dominant…..significant funding gap to meet global water challenges……

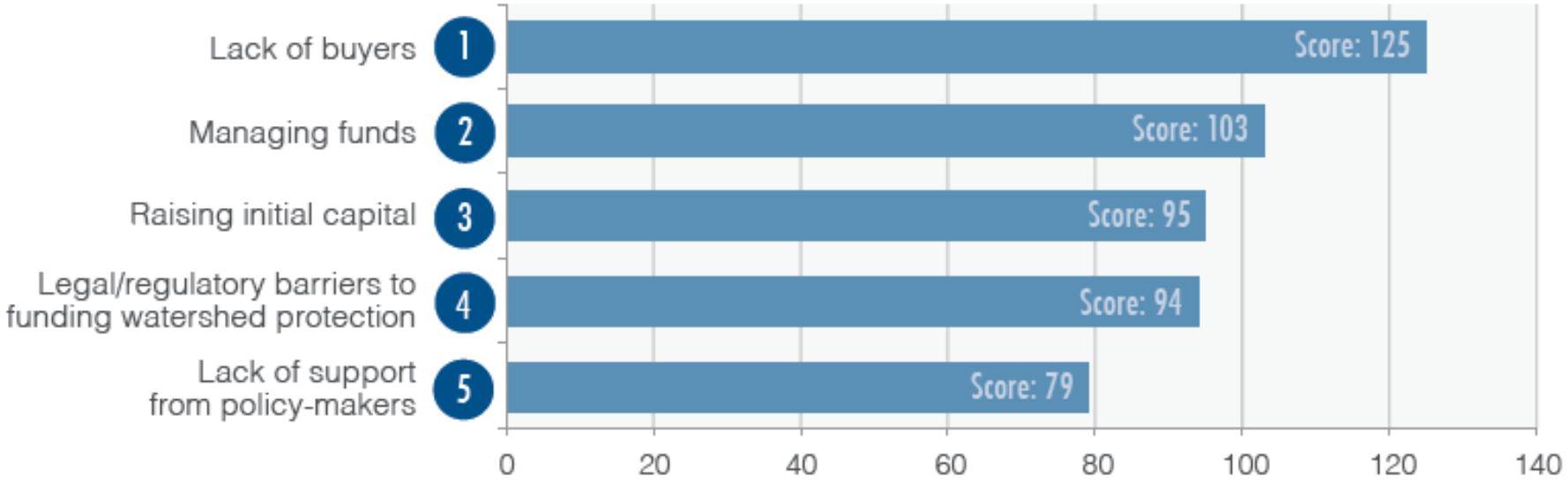




Source: Forest Trends State of Watershed Investments 2014 (Bennett and Carroll 2014).

Despite interest in natural capital for water – finding sufficient investors or buyers is a challenge

Figure 10: Top Five Challenges Reported by Program Developers



Notes: Scores for program challenges were calculated based on number of programs reporting that challenge, multiplied by the rank (1-5) assigned by the respondent. For this group of survey respondents, theoretically the highest score possible was 415.

Source: Forest Trends' Ecosystem Marketplace. *State of Watershed Investment 2014.*

Investing in Natural Capital for Water – (at least five) Value Propositions

PERU

MEXICO

CHINA

BOLIVIA

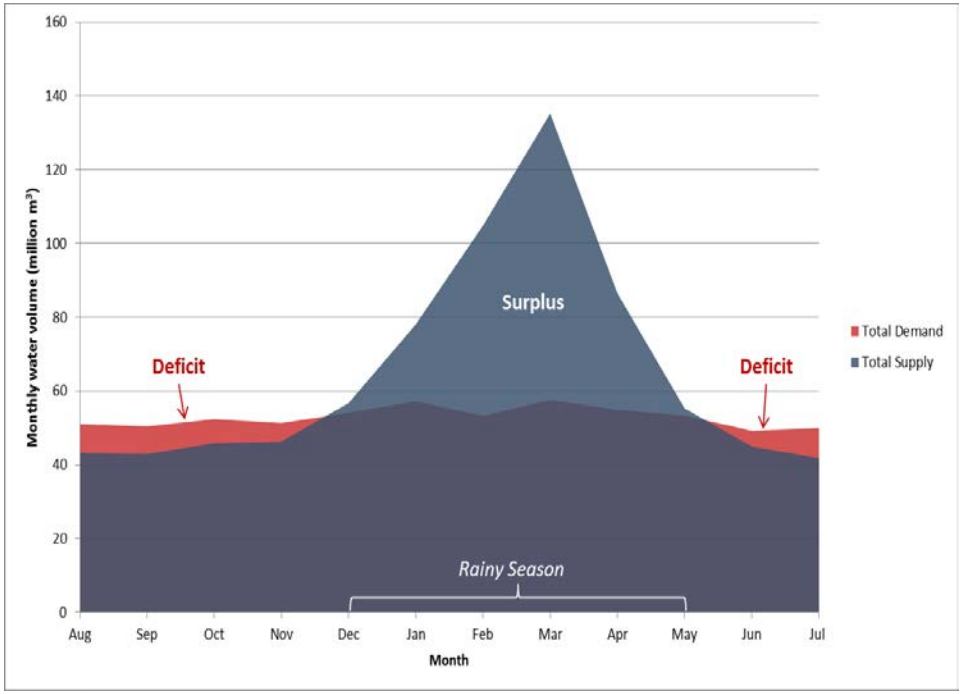
GHANA

FOREST TRENDS Water Initiative

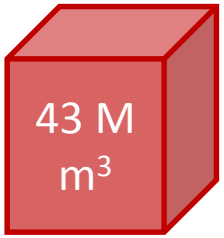
Value & Payments can be Conflated with Privatization, Commodification

Reciprocal watershed agreements – cooperation & trust between upstream & downstream, community norms for managing water, formalization of land tenure, diversified & resilient livelihoods

Critical Water Scarcity in Lima - World's Second Largest Desert City

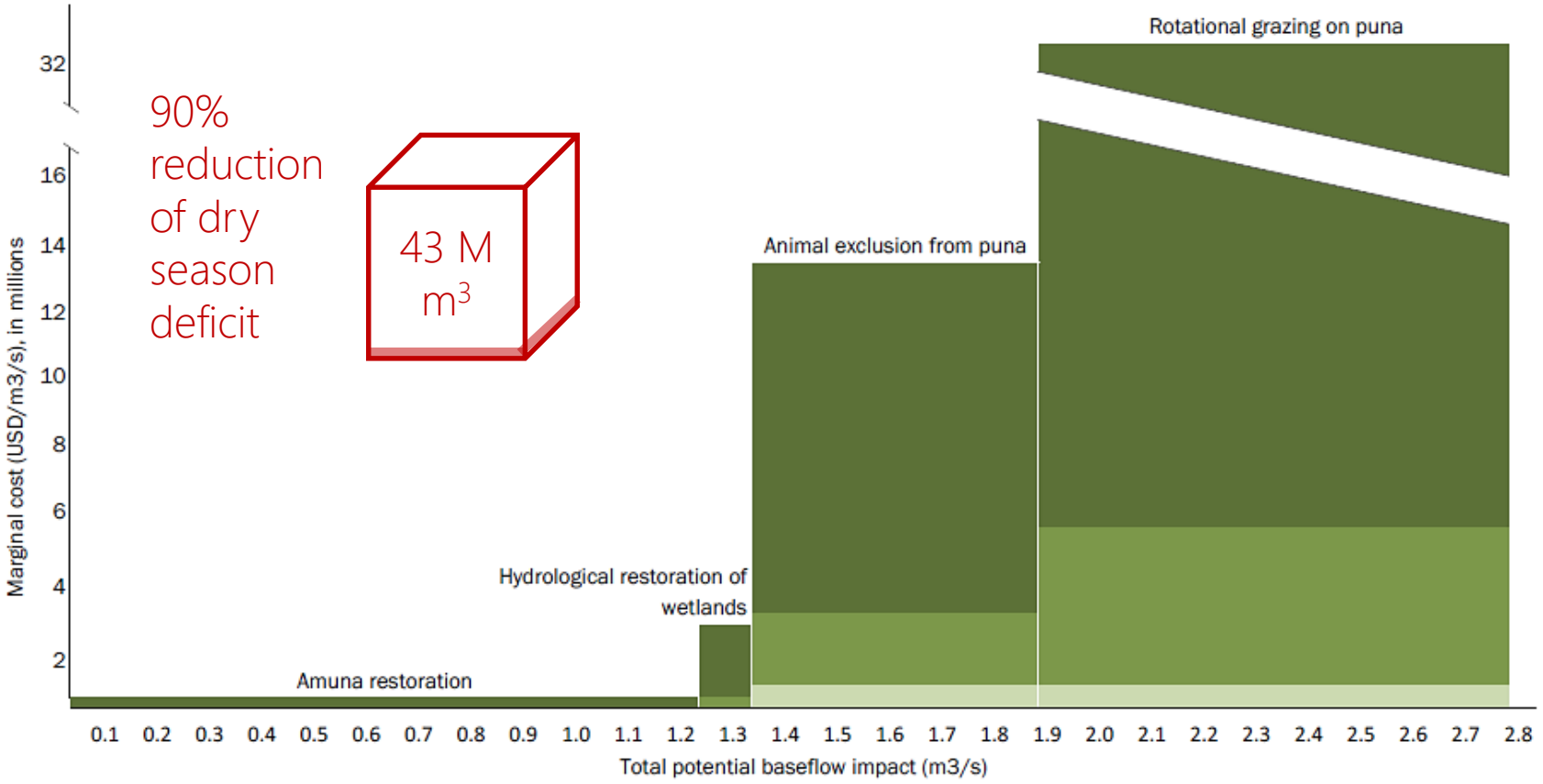


- Why should SEDAPAL invest in natural capital?
- What is the relative value of natural capital vs. 'gray' infrastructure?
- How can this value be communicated to decision-makers?



Dry season deficit

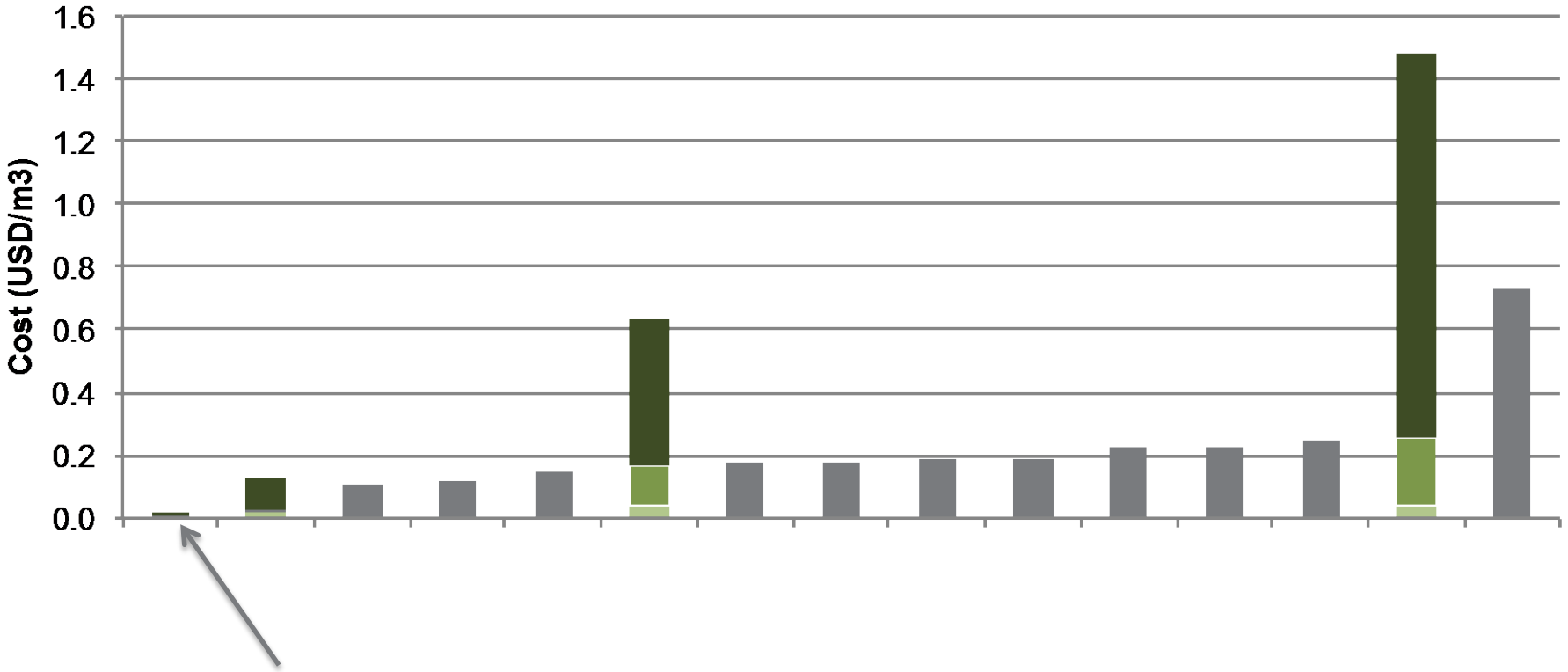
How much can green infrastructure do and at what cost?



Full implementation scenario

Source: Forest Trends analysis

…Which natural capital values can compete with ‘gray’ infrastructure? Equivalent performance at lower costs……

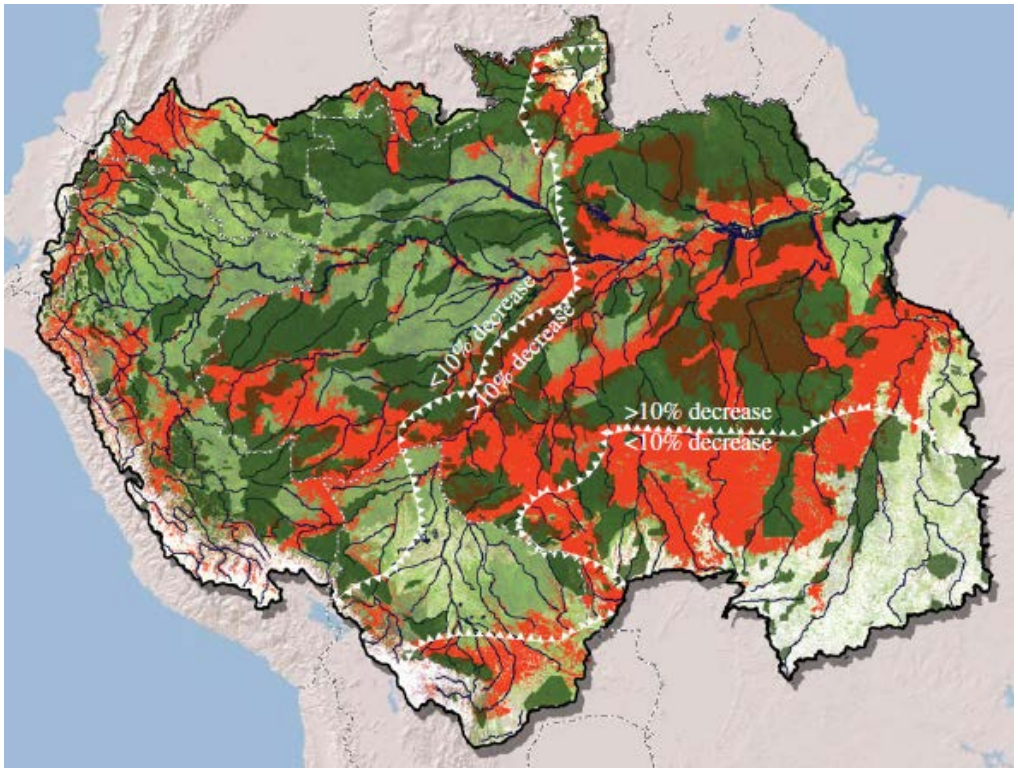


Sources: Forest Trends analysis
Gray infrastructure costs: Nippon Koei (2011).

Water

Ecosystems / Multiple Benefits

- Ecosystems rely on water
- Ecosystems maintain the global water system
- Water underpins (most) other ecosystem services
- Loss of key ecosystem (Amazon forest) affects precipitation and multiple services



El Oriente

Playa Azul

Los Olivos

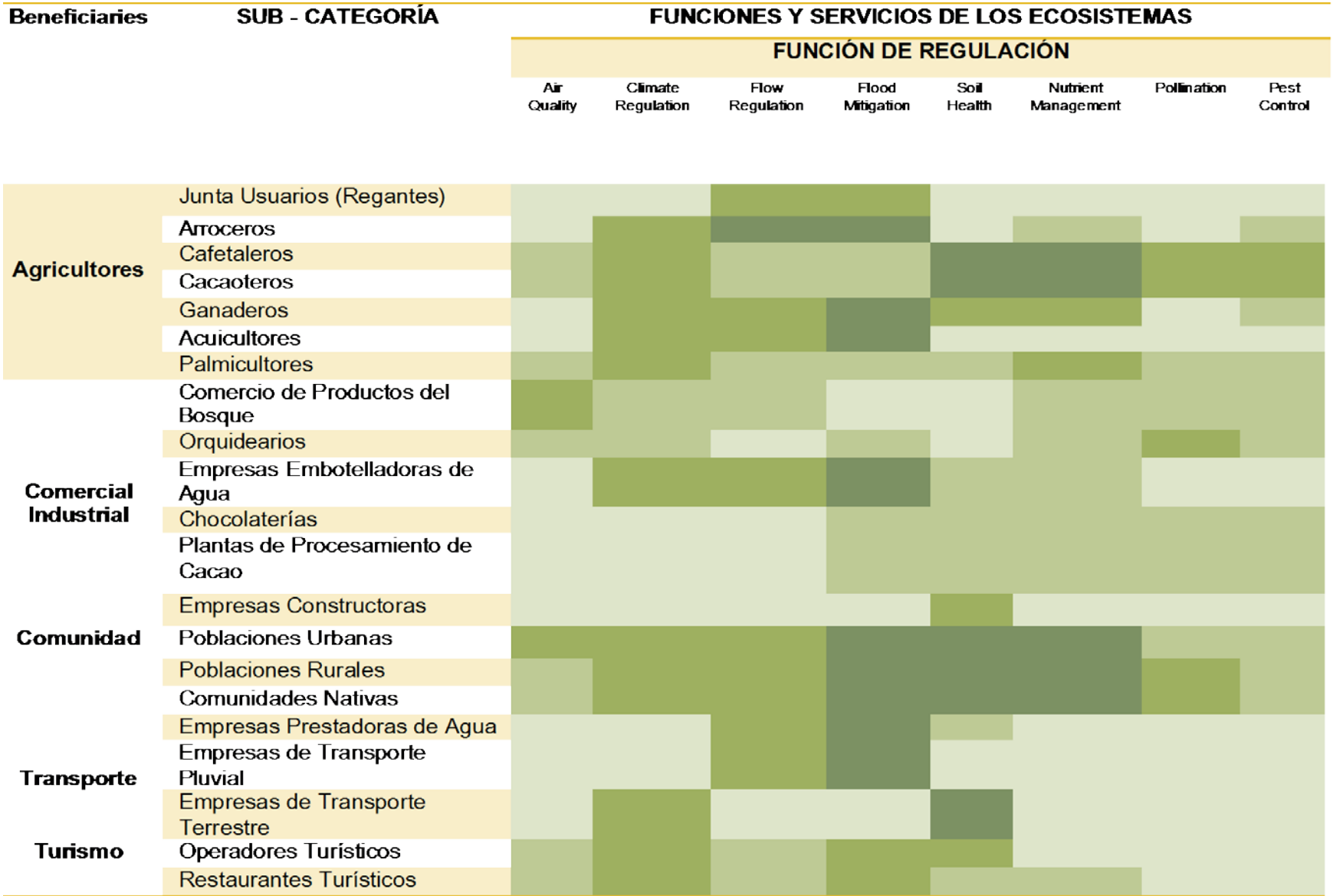
Community workshops identifying benefits, and service supply (conceptual production functions)

Nuevo Cutervo

Valle Hermoso

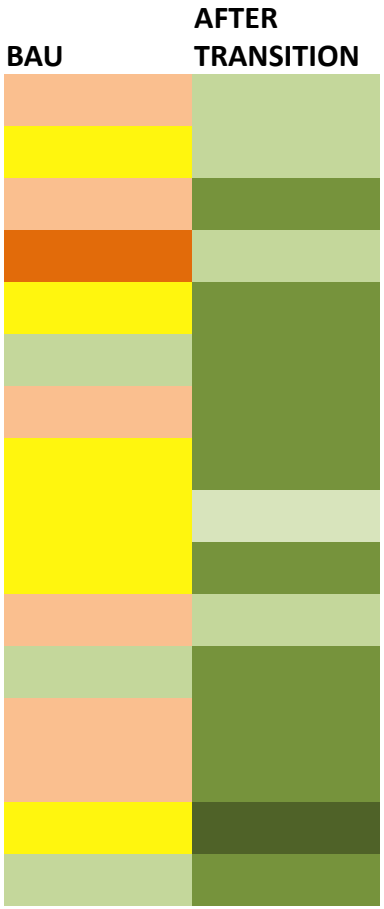
Bella Palma

Which benefits, who benefits, & how important are the benefits?



Multiple Benefits: Transition to Climate Smart Coffee, San Martin Peru

ECOSYSTEM SERVICE	BAU	AFTER TRANSITION
Carbon storage & sequestration (climate mitigation) - above ground*		
Carbon storage & sequestration (climate mitigation) - below ground*		
Soil fertility**		
Landslide mitigation*		
Pest & disease control**		
Biodiversity/Habitat – migration corridors, buffers		
Pollination**		
Soil stabilization / erosion control*		
Regulate micro-climate		
Regulation of water flow (infiltration and runoff)*		
Filtration / water quality*		
NTFPs - Medicinal plants		
NTFPs - Ecotourism (orchids)		
Recreation/tourism		
NTFPs – food plants (fruits, nuts, honey)		
Fuelwood		



Ranking of ES value by LULC with ha under each LULC before and after transition

Addressing Multiple Benefits

- Attention to the *system* producing benefits – maintaining capacity to produce a suite of benefits
- Transparent assessment of trade-offs across beneficiaries
- Diversity of beneficiaries – traditionally under-represented, marginalized communities
- Multiple values – multiple sources of investment


Thank you!
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