

# Forest Landscape Restoration

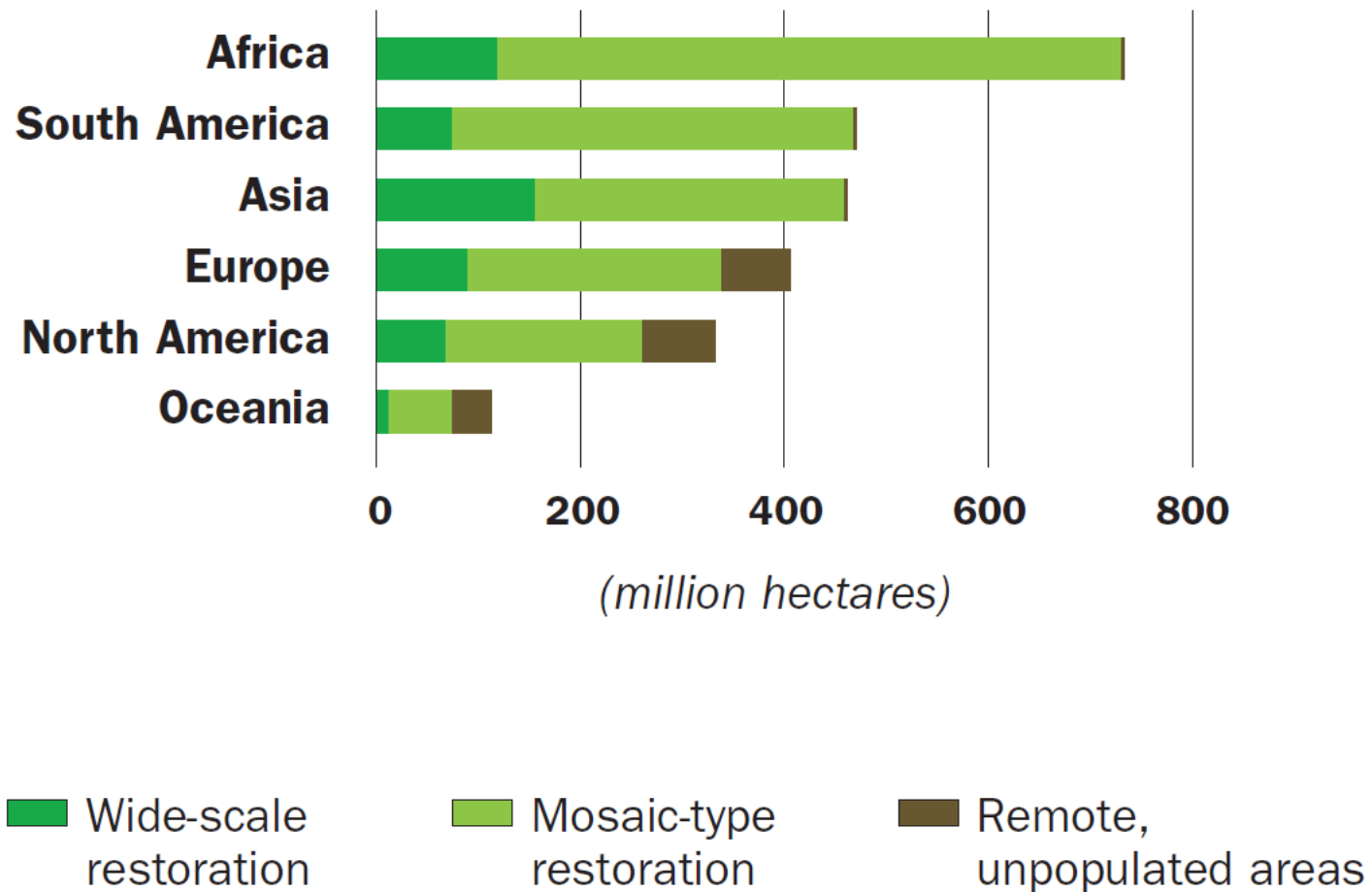


# This Presentation Will Cover

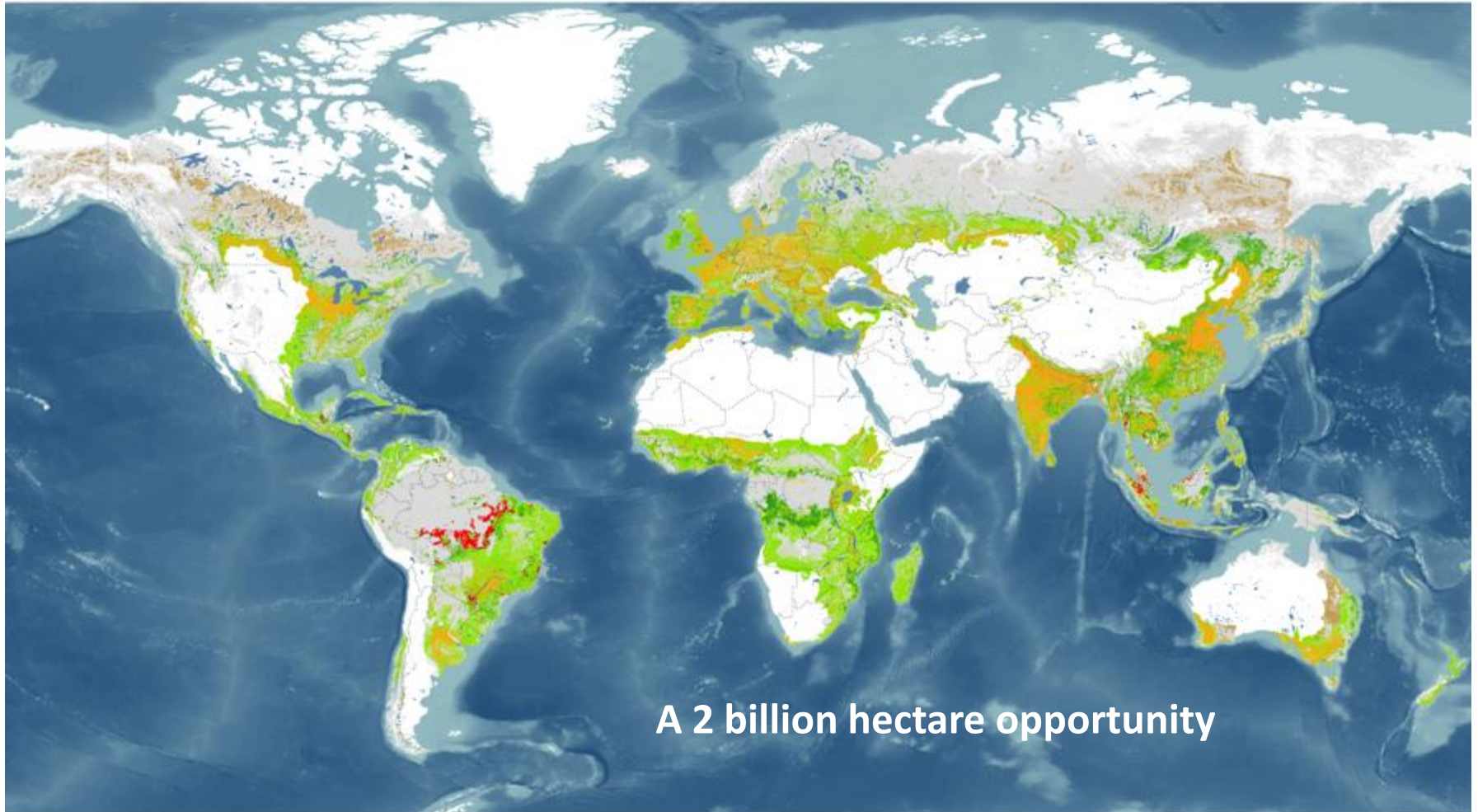
- Our planet's great potential for restoration
- The forest landscape restoration approach
- Partnerships that are driving change
- How IUCN is supporting restoration



# There is incredible opportunity for restoration of degraded lands across the world



# A World of Opportunity for Forest and Landscape Restoration



2 Billion Hectares of Opportunity for Restoration

**But “more trees” will not necessarily bring society the full range of benefits natural lands provide**



# Diversity delivers a broader range of forest goods and services...



Across different land uses



For different social groups



But only if we work to restore at a sufficient “landscape” level

# Forest Landscape Restoration is an approach that delivers ecological integrity and human well-being through multi-functional landscapes

**It involves**

Bringing people together to identify, negotiate, and implement practices

that restore an agreed optimal balance of the ecological, social, and economic benefits of forests and trees

within a broader pattern of land uses.



**Great Lakes Landscape**

Women association making their own nursery for landscape restoration in Bugarama (Kayanza, Burundi )

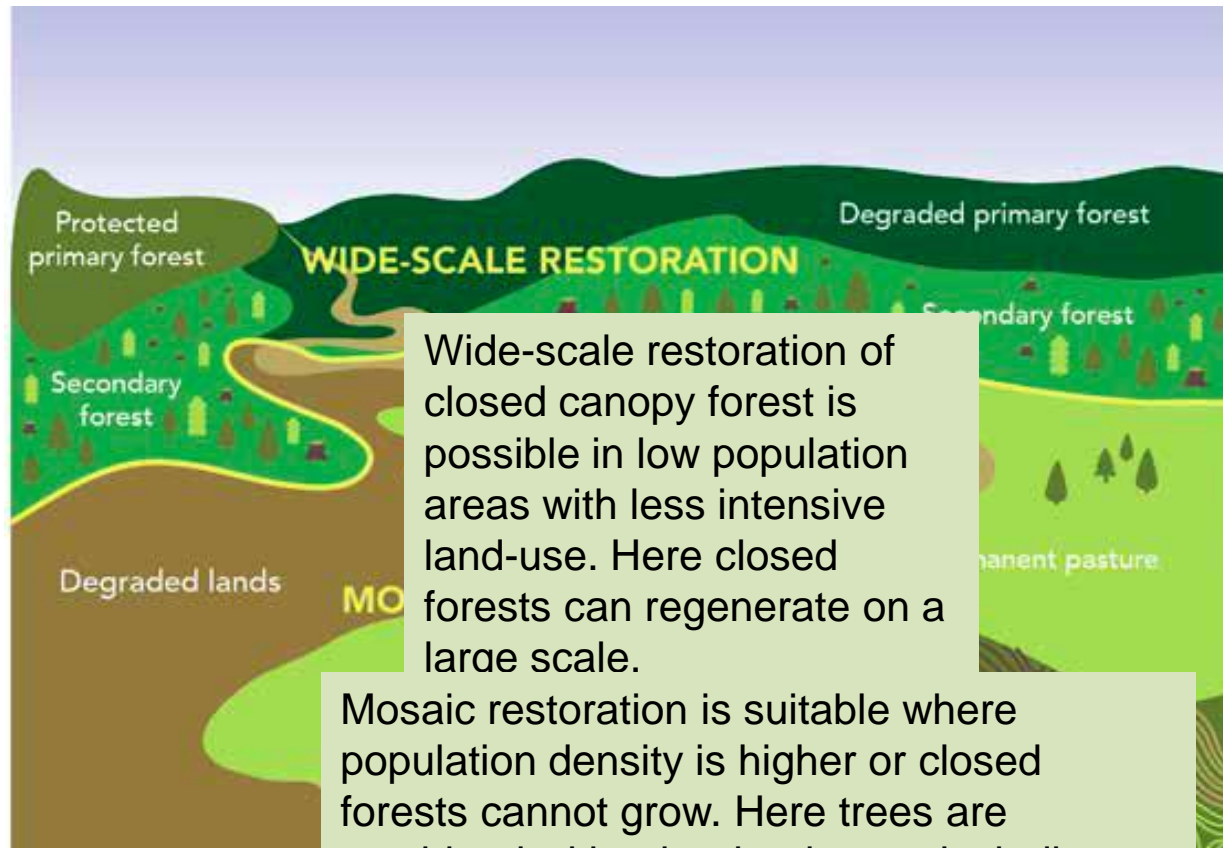
# Some key characteristics of this approach are:

- Restoring "forward" to meet current and future uses:
  - Thinking long time/big space.
  - Learning and adapting over time
- Treating the landscape as a mosaic of different sites
- Restoring functionality and productivity, not "original" forest
- Balancing local needs, national and global priorities
- Using a package of restoration strategies



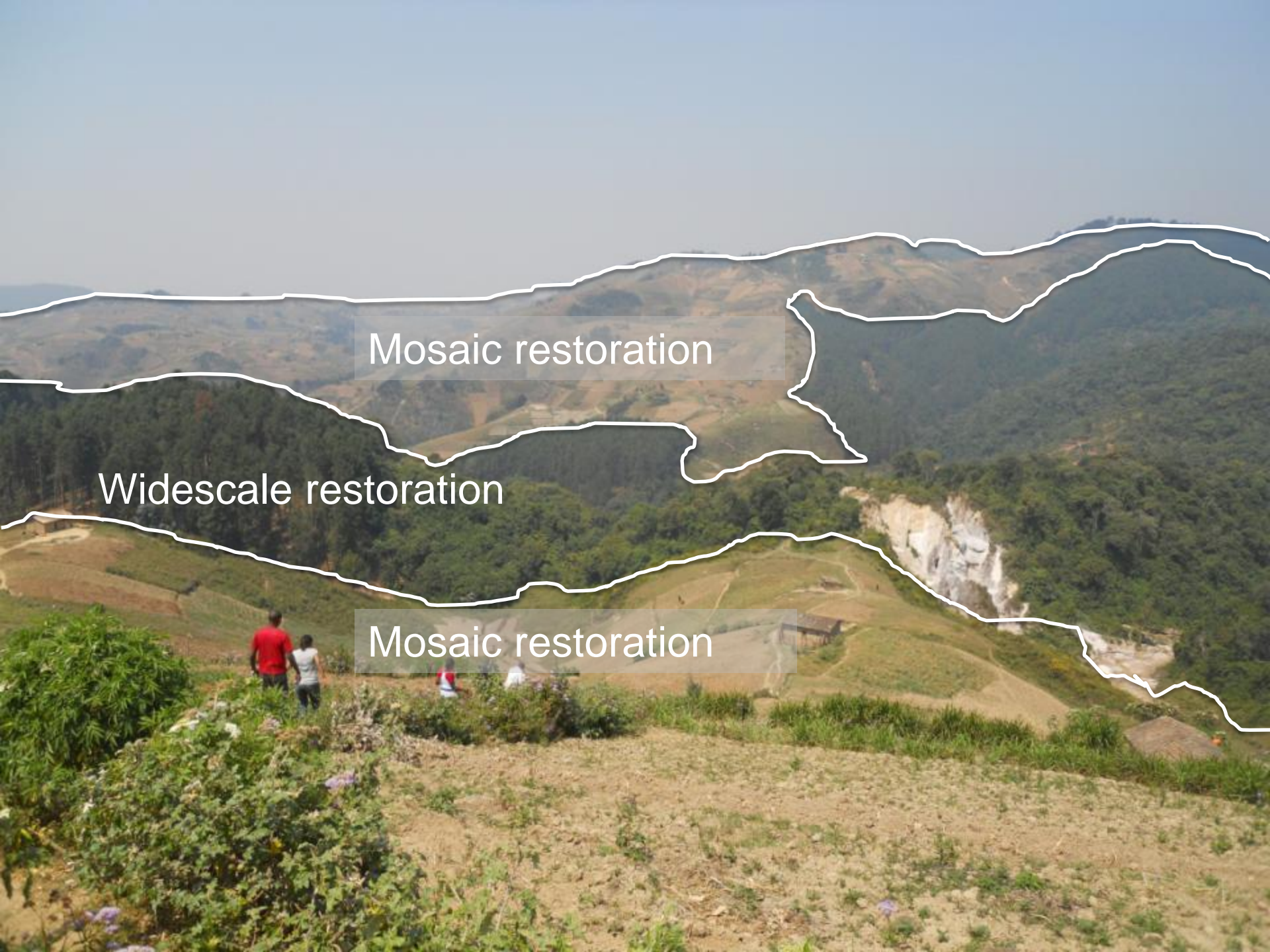


# A restored forest landscape incorporates many diverse land uses - based on the context of the land and the needs of the community



Wide-scale restoration of closed canopy forest is possible in low population areas with less intensive land-use. Here closed forests can regenerate on a large scale.

Mosaic restoration is suitable where population density is higher or closed forests cannot grow. Here trees are combined with other land uses, including small-holder agriculture, settlements and agroforestry.



Mosaic restoration

Widescale restoration

Mosaic restoration

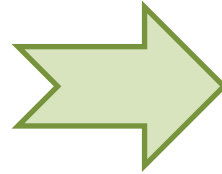
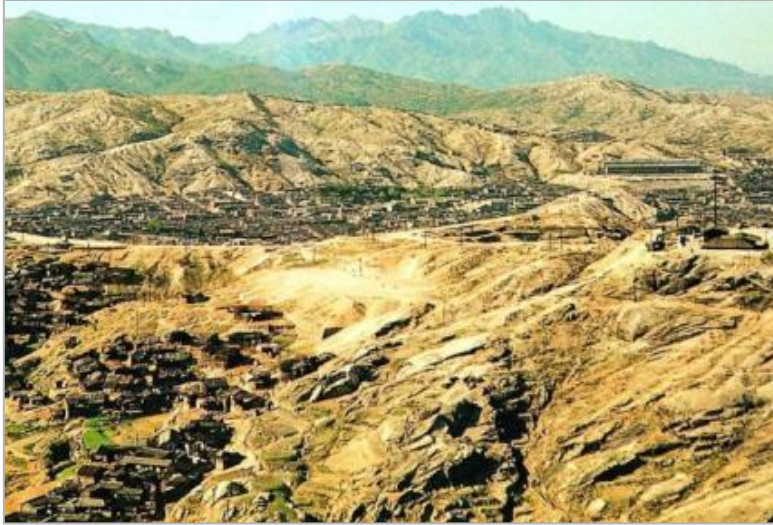
**Many have already successfully turned degraded lands into healthy, functioning landscapes**

# Pohang, Gyeongbuk Province, Republic of Korea - 2000



**Between 1953 and 2010:**      **Economy grew by 300%**      **Population doubled**  
National forest growing stock increased x20 fold

# Restoration is faster – and cheaper – than most think



## Investment (budget in 2011)

<b>KFS</b>	<b>USD 1.4 bil</b>
<b>Local governments</b>	<b>USD 0.6 bil</b>
<b>Total</b>	<b>USD 2.0 bil</b>



## Benefits

<b>Forest products</b>	<b>4.7 bil</b>
<b>Public benefits</b>	<b>70.0 bil</b>
<b>Reduced medical costs</b>	<b>2.4 bil</b>
<b>Landscaping &amp; carbon</b>	<b>NA</b>

Republic of Korea – 50 years

# But we need to emphasize & quantify all the benefits

Example:

The former “Desert of Tanzania” now benefits from

- 500,000 ha of new forests
- A further 1.5 million ha of new agroforestry
- Improved food security
- More children stay in school
- Women are empowered
- USD 14 per person per month compared to national monthly avg. of USD 8.50
- 42 Mt CO<sub>2</sub>e sequestered



# A Summary of IUCN's Work on Forest Landscape Restoration

## Goal

Transform deforested and degraded landscapes into healthy and productive systems benefitting human wellbeing

## Approach

Support countries, organizations, communities and enterprises in defining and implementing pledges to the Bonn Challenge target (to restore 150 million hectares of deforested and degraded lands worldwide by 2020)



**BONN CHALLENGE**

# Many paths to success: scaled-up FLR interventions

## Knowledge

- Filling knowledge gaps with new products based on global analysis and in-country experiences

## Tools

- Developing & road testing methodologies for:
  - Assessing restoration potential
  - Assessing ecosystem goods and services
  - Monitoring of restoration outcomes

## Capacity

- Building virtual and in-person platforms and programmes linking practitioners from around the world

## Influence

- Integration of assessment findings and analysis in policies and investment decisions from the landscape to the international level

## Outreach

- Online, Farm Radio and ICT campaigns, media briefings and high level events to mobilize support from diverse audiences

Scaled-Up FLR Interventions



# We are working in partnerships to advance restoration

**The Global Partnership on Forest/Landscape Restoration** was launched by the UK, IUCN and WWF at FAO COFO in 2003.

It's a worldwide network of more than 30 partners from governments (including UK, US, Germany, Netherlands, Norway, China, etc.) and international organizations (including WRI, FAO, World Bank, Tropenbos, IUFRO, UNFF, etc.) that works to:

- Build support for forest restoration with key decision makers, at the local and international level; and
- Provide information and tools to strengthen restoration efforts around the world.



# Together we launched the Bonn Challenge in 2011



A global goal to restore  
**150 million hectares** of  
degraded and deforested  
lands by 2020



# How will it work?

Governments, private enterprises, communities, NGOs or others who own or control or otherwise manage land ...

Commit to initiate restoration (using a forest landscape restoration approach) over a specified number of hectares by 2020



# The Bonn Challenge will serve as an implementation vehicle for existing global commitments



**United Nations**  
Framework Convention on  
Climate Change



United Nations Convention  
to Combat Desertification



# Pledges have been strong so far

Up to 20 million hectares in pledges have been announced:

- **US Forest Service:** 15 million ha
- **Rwanda:** 2 million hectares
- **Brazil Mata Atlantica Restoration Pact:** up to 1.1 million ha
- **El Salvador:** up to 1 million ha
- **Costa Rica:** up to 1 million ha

With another 30-40 million hectares are in the pipeline as pre and potential pledges



# The benefits of meeting the goal will be great



\$84 billion per year in net benefits to local and national economies

Sequester an additional 1 GtCO<sub>2</sub>e per year

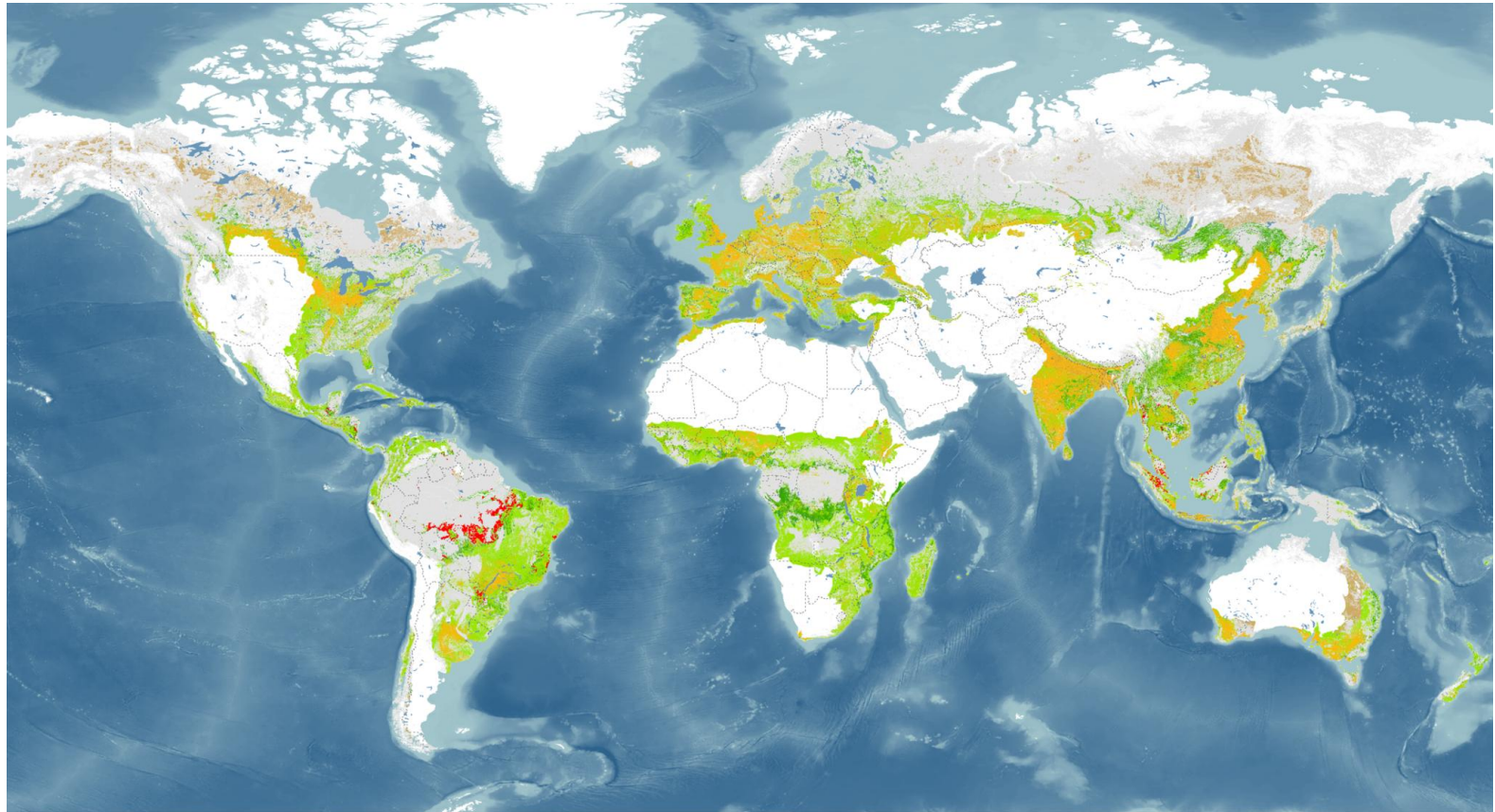
Reduce the current “emissions reduction gap” by 11% to 17%.

Increase crop yields by 30% on up to 50 million hectares.



**Now we are supporting  
countries in defining pledges  
and really implementing  
landscape restoration at scale**

# “Nice global map – but what’s my national opportunity?”



## FOREST AND LANDSCAPE RESTORATION OPPORTUNITIES

- Wide-scale restoration
- Mosaic restoration
- Remote restoration

## OTHER AREAS

- Agricultural lands
- Recent tropical deforestation
- Urban areas
- Forest without restoration needs





# Global data shows opportunities & trends; but too coarse for national strategy

Book2 - Microsoft Excel

Formulas Data Review View Add-Ins Acrobat Pens

Formula Bar

Headings

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes

Split

View Side by Side

Synchronous Scrolling

Reset Window Position

Window

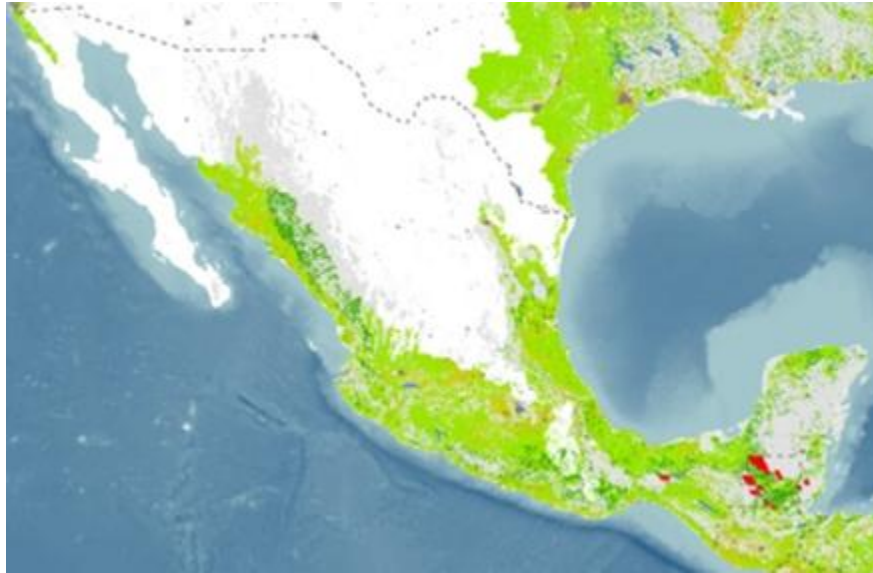
Save Switch Workspace Windows

Macros

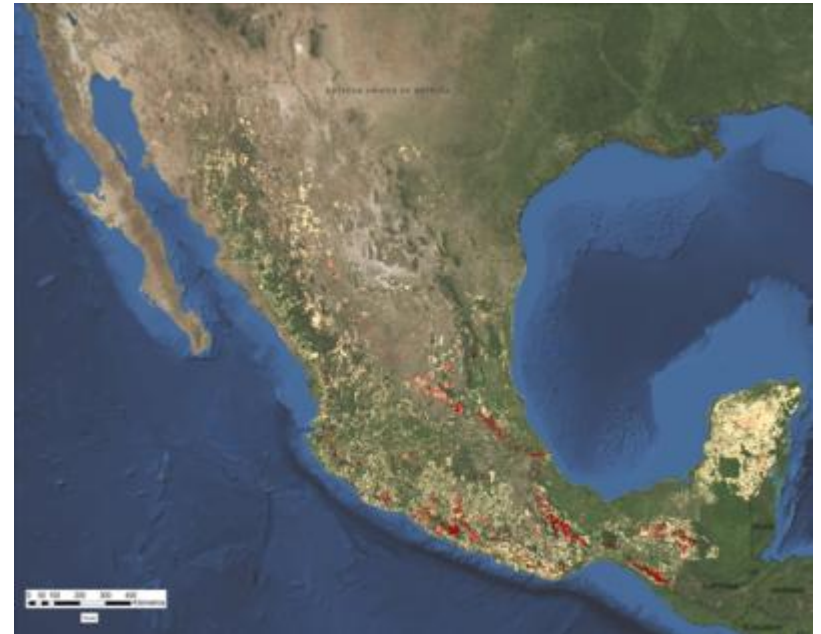
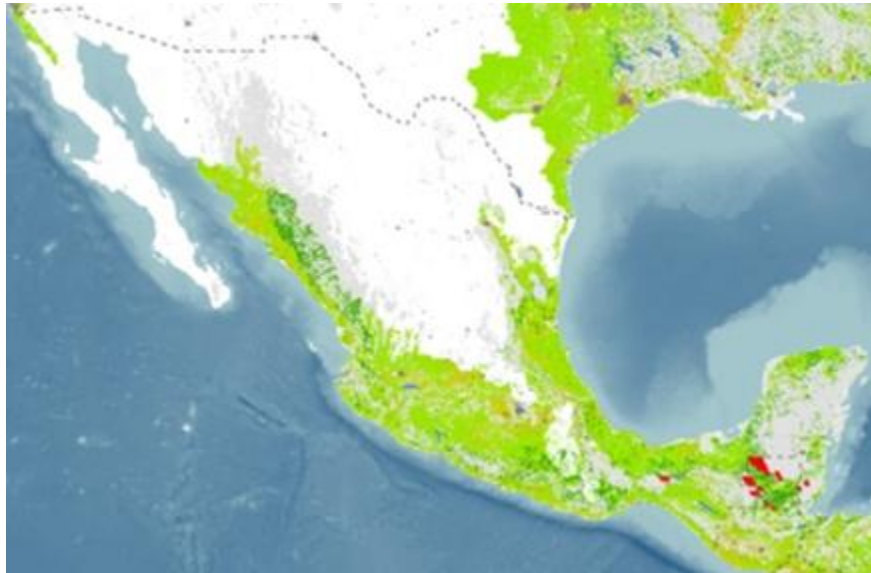
Macros

A	B	C	D	E	F	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
ID	Country	Continent	Region	Land area		Ag lands	Mosaic	Wide scale	Remote	w/o ag	mos+wide	Mosaic	Wide scale	Mos+wide	
185	Nigeria	Africa	Western Africa	91		26.1	32.2	4.6	0.0	36.8	36.8	16		16	
29	Benin	Africa	Western Africa	12		2.2	6.1	0.5	0.0	6.6	6.6				
42	Burkina Faso	Africa	Western Africa	27		4.0	14.5	0.0	0.0	14.5	14.5				
47	Cape Verde	Africa	Western Africa	0		0.0	0.1	0.0	0.1	0.2	0.1				
66	Côte d'Ivoire	Africa	Western Africa	32		2.5	18.8	2.0	0.0	20.8	20.8				
91	Gambia	Africa	Western Africa	1		0.3	0.6	0.0	0.0	0.6	0.6				
95	Ghana	Africa	Western Africa	23		3.3	13.5	1.1	0.0	14.5	14.5				
105	Guinea	Africa	Western Africa	25		1.3	7.7	2.0	0.0	9.7	9.7				
106	Guinea-Bissau	Africa	Western Africa	3		0.1	1.1	0.1	0.0	1.2	1.2				
146	Liberia	Africa	Western Africa	10		0.2	1.2	0.0	0.0	1.3	1.3				
158	Mali	Africa	Western Africa	125		3.6	17.2	0.0	0.0	17.2	17.2				
162	Mauritania	Africa	Western Africa	104		0.0	0.0	0.0	0.0	0.0	0.0				
184	Niger	Africa	Western Africa	119		0.4	0.5	0.0	0.0	0.5	0.5				
211	Saint Helena	Africa	Western Africa	0		0.0	0.0	0.0	0.0	0.0	0.0				
221	Senegal	Africa	Western Africa	20		0.9	5.5	0.0	0.0	5.5	5.5				
225	Sierra Leone	Africa	Western Africa	7		0.7	3.1	0.3	0.0	3.3	3.3				
247	Togo	Africa	Western Africa	6		1.4	2.4	1.1	0.0	3.5	3.5				
68	Democratic Republic of the Congo	Africa	Middle Africa	230		7.9	40.2	45.1	0.0	85.3	85.3	11	4	5	
7	Angola	Africa	Middle Africa	125		1.6	57.1	8.8	0.0	65.8	65.8	5	12	7	
45	Cameroon	Africa	Middle Africa	47		2.3	10.7	4.8	0.0	15.6	15.6				
49	Central African Republic	Africa	Middle Africa	62		0.3	16.3	1.9	0.0	18.2	18.2				
50	Chad	Africa	Middle Africa	127		1.9	22.9	0.0	0.0	22.9	22.9				
59	Congo	Africa	Middle Africa	34		0.2	1.6	10.0	0.0	11.7	11.7		10		
77	Equatorial Guinea	Africa	Middle Africa	3		0.0	0.0	0.0	0.0	0.0	0.0				
90	Gabon	Africa	Middle Africa	26		0.0	0.3	2.6	0.0	2.8	2.8				
218	Sao Tome and Principe	Africa	Middle Africa	0		0.0	0.0	0.0	0.0	0.0	0.0				

**The challenge is to move from the global generic**



# To the national specific



**.... and to identify priority actions and  
priority landscapes**

**In other words: we need to frame (sub)national programmes that offer workable and cost-effective strategies for landscapes like these**



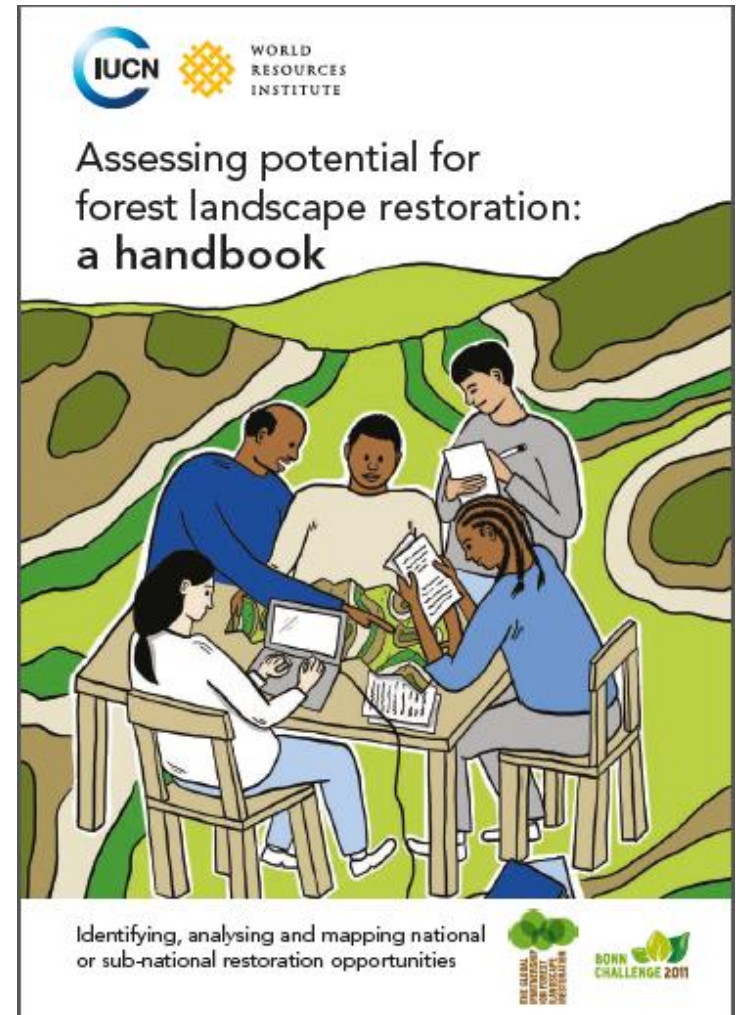
Rwanda's deforested mountains hold tremendous potential for restoration that can improve lives

# One way forward is the Restoration Opportunities Assessment Methodology (ROAM)

ROAM is a framework, produced by ICUN and WRI, for assessing national and subnational restoration potential – and much more.

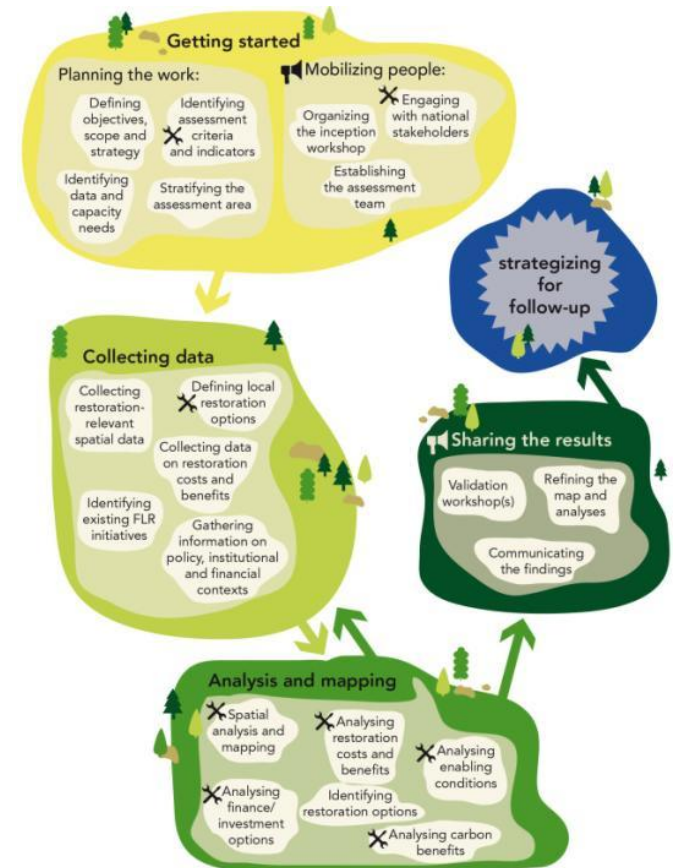
It can help governments and institutions:

- Estimate the costs and benefits of restoration strategies and opportunities
- Find the best, priority landscapes to start restoration
- Set the stage for national-level strategies on restoration
- Provide often-missing landscape-level data
- Build high-level support for restoration



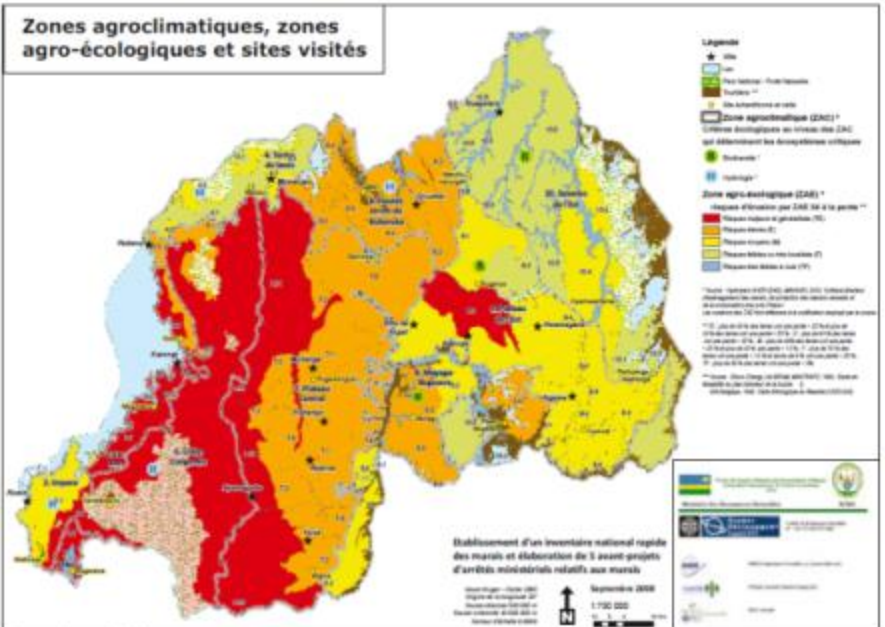
# ROAM involves

1. Spatial analysis / mapping
2. Rapid enabling conditions diagnostic
3. Costs and benefits appraisal
4. Carbon abatement cost curve (Carbon ACCRUAL)
5. Identification of restoration and investment options



# Incorporating

Figure 4: Agro-climatic zones and risk of soil erosion



Best available science and data with

Best informed knowledge & local insights

**Examples of knowledge created through ROAM  
include..**

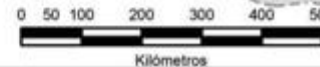


# Mexico: A map showing priority areas for restoration based on multiple criteria

Darker color indicates areas with greater potential for forest landscape restoration.

## Nivel de Prioridad

- alta
- media
- baja
- Límite Estatal
- Límite Internacional

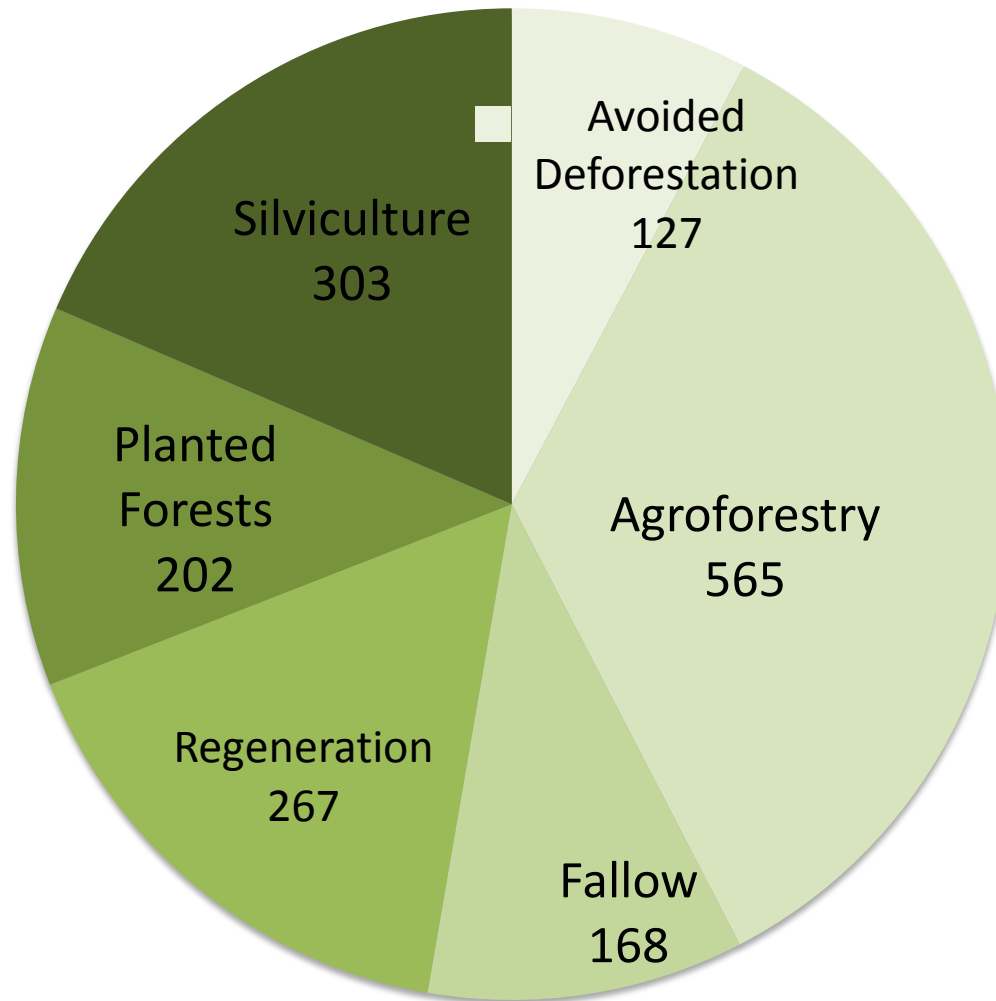


# Ghana: a host of different restoration interventions were considered based on existing land use

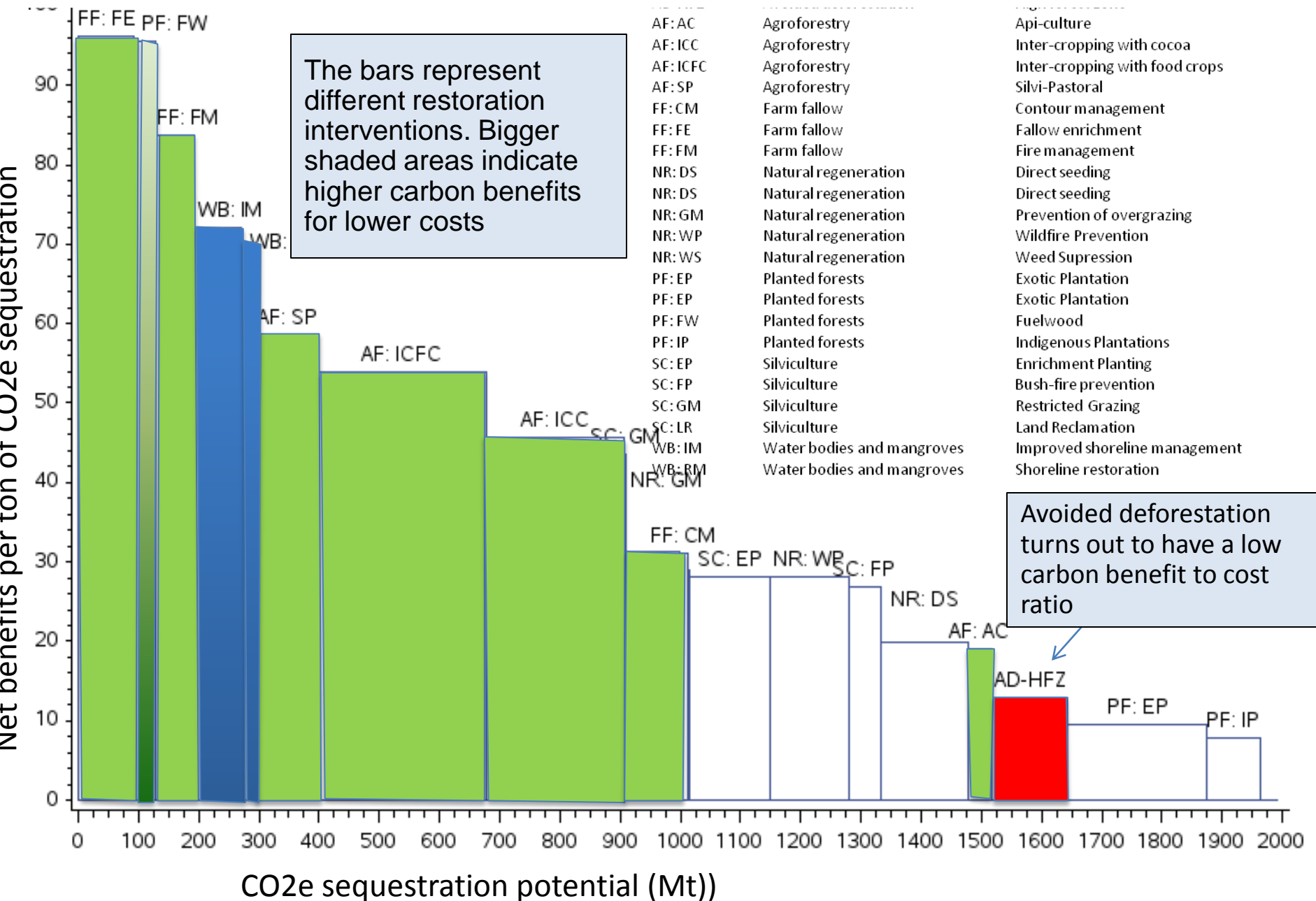
<b>ID</b>	<b>Intervention</b>	<b>Local qualifier</b>
AD-HFZ	Avoided deforestation	High forest zone
AF: AC	Agroforestry	Api-culture
AF: ICC	Agroforestry	Inter-cropping with cocoa
AF: ICFC	Agroforestry	Inter-cropping with food crops
AF: SP	Agroforestry	Silvi-Pastoral
FF: CM	Farm fallow	Contour management
FF: FE	Farm fallow	Fallow enrichment
FF: FM	Farm fallow	Fire management
NR: DS	Natural regeneration	Direct seeding
NR: DS	Natural regeneration	Direct seeding
NR: GM	Natural regeneration	Prevention of overgrazing
NR: WP	Natural regeneration	Wildfire Prevention
NR: WS	Natural regeneration	Weed Supression
PF: EP	Planted forests	Exotic Plantation
PF: EP	Planted forests	Exotic Plantation
PF: FW	Planted forests	Fuelwood
PF: IP	Planted forests	Indigenous Plantations
SC: EP	Silviculture	Enrichment Planting
SC: FP	Silviculture	Bush-fire prevention
SC: GM	Silviculture	Restricted Grazing
SC: LR	Silviculture	Land Reclamation
WB: IM	Water bodies and mangroves	Improved shoreline management
WB: RM	Water bodies and mangroves	Shoreline restoration

# And the potential of each intervention to sequester carbon was quantified

MtCO<sub>2</sub>e



# Resulting in a Landscape Restoration Carbon Cost Abatement Curve



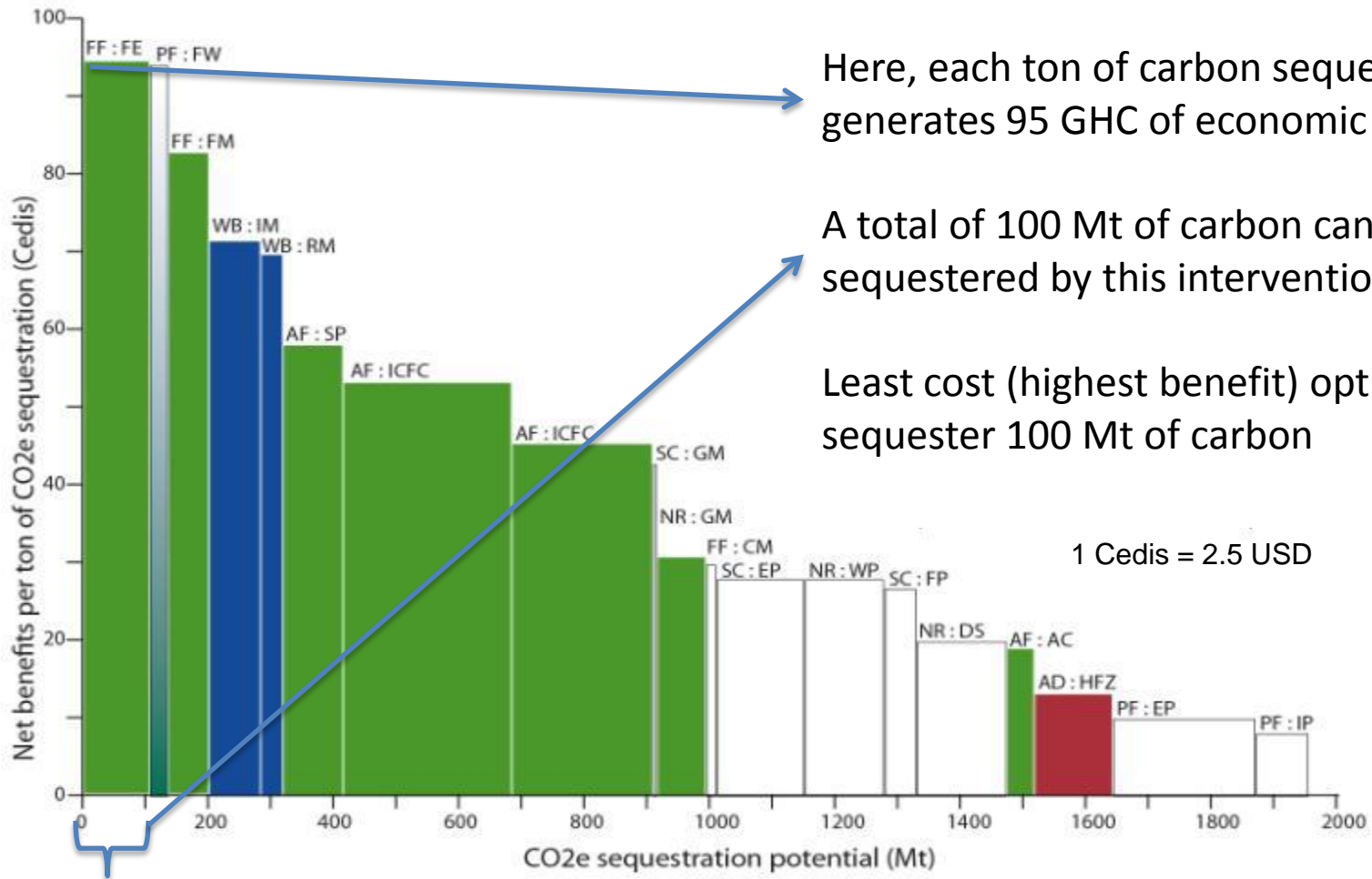
# Economic analysis of restoration options by carbon potential

Each bar represents a possible land use intervention.

Here, each ton of carbon sequestered generates 95 GHC of economic benefits

A total of 100 Mt of carbon can be sequestered by this intervention

Least cost (highest benefit) option to sequester 100 Mt of carbon



**A Carbon "Cost Abatement" Curve**



# Contact Us To Learn More

Reach us at [flr@iucn.org](mailto:flr@iucn.org) for more details on forest landscape restoration and IUCN's work.



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RESOURCES  
INSTITUTE