FINANCING AGROFORESTRY

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FAO

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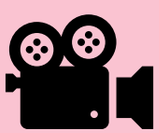
Useful information

❑ The webinar will last a **maximum of 90 minutes**.

❑ The **microphones will be muted** to prevent background noise.

❑ You can submit your questions via **chat**, and the moderator will forward them to the speaker.

❑ During the webinar, you may be invited to respond to a **poll** with a click.



❑ This webinar will be **recorded**, and the link to the recording will be available on the platform calendar on the day of the event.

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Outline

- ❑ Deforestation and land degradation
- ❑ Agroecology and agroforestry
- ❑ Financing agroforestry
- ❑ Conclusion

DEFORESTATION AND LAND DEGRADATION

Forests still cover 31 % of the Earth's land surface (4.06 billion ha), but 420 million ha of forest was lost through deforestation between 1990 and 2020 (FAO, 2022).

Photograph: Douglas Magno/AFP/Getty Images (The Guardian 2023)

In 2022, around 34 per cent of agriculture and pasture lands worldwide were degraded (FAO, 2022).

About 90% of deforestation is due to expansion of agricultural land, often linked to key commodities (32% large scale farming, 68% small scale farming) (FAO, 2022).

Need for an agroecological transition to sustainable agriculture and food systems?

Applying the elements of agroecology to agroforestry

FAO Webinar 2022

AGROECOLOGY AND AGROFORESTRY

WHAT IS AGROECOLOGY?

Agroecology is an **integrated approach** that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems.

It seeks to **optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects** that need to be addressed for a sustainable and fair food system (FAO, 2018).

WHAT IS AGROFORESTRY?

- It is an example of agroecology in practice and represents an important solution for the transformation of food systems (FAO, 2022).

- It is a land management approach that integrates trees, crops, and livestock in a mutually beneficial manner (Sustainable Agriculture Network, 2023).

- It is "**agriculture with trees**", **the interaction of agriculture and trees, including the agricultural use of trees.**

This comprises **trees on farms and in agricultural landscapes**, **farming in forests and along forest margins and tree-crop production** (including cocoa, coffee, rubber and oil palm) (ICRAF).

AGROFORESTRY SYSTEM CONFIGURATIONS

Silvopastoral
A combination of trees and shrubs with forage and livestock

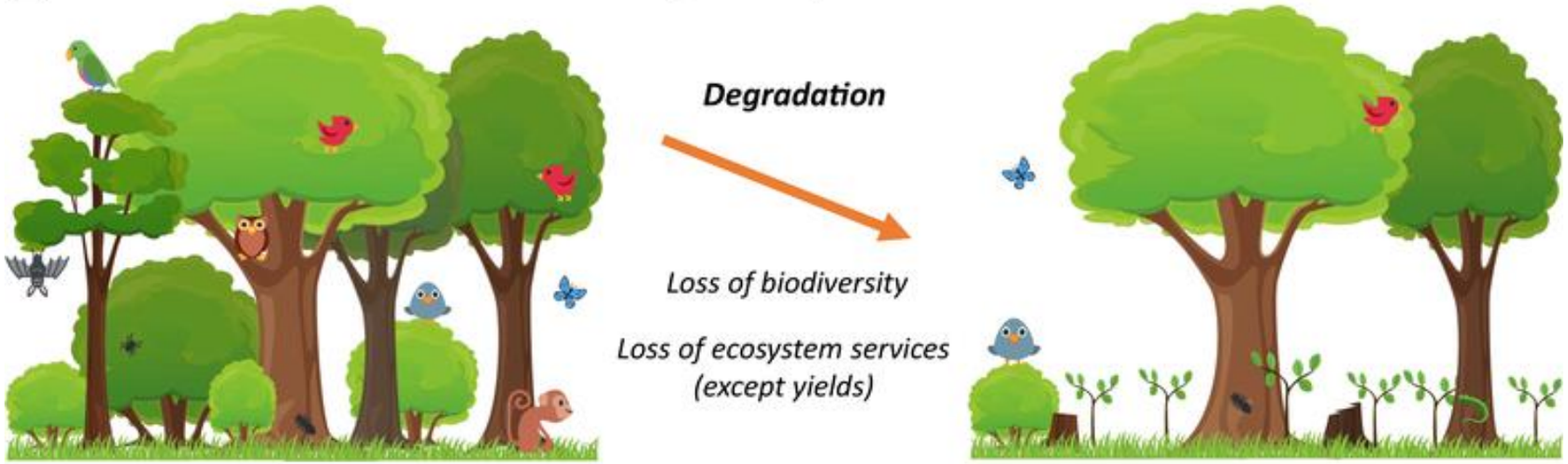
Silvoarable
Widely spaced woody vegetation intercropped with annual or perennial crops, also known as alley cropping

Forest Farming
Forested areas used for harvesting crops for medicinal, ornamental, or culinary uses

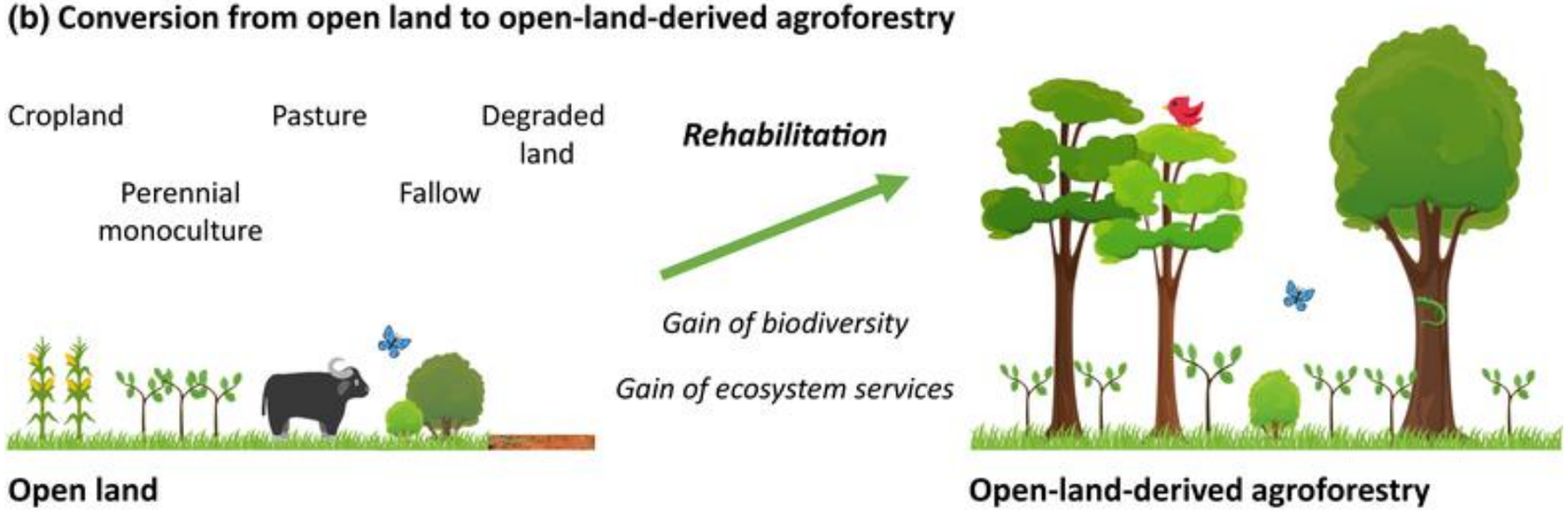
Home Gardens
Trees and shrubs combined with vegetable production in urban areas

Source: Ramil Brick et al, 2022

(a) Conversion from forest to forest-derived agroforestry



(b) Conversion from open land to open-land-derived agroforestry



Source: Martin et al, 2020

ADVANTAGES OF AGROFORESTRY

- ✓ More resilient to environmental shocks and climate change
- ✓ More biodiversity, diversification and farming sustainability
- ✓ Improved soil fertility and health
- ✓ Increase crop productivity: higher ROI per ha
- ✓ Increase food security and nutrition by serving as a safety net

SOME AGROFORESTRY EXPERIENCES

Farmer managed agroforestry system (FMAS) (Rabo et al 2016) or

Farmer managed Natural Regeneration (FMNR) in Niger

Montado Freixo do Medio

Opportunities for more agroecological farming provided by agroforestry in Portugal

Honey VC in Zambia: Wuchi Wami in North Western Province

Sustainable Cacao Agroforestry: interesting approach with challenges

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TOOLS ASSESSING AGROFORESTRY PROFITABILITY

Farm-tree tool

A model for projecting the performance of Agroforestr plots and Landscapes

Importance of cost-benefit analysis of Agroforestry

DigitAf Tools to boost AgroForestry

tailored, user-friendly and open-source digital tools for agroforestry

RuralInvest

free toolkit for the development of bankable and sustainable business proposals

FINANCING AGROFORESTRY

POLL

Do you have any experience in financing agroforestry activities?

If yes, which ones?

CHALLENGES IN FINANCING AGROFORESTRY

- Insecure land and resource tenure (FAO and ICRAF, 2019).

- Few value chains developed for agroforestry products and for connecting them to consumers and the market (Agroforestry Network, 2019).

- On average, agroforestry takes longer than agriculture to get break even. However, crossing annual crops with trees makes agroforestry investments profitable from the very first year.

CHALLENGES IN FINANCING AGROFORESTRY

- Lack of targeted financial products and services for agroforestry
- Lack of collateral
- High costs of lending
- Poor presence of formal FIs in rural areas
- Lack of investment readiness capacity and financial literacy among smallholder farmers

PREREQUISITES FOR FINANCING AGROFORESTRY

❑ **Targeted financial tools**:

- Guarantee schemes
- Concessional loans
- Specific value chain financing
- Collateralized term loans (asset-based lending)
- Microleasing
- Insurance schemes

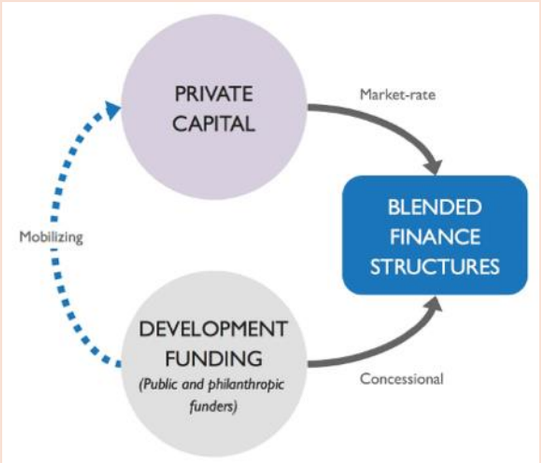
❑ **Farmers' Investment readiness** through Entrepreneurs Support Organizations (**ESO**s)

- Incubation
- Mentoring
- Learning from successful agroforestry entrepreneurs
- Access to finance

SOLUTIONS FOR FINANCING AGROFORESTRY

- **Blended Finance Mechanisms** for sustainable food systems

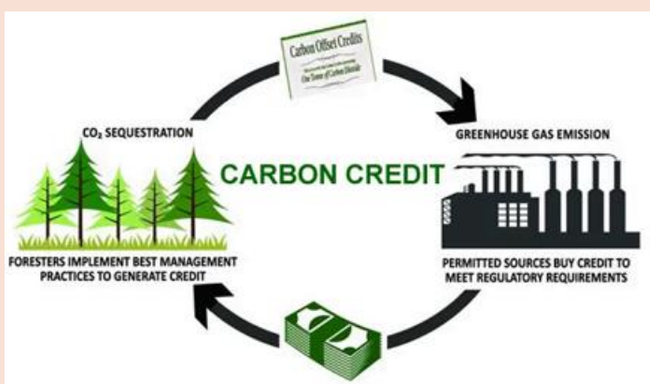
  → **de-risking investment in forest preservation, agroforestry and sustainable agriculture**



Source: Convergence

- **Carbon Credit:** Actors who can demonstrate that they can reduce GHG emissions in their area of intervention are eligible to receive a tradable unit of carbon credit for each ton of reduced carbon

  → **opportunity to receive payments in exchange for avoided deforestation, forest conservation or restorations and/or agroforestry**



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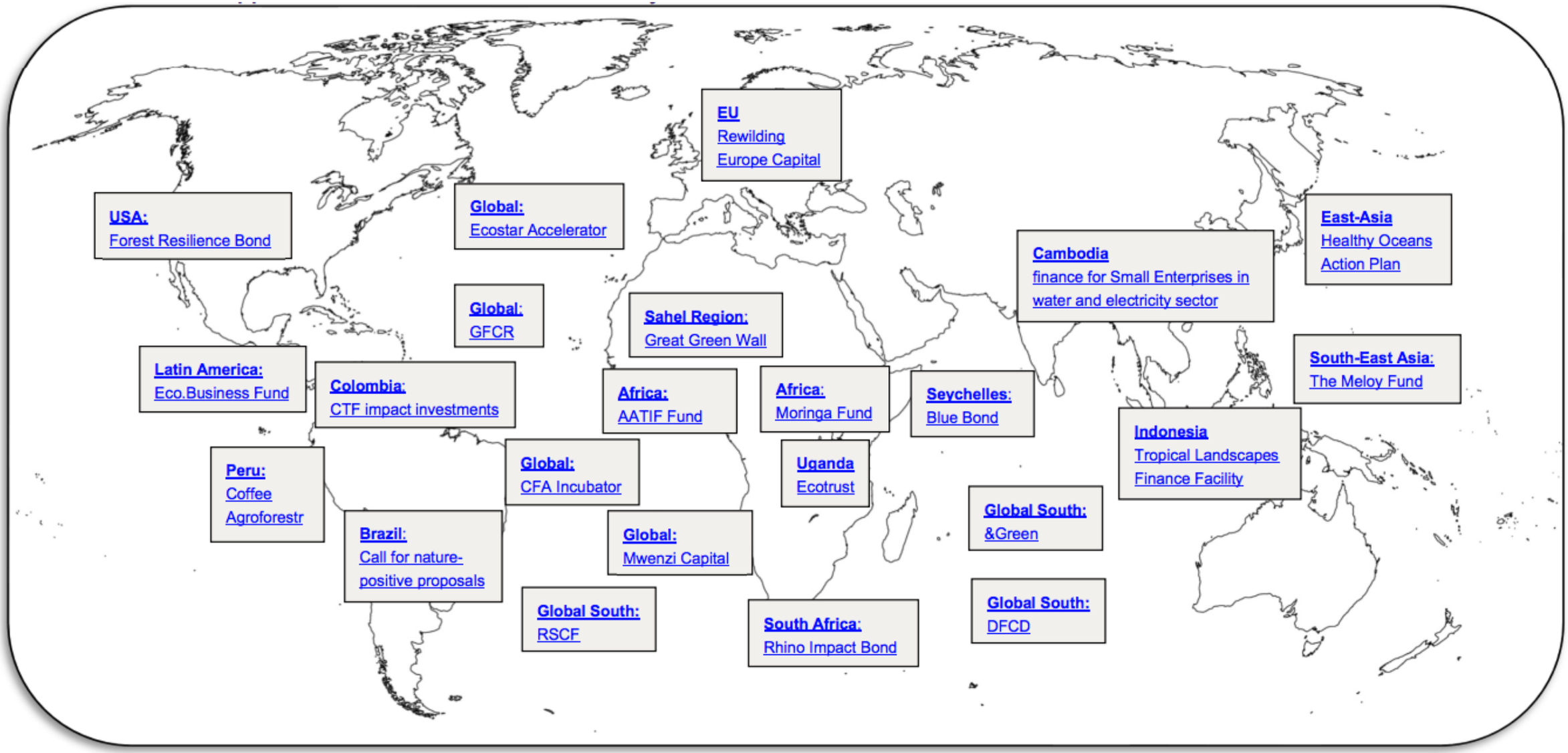
Cases of applied blended finance for biodiversity (van Pul et al, 2023)



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FINANCING MECANISMS

- Moringa Fund: Private equity for sustainable agroforestry

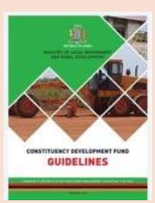
Agroforestry Technical Assistance Facility (ATAF) : grant-based mechanism

- The AGRI3 Fund: credit enhancement and technical assistance to investment projects and businesses protecting and restoring forests, promoting sustainable agriculture

- **Innovative Finance for the Amazon, Cerrado and Chaco** (IFACC): accelerate lending and investment for deforestation-and-conversion-free soy and cattle production

- FISAN in Niger: loan facilities, guarantee funds, technical assistance

- **Constituency Development Fund** (CDF) in Zambia



CONCLUSION

- **Clarifying land-use policies and regulations**, and **securing farmers' access to land** is a prerequisite if agroforestry is to be widely adopted by rural communities (FAO and ICRAF 2019)

- It is crucial to **develop blended finance mechanisms promoting value chains for agroforestry products and services.**

- **Crossing annual crops with trees makes agroforestry investments profitable from the very first year and increases the productivity and profitability of the land in the medium term.**

- At the level of **Financial Institutions**, it is important to **design specific financial products and services for agroforestry**, taking into account the different cycles of crops and trees adopted.

- To achieve this, **participatory research with main stakeholders** should be promoted.

Thank you

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Gracias

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FINANCING AGROFORESTRY
Sharing of an ADA experience

Christina EHLERT

ADA

Thursday 11 April 2024

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Outline

- Why investing in agroforestry?
- ADA's approach for developing financial services for the adoption of agroforestry models
- Project status and lessons learnt

Why investing in agroforestry?

Recognition of potential of agroforestry for smallholder farmers, local economies and the environment:

Smallholder farmers

- Increased productivity at farm level
- Diversification of income and livelihood
- Increased resilience in the light of climate change adaptation and land degradation

Local businesses

- Strengthen local value chains by matching offer and demand for tree derived commodities
- Local job creation
- Integration of women in agroforestry value chains

Environment

- Restoration of degraded landscapes and farmland (soil biodiversity, water retention etc.)
- Ecosystem services
- Sustainable use of natural resources
- Climate change mitigation

ADA's approach: Economic viable agroforestry-based production models

- **Define which agroforestry associations of crops, shrubs and trees make sense, from an economic viewpoint**
  - **for the farmers** (local needs& preferences, production constraints)
  - **for the local value chains and markets** (preferences, strength of local value chains, market access)
  - **for the specific environmental challenges and opportunities** (soil erosion, water retention, climate change adaptation, biodiversity friendly agroforestry systems)

Example: Rwanda
4 agroforestry models with 3 scenarios per model:

1. Conventional agriculture (no trees)
2. Scenario for income provision (1st combination of trees)
3. Scenario for biodiversity enhancement (2nd combination of trees)

Lowland (Eastern Savannah, Eastern Plateau, and Central Plateau)	**Highland** (Buberuka highland, Volcanic highland, and Congo-Nile Crest)
AF Model L1: **Agroforestry Fruit Trees to Improve Nutrition and Generate Income**	**AF Model H1**: **Agroforestry Fruit Trees** to Improve Nutrition and Generate Income
Addressing: Lack of sufficient fruits for household consumption of a nutritive diet Limited alternative sources of income to support farming households Low farm productivity and sub-optimal crop production	
AF Model L2: **Agroforestry Trees for Timber, Fodder, and Firewood Production for livelihoods and landscape resilience**	**AF Model H2**: **Agroforestry Trees for Timber, Fodder, Stakes, Firewood Production, and Soil Erosion Control for landscape resilience**
Addressing: Limited access to tree-based products and poor tree management Sub-optimal crop productivity and lack of tree diversification on farms Increased land degradation, severe soil erosion, and soil nutrient depletion	

ADA's approach: Economic and environmental evaluation of the 4 models

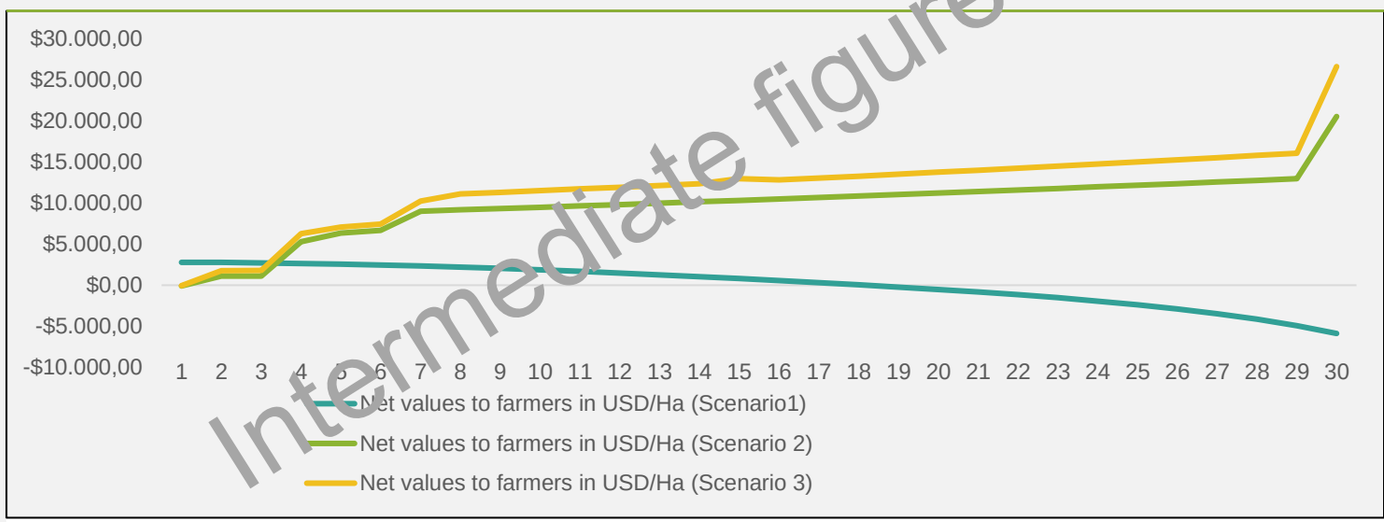
Model L1 – Fruit tree-based model

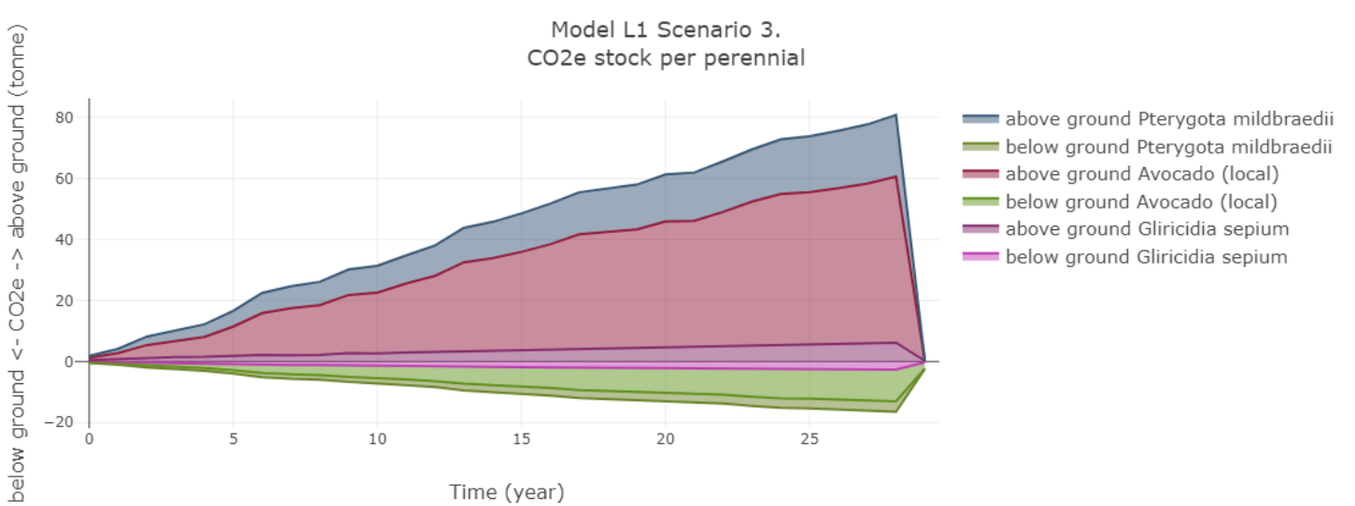
- Beans, Avocado
- Gliricidia (exotic, scenario 2) and Vernonia (indigenous, scenario 3) (acceptability by farming communities in the lowlands and for their contribution to both replenish soil and generate income through regular coppicing)
- *Pterygota mildbraedii*, a critically endangered tree species, stores more carbon (scenario 3)

Cost Benefit evaluation with Farm Tree tool & Trees on Farms Investment Scenario Tool:

- Bean and maize production from scenario 1, decline over time due to impacts of land degradation and climate change related risks.
- Scenarios 2 and 3, incorporating trees, show positive NPVs and high BCR, with Scenario 3 being the most profitable.
- Model L1 significantly aids in carbon storage and ecosystem benefits.

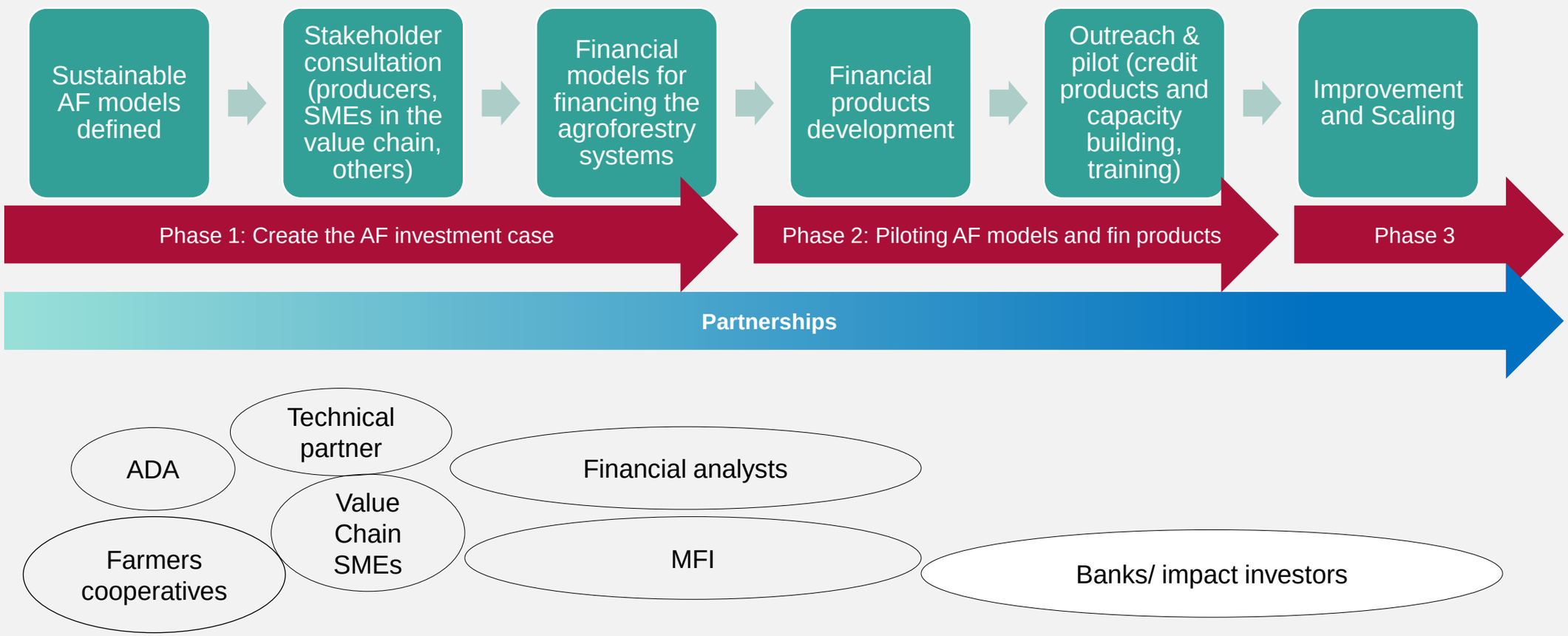
	Scenario 1 (BAU)	Scenario 2	Scenario 3
NPV	14,138.3	52,723.8	63,984.6
BCR	1.9	3.3	5.0





ADA's approach

Development of a bankable agroforestry investment case for financial institutions and farmers in Rwanda



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Project status and lessons learnt

- **Agroforestry builds on local solutions** → look for local knowledge about species selection, production systems and market opportunities (e.g. NGOs, farmers cooperatives, research centres etc.).
- **Consult the different types stakeholders** to finetune the agroforestry models according to market opportunities.
- Evaluation using cost – benefit tools allows to compare models, but data acquisition requires some effort and expertise.
- Trees can provide for longer term returns and make production systems more resilient over time, yet the financing needs challenge the short-term supply for financing (baseline scenario may appear as more attractive for MFIs if we consider a short-term financial cycle of 1-2 years).
- **It is possible to develop smart credit products** for economically viable AF models which are feasible and **represent a business for farmers and MFIs.**
- Covering investment needs at farm level may require to:

1. Think about incentives for farmers to implement and manage agroforestry systems (conditional loans, rewards).
2. To look for alternative revenues to “top up” investment needs (e.g. carbon credits, local funding schemes).

Thank you

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