

Nature-based Solutions and Benefits to Local Resilience

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Nature-based Solutions

Nature-based Solutions (NbS): “actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits” (IUCN 2021)

Examples:

- Conservation and restoration activities
- Sustainable certification strategies
- Productive landscape interventions
- Payment for ecosystem services



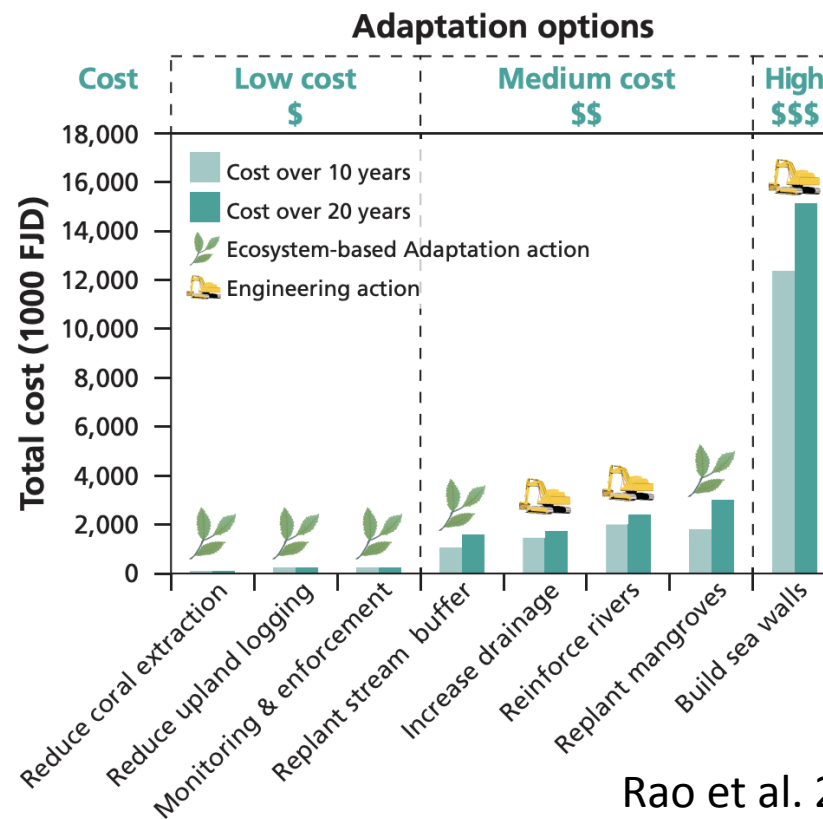
Growing calls for Nature-based Solutions

Advantages:

- Capacity to achieve multiple policy objectives at one time
 - Mitigation
 - Adaptation
 - Biodiversity conservation
 - Economic development
- Cost-effectiveness compared to “gray” infrastructure

Calls for NbS

- Alignment with international agreements:
 - Paris Agreement
 - Convention on Biodiversity
 - Sustainable Development Goals
- Calls for “green recovery”



Rao et al. 2013

Relevance for Latin America and the Caribbean

LAC is well-positioned to lead on Nature-based Solutions

- Rich natural capital base
 - More than 40% of remaining tropical forests
 - More marine eco-regions than any other region
 - 11% of world's agricultural land
 - value of terrestrial ecosystem services estimated to be \$15.3 trillion annually
- High vulnerability to climate impacts



Relevance for Latin America and the Caribbean

Making an economic case is critical

- High dependence on natural resources
- Economic recession due to Covid-19
 - An average 7.7% drop in GDP
 - Growing inequality: 3% rise in the average Gini index
 - Unemployment over 10%



Nature-based Solutions can contribute to jobs, livelihoods & incomes



1

Investment in sustainable local industry (e.g., tourism)

Increased ecosystem resilience-enhancing economic activity

New job (wage-earning) opportunities

2

Investments in climate-resilient productive landscapes

Increased yields and new products/markets

Increased incomes/new livelihood opportunities

3

Conservation investments

Payment for Ecosystem Services

Increased incomes

Market interventions can contribute to household resilience

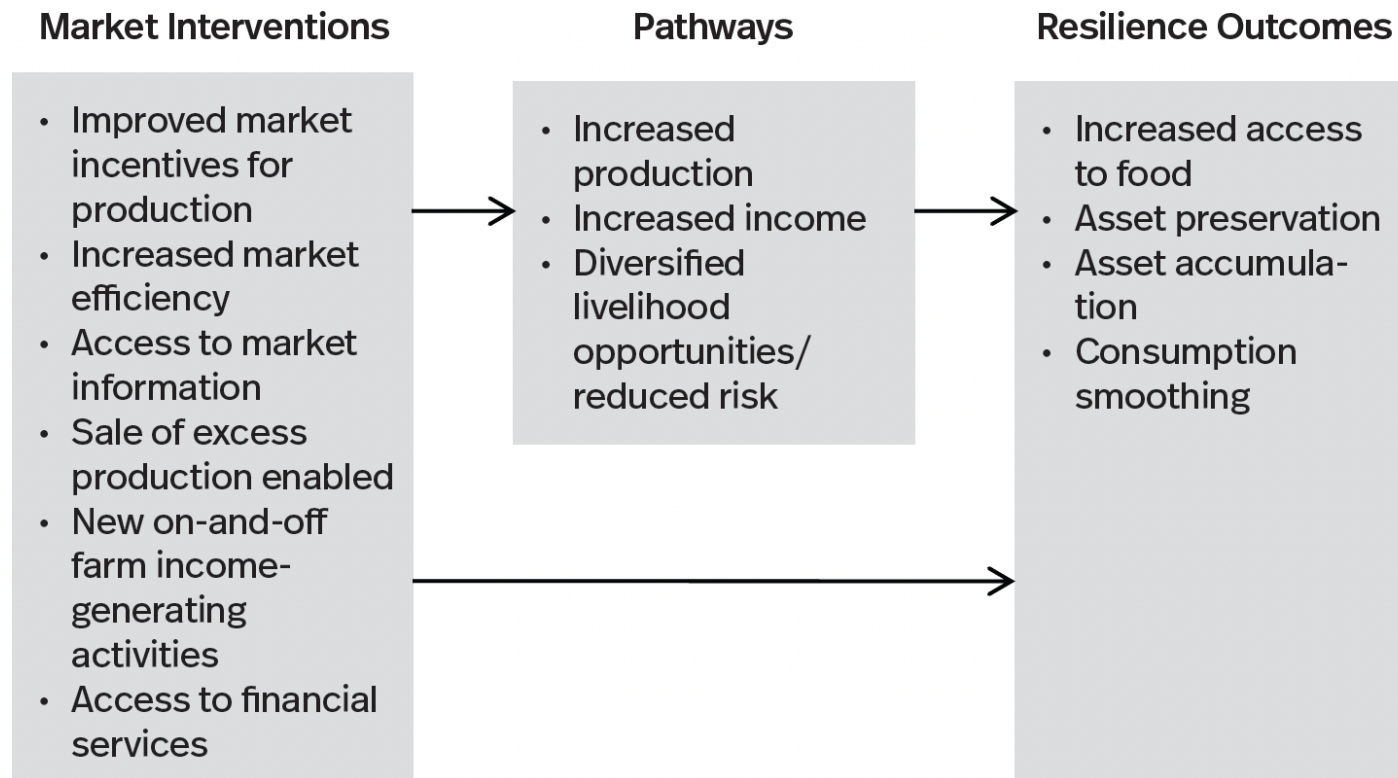


Figure 1: Pathways through which market systems interventions build resilience. This diagram maps outcomes typically associated with market systems interventions and demonstrates pathways through which they, either directly or through the intervening variables identified, contribute to resilience outcomes for households. From Kuhl 2018.



Nature-based Solutions can increase market resilience

- Increasing the productivity and diversity of the agricultural sector
- Connecting local producers to specialty markets for sustainably produced goods
- Enhancing the resilience of the ecosystem services upon which agriculture depends



Colombia: Payment for Ecosystem Services (PES) and Biodiversity Conservation in the Coffee Sector



- Payment for ecosystem services for carbon sequestration
- Certification for sustainable coffee cultivation
- Diversification of livelihood opportunities
- Increased incomes
 - Producers gained additional income (on average 8% increase, some 29% higher)
- Sustainable coffee covered over 20,000 ha more than at baseline



Climate Change Resilient Productive Landscapes & Socio-economic Networks Advanced in Guatemala

- Local climate data sharing and early warning
- Commercial networks and certification for producers of honey, cocoa, peas and maxán leaf
- Payment for ecosystem services for agroforestry and soil and water conservation
- Increased productivity/yields
- Reduced use of chemical inputs due to improved ecosystem services
- Increased food sovereignty
 - Family gardens
 - Diversified crop production



Cuba: Reduction of Vulnerability to Coastal Flooding through Ecosystem-based Adaptation

- Mangrove restoration efforts
- Agroforestry efforts
- Promotion of sustainable tourism
- Diversified livelihoods: beekeeping
- Increased productivity and diversity of fisheries due to improved water quality and vegetation cover



Contributions of Nature-based Solutions to Market Resilience

- 1** Increasing the productivity and diversity of the agricultural sector
- 2** Connecting local producers to specialty markets for sustainably produced goods
- 3** Enhancing the resilience of the ecosystem services that markets rely on, such as water cycle regulation, local climate stabilization, and soil fertility



Policy Implications for jobs and livelihoods



- 1** Significant investments in the enabling environment are required to realize the job and livelihood potential of NbS
- 2** The benefits to vulnerable households extend beyond simply creating new jobs, livelihood opportunities, or increasing incomes
- 3** The geographic benefits of NbS extend far beyond the communities in which these strategies are implemented



Policy implications for market resilience

- 1 Tensions between resilience of the market system and individual resilience strategies must be acknowledged
- 2 NbS can strengthen local markets by promoting farmers markets, seed exchanges, and production of locally-appropriate food
- 3 Focusing on climate-resilient local markets, where the priorities of market system resilience, household resilience, and food sovereignty align most closely is strategic

