WORLD BANK GROUP | KOREA GREEN GROWTH TRUST FUND | Ministry of Finance and Economy | SEJONG CITY

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Driving Green Growth through Forest Cooperation: AFoCO's Collaboration with the World Bank and KGGTF

7 May 2026

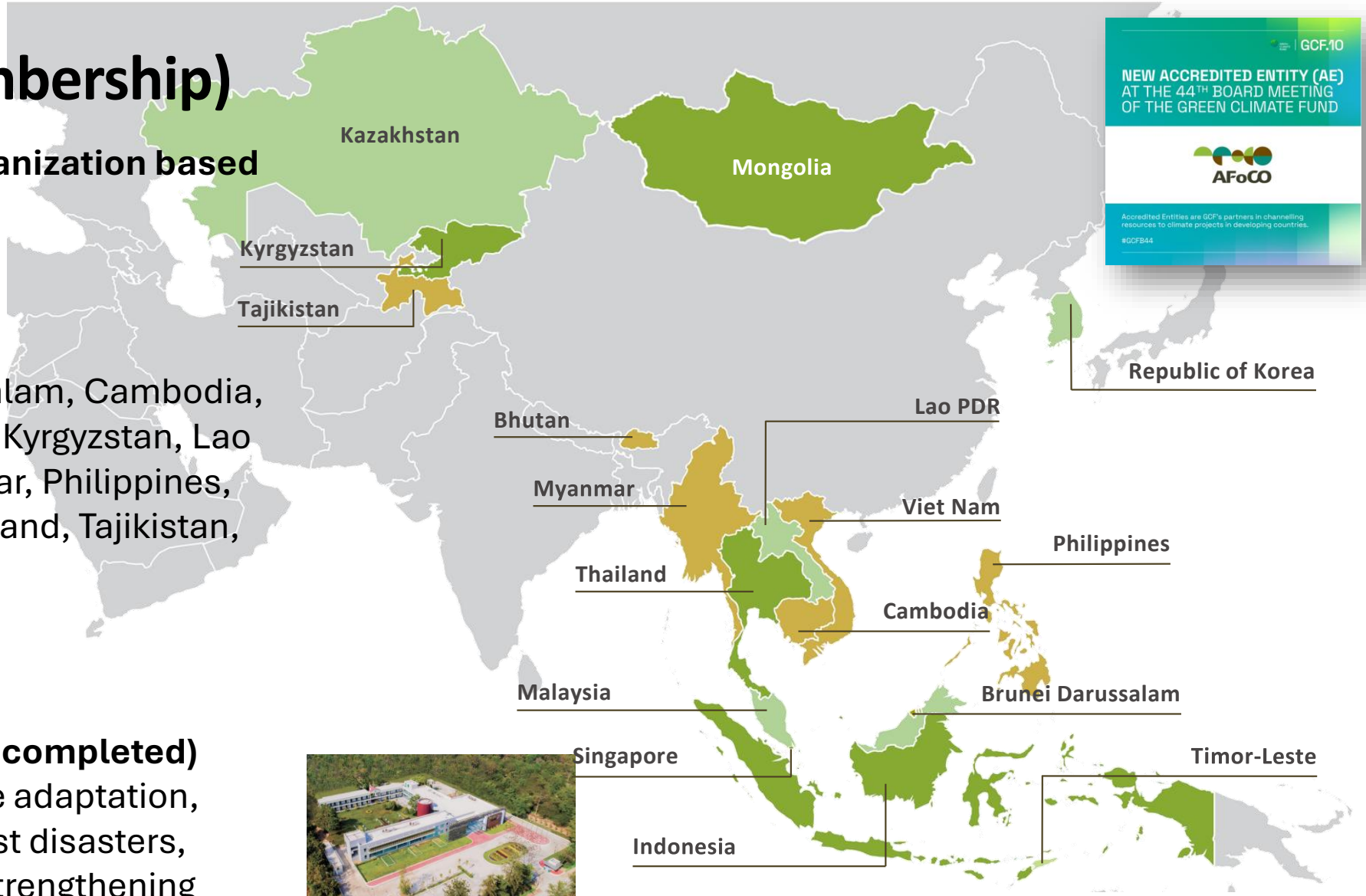
Kikang Bae

Team Leader, Strategic Planning Team

Asian Forest Cooperation Organization (AFoCO)

About AFoCO (Membership)

- **An Intergovernmental Organization based in Asia since 2018**
- **17 Member countries:**
  - **15 Parties:**
    Bhutan, Brunei Darussalam, Cambodia, Indonesia, Kazakhstan, Kyrgyzstan, Lao PDR, Mongolia, Myanmar, Philippines, Republic of Korea, Thailand, Tajikistan, Timor-Leste, Viet Nam
  - **2 Observers:**
    Malaysia, Singapore



- **65 projects (41 ongoing, 18 completed)** covering restoration, climate adaptation, enhancing resilience to forest disasters, improving livelihoods, and strengthening institutional capabilities

- **Total Project Value $231.5M (2013-2025)**

Korea Reforestation Archives, UNESCO Memory of the World

unesco

Quick Lin

Korea Reforestation Archives: A reforestation model achieved through public-private governance

Submitter: the Republic of Korea.

The archives document reforestation projects spearheaded by the Republic of Korea to restore devastated forests. Comprising 9,619 documents – including government gazettes, decrees, official documents, brochures, and photographs, the archives provide insights into policies and programs that address issues such as climate change, soil erosion, and forest ecosystem restoration. The Forestry Act in 1961 and the First Ten-Year Forest Rehabilitation Plan in 1973 were pivotal in these efforts, providing various incentives to encourage public participation. Recognized as successful examples of public-private governance in reforestation, the materials contained in the archives are widely used in international training programs for forest officials in developing countries and forest-oriented Official Development Assistance (ODA) initiatives.

Korea Society of Forest Policy

UNESCO MEMORY OF THE WORLD INTERNATIONAL REGISTER

NOMINATION FORM

1.0 Title of item or collection being proposed

Korea Reforestation Archives: A reforestation model achieved through public-private governance

2.0 Summary (max 200 words)

The Korea Reforestation Archives deal with reforestation projects spearheaded by the Republic of Korea to restore devastated forests. This archive documents information on various policies and programs to address issues such as climate change, soil erosion, and forest ecosystem restoration and consists of 9,619 documents, including government gazettes, decrees, official documents, brochures, and photographs produced by the government, public and private organizations, and individuals.

The reforestation project is widely regarded as a best practice of efficient public-private partnership governance. The government enacted the Forestry Act in 1961 to rehabilitate devastated areas and established the First Ten-Year Forest Rehabilitation Plan in 1973, providing various incentives to encourage people to participate in the programs. The volume of growing stock in South Korea's forests was only 5.6㎥/ha immediately after the Korean War; however, it increased to 165㎥/ha by 2020, transforming a land of devastation into a leader in reforestation within half a century.

South Korea has played a pivotal role in the global forestry sector, leading the establishment of the Asian Forest Cooperation Organization (AFoCO) and hosting the World Forestry Congress (WFC). As examples of successful reforestation projects through public-private governance, the materials contained in the archives are widely used in international training programs for forest officials in developing countries and forest ODA.

Source: www.unesco.org/en/memory-world

AFoCO & KGGTF Cooperation

Mongolia

Green Landscape Resilient Project

Duration: 2024-2026
Budget: USD 450,000

Component 1.
- Develop Carbon Accounting Tools and Guidelines for Different Interventions under the BTNM

Component 2.
- Mainstream Knowledge for Incorporating Carbon Finance in BRNM Interventions

Component 3.
- Develop Investment Plans for Key BTNM Interventions Incorporating Carbon Finance Potential

India

Knowledge Exchange on Integrated Forestry Management

Duration: 07-11 April 2025
Budget: USD 19,455

Türkiye

Forest Fire Management in a Changing Climate

Duration: November 2025
Budget: USD 40,000

1. Mongolia : Green Landscape Resilient Project

Duration 2024-2026

Budget USD 450,000

Overview

Develop tools and capacity to assess carbon potential and create sample carbon finance investment plans under the *Billion Tree National Movement* (BTNM)

AFoCO Project Unit

AFoCO
Asian Forest Cooperation Organization

- Strategic Planning Team
- Local Consultants based in Mongolia

Advisors/Clients

GOVERNMENT OF MONGOLIA — Mongolia NFA

WORLD BANK GROUP — World bank

Component 1

Develop carbon accounting tools and guidelines for different interventions under the BTNM

Lead: Seoul National University

Component 2

Mainstream knowledge for incorporating carbon finance in BTNM interventions

AFoCO Lead: AFoCO

Component 3

Develop investment plans for key BTNM interventions incorporating carbon finance potential

ureca Lead: URECA

Mongolia's Billion Tree National Movement

(Office of the President of Mongolia, 2023)

	Objectives
1	Maintaining and increasing the ecological balance of settlements, improving the living conditions of the people, developing "Urban Forest"
2	Reducing desertification, sources of dust storms, and mitigating sand migration
3	Development of diversified agro-forestry in line with the goal of the national movement "Food supply and security"
4	Reducing deforestation and degradation and increasing the area covered by forests

Component 1.
Develop Carbon Accounting Tools and Guidelines for Different Interventions under the BTNM

1) Estimation of Carbon Sequestration Potential for BTNM Interventions

If all interventions are successfully implemented in the very high suitable areas, 8.7 million tons of CO_2 could be sequestered annually(over half of Mongolia's reduction target by 2030).

2) Development of Carbon Accounting Tool for the Mongolian Text

The tool will be completed based on the field data collected in Mongolia.

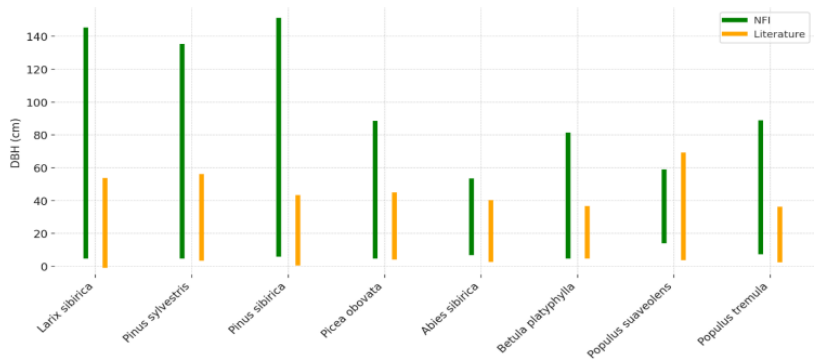
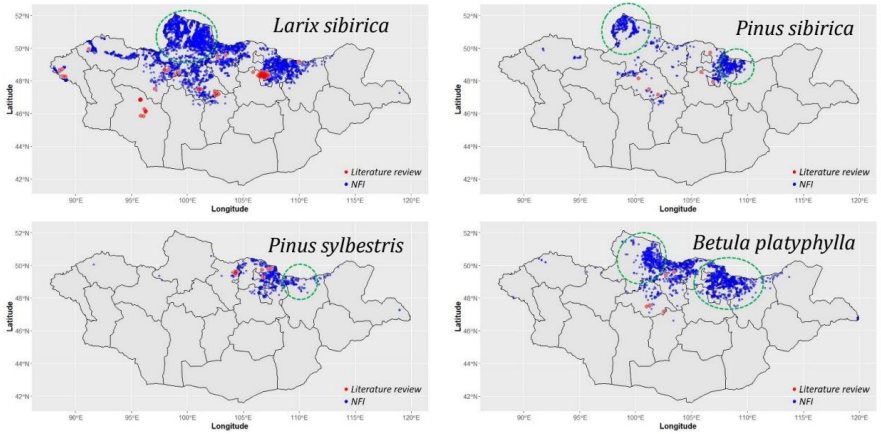
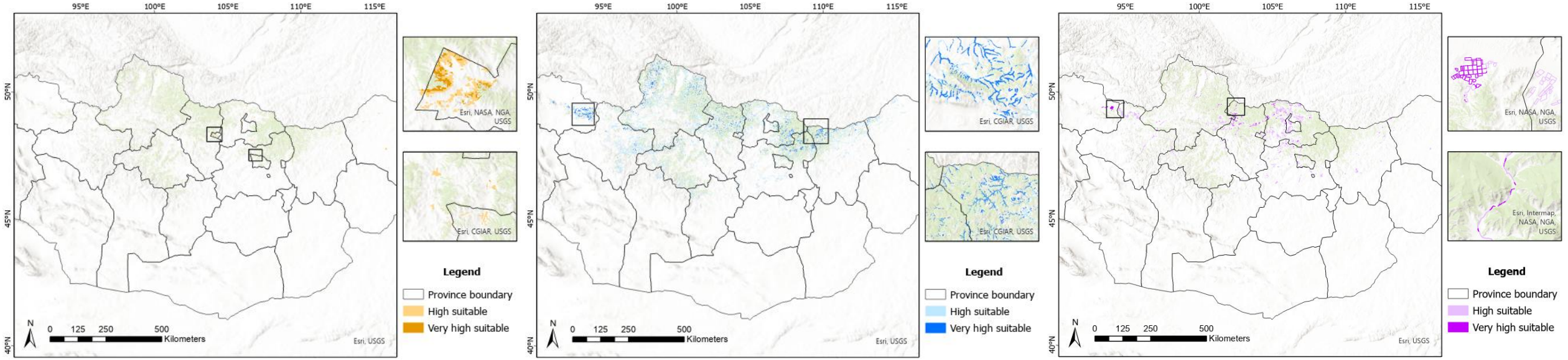


Fig 1. Comparison of DBH Ranges between NFI and Literature Sources



Analysis of Suitable Areas by BTNM Interventions

- *Analysis of high and very high suitability areas by intervention*



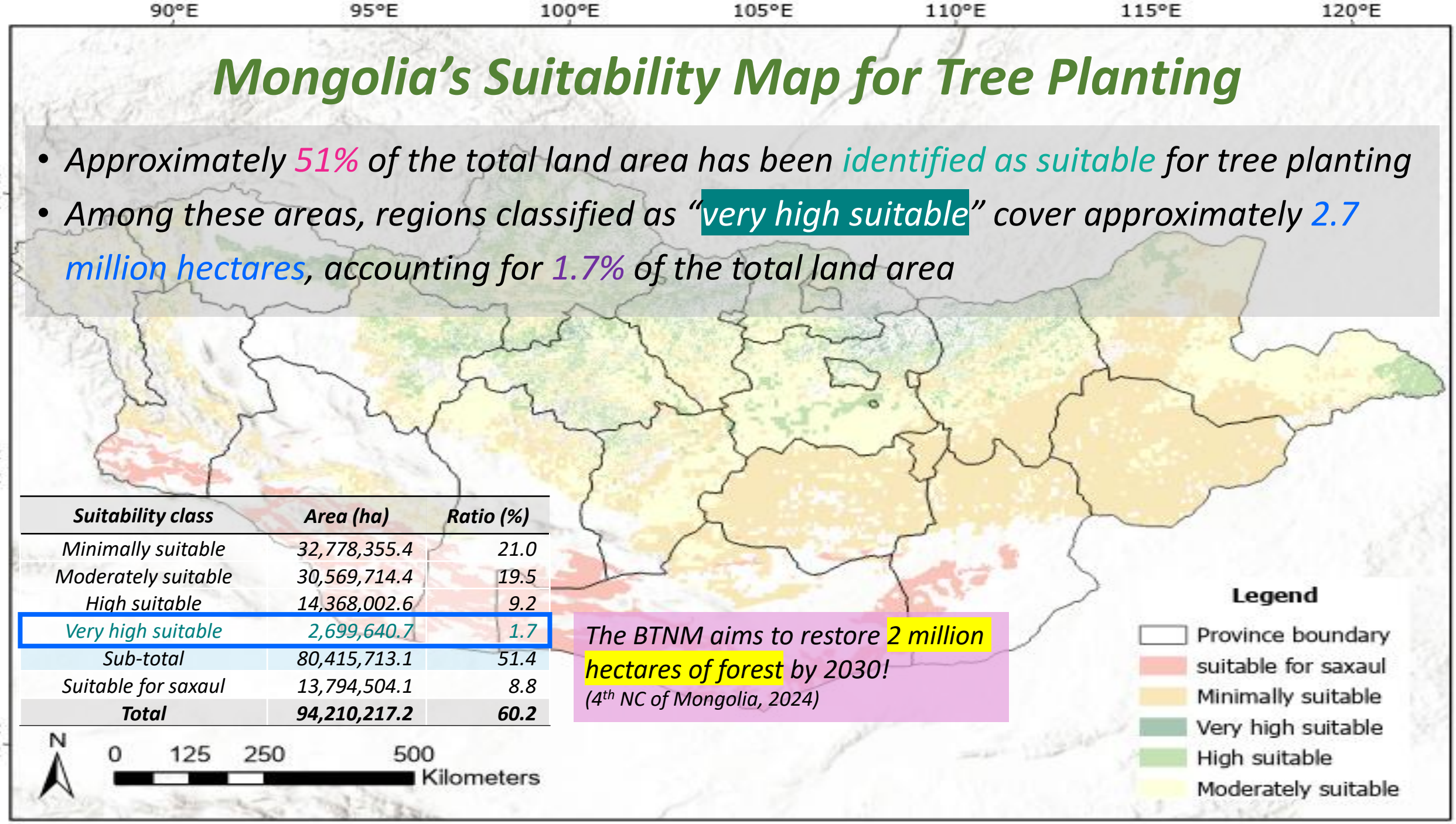
Suitability Class	Intervention 1	Intervention 2a	Intervention 2b	Intervention 3	Intervention 4	Sum
High	*76,800*	*1,043,528*	*32,621*	*8,528,305*	*4,281,058*	*13,962,312*
Very high	*8,895*	*304,649*	*2,109*	*705,241*	*1,562,105*	*2,582,999*
Sum	***85,695***	***1,348,177***	***34,730***	***9,233,546***	***5,843,163***	***29,684,338***

Mongolia's Suitability Map for Tree Planting

- *Approximately 51% of the total land area has been identified as suitable for tree planting*
- *Among these areas, regions classified as "very high suitable" cover approximately 2.7 million hectares, accounting for 1.7% of the total land area*

Suitability class	Area (ha)	Ratio (%)
Minimally suitable	32,778,355.4	21.0
Moderately suitable	30,569,714.4	19.5
High suitable	14,368,002.6	9.2
Very high suitable	2,699,640.7	1.7
Sub-total	80,415,713.1	51.4
Suitable for saxaul	13,794,504.1	8.8
Total	**94,210,217.2**	**60.2**

The BTNM aims to restore 2 million hectares of forest by 2030!
(4th NC of Mongolia, 2024)



Component 2.
Mainstream Knowledge for Incorporating Carbon Finance in BTNM Interventions

1) Development of an E-module on Carbon Accounting

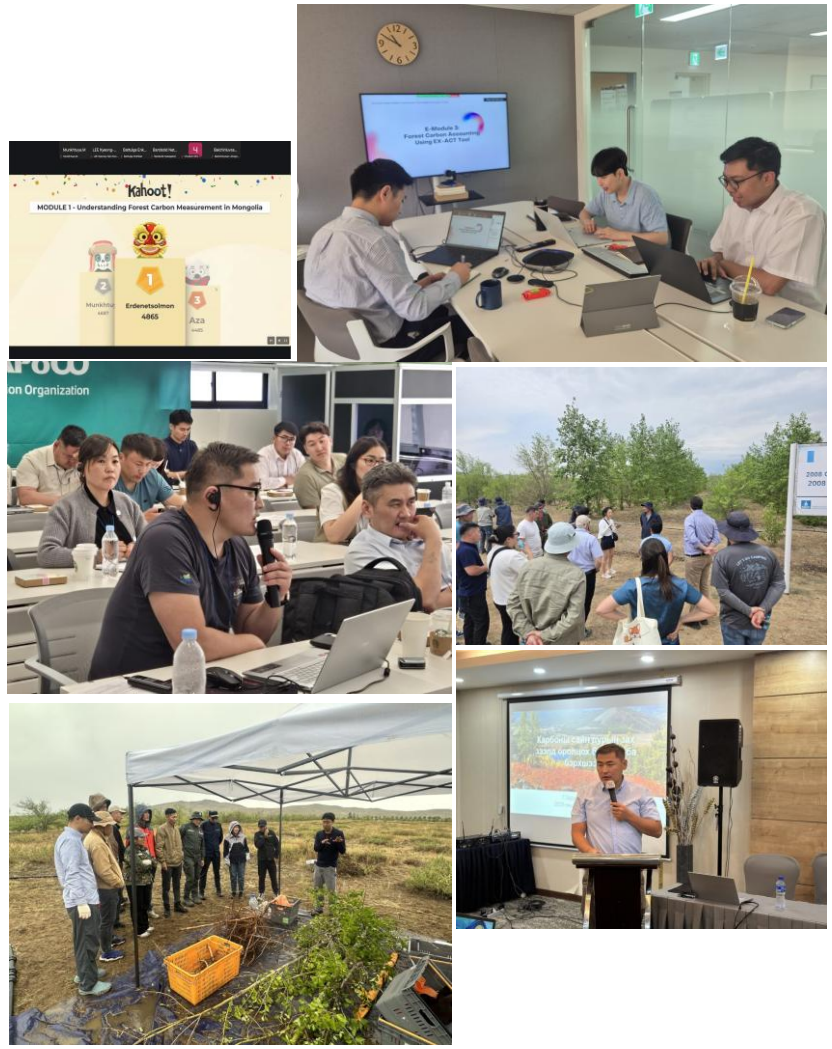
- Conducted virtual session and an interactive quiz for e-modules
- Provided participants with a comprehensive understanding of the overview and principles of forest carbon accounting
- https://afocosec.org/capacity-building/training-courses/e-modules/

2) Training of Trainers Technical Training Program in the Republic of Korea and Mongolia

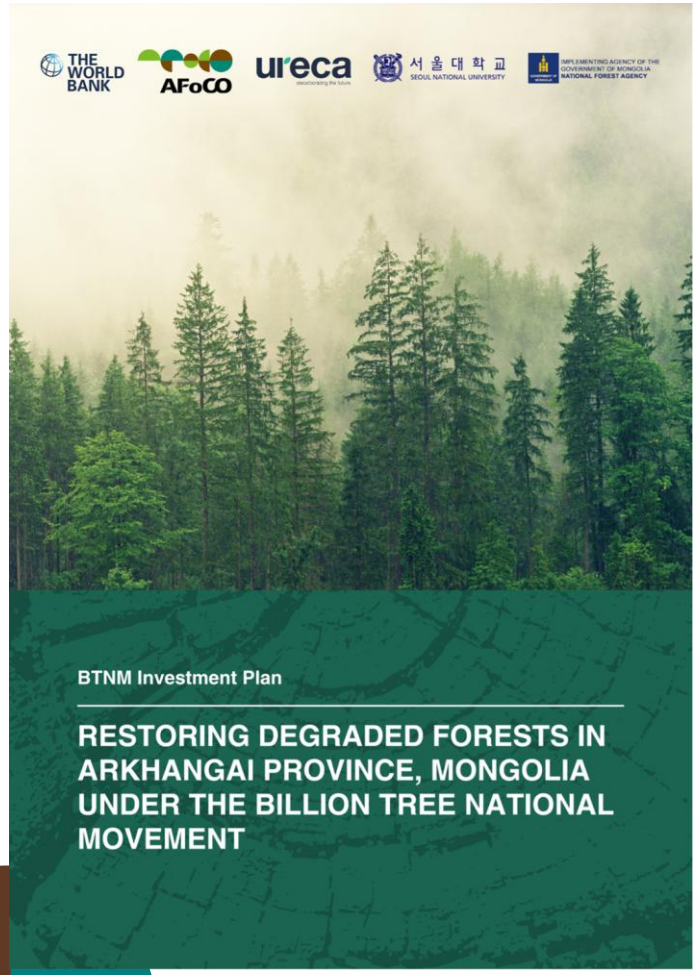
- Equipped participants with the practical knowledge and skills to apply forest carbon accounting tools and methods

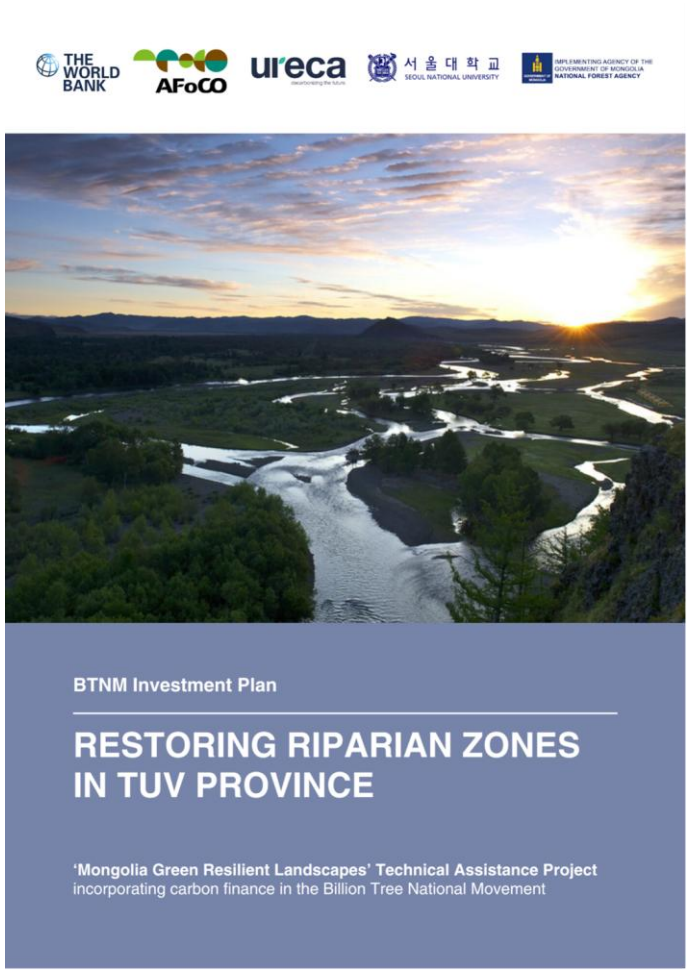
3) Local Training in Mongolia by Trained Trainers

- Provided trainings to provincial level trainers by participants previously trained
- Empowered communities by equipping them with tailored information, appropriate tools, and enhanced capacities

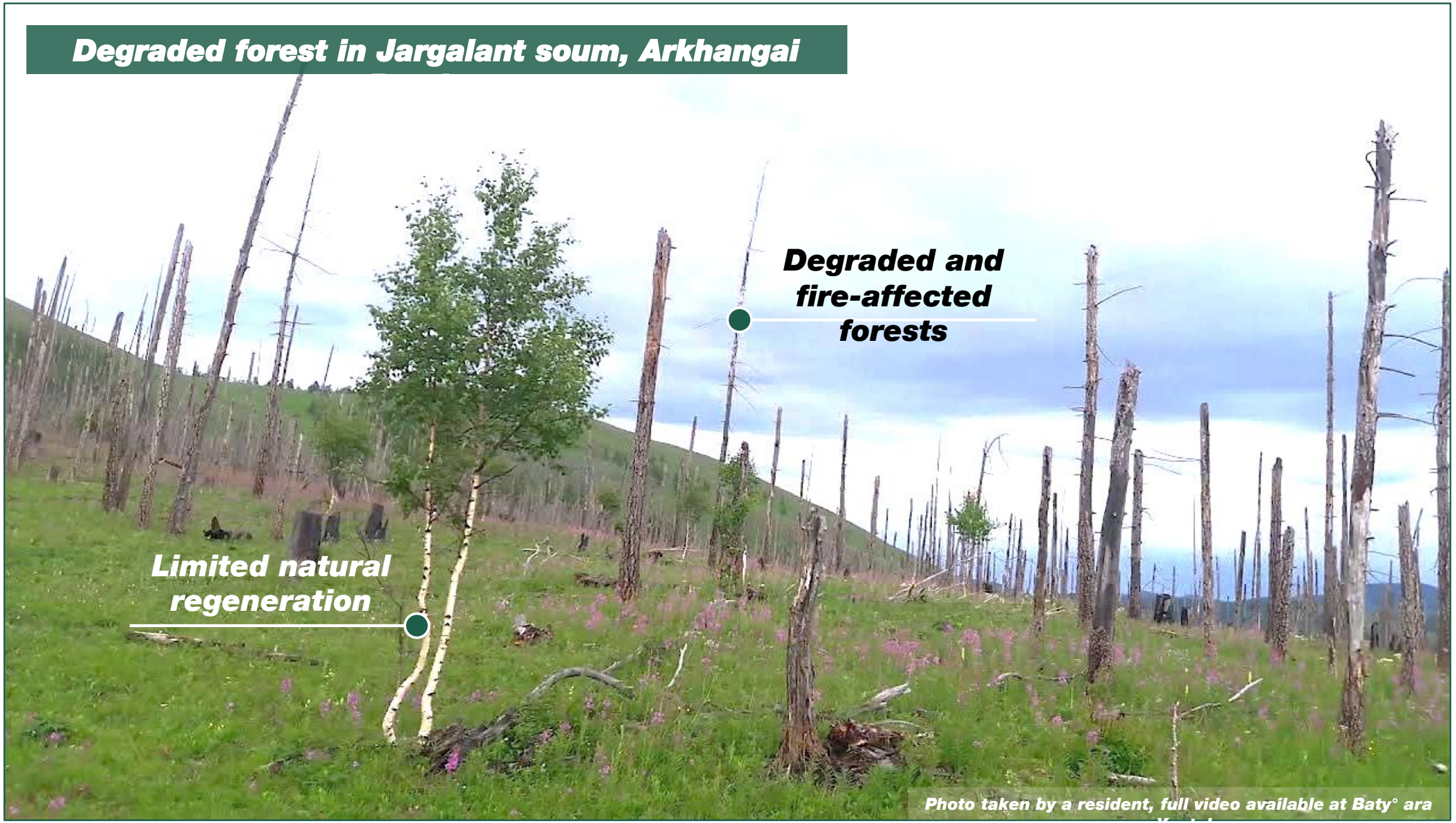


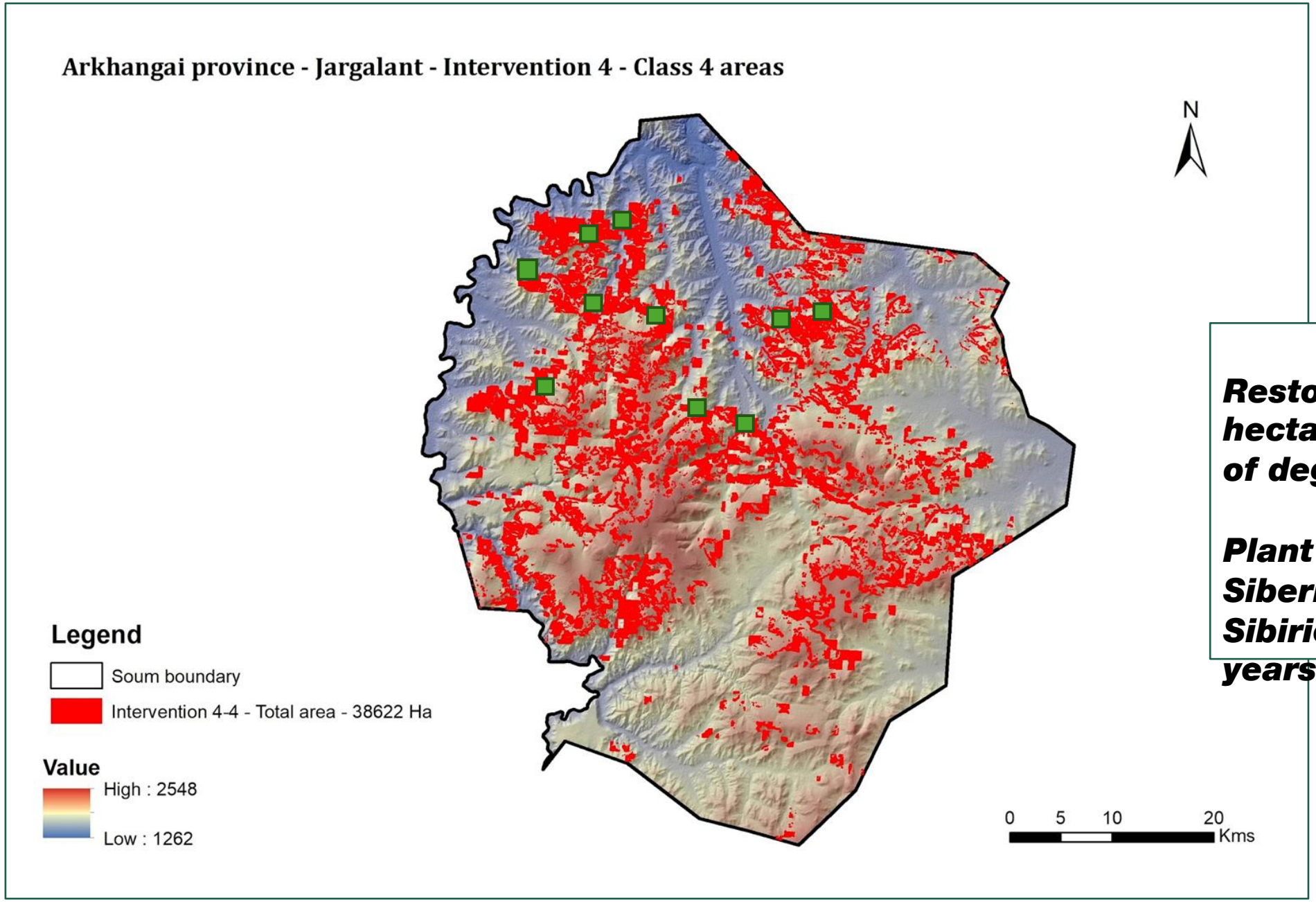
Component 3.
Develop Investment Plans for Key BTNM Interventions Incorporating Carbon Finance Potential





Degraded forest in Jargalant soum, Arkhangai





Restore 10,000-hectares of degraded forests

Plant 22 million Siberian larch (Larix Sibirica) trees over 10 years

I want to plant 22 million trees

What are the costs?

- CAPEX $23 million
- OPEX $19 million

Who would fund this?

- Public: restricted amount
- Grants: restricted amount
- MDBs, loan providers: only if it can be repaid
- Investors: only if returns can be made

How do we attract private capital?

Make it revenue generating

How can we make it revenue-generating?

Integrate carbon finance

How will the carbon finance work?

Planted trees sequester carbon to generate carbon credits and then sold in carbon market

What can we expect?

Carbon credit issuance starts Year 10, generating revenue every 5 years until Year 40

Expected IRR and NPV

- IRR: 6.7 %
- Equity IRR: 10.9%
- Equity NPV: USD 3.3 million

Potential Agroforestry System in Bulgan Province

Sea buckthorn cluster with extended shelter belts

Market demand

Carbon sequestration potential

Ecologically suitable & adapted

Soil fertility impacts

Health benefit

Rural livelihood & employment

So much potential. BUT!

Current Challenges

Financial constraints

Due to limited financial resources, farmers face challenges in storing and transporting harvested berries and lack backup resources in case of harvest loss or price fluctuations.

Management constraints

Individual farmers lack long term buyer contract which limits their capacity to invest into their farms or seek professional services to maintain the farm to its full capacity.

Risk mitigation

Reliance on a single source of revenue limits farmers' resilience to climate change impacts.

Proposed Solution

Integrated management of a cluster

Carbon revenue

Establishing a sea buckthorn farms with extended shelterbelts across 1950 hectares

Long term revenue generation

Community based

Investment Model Design

Cluster consisting of a 150 individual SBT farms:

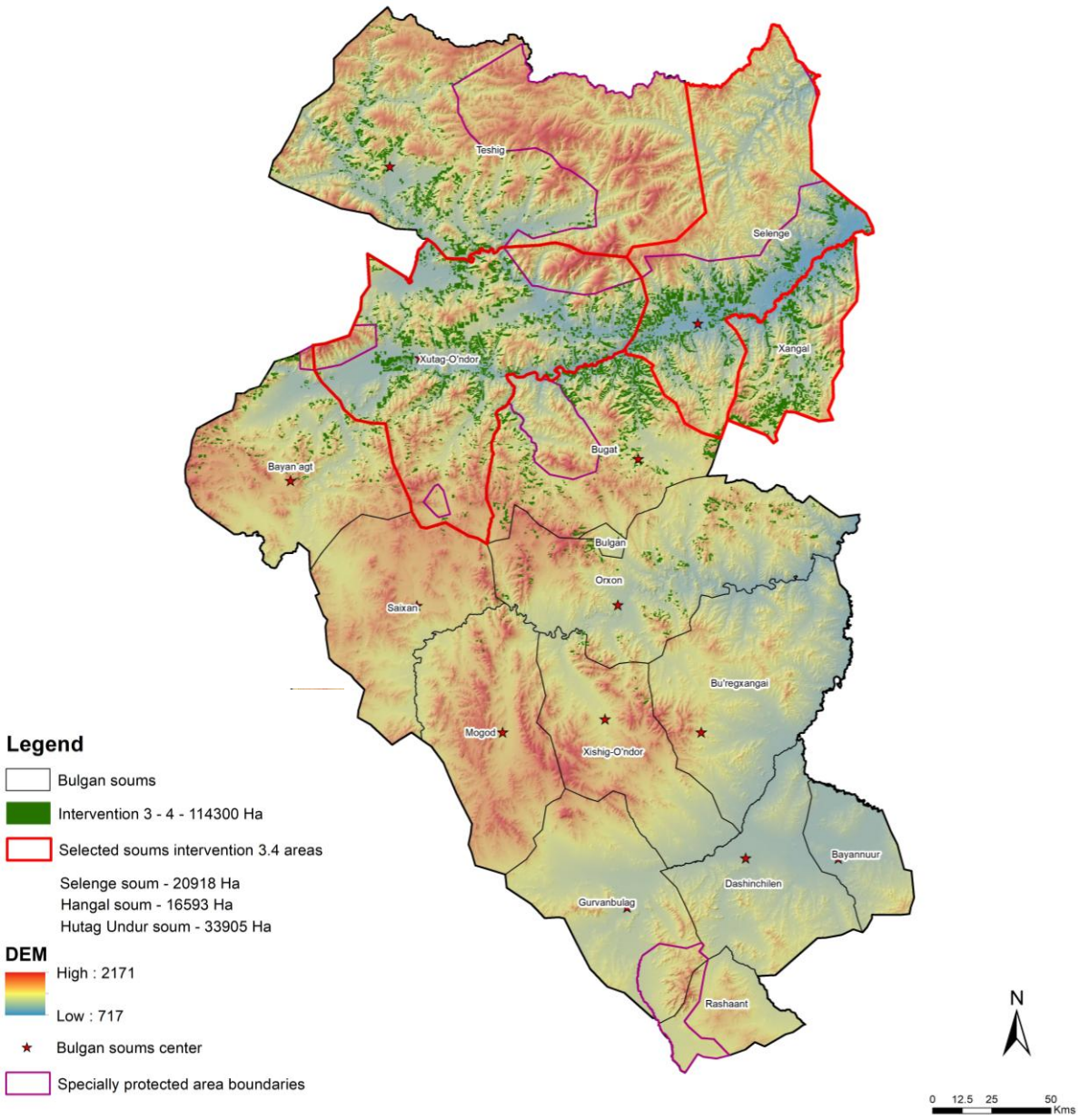
One farm has total of 13 hectares
- 5 hectares of SBT plot and
- 8 hectares of shelterbelts (pine and poplar)

Planting of 2.05 million trees
(1250 SBT per hectare)
- 0.9 million SBT
- 0.6 million pine
- 0.4 million poplar

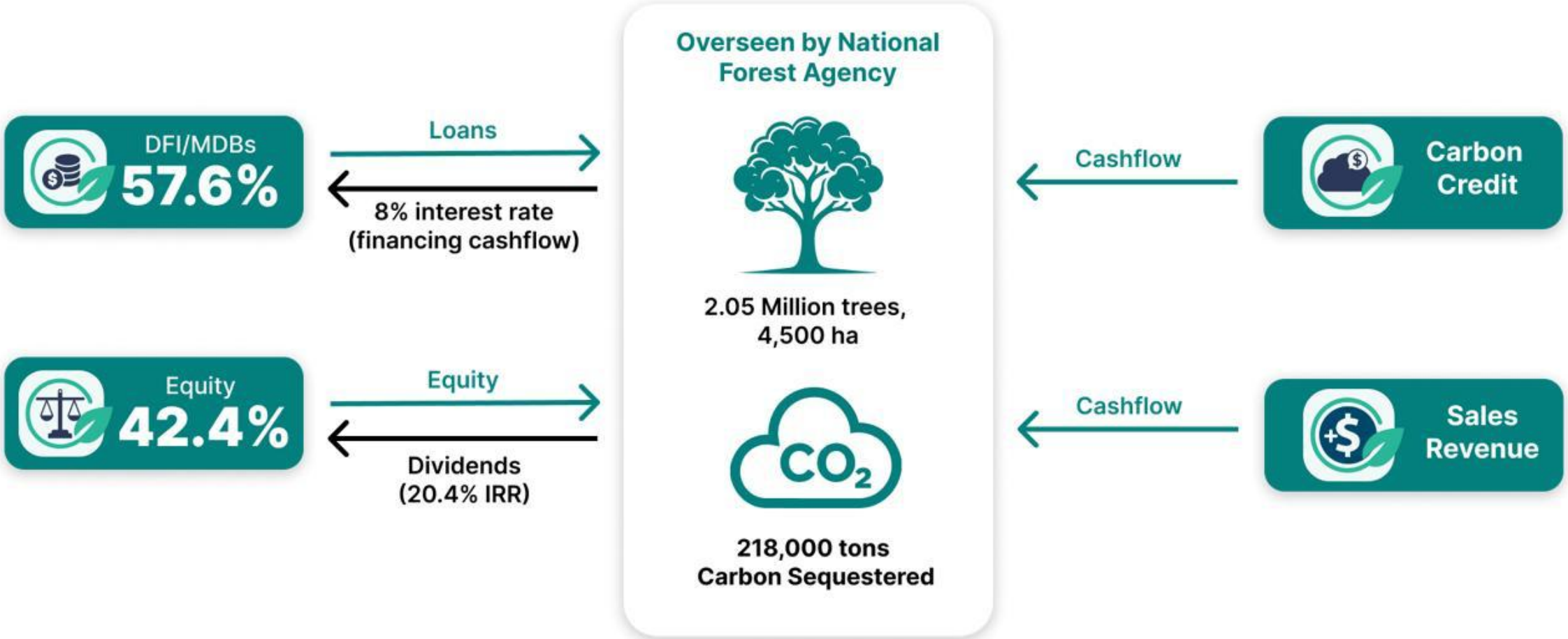
Integrated management
- Technical capacity building and resource sharing
- Sales and financial management
- Carbon component management
- Storage, logistics and financial support

Carbon revenue integrated financing mechanism
- Concessional loan
- Equity investment

Bulgan-Intrevention 3-4 map



Investment Model Design




Riparian Zone
Flood mitigation
Recreational value
Carbon sequestration (carbon sink)
Water quality improvement
Erosion control and bank stabilization
Biodiversity enhancement

CURRENT CHALLENGE

RIPARIAN ZONE DEGRADATION

In Tuv Province, 39,423 hectares of riparian landscapes along significant rivers are degraded and identified as ‘very highly suitable’ for BTNM Intervention.

Livestock pressure

Overgrazing and trampling by livestock lead to vegetation loss and soil erosion.

Human pressure

Development of human settlements, such as tourist camps, further degrades land.

FUNDING BARRIER

Large-scale restoration is necessary. However, it requires substantial upfront costs and long-term maintenance expenditures.

BTNM Intervention

The BTNM allocates approximately 232 million trees nationally to activities under BTNM Intervention: Increasing Water Resources and Riparian Landscape Protection, such as river rehabilitation and water source protection.

FINANCIAL OUTLOOK: Main assumptions

Assumption	Component	Input	Source / Explanation
Carbon project development	Methodology	VM0047: Afforestation, Reforestation, and Revegetation, v1.1	AFoCO and SNU, 2025
	Carbon credit trade	Trade under Paris Agreement Article 6.	Singapore and Mongolia signed bilateral agreement.
	Carbon credit escalation rate	2.0% (real)	World Bank and Sylvera
Financial and macroeconomic	Annual USD CPI Rate (long-run CBO)	2.2%	Economic projections 2025-2028 by CBO*
	Currency conversion	1 USD = 3600 MNT	
	Carbon credit price	USD 34	Singaporean carbon tax benchmark
	Apple price (farmgate)	8000 MNT (USD 2.2)	High end of market average
	Hay price	4200 MNT (USD 1.17)	70% of market average
	Sapling price (farmgate)	20,000 MNT (USD 5.56)	Low end of market average

2. India : Knowledge Exchange on Integrated Forestry Management

Duration 7-11 April 2025

Budget USD 19,455

Overview

Introduce Korean best practices in integrated forest management, focusing on restoration, fire prevention, sustainable enterprises, and non-timber value chains through lectures, visits, and expert exchanges to promote policy, technical knowledge, and innovation in forest governance and landscape approaches.

Main Activities

- Lectures on Korea's forest restoration, fire prevention, and sustainable forest management
- Knowledge sessions on non-timber forest product value chains and forest-based enterprises
- Institutional visits to the Korea Forest Service, NIFoS, and NTFP-related facilities
- Field observation of nursery operations and NTFP development practices

3. Türkiye : Forest Fire Management in a Changing Climate

Duration Tentatively scheduled for November 2025

Budget USD 40,000

Overview

Strengthen Türkiye's capacity in forest fire management through a study tour and training program, showcasing Korea's advanced integrated system of early detection, rapid response, inter-agency coordination, and community engagement, while fostering institutional collaboration and knowledge exchange for resilient and sustainable forest management.

Main Activities

- Conduct a tailored study tour for OGM and Turkish institutions on Korea's forest fire management system.
- Combine lectures, policy dialogue, and field visits on early warning, coordination, aviation suppression, and post-fire restoration.
- Engage with KFS and related agencies, supported by digital training materials.

On-Site

Suppression Equipment

Related Org.

2. Share on-site info. with related org.

3. Receive instruction from cen. Gov.

General Situation Center

4. Send firefighters & fire-engines / receive real-time reporting on-site.
Repeat step 2 & 3 until situation is terminated

Lookout Tower

1. When finding fire/smoke, request look-out tower to visit the spot

Benefits & Future Potential of KGGTF Partnership

- **Strengthened institutional and technical capacity**

  Working with WB experts elevated AFoCO's capacity in planning, reporting, and coordination

- **Need for continuous engagement in project development**

  AFoCO's participation from the early design phase is essential to ensure alignment with local contexts and maximize implementation effectiveness

- **Potential to scale collaboration into new areas**

  Urban forestry, forest carbon, and nature-based solutions identified as future growth areas

AFoCO
Asian Forest Cooperation Organization

THANK YOU!