The Economics of Ecosystem Restoration (TEER)

Assessing costs and benefits of ecosystem restoration

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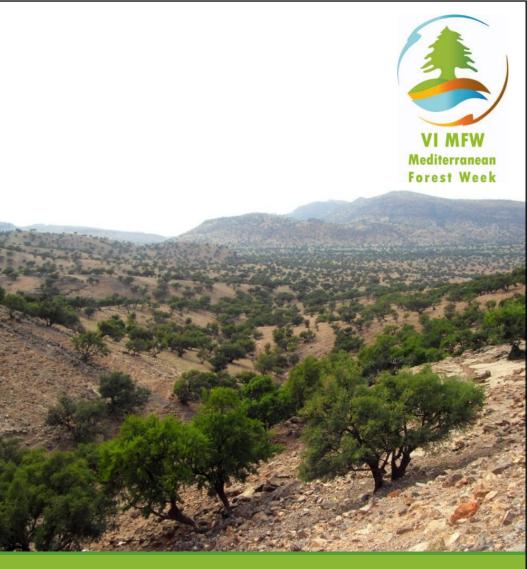
- **UN Decade on Ecosystem Restoration 2021-2030** aims to massively scale up the restoration of degraded and destroyed ecosystems to fight the climate crisis and enhance food security, water supply and biodiversity

- **Bonn Challenge** calls for the restoration of 350 million hectares of degraded land by 2030

  - some 57 countries, subnational governments and private organizations have committed to bring more than 170 million hectares under restoration

- Restoration of 350 million hectares of degraded land between now and 2030 could generate **USD 9 trillion in ecosystem services** and take an additional 13-26 gigatons of greenhouse gases out of the atmosphere

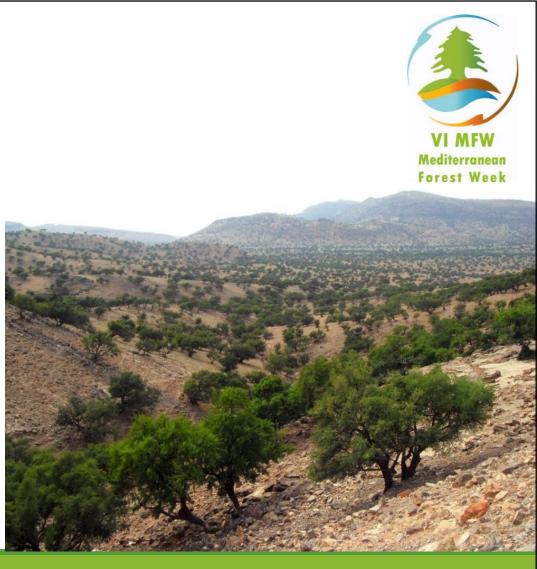
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- How to identify the most appropriate restoration initiative to implement in a specific region/country/location?

- How much these restoration initiatives cost?

- How to estimate the benefits of different interventions in various biomes?

Need for a comprehensive tool

on costs and benefits of Ecosystem Restoration (and FLR) interventions

- Lack of baseline data and consistent frameworks for tracking, understanding, and sharing results and lessons learned

- Lack of information on the costs and benefits of Ecosystem Restoration interventions

- Obstacle to further public and private investments on restoration activities

- Reduction of the chances of achieving global restoration goals and then their contribution to sustainable development

State of the available data and past efforts

- <5% studies provided both cost and benefit data (TEEB,2009*)

- <50% studies provided sufficient cost information to allow for a coarse modelling of an estimated cost per hectare for different biomes (De Groot *et al., 2013)*

- **FAO FLRM data review**: survey on restoration project documents in the drylands of five African countries (Burkina Faso, Ethiopia, Morocco, Niger, and Senegal)

Number of restoration projects consulted in the 5 countries	
Type of sources	Number of projects
Technical report	12
Project reports	22
Scientific publication	11
TOTAL	45

Data review results

Costs

	Number of projects	Percentage
Presence of general information on costs		
Total cost of restoration	32	71
Duration of intervention	26	58
Restored area	23	51
Cost+Area	20	44
Cost+Area+Duration	11	24
Presence of information on fixed costs		
Project design	0	0
Consultations	0	0
Approval	0	0
Overheads/Management costs	0	0
cost/ha with description of the intervention	20	44
cost/ha natural regeneration	9	20
cost/ha plantation seeds	4	8
cost/ha plantation seedlings	7	16
cost/ha agroforestry	5	12
cost/ha other technique	10	22

Benefits

	Number of projects	Percentage
Presence of quantitative information on benefits		
Any quantitative information on benefits	18	40
Carbon sink estimate	6	13
Selling price of carbon	0	0
Increase in productivity (timber/fuelwood)	14	31
Increase in productivity (crops)	12	26
Increase in productivity (animal products)	6	13
Quantitative benefits+Costs+Area	3	7
Presence of qualitative information on benefits		
Access to water	5	12
Gender benefits	8	17
Capacity building	14	31
Employment	0	0

- FAO and the Global Partnership on Forest and Landscape Restoration (GPFLR), including

  ➤ Secretariat of the Convention on Biological Diversity (SCBD)/Forest Ecosystem Restoration Initiative (FERI)

  ➤ Bioversity International

  ➤ Center for International Forestry Research (CIFOR)/Forests Trees and Agroforestry (FTA) program of the Consultative Group for International Agricultural Research (CGIAR)

  ➤ International Union for the Conservation of Nature (IUCN)

  ➤ Tropenbos International

  ➤ WeForest

  ➤ World Resource Institute (WRI)

urgency to constitute a **database/clearing house** and to provide **information and decision-making tools** that donors, investors, project implementers, governments, and other stakeholders can use and consult for reliable cost and benefit data for their decision-making in Ecosystem Restoration

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TEER: Objective

- Offer a reference point for the estimation of costs and benefits of future ER projects in all major biomes, based on information from comparable projects on which data are collected through a **standardized framework**

TEER: Output

- Consistent and reliable **database** on the costs and benefits of ER that facilitates further **analysis** and **decision-making** in all major biomes and in different contexts

- Basis for the development of further outputs such as:
  - **Cost-benefit analyses** of ER interventions
  - **Comparative cost-effectiveness analyses** of different ER interventions in a given context;
  - **Cost-abatement curves** of different interventions to explore the economic implications of scaling up implementation;
  - Eventually, the development of a **spatially-explicit decision-support tool** that would account for the interactions between a variety of interventions within the landscape

TEER: Methodology

- Various **work packages** are being established. FAO would coordinate the overall delivery of the study while partner organizations would lead on one or more work packages, and coordinate input from others

- The **database** would be constituted through a **standardized framework** for the survey of costs and benefits that will be channeled by all participating organizations to project managers, landowners or project implementers on the ground

- In an initial phase in 2019-2020 the framework will be developed and road-tested through current projects by partner organizations in the **Sahel region**

- Once developed, tested and refined, this standard framework would aim to serve as a reference, to be used broadly and promoted by supporting donors, investors and a wider range of stakeholders

Work packages	Implementation period	Estimated resource needs (USD)
Template development for data collection on the intervention and costs	March to August 2019	25 000
Template development for data collection on the context/baseline	March to August 2019	25 000
Template development for data collection on the benefits	March to August 2019	25 000
Piloting of data collection	September 2019 to December 2019	125 000
Thematic preparatory work packages, *e.g.* preparation of a proposal for a carbon assessment methodology in the Sahel	August to October 2019	50 000
Database development and management	January 2019 to March 2020	25 000
Tool interface conception and development	April 2019 to August 2020	125 000
Outreach to partners - mainstreaming of framework and methodology and fundraising	October 2019 to March 2021	100 000
Total estimated		**500 000**

Roadmap 2019-21

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TEER in the IKI project and the Mediterranean

- Organization of a **regional capacity building workshop on costs and benefits of FLR interventions in 2020** to highlight the importance of having reliable data on costs and benefits of ecosystem restoration to achieve NDC

  - Establish a roadmap to organize data collection process in the Med region to feed the future database and tool. To integrate the data collection effort that will be done initially in the Sahel region

  - Support the revision of the current restoration targets based on more precise exercises of assessment of restoration options, costs and benefits at country level to update existing NDCs

- *The Economics of Ecosystem Restoration* is key to convince investors (both public and private) to invest in FLR initiatives

- To demonstrate to decision makers (in particular climate finance decisions makers as GCF board at global level or NDAs at country level) that the **added value to invest in FLR** is key to properly benefits (carbon and other benefits) of FLR interventions

Thank you for your attention