



TRAINING REPORT

# AFoCO - ITTO Capacity Building Workshop on “Forest Landscape Restoration in the Asia-Pacific Region: Monitoring, Reporting, and Verification in Forest Carbon Assessment”

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4 – 6 July 2023



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## TRAINING REPORT

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4 – 6 July 2023

## Notes to Readers

The report was prepared by the AFoCO Regional Education and Training Center for AFoCO - ITTO Capacity Building Workshop on “Forest Landscape Restoration in the Asia-Pacific Region: Monitoring, Reporting, and Verification in Forest Carbon Assessment” virtually organized on 4-6 July 2023.

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The data in the report were validated by participants of Monitoring, Reporting, and Verification in Forest Carbon Assessment. The views expressed in this report may not necessarily reflect the views of the AFoCO

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## ABBREVIATIONS AND ACRONYMS

|             |   |
|-------------|---|
| <b>AGB</b>  | Above Ground Biomass                        |
| <b>AMSL</b> | Above Mean Sea Level                        |
| <b>CCB</b>  | Climate, Community, and Biodiversity        |
| <b>CCDA</b> | Climate Change and Development Authority    |
| <b>ESMF</b> | Environmental & Social Management Framework |
| <b>ER-P</b> | National Emissions Reduction Program        |
| <b>FCPF</b> | Forest Carbon Partnership Facility          |
| <b>FRL</b>  | Forest Reference Level                      |
| <b>FREL</b> | Forest Reference Emission Level             |
| <b>FUGs</b> | Forest User Groups                          |
| <b>IPCC</b> | Intergovernmental Panel on Climate Change   |
| <b>LULC</b> | Land Use, Land Cover Change                 |
| <b>MRV</b>  | Monitoring, Reporting, and Verification     |
| <b>NFMS</b> | National Forest Monitoring System           |
| <b>NFI</b>  | National Forest Inventory                   |
| <b>NRAP</b> | National Action Program on REDD+            |
| <b>NRF</b>  | National Reserved Forests                   |
| <b>NWFP</b> | Non-wood forest products                    |
| <b>PFEs</b> | Professional/Private Forest Enterprises     |
| <b>PGA</b>  | Participatory Governance Assessment         |
| <b>RBS</b>  | Result Based Payment                        |
| <b>RPP</b>  | Resettlement Policy Framework               |
| <b>SDS</b>  | Sand and Dust Storms                        |
| <b>SESA</b> | Strategic Environmental Social Assessment   |
| <b>SIS</b>  | Safeguard Information System                |
| <b>SLMS</b> | Satellite Land Monitoring System (SLMS)     |
| <b>VCM</b>  | Voluntary Carbon Market                     |
| <b>VCS</b>  | Verified Carbon Standards                   |
| <b>VVB</b>  | Validation and Verification Body            |

## 1. INTRODUCTION

The UN Decade on Ecosystem Restoration 2021-2030 (UN Decade 2030), adopted by the UN General Assembly in March 2019, brings much-needed urgency to the restoration of degraded forests. In the tropics alone, more than 9 million hectares of forests are degraded, threatening the livelihoods, and sometimes the lives, of millions of forest-dependent people. Degraded forests must be restored urgently to maintain their resilience to climate change and enable them to continue providing multiple benefits to those living in and around them. Making significant progress in restoration during this decade is now a global challenge.

In support of the UN Decade 2030, the Asian Forest Cooperation Organization (AFoCO) and the International Tropical Timber Organization (ITTO) have been co-organizing capacity-building workshops on Forest Landscape Restoration (FLR) in the Asia-Pacific region since 2021, with numerous partners from across the region including Asian Institute of Technology, FAO, GCF, IUCN, IUFRO, Kasetsart University, Korea Forest Service, National Institute of Forest Science, RECOFTC, and Waseda University. These efforts have so far brought together 121 participants from 15 countries sharing concerns and challenges in preparing national strategies and action plans to implement the FLR under the climate change regime.

During the 1st workshop in 2021, the participants noted that very few financing flows are currently being streamed through the forestry sector, even though a series of agreements on REDD+, and the Paris Agreement itself, have express provisions for increasing financial and technical support for the forestry sector. In this context, the 2nd workshop in 2022 introduced the concept of 'FLR/REDD+', wherein the participants tried to find the synergizing areas between FLR and REDD+ to address climate change issues effectively. There is still a lot of uncertainty about how REDD+ and FLR projects can benefit from the market and non-market mechanisms that are evolving under Article 6 of the Paris Agreement and it was felt that this lack of understanding of the concept and processes is making it difficult for the implementing agencies to submit high-quality proposals for accessing climate finance.

The series of workshops has revealed an emerging need for building capacities among the FLR implementing agencies in the region for accessing climate change finance at varied scales from all kinds of public and private sources. In particular, the existing capacities related to monitoring, reporting, and verification (MRV) of forest carbon assessment are required to be upgraded and the implementing agencies need to understand the basics of the cooperative framework and the new market and non-market mechanisms evolving under the Article 6 of the Paris Agreement. The present workshop seeks to respond to these felt needs and give participants a fundamental understanding of the climate change mitigation benefits achieved through FLR interventions.



## 2. OBJECTIVES AND OUTPUTS

### 2.1 OBJECTIVES

The workshop aims at enhanced understanding of the Monitoring, Reporting and Verification in forest carbon assessment and of the role of Article 6 of the Paris Agreement in promoting FLR across the world among the FLR implementing agencies in the Asia Pacific region. It also seeks to enhance their chances of accessing climate change finance from the Green Climate Fund and other multilateral, bilateral, or private financing agencies.

### 2.2 EXPECTED OUTPUTS

At the end of the workshop, the participants will be able to:

- Explore MRV tools and methodologies.
- Have a deeper understanding and recognize the purpose and intent of various provisions of Article 6 of the Paris Agreement.
- Facilitate the development of FLR projects and strategies that have a greater chance of accessing climate finance from leading multilateral and bilateral funds.

### 3. PARTICIPANTS' ANALYSIS

#### 3.1 INFORMATION ABOUT PARTICIPANTS

This course welcomed 55 technical-level government officials and forestry experts involved in forest landscape restoration and related work of the AFoCO & ITTO Member Countries. Those involved for a minimum of one year of serving the overnment were invited from the respective member countries.

**Table 1. Number of participants from the member countries**

| Sr. | Countries              | No. of Participants | Female    | Male      |
|-----|------------------------|---------------------|-----------|-----------|
| 1.  | Bhutan                 | 4                   | 1         | 3         |
| 2.  | Brunei Darussalam      | 3                   | 3         | 0         |
| 3.  | Cambodia               | 2                   | 0         | 2         |
| 4.  | Fiji                   | 3                   | 1         | 2         |
| 5.  | India                  | 2                   | 0         | 2         |
| 6.  | Indonesia              | 7                   | 4         | 3         |
| 7.  | Kazakhstan             | 2                   | 2         | 0         |
| 8.  | Kyrgyzstan             | 3                   | 3         | 0         |
| 9.  | Lao                    | 2                   | 0         | 2         |
| 10. | Malaysia               | 3                   | 3         | 0         |
| 11. | Mongolia               | 2                   | 1         | 1         |
| 12. | Myanmar                | 6                   | 3         | 3         |
| 13. | Papua New Guinea       | 3                   | 1         | 2         |
| 14. | Singapore              | 4                   | 2         | 2         |
| 15. | Thailand               | 2                   | 1         | 1         |
| 16. | Timor-Leste            | 2                   | 0         | 2         |
| 17. | Viet Nam               | 4                   | 0         | 4         |
| 18. | University of Helsinki | 1                   | 1         | 0         |
|     | <b>Total</b>           | <b>55</b>           | <b>26</b> | <b>29</b> |

(Note: 55participants who received the certificate of completion)

**Table 2. Position of participants**

| No. | Position  | Number    |
|-----|---|-----------|
| 1.  | Chief/Head/Director (kuning)  | 7         |
| 2.  | Deputy Director/Chief/Head, Vice Dean/Chief (hijau)   | 4         |
| 3.  | Assistant Secretary/Assistant Director/Co-director/Acting Manager/Asisstant Commisioner (biru)              | 7         |
| 4.  | Associate Professor/Lecturer (ungu)   | 1         |
| 5.  | Senior Forest Management Specialist/Senior Forest Officer/Principal Forestry Officer/Senior Manager (merah) | 8         |
| 6.  | Forest Ecosystem Management/Project Manager/Project Coordinator/Leader Specialist                           | 4         |
| 7.  | Researcher/Policy Analyst/Ministry's expert (tulip merah)   | 6         |
| 8.  | Technical Officer/Forestry Officer/Staff  | 18        |
|     | <b>Total</b>  | <b>55</b> |

## 3.2 CURRENT ISSUES OF PARTICIPATING COUNTRIES

### 3.2.1. Core Problem per Country

An effort was made to decipher the core problems faced by the participating countries in implementing monitoring, reporting, and verification in forest carbon assessment within their jurisdictions from the Country Reports and Action Plans submitted by Participants. The assessment is reflected in the following Table:

| Country           | Core Problems   |
|-------------------|---|
| Bhutan            | Low sampling intensity /periodic assessment and monitoring of carbon stock change   |
| Brunei Darussalam | Absence of MRV of Forest Carbon Assessment  |
| Cambodia          | Lack of sustainable GHG inventory System  |
| Fiji              | Lack of technical capacity and expertise  |
| India             | Implementation of REDD+/forest carbon assessment by SFDs  |
| Indonesia         | Methodology to measure mitigation action  |
| Kazakhstan        | Lack of forest carbon Assessment methodology  |
| Kyrgyzstan        | Lack of resources to develop a methodology and conduct forest carbon assessments Lack of necessary qualifications of the staff of involved state bodies |
| Lao               | Estimating emissions from selective logging based on stump survey   |
| Malaysia          | N/A   |
| Mongolia          | Inability to halt deforestation and the fundamental flaws of its main initiatives   |
| Myanmar           | Limited capacity (MRV)  |
| Papua New Guinea  | Insufficient financial support in the implementation and monitoring of the multipurpose National Forest Inventory (NFI)                                 |
| Singapore         | Dense urban landscapes  |
| Thailand          | Limited competency on forest carbon assessment  |
| Timor-Leste       | Absence of MRV  |
| Viet Nam          | Deforestation and Forest Degradation DDAs   |
| Papua New Guinea  | Insufficient financial support in the implementation and monitoring of the multipurpose National Forest Inventory (NFI)                                 |
| Singapore         | Dense urban landscapes  |
| Thailand          | Limited competency on forest carbon assessment  |
| Timor-Leste       | Absence of MRV  |
| Viet Nam          | Deforestation and Forest Degradation DDAs   |

### 3.3 CURRENT STATUS AND ISSUES OF PARTICIPATING COUNTRIES

#### 3.3.1 BHUTAN

##### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country

Significant REDD+ / FLR Projects in Bhutan

| Project Name  | Scale/Location | Total Fund (USD m) | Funding agency   | Status                     |
|---|----------------|--------------------|------------------|----------------------------|
| National Forest Inventory   | National level | 1.5                | RGoB, BFL, REDD+ | Completed on June 30, 2023 |
| REDD Readiness Project  | National level | 8.6                | FCPF/ World Bank | Completed on June 30, 2022 |
| Sustainable Community-Based Enterprises for Improved Livelihood in Bhutan | 12 districts   | 1.4                | AFOCO            | On going                   |

Which one of these is most successful in a comprehensive manner and why?

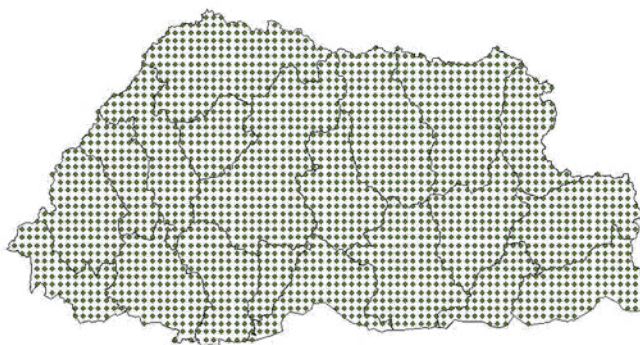
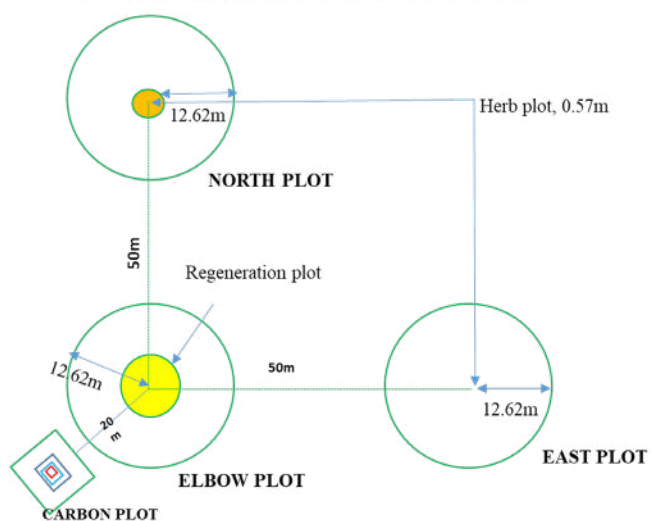
National Forest Inventory

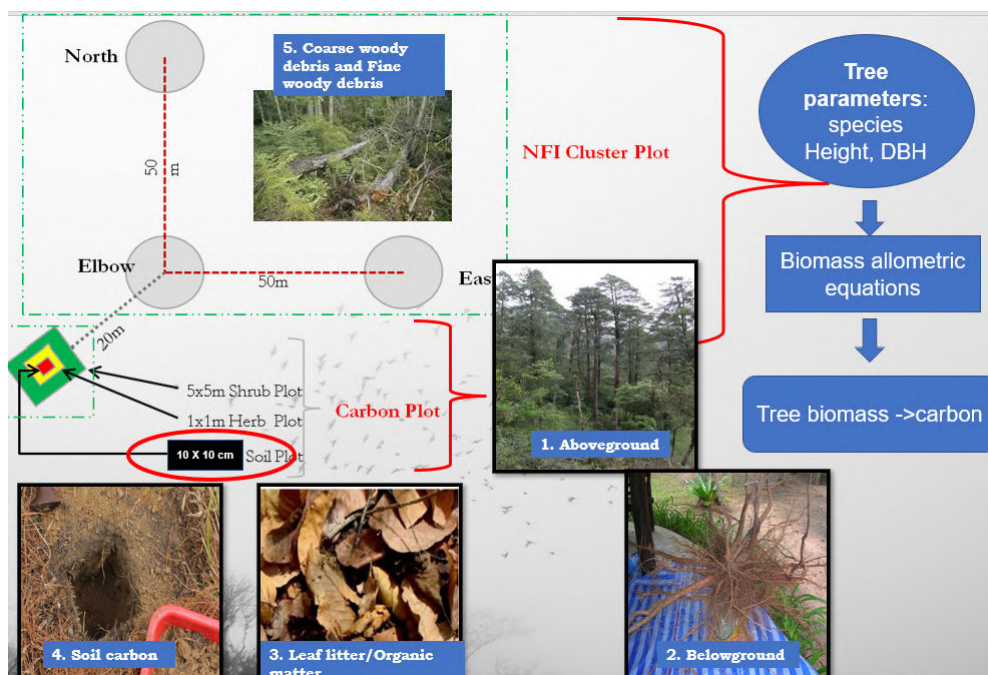
- National Coverage
- Update extent of Forest and Forest carbon stocks.
- Enhance capacity in measurement and reporting of Forest Carbon.
- Fieldwork completed during the lockdown and pandemic.

How is the MRV of Forest Carbon Assessment conducted?

#### National Forest Inventory

- Field based measurement





## Result

Total Biomass: 726.69 million tonnes at 271.5 t/ha

**Total Forest Carbon (including SOC): 523.88 million tonnes at 195.73 t/ha**



**1. Aboveground**  
Biomass: 523.41 million t at 195.55 t/ha  
Carbon: 246.00 million t at 91.92 t/ha



**2. Belowground**  
Biomass: 143.35 million t at 53.56 t/ha  
Carbon: 67.38 million t at 24.91 t/ha



**4. Soil carbon**  
182.33 million t at 68.12 t/ha



**3. Leaf litter/Organic matter**  
Biomass: 41.94 million t at 15.67 t/ha  
Carbon: 19.71 million t at 7.37 t/ha



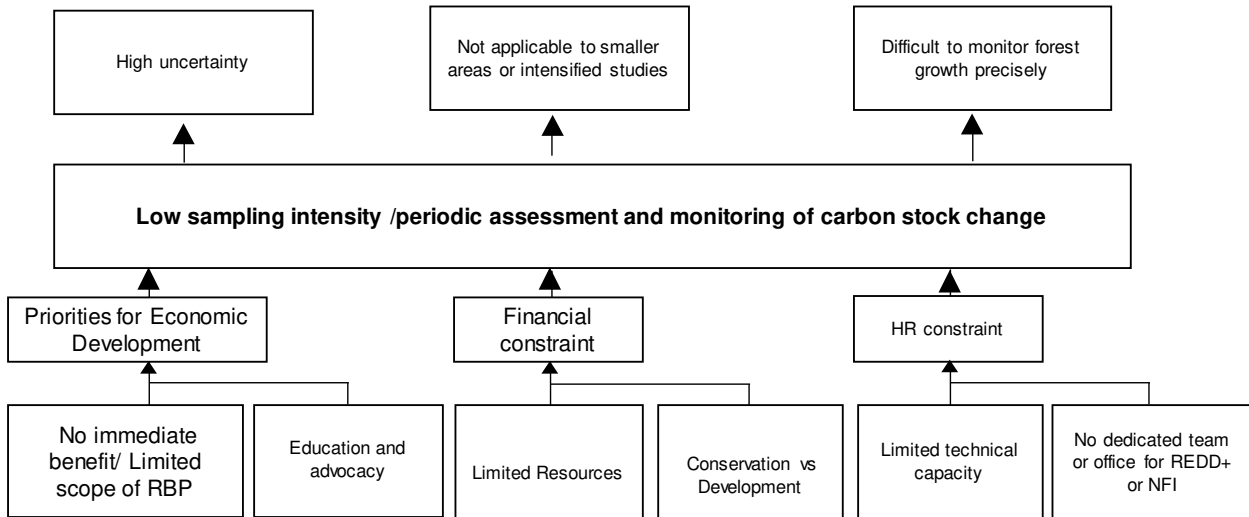
**3. Coarse woody debris**  
Biomass: 17.99 million t at 6.72 t/ha  
Carbon: 8.46 million t at 3.16 t/ha

### Lesson drawn

- Sampling intensity for NFI is quite low and therefore, requires intensification of plots to better understand the state of our forest resources and health, and plan for resource use effectively.
- Integrate field-based inventory and Remote Sensing.
- Improve and establish NFI data management and database.

## 2. Problem Tree for Implementation of Forest Carbon Assessment

- Current challenges and issues in your country



## 3. Purpose of Participation in The Workshop

- Strengthen capacity on MRV
- Learn on the best practices on the implementation of MRV in Forest Carbon Assessment in the AFoCO Parties.
- Learn and explore funding opportunities for accessing climate change finance for REDD+

## 4. Questions & Answers for Country Report Presentation of Bhutan

N/A

### 3.3.2 BRUNEI DARUSSALAM

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country  
Country Status:

- Currently, there are no REDD+ projects and MRV system for forest carbon assessment set-up within the country;
- However, restoration of degraded lands have been a continuous effort made by the Forestry Department;
- The country is currently in the phase of updating our national forest inventory which will include carbon stock assessments of the forests via remote sensing and ground-truthing;
- This inventory will act as a baseline for the country's forest carbon stocks; and
- It is hoped that this will act as a first step towards preparing the first MRV system of Forest Carbon Assessment for the country which can be used for future REDD+ initiative and establishing the country's FREL.

### Three examples of restoration projects in the country



11<sup>th</sup> National Development Plan - Greening program at 'B' zone, Berakas Forest Reserve [Project period: 1 June 2022 - 15 February 2024]



11<sup>th</sup> National Development Plan - Greening program at Berakas Forest Reserve Compartments [Project period: 17 September 2022 - 17 July 2023]



Restoration of degraded Peat Swamp Forest at Badas [Phase 1: August 2020, Phase 2: December 2021]

Which one of these is most successful in a comprehensive manner and why?

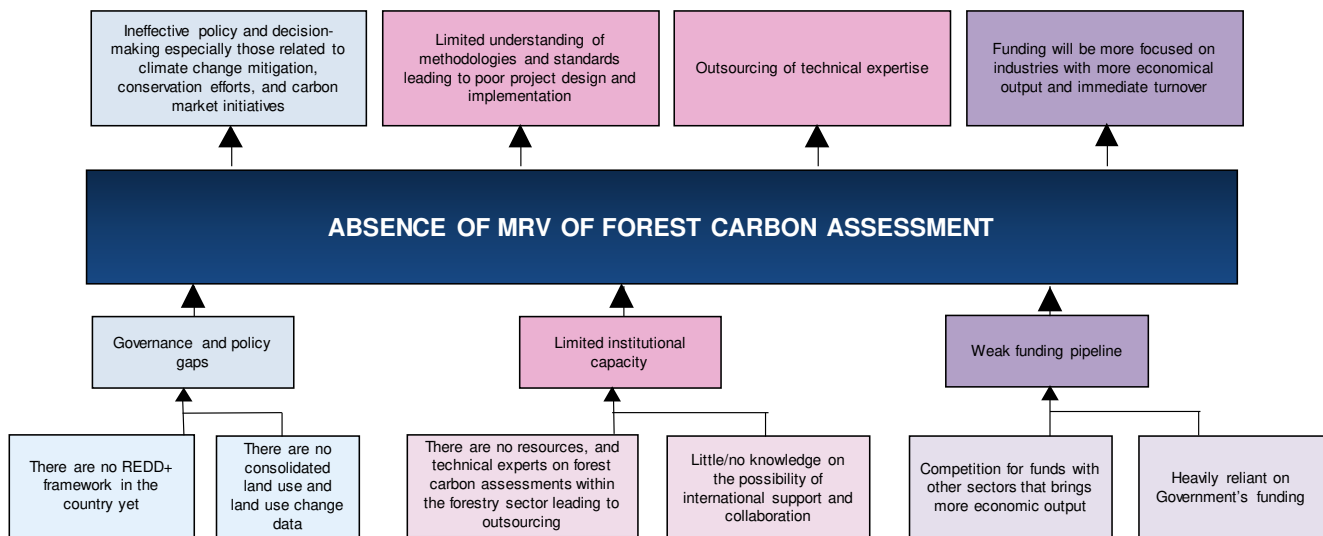
#### Most successful restoration effort



11<sup>th</sup> National Development Plan - Greening program at 'B' zone, Berakas Forest Reserve [Project period: 1 June 2022 - 15 February 2024]

- ✓ Soil amendment;
- ✓ 10,000 nos of native species only (mixtures of 20 different species);
- ✓ Regular maintenance

## 2. Problem Tree for Implementation of Forest Carbon Assessment



## 3. Purpose of Participation in The Workshop

Possibility of collaboration to assess the feasibility of implementing the country's first MRV of Forest Carbon Assessment and establish REDD+ framework in Brunei Darussalam

## 4. Questions & Answers for Country Report Presentation of Brunei Darussalam

N/A



### 3.3.3 CAMBODIA

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

- Policy support, information sharing, and enhance knowledge on REDD+ and forest related climate change through the AWG-FCC. e.g. Cambodia in collaboration with the South Korean Government has implemented a REDD+ project, covering an area of more than 67,000 ha and generating carbon credits more than 650,000 ton CO<sub>2</sub>e between 2015-2019.
- Closely working with regional programmes /projects such as- EU-FAO FLEGT Programme, FCPF-II, and UN-REDD Initiative on improving Sustainable Forest Trade in the Lower Mekong Region to support the implementation on FLEGT roadmap, National REDD+ Strategy, REDD+ Action Plan, and synergy between REDD+ and FLEGT initiatives (Bilateral dialogues between Cambodia- Vietnam, and Cambodia-Thailand).

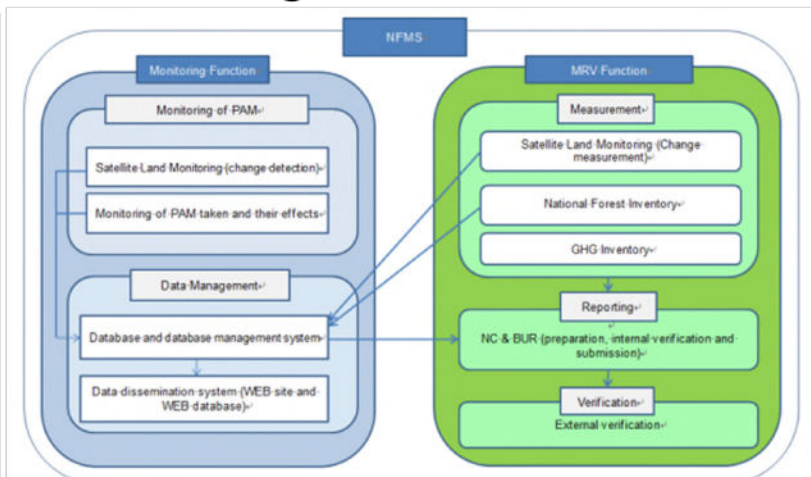
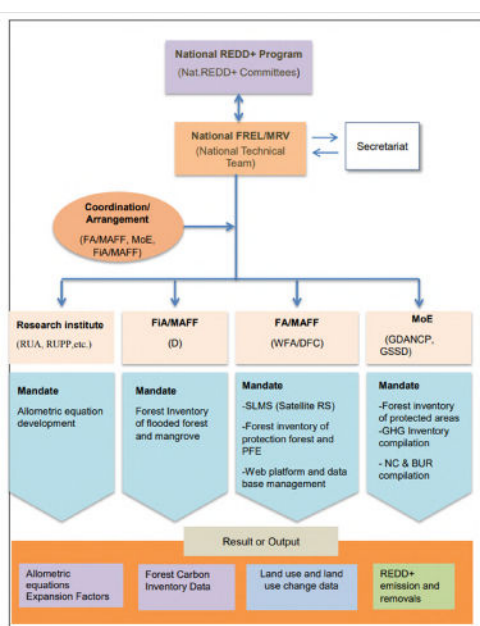
1. Site Restoration and Sustainable Management of Community Forest Using Multiple Use Tree Species and Agroforestry in Preah Sihanouk Province.
2. Performance of Modified Cluster Method in Rehabilitating Degraded Land in Siem Reap Province.
3. Improving Capacity on Forest Restoration in Cambodia.



Tissue culture laboratory and nursery, established for improving the capacity of producing quality seedlings and rehabilitating degraded forest area.

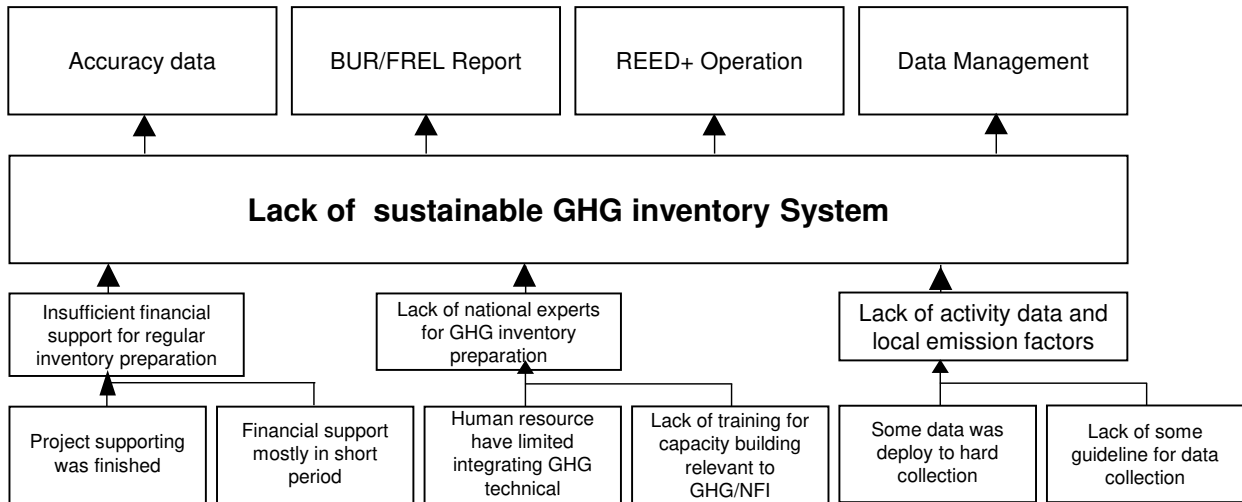


## Institutional Arrangement MRV



1. Measurement consists of Satellite Monitoring, National Forest Inventory (NFI), GHG Inventory.
2. Reporting and Verification are the process for compiling the result of the measurement to report to UNFCCC. Verification comprises of two steps (one is internal verification by Cambodia and the other is international verification by UNFCCC).

**2. Problem Tree for Implementation of Forest Carbon Assessment**



**3. Purpose of Participation in The Workshop**

Learning and understanding methodologies from ASEAN member countries in FRL/REED+ report submit to UNFCCC.

**4. Questions & Answers for Country Report Presentation of Cambodia**

N/A

### 3.3.4 FIJI

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country

| No. | Project   | Area  | Status                         |   |
|-----|---|---|--------------------------------|---|
| 1.  | Reforestation of Degraded Forests – 30MT15Y (Whole of Fiji)                 | 16,388.70 ha<br>(approx. 18m trees planted) | Ongoing                        | Supported by the Government of Fiji   |
| 2.  | Drawa Forest Conservation REDD+ project (Vanua Levu)                        | 1,549.29 ha (crediting area)                | Carbon Trading                 | May 2018- first village in Fiji to trade carbon under the voluntary carbon market |
| 3.  | <b>National Emissions Reduction Program (ER-P)</b> (Viti Levu & Vanua Levu) | <b>37,282 ha (accounting area)</b>          | <b>Ongoing Readiness Phase</b> | Was Supported by the World Bank. Currently Fiji Government                        |

Which one of these is most successful in a comprehensive manner and why?

What are the lessons drawn?

- Capacity building initiative- improve skills on forest carbon assessment to ensure sustainability
- Access to reliable and updated data for accurate MRV
- Stakeholder engagement of Govt, locals, NGO, CSO
- QAQC measures for accuracy and reliability- maintain SOP
- MRV is adaptive management- ongoing forest carbon assessment

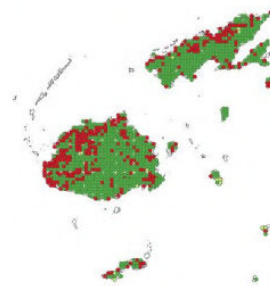
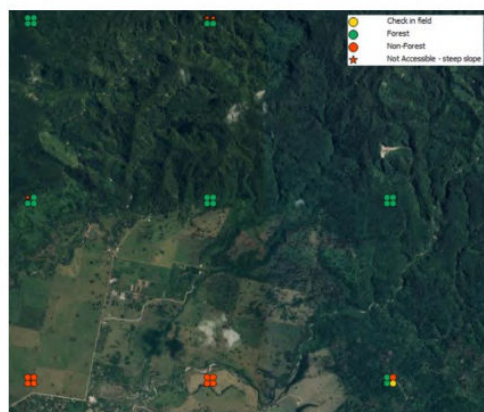
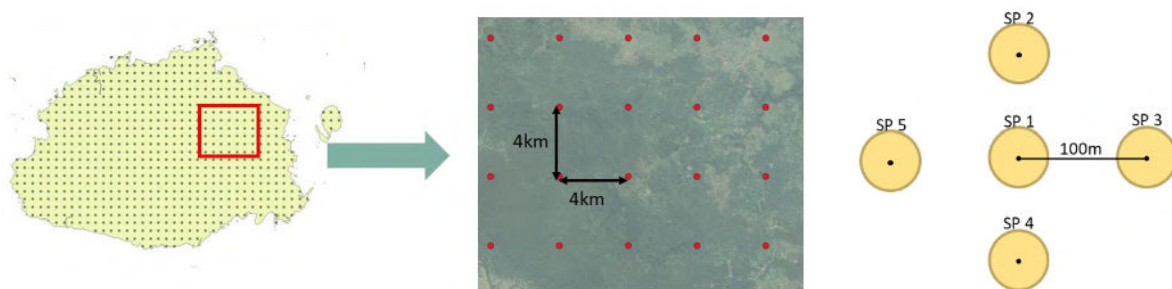
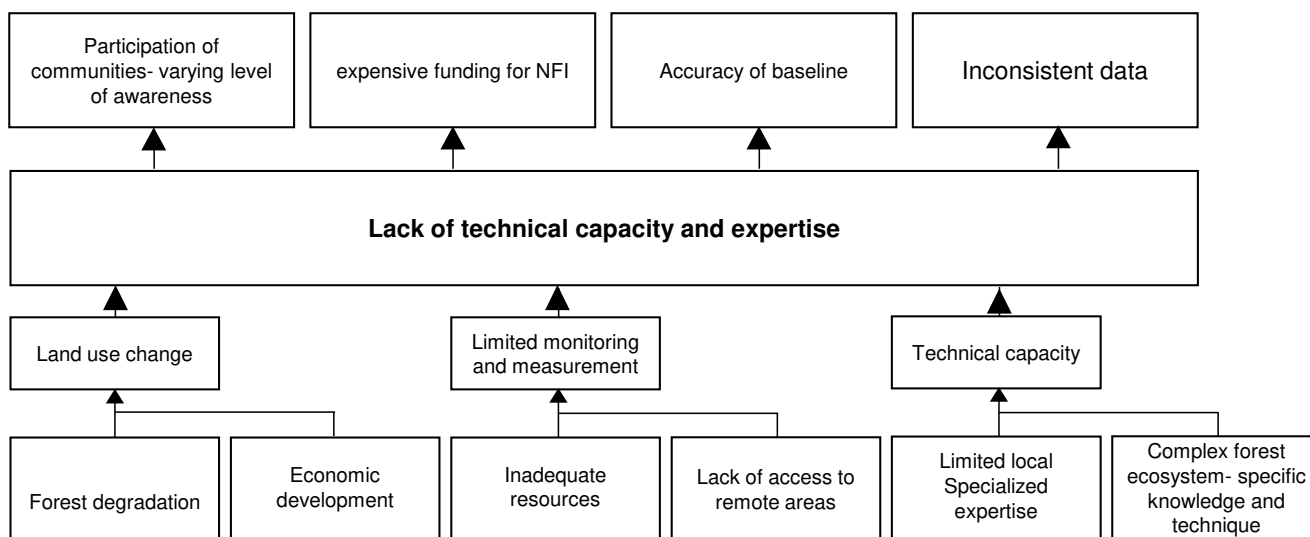


Figure 5 - Pre-clarified plots of the NFI of Fiji

How is the MRV of Forest Carbon Assessment conducted?

Forest inventory involved collecting data on forest characteristics, such as tree species, diameter at breast height (DBH), tree height, and wood density. This data is collected through field surveys and sampling techniques to estimate the above-ground biomass and carbon stocks. The last NFI of Fiji was conducted in 2006/07, thus considerable efforts had to be undertaken to define the current biomass stocks of Fijian forests. This NFI covers the 12 biggest islands of Fiji and applies a sampling approach, with cluster resolution of a 4x4km raster over the country. Each cluster consists of 5 subplots, each 100m apart from each other. The inventory information was aggregated on the cluster level. All plots were pre-classified as forest/non-forest to safe resources, using google earth base map in QGIS.

**2. Problem Tree for Implementation of Forest Carbon Assessment**



**3. Purpose of Participation in The Workshop**

To learn about how other countries are conducting FLR MRV

**4. Questions & Answers for Country Report Presentation of Fiji**

N/A

### 3.3.5 INDONESIA

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Technical report on the technical analysis of the technical annex to the third biennial update report of Indonesia. Indonesia reported the results of implementing these activities for 2018-2020, which amount to 577,449,160 tons of carbon dioxide equivalent and were measured against the assessed FREL

World Bank support 2 REDD+ project:

Forest Carbon Partnership Facility (FCPF) Carbon Fund, East Kalimantan Jurisdictional Emission Reductions Program, Indonesia

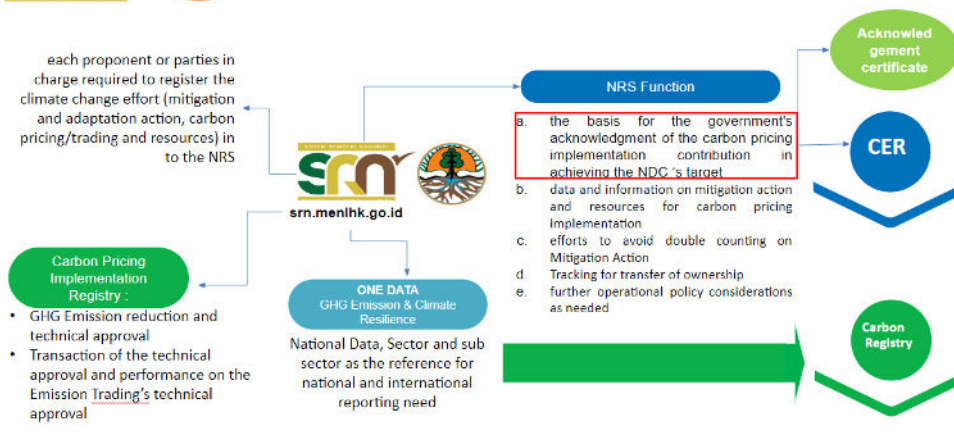
- Forest and Land Governance
- Improving Forest Supervision and Administration
- Reducing deforestation and forest degradation within licensed areas
- Sustainable Alternatives for Communities

Jambi Sustainable Landscape Management Project (Bio-Carbon Fund plus Initiative for Sustainable Forest Landscape)

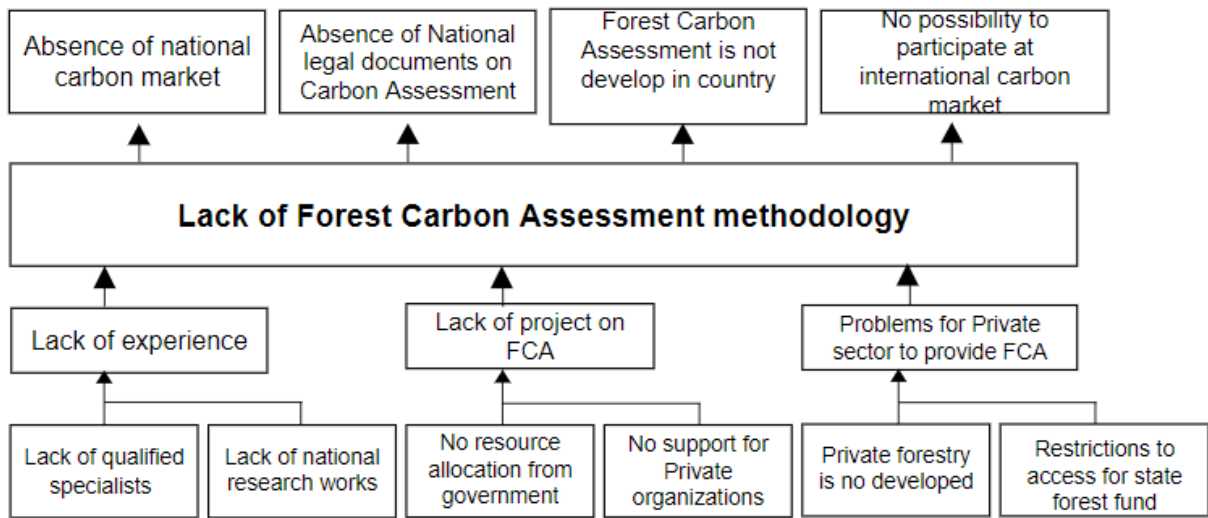
#### MODALITY FOR ENHANCING MRV SCHEME FOR MITIGATION ACTION



#### National Registry System Mandate in the President Decree No 98/2021



**2. Problem Tree for Implementation of Forest Carbon Assessment**



**3. Purpose of Participation in The Workshop**

- Learning and understanding methodologies and experience of other countries on Forest Carbon Assessment and Article 6 of the Paris Agreement.
- Sharing information on the state of Forest Carbon Assessment in Kazakhstan

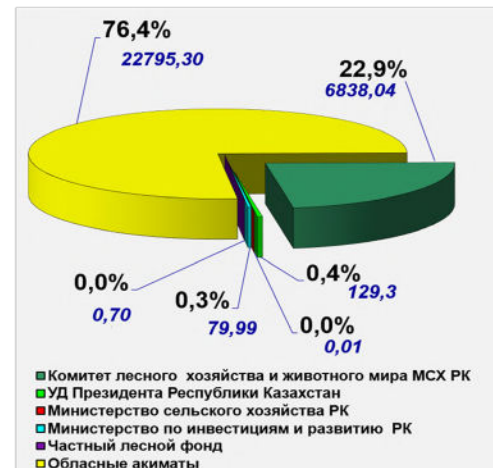
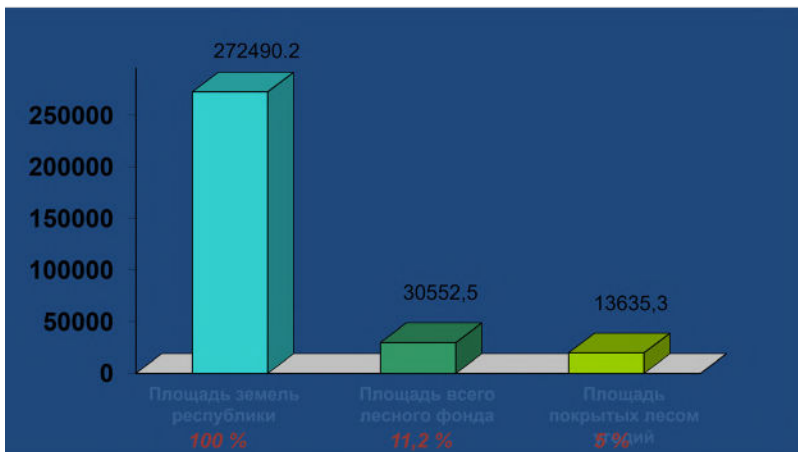
**4. Questions & Answers for Country Report Presentation of Indonesia**

N/A

### 3.3.6 KAZAKHSTAN

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

## Forest Fund of the Republic of Kazakhstan



- **Aral Sea Bottom**

In order to improve the environmental situation, the President of Kazakhstan K.K. Tokaev set the task of carrying out forest reclamation work on the dried bottom of the Aral Sea until 2025 on a total area of 1.1 million hectares, by creating saxaul plantations. In 2021, 2022, the planned work on planting saxaul plantations on an area of 100 thousand hectares in 2021, on an area of 250 thousand hectares in 2022 was fully completed. In 2023-2025, work on the creation of phytoforest reclamation plantations will be carried out annually on an area of 250 thousand hectares. Thus, by the end of 2025, forest plantations will be created on the dried bottom of the Aral on an area of 1.1 million hectares, while the total area of the Kazakhstan part of the Aral Sea is 2.2 million hectares.

- **Planting 2 billion trees**

In order to implement the initiative of the Head of State to plant 2 billion trees on the lands of the state forest fund (852 thousand hectares), in 2022, about 283 million trees were planted on an area of 166 thousand hectares.

- **Forest inventory of unaccounted forests (AFoCO, UNDP, World Bank)**

About 300 000 ha are unaccounted in Kazakhstan

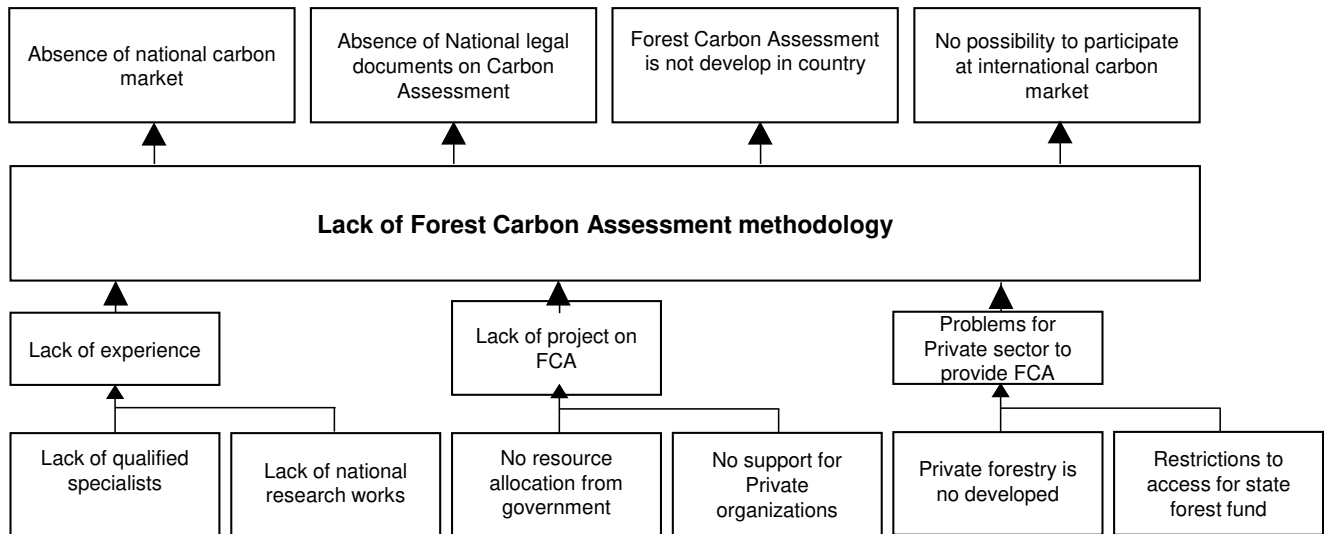
#### What are the lessons drawn?

- Lack of financing
- Weak material and technical base
- Insufficiency of planting material due to low capacity of forest nurseries

#### How is the MRV of Forest Carbon Assessment conducted?

There is no MRV of Forest Carbon Assessment in Kazakhstan at the National level. Also, there is no internal official documents to provide MRV FCA.

## 2. Problem Tree for Implementation of Forest Carbon Assessment



## 3. Purpose of Participation in The Workshop

- Learning and understanding methodologies and experience of other countries on Forest Carbon Assessment and Article 6 of the Paris Agreement.
- Sharing information on the state of Forest Carbon Assessment in Kazakhstan

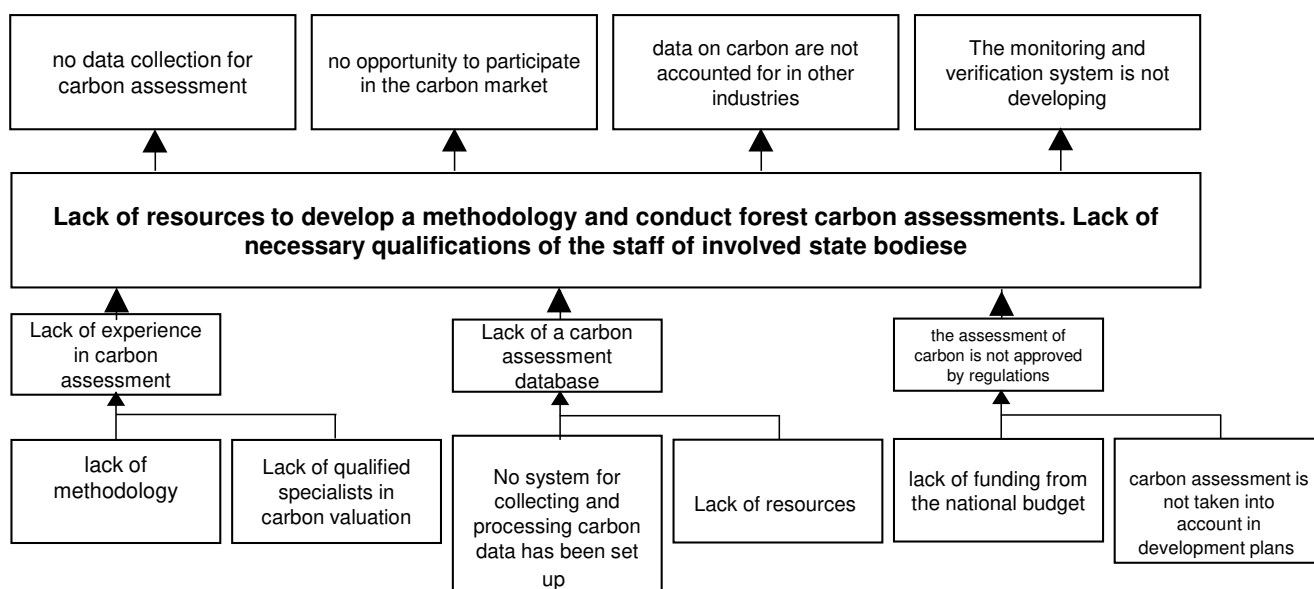


### 3.3.7 KYRGYZSTAN

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

- Several projects were working in our country, with afforestation, reforestation, and pasture restoration being some of the components, but no integrated landscape restoration projects were implemented.
- One of the successful projects is the Kyrgyz-German project "Biodiversity Conservation and Poverty Reduction with Local Community Involvement in Walnut Forest and Grassland Management". All stakeholders were involved in the project, including forest users, pasture users, local authorities, and businessmen. This ensured that the interests of all parties were taken into account as fully as possible.
- It is necessary to take into account the interests of all parties, especially vulnerable segments of the local population.
- There was an assessment of the effectiveness of the project, monitoring results, but no evaluation of carbon.

#### 2. Problem Tree for Implementation of Forest Carbon Assessment



#### 3. Purpose of Participation in The Workshop

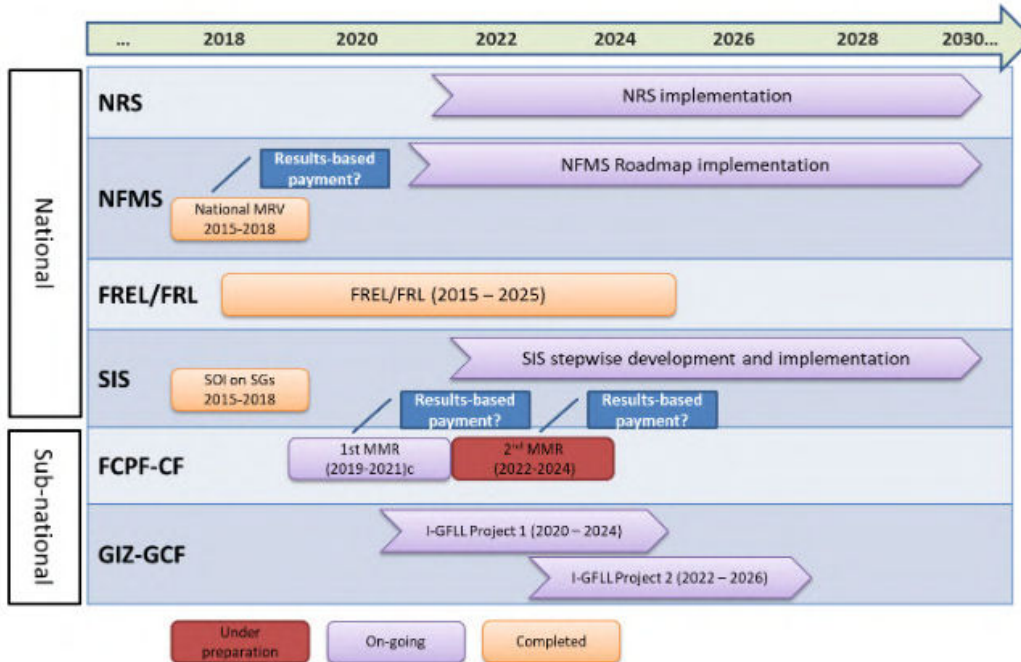
- Familiarity with global experience in carbon assessment, capacity building, understanding of Article 6 of the Paris Agreement, obtaining and deepening knowledge on monitoring, reporting and verification of carbon assessment.
- Understanding what steps should be taken to establish a system of forest carbon assessment in the country.

#### 4. Questions & Answers for Country Report Presentation of Indonesia

N/A

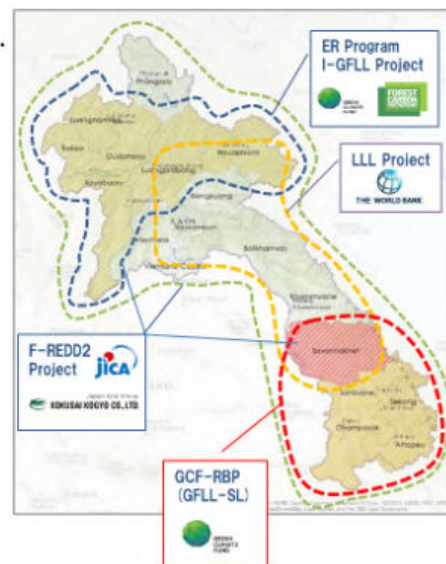
### 3.3.8 LAO PDR

## 1.1 Lao REDD+ Progress

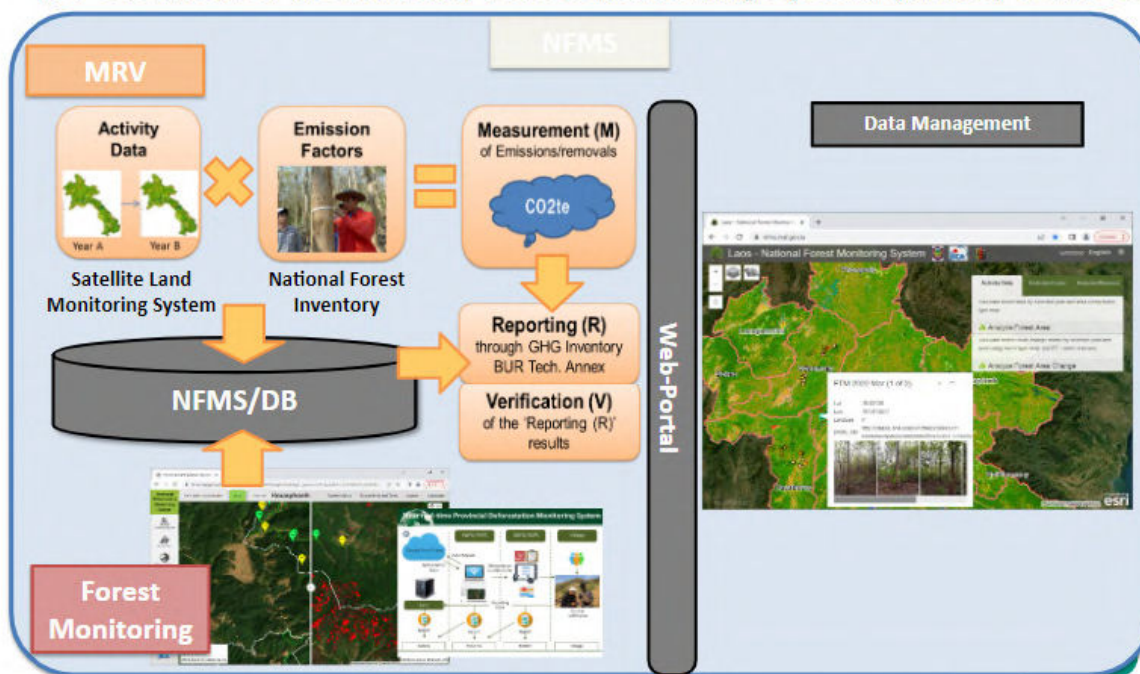


## 1.2 Status of the results-based payment

- Lao PDR established a national FREL/FRL (2005-2015) in 2018 and conducted the 1<sup>st</sup> MRV in 2019.
- JICA and the Department of Forestry are expecting to access the GCF-RBP 2<sup>nd</sup> phase.
- The FCPF-CF Emission Reduction Program is on-going: first monitoring period 2019-2021, second monitoring period 2022-2024.
  - The Emission Reduction Monitoring Report has been submitted to the FCPF-CF on 15<sup>th</sup> May 2023.
  - Verification and Validation is on-going and should be completed at the end of 2023.
  - Expected payment for the 1<sup>st</sup> MMR is USD 16 million.



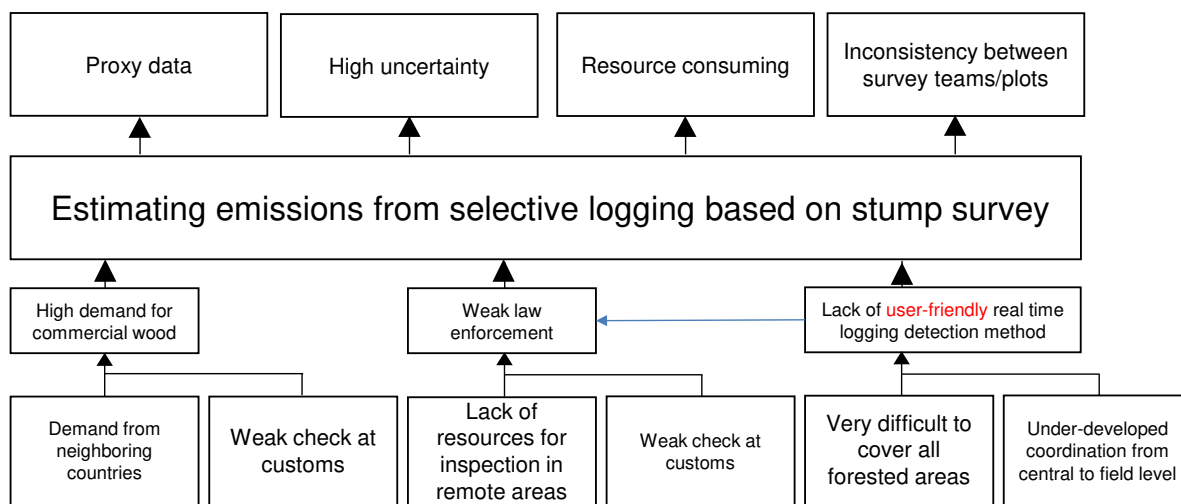
### 1.3. Overview of the National Forest Monitoring System (NFMS) of Lao PDR



### 1.4. Successes, Challenges and Next Step

|            |   |
|------------|---|
| Successes  | <ul style="list-style-type: none"> <li>Establishing the FREL was the basis of the implementation of the National Forest Monitoring System</li> <li>Enable Lao PDR to candidate for REDD+ Results Based Payment</li> <li>Though the implementation of National Forest Monitoring System, liked with capacity build of the staffs.</li> </ul>   |
| Challenges | <ul style="list-style-type: none"> <li>The main challenges that were pointed by reviews from UNFCCC were that IPCC land use classes were not used in a straight way</li> <li>Estimation of regrowth in forest remaining forest still a real challenge</li> <li>Estimation of soil organic carbon</li> <li>Estimation of Non-CO2 emissions from Biomass burning</li> <li>Step-wise improvement of the NFMS and capacity building in line with the requirements of international agencies/programs.</li> <li>Reporting timely on forest cover change in regards with an accelerating context (Cassava boom)</li> <li>Facing the expanding interest from private sector in carbon finance</li> </ul> |
| Next Steps | <ul style="list-style-type: none"> <li>Establishing the permanent NFI plots can help to assess regrowth</li> <li>Monitoring and reporting on forest fire annually</li> </ul>  |

## 2. Problem Tree for Implementation of Forest Carbon Assessment



### 3. Purpose of Participation in The Workshop

- Learning new skills or knowledge related to the development of FREL from other countries
- Networking with other professionals in the forestry field
- Sharing experiences and best practices with other countries
- Keeping up-to-date with the latest trends and developments

### 4. Questions & Answers for Country Report Presentation of Lao

| Question for Lao Presentation   | Answers  |
|---|--|
| Do you have any plans or national road map or plan to provide following estimation of regrowth, soil organic carbon and etc.? | Lao is planning to include the estimations in the next NFI in 2024 |

### 3.3.9 MALAYSIA

N/A

### 3.3.10 MONGOLIA

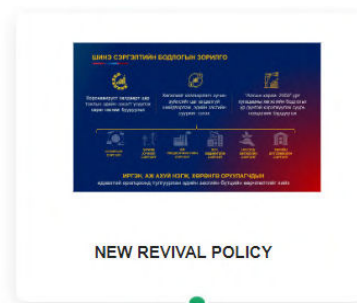
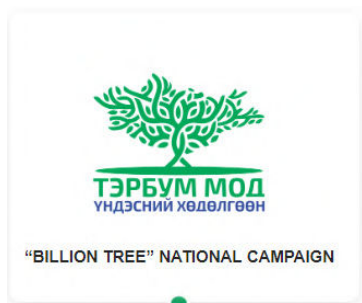
#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country

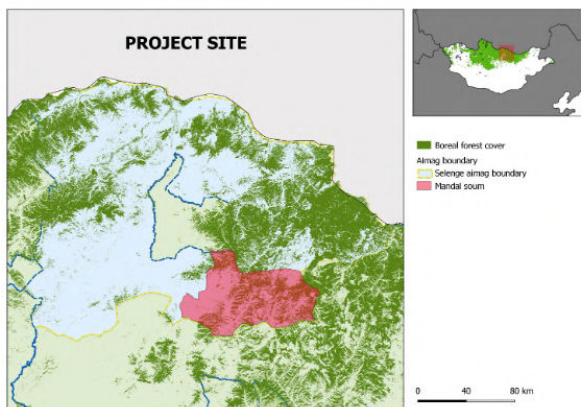
| No | Project name  | Budget and Funding organization          | Duration                            | Objective  |
|----|---|--|-------------------------------------|--|
| 1  | Mongolia-Korea "Greenbelt" project  | 9 million USD /KFS/                      | 2006-2016<br>2017-2021<br>2022-2026 | Step-by-step handover of the forest strip area, establishment of a 40-hectare park in the Dambadarjaa, planting forest buffer strip and mitigating desertification and land degradation                                      |
| 2  | "Prevention and mitigation of Dust and Sandstorms originated in dry land areas of Mongolia" project | 556,000 USD /UNCCD, UNFAO/               | 2020-2021                           | Demonstrate approaches to prevent and mitigate the negative impacts of sand and dust storms (SDS) in dry land areas of Mongolia for combating desertification and reforestation approaches in the southern part of Mongolia. |
| 3  | REDD+ Feasibility Study in Mandal soum, Selenge aimag   | 33,000 USD /AFoCO, Yuhun Kimberly, MFRA/ | June to September 2022              | Calculate the potential amount of carbon emission reduction through deforestation prevention activities stated on the SNAP, and socio-economic benefits at the project site.   |

On-going Relevant Efforts and Policy Framework in Mongolia

- As a member of the "United Nations Framework Convention on Climate Change" (UNFCCC), Mongolia implemented the readiness phase of the REDD+ to develop national strategy along with forest reference level, national forest monitoring system and safeguard information system in Mongolia between 2012-2019.
- Multi-Purpose National Forest Inventory conducted in 2014 in natural forests
- Reassessment of forest carbon stock in degraded forest land conducted in 2018
- Forest Reference Level submitted to the UNFCCC in 2018



Which one of these is most successful in a comprehensive manner and why?



- ① **Project Site:** Mandal soum in Selenge aimag
- ① **Project Purposes:**
  - Evaluation of GHG mitigation potentials
  - REDD+ project's feasibility study to secure the voluntary carbon market
- ① **Expected outcomes:**
  - Establish the experience of public and private partnerships
  - Identify the eligibility and validity of REDD+ project development on the project site
  - Beyond do-no-harm principle, identify and develop co-benefit programs as parts of the REDD+ activities

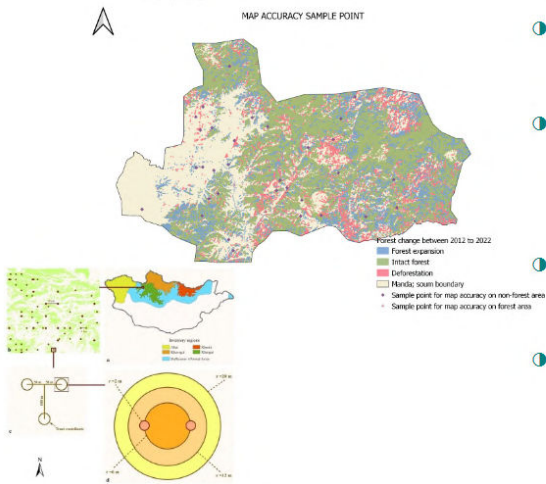


- ① Mandal soum has a total area of 484.3 thousand hectares, and 74.7% of the total territory is forest land. There are 29 forest user groups (FUGs) and 23 professional/private forest enterprises (PFEs), who possess 70,677 ha and 95,949 ha of forest land under ownership (possession) contractual agreement. There are 32 tree nurseries, which has a capacity to plant 1-2.5 million seedlings, and reforestation measures cover an area of 200-300 hectares annually.
- ① Soum consists of forest and steppe (grassland) ecosystems, and has elevation range between 1000-2228 meters above mean sea level (AMSL). Mainly, pine forests, larch dominant birch mixed forests are distributed between 950-1200 m AMSL.
- ① A total of 27,017 residents lives in 7,089 households, which account for 25 percent of the total population of Selenge aimag, with a population density of 5.6 people per square kilometer.

What are the lessons drawn?

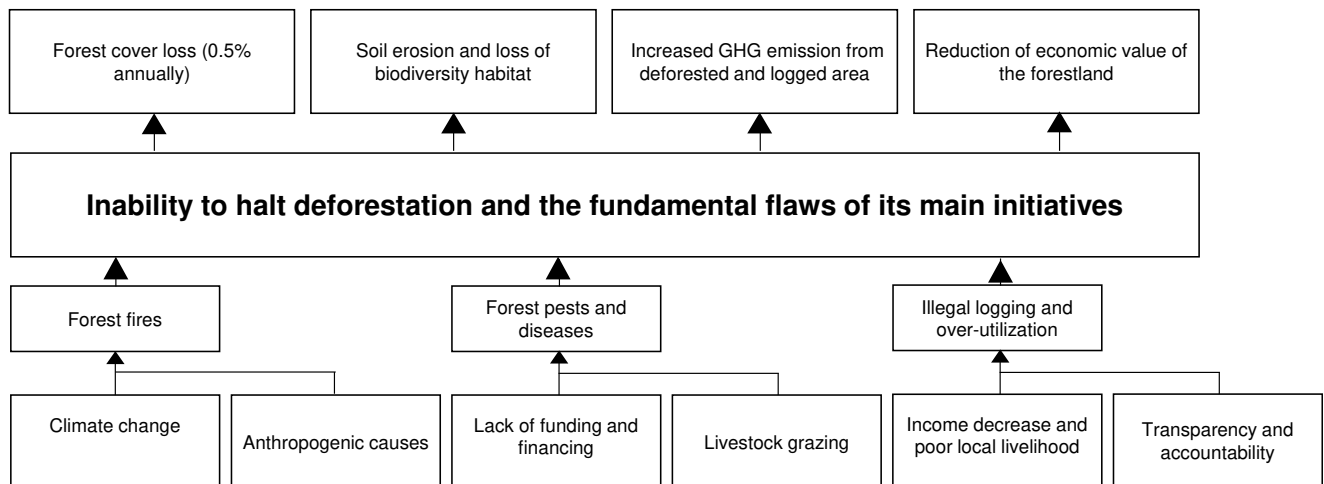
- **Integrated approach:** Implementing a holistic and integrated approach is crucial for successful forest carbon assessment. This involves collaboration and coordination among various stakeholders, including government agencies, local communities, scientific institutions, and international organizations.
- **Data collection and monitoring:** Accurate and reliable data collection and monitoring systems are fundamental for effective forest carbon assessment.
- **Community engagement and local knowledge:** Recognizing the role of local communities and indigenous peoples in forest management is critical. Engaging local communities and incorporating their traditional knowledge and practices can contribute to more sustainable forest management, including the preservation of carbon stocks. Building capacity at the local level and promoting community-led initiatives can empower stakeholders and foster a sense of ownership and responsibility.
- **Carbon projects require robust measurement, reporting and verification (MRV) approaches.** Unfortunately, there are no legal environment that regulates forest carbon projects and no one experienced in VCM procedures and its methodologies. Hence, capacity building is a precondition for their successful development, as is an experienced project developer.

How is the MRV of Forest Carbon Assessment conducted?



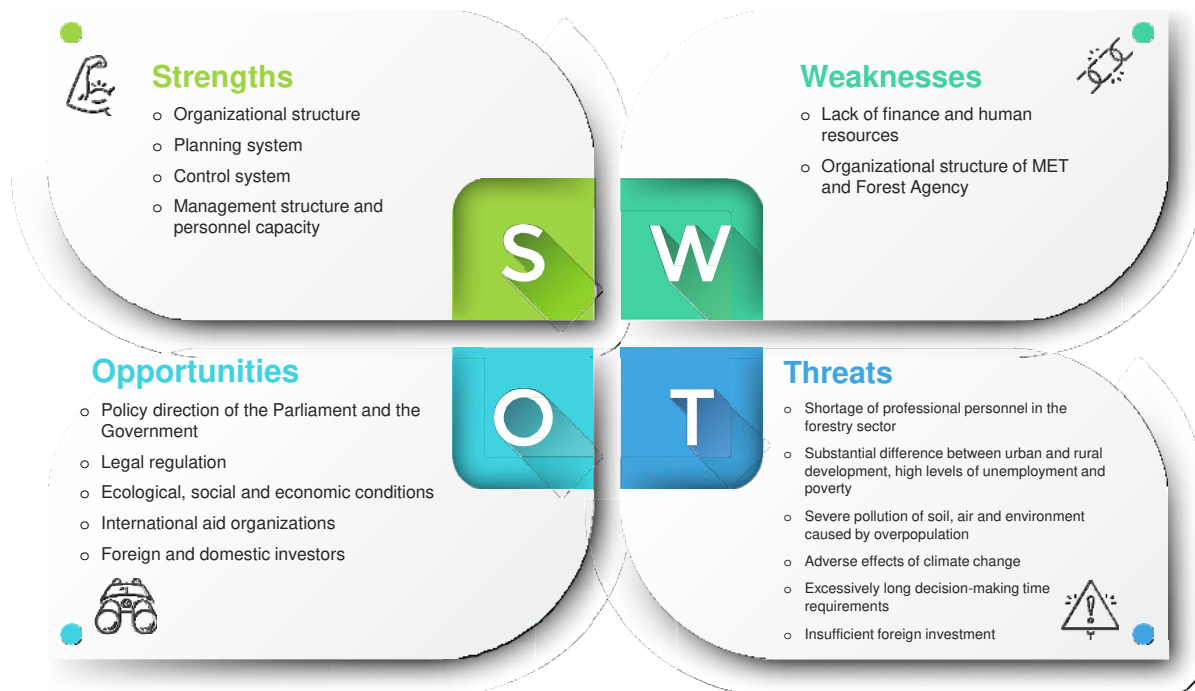
- 1 The applied methodology of the current study is consistent with the Good Practice Guidance for Land Use, Land-Use Change and Forestry sector guideline (2006) developed by the IPCC.
- 2 Baseline study result shows 82,706.1 tCO<sub>2</sub>eq. net emission with 239% uncertainty. Activity data needs additional cross referencing and emission factors needed to be developed for each change classes with enough sample plot numbers to reduce error estimates.
- 3 Projection of the REDD+ activities were defined from the forest management plan of Mandal soum. Not all activities were possible to be included in the emission estimation.
- 4 The financial feasibility study shows that the net carbon revenue begins in the 2025 and by the end of 2031, accumulated net carbon benefit is estimated to be around 14 million USD. Until then, the emission estimates will be net emission between 2022-2024.

## 2. Problem Tree for Implementation of Forest Carbon Assessment





## SWOT for Implementation of REDD+ Project



### 3. Purpose of Participation in The Workshop

N/A

### 4. Questions & Answers for Country Report Presentation of Mongolia


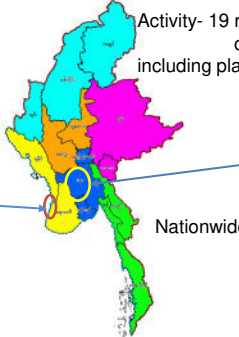
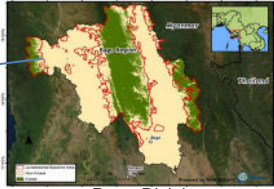
N/A

### 3.3.11 MYANMAR

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country

• **Ongoing FLR/ REDD+ projects**

| Reforestation and Restoration of Degraded Mangrove Land and Sustainable Development   | Myanmar Reforestation and Rehabilitation Programme(MRRP)  | Korea-Myanmar REDD+ Joint Project   |
|---|---|---|
| Agencies – FD and WIF<br>Fund - WIF<br>Period - 2019-2023<br>Verra status – Registered (VCS)<br><br>Activity - mangrove plantation, healthy ecosystem, livelihood, disaster reduction | Agencies – FD and DZGD<br>Fund - Unconditional<br>Period - 2017-2026<br>Verra status – not started<br><br>Activity- 19 restoration operations including plantations | Agencies – FD and KFS<br>Fund - KFS<br>Period - 2019-2023<br>Verra status – Validation under process (VCS)<br>Activity – capacity building, socio-economic assessment, patrolling and biodiversity conservation |
| <br>Ayeyarwady Division  | <br>Nationwide  | <br>Bago Division  |

Which one of these is most successful in a comprehensive manner and why?

Myanmar Reforestation and Restoration Programme (MRRP) is most successful project in comprehensive manner.

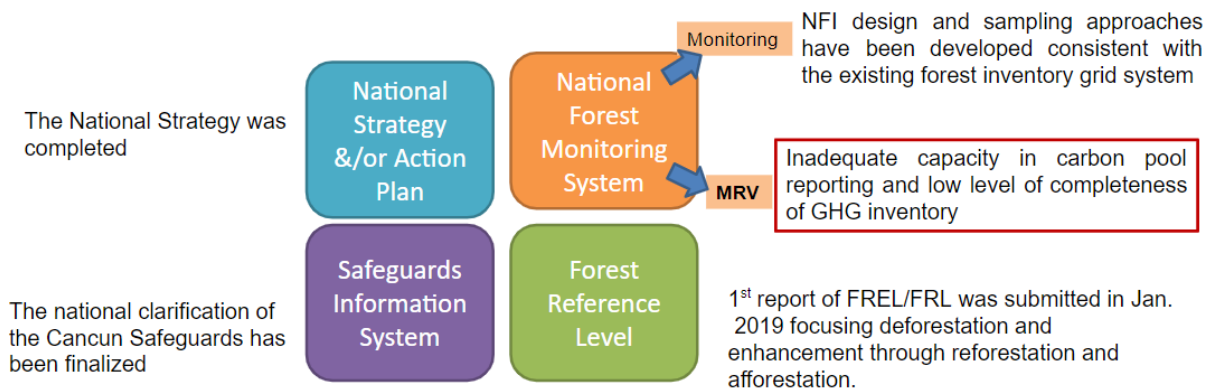
- Inclusive (FD, DZGD, private, community are implementing) and comprehensive (19 forestry operations including reforestation 258,000 ha).
- National carbon removal target and ecosystem restoration.
- Supporting NDC commitment and one part of National REDD+ strategy.

What are the lessons drawn?

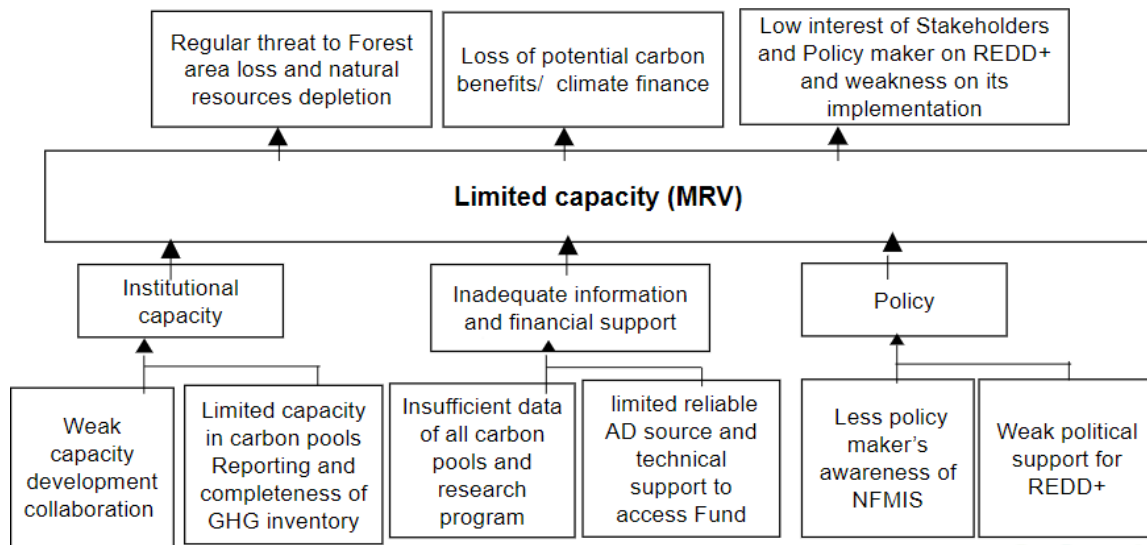
- Participation of Local community on success.
- Local job opportunity creation.
- Rewarding system enhances the performance.
- Weakness in long-term maintenance (still lack of plantation policy).

#### REDD+ Status: Readiness (Phase 1)

##### Progress of four elements of REDD framework



**2. Problem Tree for Implementation of Forest Carbon Assessment**



**3. Purpose of Participation in The Workshop**

- Success stories of FLR/ REDD+ projects and climate change finance.
- FLR/ REDD+ reporting performance and GHGs inventory.
- Monitoring forest area changes (Integrated application of RS data and forest inventory data for carbon estimation).

**4. Questions & Answers for Country Report Presentation of Myanmar**

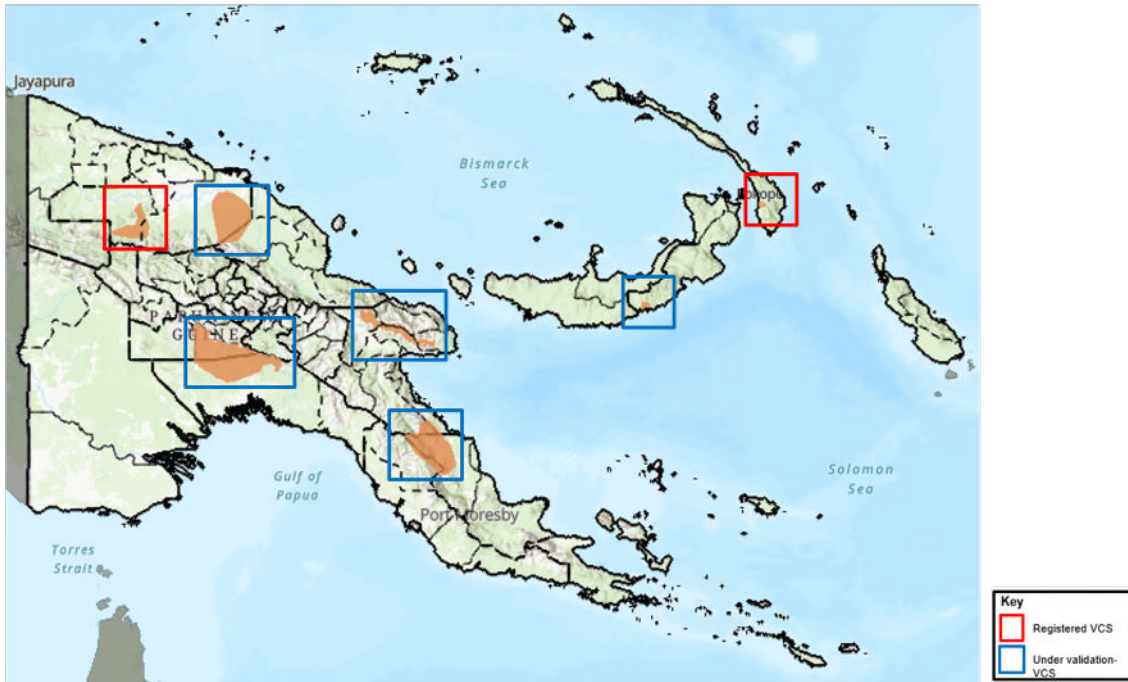
N/A

### 3.3.12 PAPUA NEW GUINEA

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country

*Map of Existing REDD+/Carbon off-set Projects*



<https://pngreddplus.shinyapps.io/registry-dms/>

- Papua New Guinea has a National REDD+ registry which is managed by the PNG Climate Change and Development Authority (mandated agency responsible with the coordination of climate change activities).
- The PNG Forest Authority is mandated to manage the country's forest.
- Most of the projects are under the Verified Carbon Standards (VCS).
- At the national level, PNG has received support from donors or development partners with the development and establishment of its REDD+ Elements- NRS, SIS, FRL and the NFMS.

| REDD+/Carbon-offset Projects/Programs List in PNG   |         |   |   |                                       |  |                                      |                           |   |                |                |                |  |                        |                      |
|---|---------|---|---|---------------------------------------|--|--------------------------------------|---------------------------|---|----------------|----------------|----------------|--|------------------------|----------------------|
| Currently, the following REDD+/Carbon-offset projects in the summary table below are registered and under evaluation in PNG. There are projects of Verra-VCS (Verified Carbon Standards) and Gold-Standard (GS) in PNG. |         |   |   |                                       |  |                                      |                           |   |                |                |                |  |                        |                      |
| Country   | ID      | Name  | State/Province                                  | Proponent/Developer                   | Project Status                                   | Estimated Annual Emission Reductions | Total Buffer Pool Credits | Project Type                            | AFOLU Activity | Methodology    | Acres/Hectares | Project Validator                            | Crediting Period Start | Crediting Period End |
| PNG   | VCS1122 | <a href="#">April Salumei REDD+ Project</a>   | Papua New Guinea                                | Rainforest Project Management Limited | Registered                                       | 1,032,650                            | 34,116                    | Agriculture Forestry and Other Land Use | IFM; REDD      | VM0007, VM0010 | 196,703        | Aster Global Environmental Solutions Inc.    | 22/05/2009             | 21/05/2047           |
| PNG   | VCS2293 | <a href="#">NIHT Topaiyo REDD+</a>  | New Ireland Province                            | NIHT Inc.                             | Registered                                       | 2,262,521                            | 352,864                   | Agriculture Forestry and Other Land Use | REDD           | VM0009         | 110,000        | VCS Validation/Verification Body             | 01/06/2017             | 31/05/2047           |
| PNG   | VCS2483 | <a href="#">PNG Communities Best REDD - Tavolo Project</a>                                    | East New Britain Province                       | FORCERT Limited                       | Under development                                | 202,142                              |                           | Agriculture Forestry and Other Land Use | REDD           | VM0007         | 21,782         | RINA S.p.A (RINA)                            | 23/01/2019             | 22/01/2029           |
| PNG   | VCS2760 | <a href="#">REDD+ Project in Oro Province of Papua New Guinea</a>                             | Oro Province                                    | Kanaka Management Services Pvt. Ltd   | Registration and verification approval requested | 8,099,752                            |                           | Agriculture Forestry and Other Land Use | REDD           | VM0015         | 418,000        | EPIC Sustainability Services Private Limited | 06/05/2017             | 05/05/2117           |
| PNG   | VCS2791 | <a href="#">Conservation of Native Forest in the Biodiversity Hotspot of Papua New Guinea</a> | (Morobe)  | WeAct Pty Ltd                         | Under validation                                 | 1,134,215                            |                           | Agriculture Forestry and Other Land Use | REDD           | VM0015         | 226,843        | VCS Validation/Verification Body             | 01/07/2017             | 30/06/2047           |
| PNG   | VCS3284 | <a href="#">INTEGRATED REDD+ PROJECT IN PAPUA NEW GUINEA</a>                                  | East Sepik, Gulf, Madang and Southern highlands | Kanaka Management Services Pvt. Ltd   | Under development                                | 20,012,952                           |                           | Agriculture Forestry and Other Land Use | REDD           | VM0015         | 1,317,082      |  | 01/11/2017             | 31/10/2117           |

Which one of these is most successful in a comprehensive manner and why?

At this stage, it would be difficult to state that one project is better than the other as the development and management of these projects are independently by companies and a local NGO.

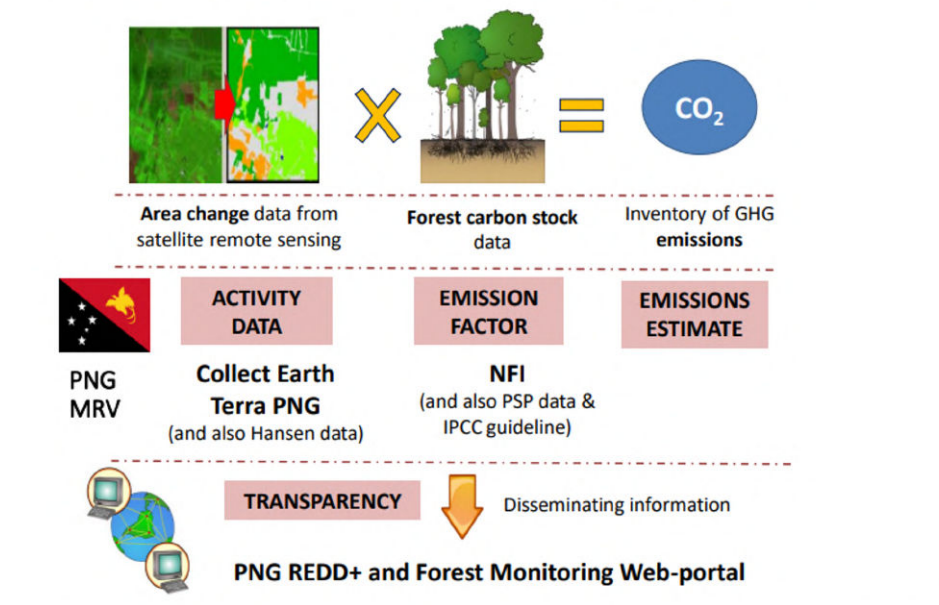
What are the lessons drawn?

- For the Government, to have the necessary legislation in place to manage REDD+ projects- to safeguard the resource owners (landowners) interests.
- The benefit sharing distribution system in place- to avoid conflicts of the benefits not distributed accordingly.
- The project proponent or developer should abide by the country's legislations (policies, laws and regulations) and should not go directly to the resource owners before consulting the national authorities (National, Provincial, District and Local Levels).
- Major challenge: PNG's land tenure system; which the Government/state has very little ownership as huge proportion lies with the resource owners.

**Support from Donors/Development Partners**

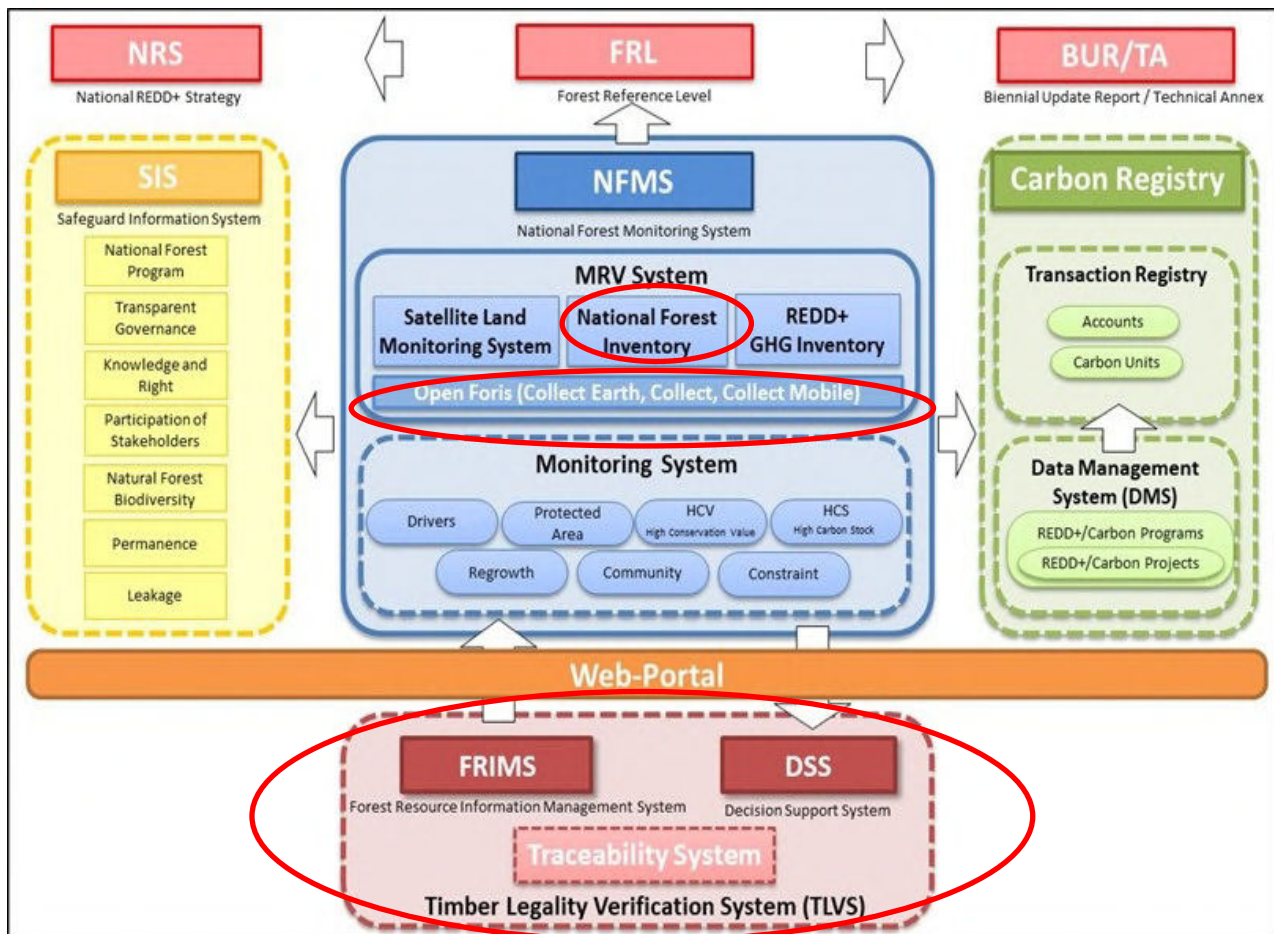
How is the MRV of Forest Carbon Assessment conducted?

**PNG NFMS/MRV for REDD under UNFCCC**



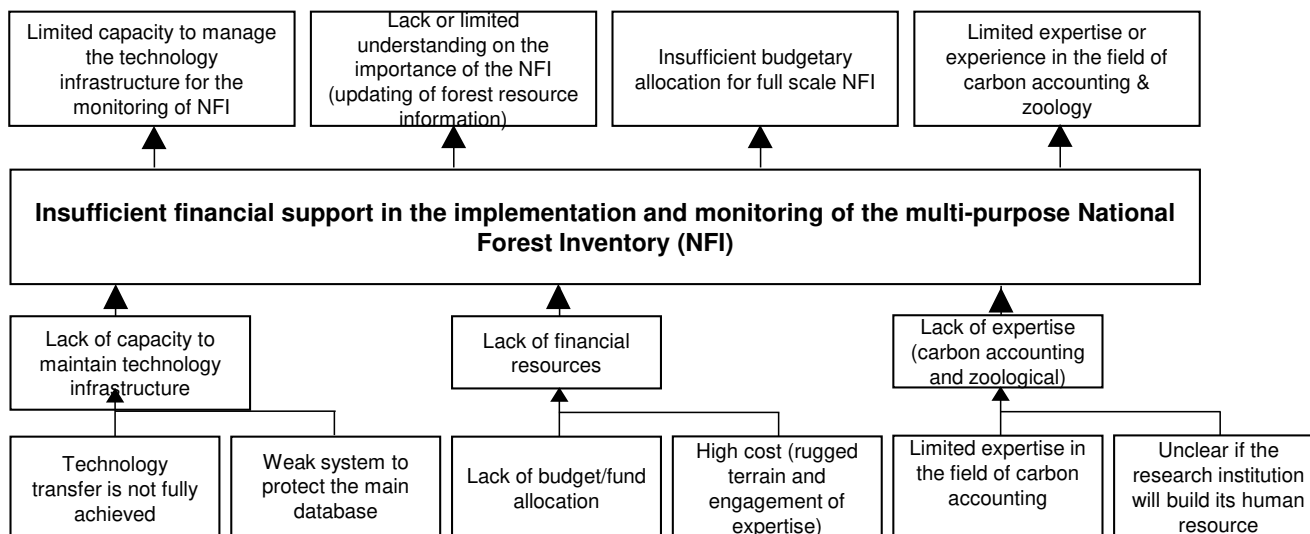
- For PNG Forest Authority, has been responsible for:
  - generating the forest and land use information (using the Open Foris Collect Earth- developed by FAO)
  - conducting the National Forest Inventory (multi-purpose NFI)- using the Collect and Collect Mobile tools (developed by FAO)
  - the management and monitoring of forest carbon projects (once the legislation takes effect)

### PNG's REDD+/Carbon Registry: Data Management System



<https://pngreddplus.shinyapps.io/registry-dms/>

## 2. Problem Tree for Implementation of Forest Carbon Assessment



## 3. Purpose of Participation in The Workshop

- Purpose  
 To understand, gain insights and learn from the experiences of other participating countries implementing FLR and REDD+ activities/programs/projects (forest carbon assessment)- relevance to our work programs
- Expectation(s)  
 From this workshop, with the resource information shared and with the lessons learnt; to develop projects on FLR and tools applied in forest carbon assessment/monitoring

## 4. Questions & Answers for Country Report Presentation of Papua New Guinea

N/A



### 3.3.13 SINGAPORE

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country.



#### Aims

- To transform Singapore into a 'City in Nature' through the planting of one million more trees between 2020 and 2030
- To involve a wide spectrum of the community to participate in this initiative

#### Benefits

- Creates a more liveable city
  - Increased shade
  - Decreased urban heat island effect
  - Increased ecological connectivity
- Tackles climate change through carbon sequestration

#### Planting locations

- Trees are planted in sites across the island (industrial estates, streetscapes, gardens and parks, nature reserves and nature parks)

#### Everyone plays a part

- Schools, volunteers and nature community, constituency residents and grassroots
- Corporate organisations and donors, NGOs, public



Jane Goodall Institute (Singapore) planting at Thomson Nature Park



Student from Manjusri Secondary School planting within the school compound

Which one of these is most successful in a comprehensive manner and why?

- >540,000 trees planted since the launch of OMT in Apr 2020.
- >75,000 members of the community involved.

What are the lessons drawn?

Community is key!

How is the MRV of Forest Carbon Assessment conducted?

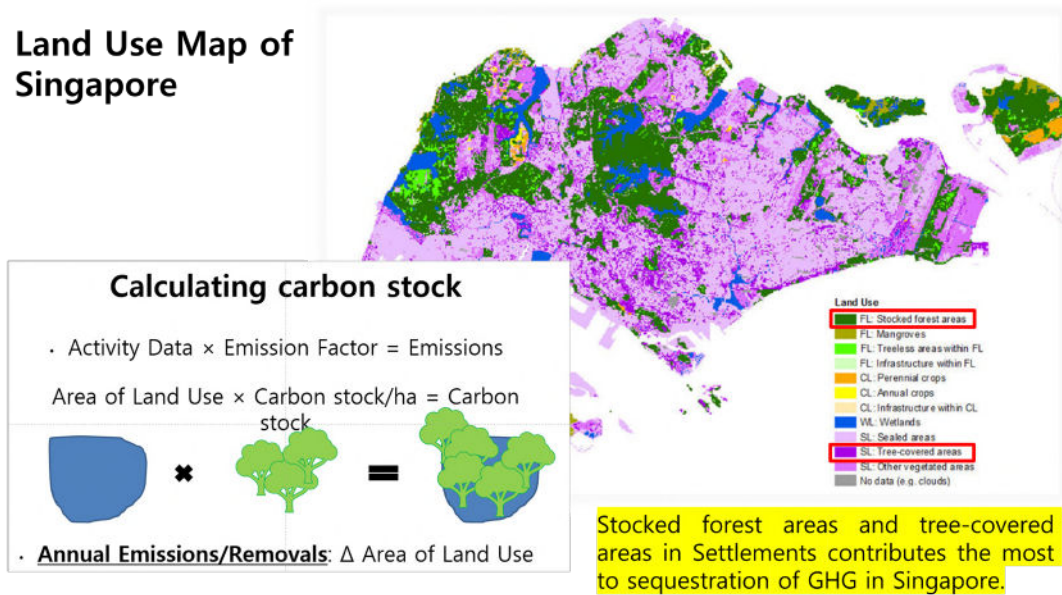
- Singapore Carbon Accounting (SINCA) exercise
- NParks compiles GHG inventory data for the Land Use, Land-use Change and Forestry (LULUCF) sector in Singapore
- Figures are reported in national inventory, published and reported to the UNFCCC every two years

THE STRAITS TIMES

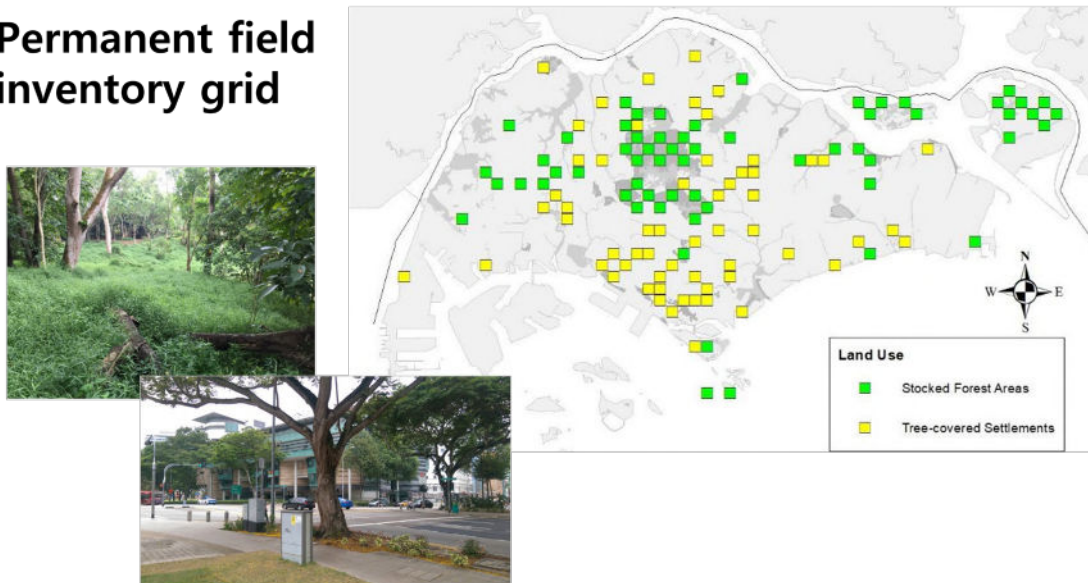
Singapore to hit target of planting one million more trees in 2027, three years ahead of schedule



## Land Use Map of Singapore



## Permanent field inventory grid



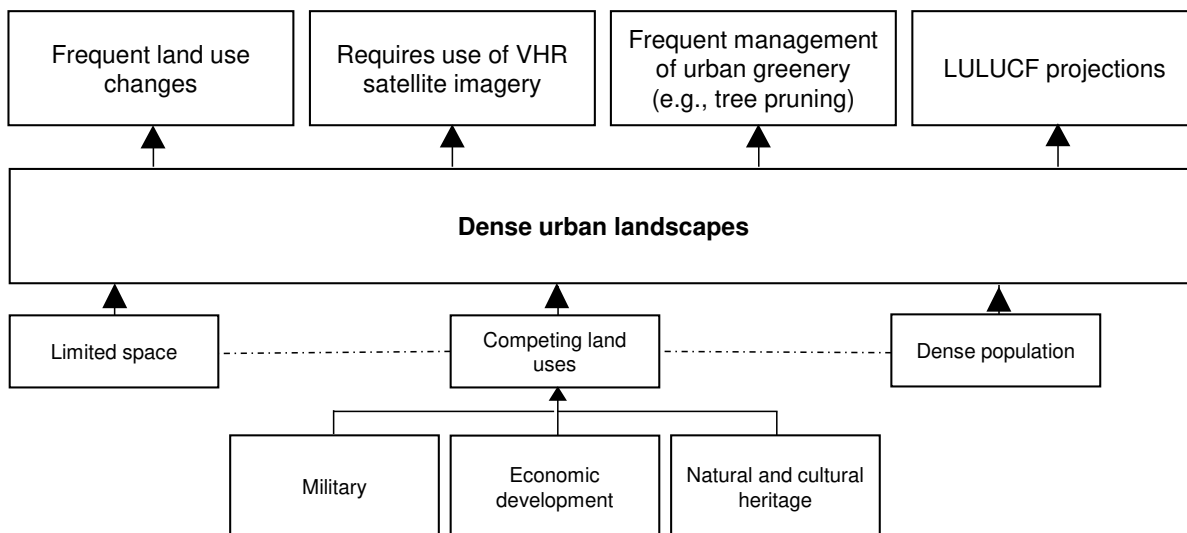
## Carbon Pools

2006 IPCC Guidelines' description on the carbon pools to be reported

- |  |                            |
|--|----------------------------|
| <ol style="list-style-type: none"> <li>1. Aboveground biomass (from DBH)</li> <li>2. Belowground biomass (ratio of AGB)</li> </ol> | } collected every 5 years  |
| <ol style="list-style-type: none"> <li>3. Dead wood</li> <li>4. Leaf litter</li> <li>5. Soil</li> </ol>                            | } collected every 10 years |



**2. Problem Tree for Implementation of Forest Carbon Assessment**



**3. Purpose of Participation in The Workshop**

- To gain an understanding of MRV of forest carbon in other countries
- Estimating uncertainties in forest carbon accounting
- Learn more about processes involved in verification

**4. Questions & Answers for Country Report Presentation of Singapore**

N/A

### 3.3.14 THAILAND

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country

- **Community Forest Management**, for instance, Ban Klong Tabang Community Forest, in Petchaburi province
- **CSR support for forest restoration**, for instance, CPF Pa Sak Watershed Conservation at Khao Praya Duenthong project, in Lopburi province, supported by CPF
- **National Land Allocation**

Which one of these is most successful in a comprehensive manner and why?

- Community Forest Management.
- It meets local demands resulting in effective participation

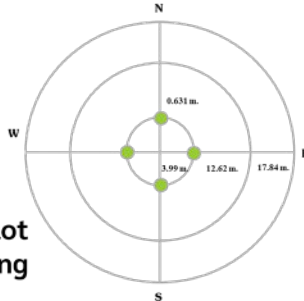
What are the lessons drawn?

- Effective participation
- Devoted leader
- Communication for mutual understanding

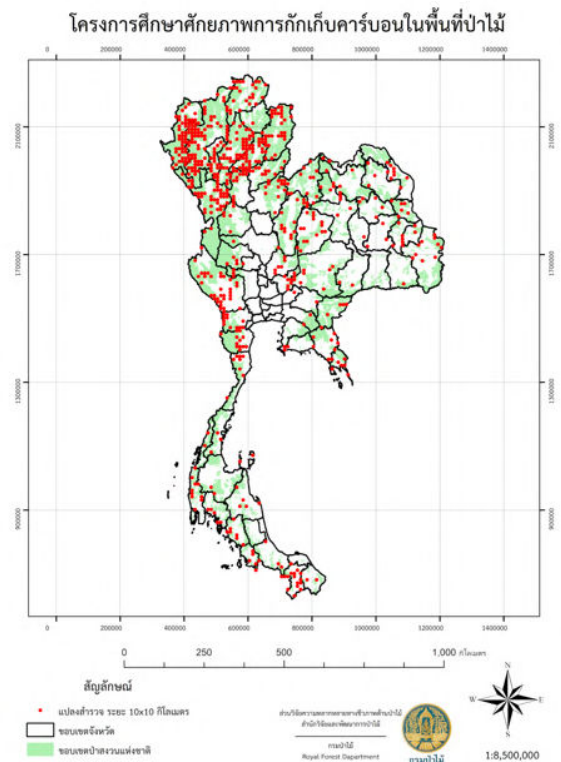
How is the MRV of Forest Carbon Assessment conducted?

#### National Forest Inventory

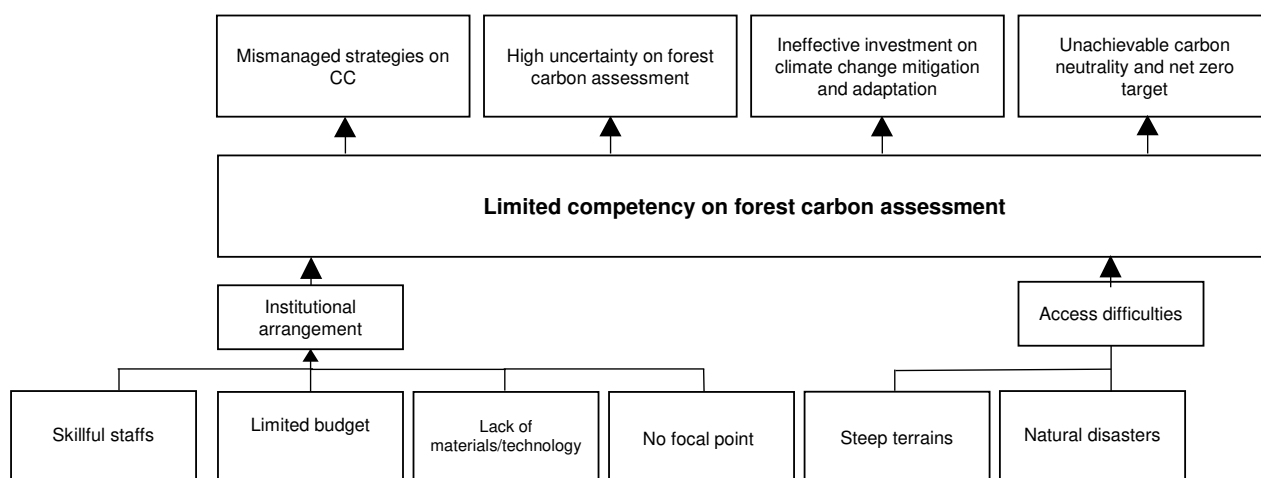
- ❑ Systematic sampling
- ❑ Map grid: 10x10 km
- ❑ 0.1 ha circular sampling plot
- ❑ A 5-year interval monitoring



| Radius/Length (m.) | Number | Area/Length | Collecting Data                                      |
|--------------------|--------|-------------|--|
| 0.631              | 4      | 0.0005 ha.  | Seedling   |
| 3.99               | 1      | 0.0050 ha.  | Sapling, % cover of Lichen, Moss & Undergrowth       |
| 12.62              | 1      | 0.0500 ha.  | Bamboo, Erect rattan & Tree stump                    |
| 17.84              | 1      | 0.1000 ha.  | Tree & Site disturbance                              |
| 17.84 (Line)       | 2      | 17.84 m.    | Coarse Woody Debris (CWD), Climbing rattan & Climber |



## 2. Problem Tree for Implementation of Forest Carbon Assessment



## 3. Purpose of Participation in The Workshop

Integrating lessons learned from this workshop for improvement of MRV on Thailand forest carbon assessment

## 4. Questions & Answers for Country Report Presentation of Thailand

N/A

### 3.3.15 TIMOR-LESTE

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country.

| Project Name  | Location                               | Source Funding                | Amount (USD /m) | Status  |
|---|--|-------------------------------|-----------------|---------|
| 1. Re-greening the bare lands through promotion of locally customized restoration models        | In 2 municipality (Aileu and Manatuto) | AFoCO & Govt. of TL (in-kind) | \$ 1+m          | Ongoing |
| 2. National Forest Inventory (NFI) REDD+ Readiness  | National Level                         | FAO                           | \$ 1 m          | Ongoing |
| 3. Development of AGF Models for Promotion of Reforestation in the different AEZ in Timor-Leste | 4 municipalities                       | AFoCO & Govt of TL (in-kind)  | \$ 0,6 m        | Ongoing |

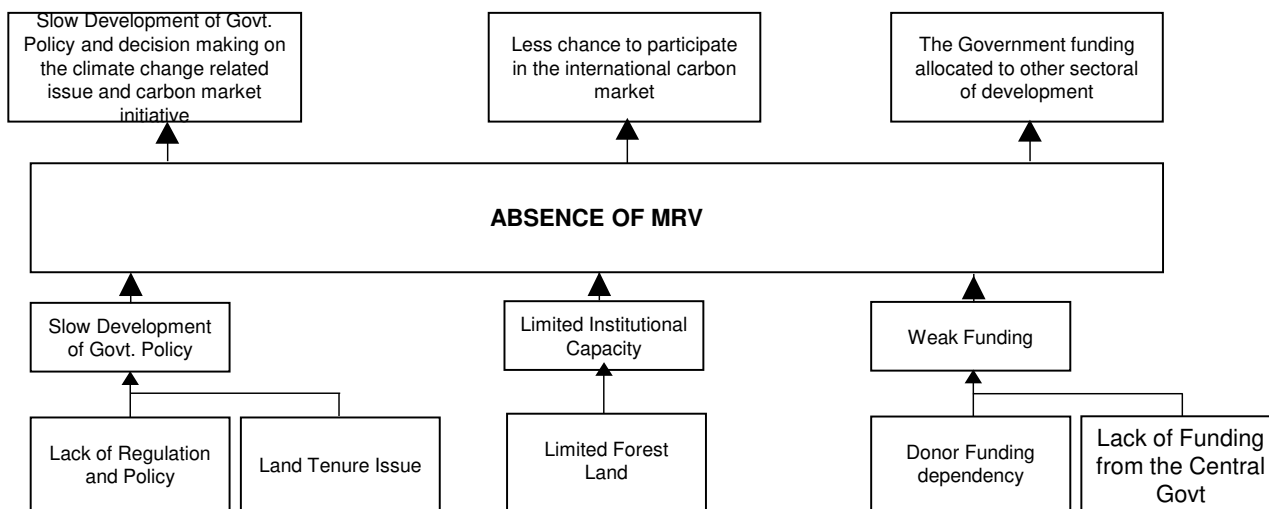
. Which one of these is most successful in a comprehensive manner and why?

- It is premature to measure the success of the above project because it is just started.

What are the lessons drawn?

- Building community awareness on the importance of land and forest conservation.
- The pilot projects are part of capacity building of the government staff and community members who are directly involved in the project implementation.

#### 2. Problem Tree for Implementation of Forest Carbon Assessment



#### 3. Purpose of Participation in The Workshop

To learn more about FLR/REDD+ project implementation in other countries specifically the MRV.

#### 4. Questions & Answers for Country Report Presentation of Timor-Leste

N/A

### 3.3.16 VIET NAM

#### 1. Major Constraints in the Implementation of Forest Carbon Assessment

Names and locations of three (current or recently concluded) most significant FLR/REDD+ projects in your country

- FCPF REDD+ Program in 6 North Central Provinces; LEAF Emergent Emission Reduction Project in the Central Highlands & South Central Region; AR-CDM afforestation project in Hoa Binh.

Which one of these is most successful in a comprehensive manner and why?

- FCPF REDD+ Program in 6 North Central Provinces World bank agreement on payment for FCPF REDD+ Program in 6 North Central Provinces & having legal document on benefits sharing.

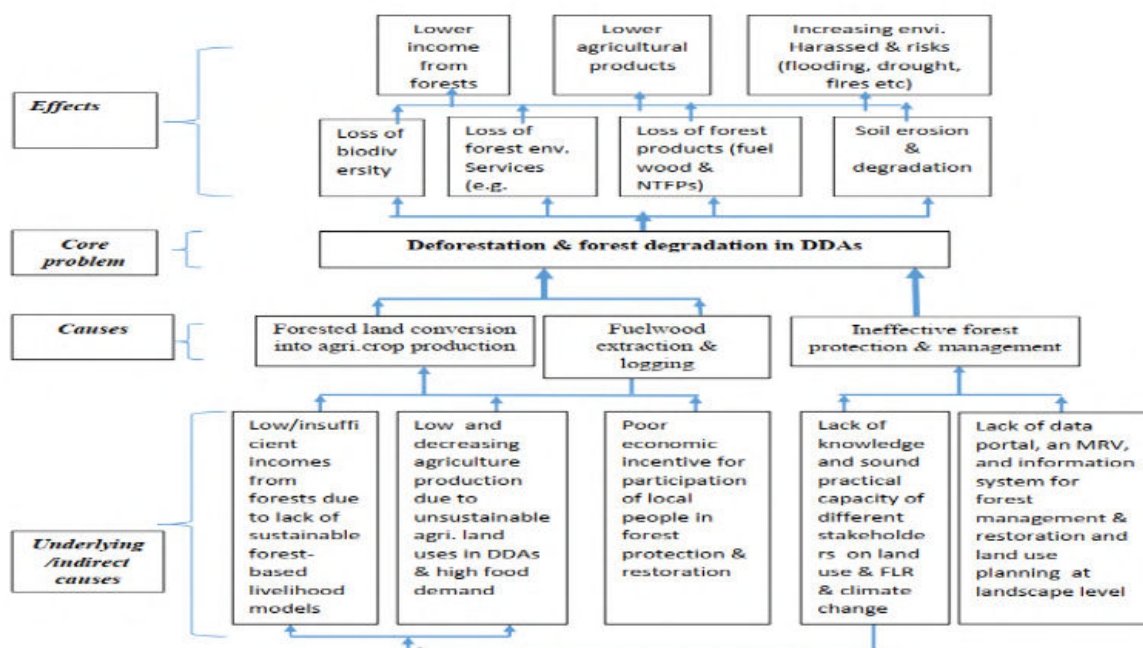
What are the lessons drawn?

- Strong institutional agreement, strong commitment and cooperation among stakeholders/partners.

How is the MRV of Forest Carbon Assessment conducted?

- Apply FCPF framework & guideline on MRV (quite similar to REDD+ framework)

#### 2. Problem Tree for Implementation of Forest Carbon Assessment



#### 3. Purpose of Participation in The Workshop

- Sharing our issue on FLR, especially for dry zones in VN.
- Seeking opportunity to proposal a research project to deal with the deforestation and degradation in the dry zones of Vietnam.
- Initiating potential chance for cooperation between Vietnam Nation University of Forestry with higher education/research institutions in Korea with support from AFoCO-ITTO.

#### 4. Questions & Answers for Country Report Presentation of Viet Nam

N/A

## 4. WORKSHOP SCHEDULE (Korea Standard Time, GMT +09)

| Day                 | Time              | Activity  | Remark          |
|---------------------|-------------------|---|-----------------|
|                     | Self - paced      | Self-study on Fundamentals on REDD+ (See instruction in <b>Attachment-4</b> )   | Participants    |
| <b>July 3 (Mon)</b> | 15:00-16:00       | Check and confirm Zoom application connection   | RETC            |
| <b>July 4 (Tue)</b> | 11:30-12:00 (30') | Zoom Check-in   |                 |
|                     | 12:00-12:30 (30') | Opening Ceremony & Introduction of participants   | RETC & ITTO     |
|                     | 12:30-13:00 (30') | Orientation for Participants' Roles and Group Work  | RETC            |
|                     | 13:00-14:00 (60') | <b>Presentation 1: Salient features of what they consider the best FLR/REDD+ ongoing project in their countries</b>             | Resource person |
|                     | 14:00-15:00 (60') | <b>Keynote address 1: Decoding Article 6 of the Paris Agreement and its potentials in the promotion of FLR/REDD+ activities</b> | Resource person |
|                     | 15:00-16:00 (60') | Break   |                 |
|                     | 16:00-17:00 (60') | <b>Keynote address 2: Overview of Climate Finance for FLR and REDD+ Projects</b>  | Resource person |
|                     | 17:00-18:00 (60') | <b>Presentation 1: Salient features of what they consider the best FLR/REDD+ ongoing project in their countries</b>             | RETC            |
| <b>July 5 (Wed)</b> | 12:30-13:00 (30') | Recap on the previous day (Keynote 1 & 2)   | RETC & ITTO     |
|                     | 13:00-13:45 (45') | <b>Session 1: Planning the implementation of FLR</b>  | Resource person |
|                     | 13:45-14:30 (45') | <b>Session 2: Monitoring activity data for forests using remote sensing and field measurements</b>                              | Resource person |
|                     | 14:45-15:30 (45') | <b>Session 3: Reporting FLR/REDD+ performance using IPCC guidelines</b>   | Resource person |
|                     | 15:30-15:45 (15') | Break   |                 |
|                     | 15:45-16:30 (45') | <b>Session 4: Promoting Genetic Conservation through Seed Vault</b>   | KFS             |
|                     | 16:30-18:00 (90') | <b>Presentation 1: Salient features of what they consider the best FLR/REDD+ ongoing project in their countries</b>             | RETC & ITTO     |
| <b>June 6 (Thu)</b> | 12:30-13:30 (60') | Recap on the previous day (Session 1,2,3,4,5,6)   | RETC & ITTO     |
|                     | 13:30-14:00 (30') | <b>Presentation 2: Country Proposal for Improving the MRV Process in FLR/REDD+ Projects</b>                                     | RETC & ITTO     |
|                     | 14:00-14:45 (45') | <b>Session 5: Joint Carbon Credit Mechanism in Northern Lao</b>   | Resource Person |
|                     | 14:45-15:45(60')  | Break   |                 |
|                     | 15:45-17:45 (60') | <b>Presentation 2: Country Proposal for Improving the MRV Process in FLR/REDD+ Projects</b>                                     | Participants    |
|                     | 17:45-18:00 (15') | Closing Ceremony  | RETC & ITTO     |



## 5. SESSION SUMMARY AND OUTPUTS

### 5.1 KEYNOTE ADDRESS 1. DECODING ARTICLE 6 OF THE PARIS AGREEMENT AND ITS POTENTIALS IN THE PROMOTION OF FLR/REDD+ ACTIVITIES

|                             |  |
|-----------------------------|--|
| <b>A. Session Overview</b>  | This session will introduce about overview of the Paris Agreement, particularly analyzing and interpreting "Article 6" of the agreement. This session will also present the opportunities that Article 6 could offer to promote FLR/REDD+ activities all over the world.   |
| <b>B. Learning Outcomes</b> | <p>At the end of this session, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the Paris Agreement</li> <li>• Learn the interpretation of Article 6 of the Paris Agreement</li> <li>• Relate FLR and REDD+ to Article 6 of the Paris Agreement</li> </ul>  |
| <b>C. Content</b>           | <ol style="list-style-type: none"> <li>1. The Paris Agreement</li> <li>2. Decoding Article 6 of the Paris Agreement</li> <li>3. Potentials for promotion of FLR/REDD+ activities in the context of Article 6 of Paris Agreement</li> </ol>   |
| <b>D. Highlights</b>        | <p><b>Decoding of Article 6 of the Paris Agreement</b></p> <p>Global Climate Finance Flow (CPI)</p> <p>Carbon Markets</p> <ul style="list-style-type: none"> <li>• Compliance Market (ETS) vs Voluntary Market</li> </ul> <p>Structure of The Paris Agreement</p> <ul style="list-style-type: none"> <li>• Article 2: the purpose; mitigation, adaptation, and finance flows</li> <li>• Article 3: All parties to take and communicate efforts towards purpose</li> <li>• Article 4: Mitigation action</li> <li>• Article 5: Sinks</li> <li>• Article 6: Mechanism</li> <li>• Article 7: Adaptation Action</li> <li>• Article 8: Loss and Damage</li> <li>• Article 9: Finance</li> <li>• Article 10: Technology</li> <li>• Article 11: Capacity building</li> <li>• Article 13: transparency</li> </ul> <p>Flexibility Mechanism of Kyoto Protocol → Article 6, article 12 , and article 17</p> <p>Internationally Transferred Mitigation Outcomes (ITMOs) and Mechanism to generate it.</p> <p>Article 6.2 &amp; MRV: Corresponding adjustment</p> <p>Article 6 and Voluntary Market</p> <p>Conceptual flow of Linking REDD+ and Article 6</p> |

|   |  |
|---|--|
| <p><b>E. Interventions</b></p>            | <p>Jitesh Kumar- India</p> <ul style="list-style-type: none"> <li>• If a country counts plantation as a forest in tree cover assessment and carbon assessment in the NDC, is it possible to do VCM with the private players without any adjustment and through market based mechanism?</li> <li>• What would happen if the plantation is outside the forest area but it is included in the carbon counting?</li> </ul> <p>Response:</p> <p>In my presentation, I emphasized the important of the financial flow under sort of the result-based payment following the Paris Agreement. The government may work with the private sector through VCM as long as it involves the corresponding adjustment. If the government is interested working with other government like Republic of Korea, then the NDC requires even more corresponding adjustment by the Korean government. I would just suggest to consider everything including VCM in terms of environment integrity, which the Paris Agreement would emphasize on.</p> |
| <p><b>F. Obervation and Knowledge</b></p> | <ul style="list-style-type: none"> <li>• Article 6 acknowledges that countries can pursue voluntary cooperation in the implementation of their Nationally Determined Contributions to allow for higher mitigation ambition and to promote sustainable development.</li> <li>• Articles 6.2-6.3 allow cooperative approaches from government to government by prioritizing environment integrity and transparency.</li> <li>• Articles 6.4-6.7 regulate the role of private sector.</li> <li>• Articles 6.8-6.9 explain the framework for non-market approaches.</li> <li>• The procedures for the adjustment of carbon credits internationally transferred are yet to be developed, but some countries start to formulate carbon-trading related policies.</li> </ul>  |

## 5.2 KEYNOTE ADDRESS 2. OVERVIEW OF CLIMATE FINANCE FOR FLR AND REDD+ PROJECTS

|                                     |   |
|-------------------------------------|---|
| <b>A. Session Overview</b>          | This session will introduce the role of climate finance in accelerating global emission reduction goals, its contribution to forest restoration, and REDD+ implementation. The participants could also take inspiration from successful REDD+ projects from some countries that are financed by climate change funds.   |
| <b>B. Learning Outcomes</b>         | <p>At the end of this session, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Understand climate finance</li> <li>• Know the status of climate-financed projects in the Asia-Pacific Region</li> <li>• Learn about a few successful climate finance cases</li> <li>• Identify climate finance sources to enhance FLR/REDD+ implementation in their countries</li> </ul> |
| <b>C. Content</b>                   | <ol style="list-style-type: none"> <li>1. What is climate change finance?</li> <li>2. What are the climate change finance sources and how to access them?</li> <li>3. Success stories</li> <li>4. Overview of climate change financed projects in the Asia-Pacific Region</li> <li>5. Suggestions/recommendations to the participants</li> </ol>  |
| <b>D. Highlights</b>                | <ul style="list-style-type: none"> <li>• What is climate change finance?</li> <li>• What are the climate change finance sources and how to access them?</li> <li>• Success stories</li> <li>• Overview of climate change financed projects in the Asia-Pacific Region</li> <li>• Suggestions/recommendations to the participants</li> </ul>   |
| <b>AE Interventions</b>             | N/A   |
| <b>AF Observation and Knowledge</b> | REDD+ funding can be in the form of funding for policy and legislation drafting activities, capacity building, research, or livelihood improvement  |

## 5.3 SESSION 1. PLANNING THE IMPLEMENTATION OF FLR AGREEMENT

|                                   |  |
|-----------------------------------|--|
| <b>A. Session Overview</b>        | This session will explain how to set a holistic planning framework for FLR effectively and focus on the priority areas with critical restoration importance with limited resources.  |
| <b>B. Learning Outcomes</b>       | <p>At the end of this session, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Determine the desired restoration plans based on the actual situation</li> <li>• Develop a detailed plan of FLR that includes intervention, costs, timing, and responsibilities.</li> <li>• Set up appropriate restoration plans</li> </ul>  |
| <b>C. Content</b>                 | <ol style="list-style-type: none"> <li>1. Defining problems and FLR objectives</li> <li>2. Engaging key stakeholders and partners</li> <li>3. Defining the outputs and scope of the assessment</li> <li>4. Identifying the potential FLR options, assessment criteria, and indicators</li> </ol>   |
| <b>D. Highlights</b>              | <p>Identify lands requiring forest restoration</p> <p>Defining FLR</p> <p>FLR is way beyond tree planting</p> <p>ITTO guidelines for FLR in the tropics</p> <p>Six Global Partnership on Forest and Landscape Restoration (GPFLR) Principles for FLR</p> <ul style="list-style-type: none"> <li>• Principle 1: Focus on landscape</li> <li>• Principle 2: Engage stakeholders and support participatory governance</li> <li>• Principle 3: Restore multiple functions for multiple benefits</li> <li>• Principle 4: Maintain and enhance natural forest ecosystems within landscapes</li> <li>• Principle 5: Tailor to the local context using a variety of approaches</li> <li>• Principle 6: Manage adaptively for long-term resilience</li> </ul> <p>Phasing out FLR process (Visioning, Conceptualization, Implementation, Sustaining the achievements)</p>  |
| <b>E. Interventions</b>           | <p>Khin Sokimon – Cambodia</p> <ul style="list-style-type: none"> <li>• Is it real time satellite image that you used in identifying lands requiring restoration?</li> <li>• What kind of platform does country use to detect deforestation?</li> </ul> <p>Response: Dr. Promode Kant</p> <p>FLR basically consist of four processes. First preparation. Preparation requires a short time frame for a well-trained body. If you have core planning team which is well-built up, has experience and know-how, planning process takes more than a month. Planning in a small landscape take even shorter time frame. Long time frame for the planning is not very good because there is also things to learn as we work such as observing monitoring, reviews in monitoring, and from that we adjust the plans appropriately to some extent. So planning can be done in 3 months to one year and the implementation may take longer, 3-5 years. Sustaining the achievement is a very long term process as long as the landscape is there as long as the people are interested in landscape.</p> |
| <b>. Obervation and Knowledge</b> | <ul style="list-style-type: none"> <li>• FLR is an ongoing process which has three key elements:             <ol style="list-style-type: none"> <li>1) participation;</li> <li>2) adaptive management; and</li> <li>3) a consistent monitoring and learning framework.</li> </ol> </li> <li>• Therefore, planning the FLR needs short time frame while sustaining it requires long term process.</li> <li>• FLR is way beyond tree planting. Community participation and capacity building can be included in FLR activities. FLR should aim not only at restoring the landscape but also restoring the economic and social function of a landscape. Also, it should generate ecosystem goods and services which equitably benefit the stakeholders.</li> </ul>  |

## 5.4 SESSION 2. MONITORING ACTIVITY DATA FOR FORESTS USING REMOTE SENSING AND FIELD MEASUREMENTS

|                                   |  |
|-----------------------------------|--|
| <b>A. Session Overview</b>        | This session will explain monitoring approaches to changes in forest areas.  |
| <b>B. Learning Outcomes</b>       | <p>At the end of this session, participants will be able to:</p> <ul style="list-style-type: none"> <li>• Understand how FLR activities could contribute to absorbing carbon emissions</li> <li>• Learn case studies and findings from the National FLR Assessment</li> </ul>  |
| <b>C. Content</b>                 | <ol style="list-style-type: none"> <li>1. IPCC requirements for MRV on changes in forest areas</li> <li>2. Selection of a monitoring approach</li> <li>3. Image classification and analysis</li> <li>4. Accuracy assessment</li> <li>5. Limitations of using satellite data</li> <li>6. Importance of field measurement</li> </ol>   |
| <b>D. Highlights</b>              | <p>IPCC requirements for on changes in forest areas<br/>           Overview of remote sensing<br/>           Basic image classification<br/>           Forest monitoring approach<br/>           Remote sensing and field measurements<br/>           Accuracy assessment<br/>           Limitations of using satellite data<br/>           Key takeaways</p>  |
| <b>E. Interventions</b>           | N/A  |
| <b>. Obervation and Knowledge</b> | <ul style="list-style-type: none"> <li>• The use of a remote sensing system makes it easier to measure activity data and area changes. However, field measurements are also needed to get the reliable reference data.</li> <li>• Choosing the appropriate remote sensing technology is essential to obtain the required data for MRV</li> <li>• Limitations of using satellite data:               <ul style="list-style-type: none"> <li>• Data availability and costs</li> <li>• Sensor limitations</li> <li>• Data interpretation challenges</li> <li>• Limited Ground Validation</li> </ul> </li> </ul> |

## 5.5 SESSION 3. REPORTING FLR/REDD+ PERFORMANCE USING IPCC GUIDELINES

| <b>A. Session Overview</b>   | This session will introduce the IPCC guidelines in reporting FLR/REDD+  |  |                    |                        |  |  |                       |   |  |   |
|--|---|--|--------------------|------------------------|--|--|-----------------------|---|--|---|
| <b>B. Learning Outcomes</b>  | At the end of this session, participants will be able to: <ul style="list-style-type: none"> <li>• Understand the general reporting and review principles</li> <li>• Perform reporting of GHG emissions using the existing IPCC reporting tables</li> <li>• Implement the conservative approach as a possible way to address potential overestimation of achieved mitigation</li> </ul>   |  |                    |                        |  |  |                       |   |  |   |
| <b>C. Content</b>  | 1. Reporting and accounting FLR/REDD+ performance<br>2. Guidance and modalities on reporting FLR/REDD+ performance<br>3. Structure of a GHG inventory (reporting tables, additional tables, inventory report)<br>4. Major challenges for reporting FLR/REDD+ by developing countries  |  |                    |                        |  |  |                       |   |  |   |
| <b>D. Highlights</b>   | Forest Reference Emission Level /Forest Reference Level (FREL/FRL) considerations (Forest definition, Scope, Scale, Data and methodologies)<br>Land Use Change Matrix<br>The UNFCCC guidelines: <ul style="list-style-type: none"> <li>• Significant pools and/or activities should not be excluded</li> <li>• Reasons for omitting a pool and/or activity must be provided</li> <li>• If limited data is available about a significant pool can use IPCC default factors</li> </ul> Activities to be considered in the FRL <ul style="list-style-type: none"> <li>• Mitigation potential</li> <li>• REDD+ Strategy</li> <li>• Technical Capacity</li> </ul> Land vs Activity Based Reporting <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="background-color: #e0e0e0;">Land Base Approach</th> <th style="background-color: #e0e0e0;">Activity Base Approach</th> </tr> </thead> <tbody> <tr> <td>Reporting land base information, emissions and removals, done as part of the GHGs inventory submitted through the Convention</td> <td>Reporting data, emissions and removals, for activities (mandatory and elected) as a supplementary information to the Convention GHGs inventory</td> </tr> <tr> <td>All Annex I countries</td> <td>All Annex I countries that ratified the 1CP of the KP</td> </tr> <tr> <td>IPCC 2003 GPG – IPCC 2006 GL (Volume IV) – 2013 IPCC Wetlands supplement</td> <td>                     IPCC 1996                     <ul style="list-style-type: none"> <li>• IPCC 2003 GPG, Chapter 4</li> <li>• 2013 IPCC Revised Supplementary Methods and Good Practice</li> </ul>                     Guidance Arising from the Kyoto Protocol                     <ul style="list-style-type: none"> <li>• 2013 IPCC Wetlands supplement (Rewetting and Drainage methodologies)</li> </ul> </td> </tr> </tbody> </table> |  | Land Base Approach | Activity Base Approach | Reporting land base information, emissions and removals, done as part of the GHGs inventory submitted through the Convention | Reporting data, emissions and removals, for activities (mandatory and elected) as a supplementary information to the Convention GHGs inventory | All Annex I countries | All Annex I countries that ratified the 1CP of the KP | IPCC 2003 GPG – IPCC 2006 GL (Volume IV) – 2013 IPCC Wetlands supplement | IPCC 1996 <ul style="list-style-type: none"> <li>• IPCC 2003 GPG, Chapter 4</li> <li>• 2013 IPCC Revised Supplementary Methods and Good Practice</li> </ul> Guidance Arising from the Kyoto Protocol <ul style="list-style-type: none"> <li>• 2013 IPCC Wetlands supplement (Rewetting and Drainage methodologies)</li> </ul> |
| Land Base Approach   | Activity Base Approach  |  |                    |                        |  |  |                       |   |  |   |
| Reporting land base information, emissions and removals, done as part of the GHGs inventory submitted through the Convention | Reporting data, emissions and removals, for activities (mandatory and elected) as a supplementary information to the Convention GHGs inventory  |  |                    |                        |  |  |                       |   |  |   |
| All Annex I countries  | All Annex I countries that ratified the 1CP of the KP   |  |                    |                        |  |  |                       |   |  |   |
| IPCC 2003 GPG – IPCC 2006 GL (Volume IV) – 2013 IPCC Wetlands supplement   | IPCC 1996 <ul style="list-style-type: none"> <li>• IPCC 2003 GPG, Chapter 4</li> <li>• 2013 IPCC Revised Supplementary Methods and Good Practice</li> </ul> Guidance Arising from the Kyoto Protocol <ul style="list-style-type: none"> <li>• 2013 IPCC Wetlands supplement (Rewetting and Drainage methodologies)</li> </ul>   |  |                    |                        |  |  |                       |   |  |   |
|  | Methodology of Constructing the FREL/FRL <ul style="list-style-type: none"> <li>• FREL/FRL adjustment based on national circumstances</li> <li>• Adjustment considering the trend</li> </ul> Examples in defining the FREL/FRL<br>Submission of FRL/FREL<br>Reporting Performance   |  |                    |                        |  |  |                       |   |  |   |

|  |  |
|--|--|
| <p><b>E. Interventions</b></p>             | <ul style="list-style-type: none"> <li>• Ms. Kinley Dem-Bhutan<br/>Bhutan have set different target for NDC and FRL. We have a set a baseline of 8.6 million tons while our NDC target is to remain carbon neutral. Should we go for RBP, we need to increase our net sequestration beyond 8.6?<br/><br/>On the other hand, we have a net removal about 5.6 million tons for the NDC. As a beneficiary, it is good for us to go for the NDC targets. So, what mechanisms are in place for monetary compensation against FRL baseline and NDC target?</li> <li>• Mr. Dorji-Bhutan<br/>Since Indonesia demonstrated the emission reduction of 577 million CO<sub>2</sub>e. What was the amount of RBP received by Indonesia? Please share your experience in VCM?</li> <li>• Mr. Jitesh Kumar-India<br/>I would like to understand whether agroforestry on non-forest land qualifies for application of REDD+ result based payments and the 5 broad scope of REDD+</li> <li>• Dr. Ma             <ol style="list-style-type: none"> <li>1. What is your opinion regarding plantation to be included as forest area?</li> <li>2. In terms of the canopy, how do you define the secondary forest?</li> <li>3. Is there any updated policy from Indonesia related to Carbon trading?</li> </ol> </li> </ul> <p>Responses:</p> <p>The main purpose of REDD+ program in Indonesia is to maintain the natural forests. Because if you look back to the decision of COP, the incentive should be provided from the maintaining activities. But as in the implementation, many countries also define forest is not only the natural one and the plantation forest is also considered as a forest but of course we also adopt a foreign plantation as a forest. Because it fits the forest definition. Still Indonesia wants to save natural forest so we say that plantation as deforestation.</p> <p>When you develop a FREL as the basis for defining of the country's achievement in counting the emission from degradation and deforestation, you need to consider the national MRV system that you have. Our current MRV is unable to monitor further degradation of secondary forest. But of course the national monitoring system can detect the change in the secondary forest based on the satellite image. If it is shown that the area has been burned or was on fire so we consider the area as secondary forest. We can also consider that as secondary forest if there is a road constructed in the area or trace of logging. Our monitoring system relies on the satellite image so these activities are being included in the construction of FRL but excluded from the further degradation of the secondary. The methodology to detect further degradation of the secondary forest is still under development and the uncertainty level of current method is very high. Redesigning the National Forest Monitoring system might be costly but it still needs to be consider.</p> <p>Indonesia has issued specific regulation on carbon trading for forest land use. Of course in this regulation, we limit the international trading. International carbon trading can be done only if the NDC target has been achieved. Then, the excess can be traded internationally. It also needs authorization from the minister of Forestry and Environment.</p> |
| <p><b>F. Observation and Knowledge</b></p> | <ul style="list-style-type: none"> <li>• FREL and FRL are the benchmarks to assess the REDD+ projects performance</li> <li>• UNFCCC provides a framework for developing the FREL/FRL but some elements remain undefined to allow flexibility in the implementation level</li> <li>• Verification allow countries to receive result based payments for REDD+ activities</li> </ul>  |

## 5.6 SESSION 4. ESTIMATION OF UNCERTAINTIES IN MRV

|                             |   |
|-----------------------------|---|
| <b>A. Session Overview</b>  | This session will introduce general concepts on estimating uncertainties in carbon stock changes  |
| <b>B. Learning Outcomes</b> | At the end of this session, participants will be able to: <ul style="list-style-type: none"> <li>• Identify main sources of uncertainty in the estimation of area change and carbon stocks change</li> <li>• Estimate uncertainties in area change and carbon stock change</li> <li>• Understand the possible treatment of uncertainties in a conservative manner</li> </ul>  |
| <b>C. Content</b>           | <ol style="list-style-type: none"> <li>1. Importance of identifying uncertainties</li> <li>2. General concepts</li> <li>3. Uncertainties in area-change estimates</li> <li>4. Uncertainties in carbon stocks change estimates</li> <li>5. Handling uncertainties</li> </ol>   |
| <b>D. Highlights</b>        | Uncertainty in IPCC and UNFCCC Context<br>Identification and quantification of uncertainties<br>The uncertainties for the estimates have two parts:<br>Activity data (area and change of the area)<br>Emission factor (Carbon stock and change in carbon stock)<br>The IPCC guideline aims to identify, quantify, and combine the activity data and emission factor.<br>Uncertainties in Area Changes<br>Source of errors: remote-sensing-based map <ul style="list-style-type: none"> <li>• Quality and suitability of satellite data (spatial, spectral and temporal resolutions)</li> <li>• Radiometric and geometric pre-processing</li> <li>• Cartographic standards (land category definitions etc.)</li> <li>• Interpretation procedure (algorithm, visual)</li> <li>• Post processing of the map products (integration with different data formats)</li> <li>• Availability of reference data (ground truth data) for evaluation and calibration of the system</li> </ul> To reduce the uncertainties: tune the parameters in the image classification methods; combine the visual and automated image interpretation to get the best result<br>Uncertainties in Carbon Stock Changes<br>Source of Errors: Random and Systematic Errors <ul style="list-style-type: none"> <li>• Representativeness</li> <li>• Conversion of tree measurement to biomass</li> <li>• Sampling errors</li> <li>• Instrument imprecision</li> <li>• Completeness</li> </ul> According to IPCC Guideline (2006) five carbon pools of the forest: <ol style="list-style-type: none"> <li>1. Above ground biomass (tree trunk, branches and leaves, climbers, lianas and shrubs)</li> <li>2. Below ground biomass (root system)</li> <li>3. Deadwood</li> <li>4. Litter</li> <li>5. Soil organic matter /soil carbon</li> </ol> |



|  |   |
|--|---|
| <p><b>E. Interventions</b></p>             | <ul style="list-style-type: none"> <li>• Ms. Kinley-Bhutan:<br/>We computed the current carbon stock for the 2 NFI and it was decreased a little bit. We had 14 equations used for the NFI 1 and now we use 37 equations. Based on your experience, does using many equations impact to the decrease of carbon stock in result?</li> </ul> <p>Response:<br/>If you use the same allometric equations in both events, the increase or decrease in carbon stock is realistic since the results are comparable. Changing the allometric equations causes the two results to be incomparable.</p> |
| <p><b>F. Observation and Knowledge</b></p> | <ul style="list-style-type: none"> <li>• Assessing uncertainty is fundamental in the IPCC and UNFCCC context</li> <li>• Uncertainties can be caused by overestimating the true value</li> </ul>   |

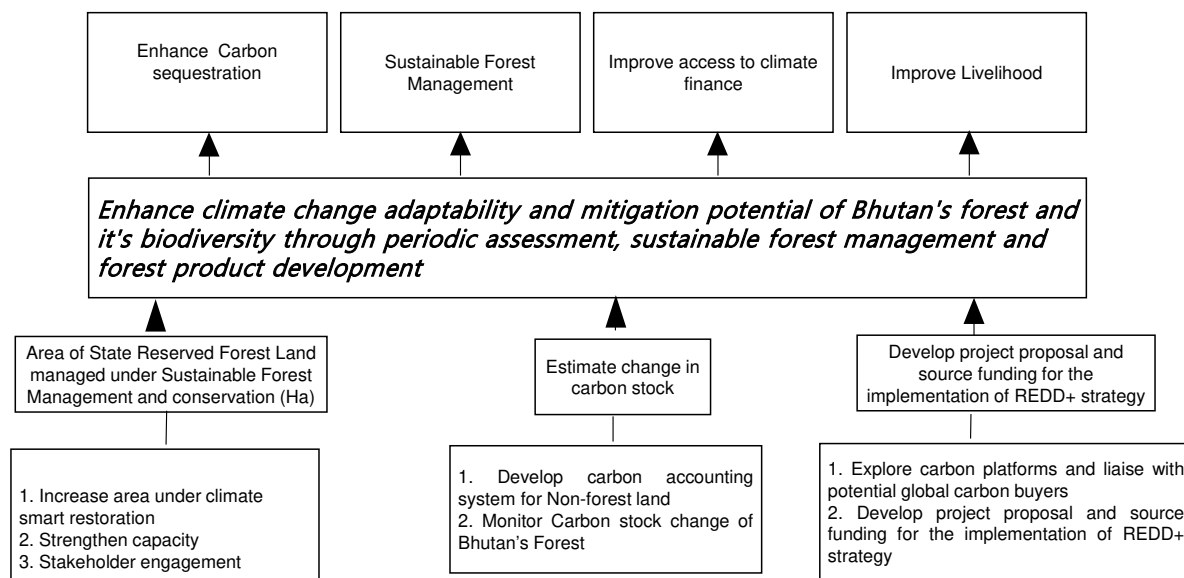
## 5.7 SESSION 5. JOINT CARBON MECHANISM IN NORTHERN LAO PDR

|                             |  |
|-----------------------------|--|
| <b>A. Session Overview</b>  | This session will share the activities and the achievements of the joint crediting mechanism project in Northern Lao PDR.  |
| <b>B. Learning Outcomes</b> | At the end of this session, participants will be able to: <ul style="list-style-type: none"> <li>• Know the joint crediting mechanism project</li> <li>• Learn what to be considered on developing JCM project</li> </ul>  |
| <b>C. Content</b>           | <ol style="list-style-type: none"> <li>1. General Information on JCM project</li> <li>2. Project Design and the outcomes</li> <li>3. Principal points of JCM project</li> </ol>  |
| <b>D. Highlights</b>        | Joint Crediting Mechanism<br>BACKGROUND INFORMATION OF THE PROJECT <ul style="list-style-type: none"> <li>• Objective of the project and the detail of the project</li> <li>• MoU Signing (agreements of two governments)</li> </ul> General Information on the project sites <ul style="list-style-type: none"> <li>• Changes in land and forest cover before the project</li> <li>• Shifting cultivation and expansion to the forest area</li> </ul> Project Design <ul style="list-style-type: none"> <li>• History and Implementing Structure</li> <li>• Project activities: Implement alternative livelihoods, Introduce agricultural technology-transfer, and improvement of land and forest management system</li> </ul> Projects' Achievements <ul style="list-style-type: none"> <li>• Participatory Approach through trainings of alternative livelihood</li> <li>• Development of Reporting System</li> <li>• GHG emission reductions</li> </ul> Points to be considered in the implementation of REDD+ projects: <ul style="list-style-type: none"> <li>• Equity among villages</li> <li>• Effectiveness and Efficiency</li> <li>• Consistency</li> <li>• Bridging Social Capital</li> </ul> |
| <b>E. Interventions</b>     | <ul style="list-style-type: none"> <li>• Mr. Dorji-Bhutan</li> </ul> Since JCM implemented at sub-national level, how emission displacement and leakage are addressed in the project?  |
|                             | <ul style="list-style-type: none"> <li>• Developing a training center and sharing the knowledge to the community before starting other activities is a smart move in a REDD+ project. Training center has rolls of "Seeds Center" of education, communication and</li> <li>• others.</li> <li>• Participatory approach will facilitate the implementation of further REDD+ activities related to land and forest rehabilitation including biodiversity conservation.</li> <li>• Identification of the community and the project area is important to design the right scheme and to adjust the project objectives to the needs of the community.</li> </ul>  |

## 6. ACTION PLANS OF PARTICIPATING COUNTRIES

### 6.1 BHUTAN

#### 1. Background: Objective Tree



#### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|   | DETAILS  |
|---|--|
| Project Title                           | CoEnhance climate change adaptability and mitigation potential of Bhutan's forest and its biodiversity through periodic assessment, sustainable forest management and forest product development.  |
| Implementing Organization               | Organization Name: Department of Forests & Park Services<br>Nature or type: Government<br>Major functions/duties:  |
| Project Duration                        | 2024-2032  |
| Project Sites                           | National Level   |
| Main Objectives                         | <ol style="list-style-type: none"> <li>1. Ensure socio-economic and environmental wellbeing of Bhutan and its natural resources while maintaining a minimum of 60% forest cover</li> <li>2. Enhance the role of forest in Carbon sequestration and climate change mitigation/adaptation</li> <li>3. Strengthen NFMS &amp; MRV for forest carbon crediting</li> </ol> |
| Benefactors                             | <ol style="list-style-type: none"> <li>1. Local Communities</li> <li>2. Department of Forests and Park Services</li> </ol>   |
| Est. Budget                             | USD\$ 4 million  |
| Potential Co-Financing Partners         | RGoB , Bhutan For Life Project & .....   |
| Potential environmental and social risk | <p><b>Environmental Risk</b></p> <ul style="list-style-type: none"> <li>• Risk of introduction of pest and disease</li> <li>• Loss of biodiversity</li> <li>• Forest health</li> </ul> <p><b>Social Risk</b></p> <ul style="list-style-type: none"> <li>• Compromise on social safeguards</li> <li>• Equitable sharing of benefits</li> </ul>                        |

## Project Background

The Kingdom of Bhutan is a high forest cover, low deforestation (HFLD) country with highest ratio of land area under protected area network and one of the carbon negative countries in the world. Internationally, attention is growing on the significance and value of HFLD nations' efforts to conserve forest cover amid rapid climate change and no significant decline in deforestation in last decade around the world, particularly in tropical forest. Therefore, there is high potential for HFLD nations to attract more climate finance and payments for ecosystem services, such as carbon sequestration, that support and facilitate the countries' sustainable development path without jeopardizing forests.

Thus, Bhutan's forest has the potential to contribute significantly more to Bhutan's economy and peoples' livelihoods nationally and biodiversity conservation and climate change mitigation globally. Accordingly, plans and activities to leverage the potential climate financing shall be prioritized and implemented:

- Develop degraded land and enhance the carbon stock to prevent/reduce land degradation, stabilize soil.
- Prevent loss of forest carbon through forest pest and disease management.
- Forest stand management through thinning for enhancement of forest carbon stock and also direct benefit to the local communities through continued supply of timber, firewood, and other forest produce.

## Project Design and Methodology

### Activities

- Area brought under forest landscape restoration initiatives
- Develop carbon accounting system for Non-forest land
- Develop project proposal and source funding for the implementation of REDD+ strategy
- Implement REDD+ strategy
- Develop REDD+ annexure for BUR/ BTR for submission to UNFCCC
- Monitor Carbon stock change of Bhutan's Forest
- Explore carbon platforms and liaise with potential global carbon buyers
- Estimate Bhutan's forest carbon budget in permanent sample plots
- Strengthen capacity in forest management planning and carbon assessment
- Foster forest-public partnership through effective Stakeholder engagement and consultation

## Expected Outcome and Output

### Outcome:

- Ensure socio-economic and environmental wellbeing of Bhutan and its natural resources while maintaining a minimum of 60% forest cover
- Maintain carbon neutral

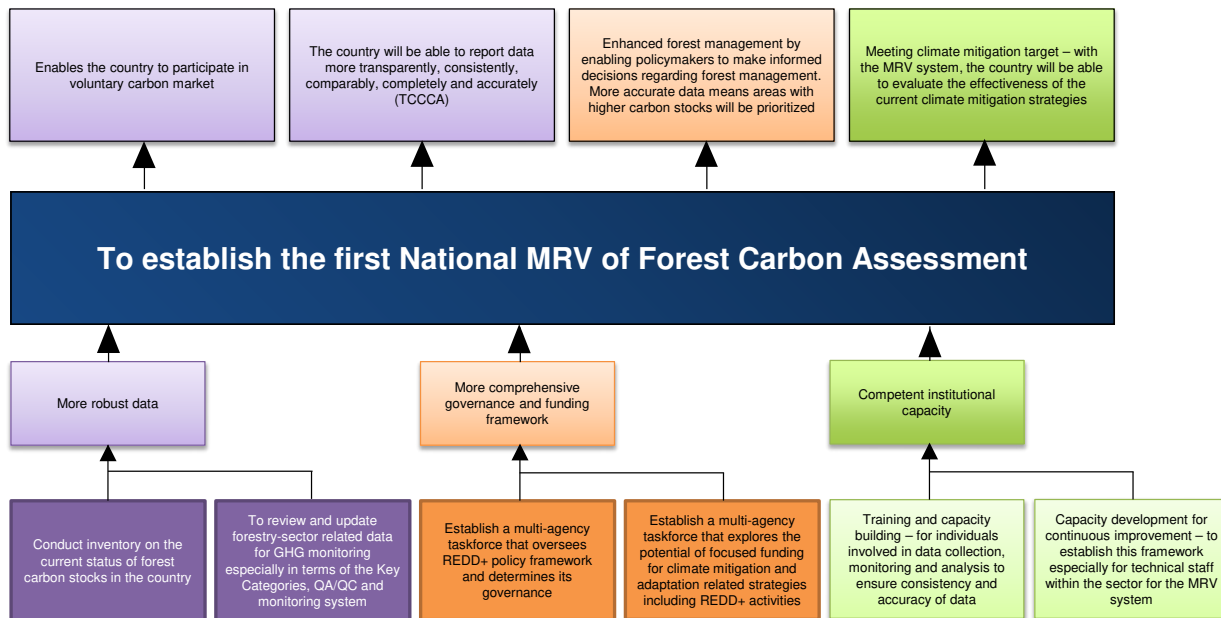
### Output:

- Enhance role of forest in Carbon sequestration and climate change mitigation/adaptation
- Increase Area of State Reserved Forest Land managed under Sustainable Forest Management and conservation (ha).

| Activities  | Timeline                     | Responsible agencies                                      |
|---|------------------------------|---|
| <b>Outcome: Ensure socio-economic and environmental wellbeing of Bhutan and its natural resources while maintaining a minimum of 60% forest cover</b> |                              |   |
| <b>Output: Increase Area of State Reserved Forest Land managed under Sustainable Forest Management and conservation (Ha)</b>                          |                              |   |
| Area brought under forest landscape restoration initiatives   | 2023-2032                    | Lead: FMID Others: LG                                     |
| Prepare and implement Forest management Plan  | 2023-2032                    | Lead: FMID Others: LG                                     |
| <b>Output: Enhance role of forest in Carbon sequestration and climate change mitigation/adaptation</b>  |                              |   |
| Develop baseline AGBC for Non- Forest land for improved carbon accounting   | 2025-2026                    |   |
| Develop project proposal and source funding for the implementation of REDD+ strategy  | 2023-2025                    | Lead: DoFPS, Others: LG, DoL, DoA, NLCS, DoECC, DoW       |
| Implement REDD+ strategy  | 2025-2034                    | Lead: DoFPS, Others: LG, DoL, DoA, NLCS, DoECC, DoW, CSOs |
| Develop REDD+ annexure for BUR/ BTR for submission to UNFCCC  | 2024 -2034 (biennial report) | Lead: DoFPS, Others: DoECC                                |
| Assess forest carbon budget in Protected Areas  | 2024 -2034                   | Lead: DoFPS, Others: LG                                   |
| Explore carbon platforms and liaise with potential global carbon buyers   | 2023-2034                    | Lead: DoFPS, Others: DoECC                                |
| Estimate Bhutan's forest carbon budget in permanent sample plots  | 2033-2034                    | Lead: DoFPS, Others: LG                                   |

## 6.2 BRUNEI DARUSSALAM

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|                           | DETAILS   |
|---------------------------|---|
| Project Title             | National Forest Inventory – Forest carbon stocks assessment   |
| Implementing Organization | Organization Name: Forestry Department<br>Nature or type: Government<br>Major functions/duties :To produce the country's first national data on the forest carbon stocks status   |
| Project Duration          | 2 years (May 2023 – May 2025)   |
| Project Sites             | Forests areas in the whole of the country   |
| Main Objectives           | 1. To determine forest carbon stocks and changes in carbon storage, and establish the baseline data where the data can be utilized for forest carbon projects and for reporting to the National Greenhouse Gas (GHG) Inventory.<br>2. To prepare the National Forest Inventory in accordance with Forestry Department requirements and International Best Practices. The inventory shall follow international standard and guidelines such as, FAO FRA, IPCC guidelines, ASEAN peatland management strategies and any carbon standard.<br>3. To include the measurement of necessary parameters for updating the current forest cover, forest types map, biomass map and peat depth map of Brunei Darussalam.<br>4. To calculate forest resources by volume, growth rate, and quality of growing stock. To assess the annual allowable cut for timber harvesting. |
| Benefactors               | Forestry department, National Disaster Management Centre, Brunei Climate Change Secretariat, Local communities  |
| Est. Budget               | USD\$1.032 million  |

|   |  |
|---|--|
| Potential Co-Financing Partners         | 11th National Development Plan Budget, Ministry of Finance and Economy   |
| Potential environmental and social risk | <p><b>Environmental Risk</b></p> <ul style="list-style-type: none"> <li>In the absence of the inventory, decision-making will be difficult for the policymakers especially in terms of forest conservation against the need for development.</li> <li>Hence this will further threaten the forest existence in the country and climate mitigation targets.</li> </ul> <p><b>Social Risk</b></p> <ul style="list-style-type: none"> <li>In the absence of forest conservation/protection needs, society will suffer from indirect climate-related disasters impacts such as landslides, prolonged drought, flooding etc.</li> </ul> |

### Project Background

The scope of work involves preparing a national forest inventory for the overall national estate forests. The previous 1984 inventory by Anderson Marsden and the Forest Management Plan will be updated, validated and enhanced for multi-purpose use by Brunei Forestry Department.

Areas to be studied are to cover the whole forested areas of Brunei Darussalam and divided according to each forest type (regardless of forest category or ownership). This includes:

- Peat swamp forest
- Mangrove forest
- Mixed-Dipterocarp forest
- Heath forest
- Freshwater swamp forest
- Montane forest
- Secondary forest

### Project Design and Methodology

There will be five stages of forest inventory for the forest estate of Brunei:

1. Carbon stocks inventory
2. Peat Depth Mapping
3. Digital data analysis
4. Forest Type Mapping
5. Field surveys for on-ground verification

Each of the stages will be complementary with fieldwork providing verification of the forest types and the surveys.

### Expected Outcome and Output

#### Technical:

- More accurate and robust data will be available and can be utilized for forest carbon projects and for reporting to the National Greenhouse Gas (GHG) Inventory.
- Enables the country to meet international standard and guidelines for reporting.

#### Environmental:

- Enables better forest management through more informed decision-making (prioritization of higher carbon stocks areas).
- Meeting climate mitigation target and assessing its effectiveness.

#### Economic:

- Participate in carbon markets or RBP

#### Social:

- Non-carbon benefits

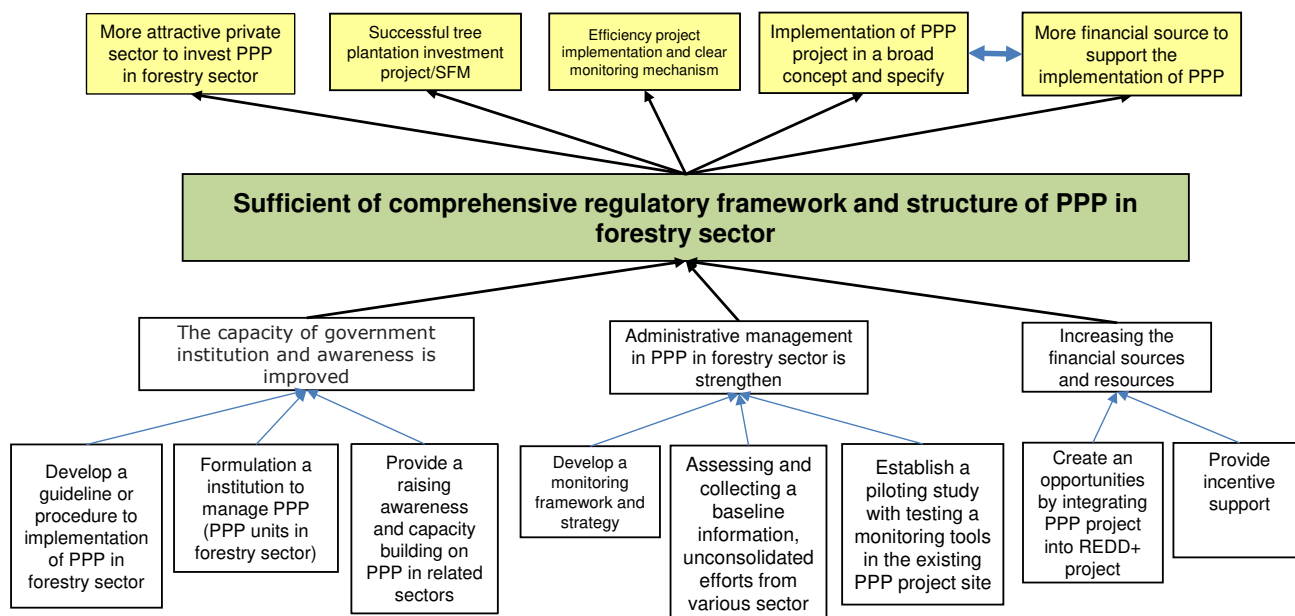
**Timeline**

| No | Item   | Budget (USD)  | 2023 | 2024 | 2025 |
|----|--|---------------|------|------|------|
| 1  | Hardware and software procurement including computer, tablets, printers, drone and necessary softwares     | 88K           |      |      |      |
| 2  | Soil and aboveground biomass carbon inventory, peat depth mapping, forest type mapping                     | 480K          |      |      |      |
| 3  | Digital data analysis (drone and LiDAR survey), data processing, field surveys for on-ground verification  | 220K          |      |      |      |
| 4  | Staff training/capacity building for at least 4 forestry officers and staff in the field and in the office | 96K           |      |      |      |
| 5  | Consolidated report of the National Forest Inventory   | 148K          |      |      |      |
|    | Total  | 1.032 million |      |      |      |



## 6.3 CAMBODIA

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|   | DETAILS  |
|---|--|
| Project Title                           | Enforce the Regulation Framework and Structure of Public-Private Partnership (PPP) in Forest Rehabilitation and Restoration  |
| Implementing Organization               | Name: Department of Forest Plantation and Private Forest Development<br>Nature or type: Government Organization<br>Major functions/duties : Management and Coordination on tree plantation and PPP pilot project |
| Project Duration                        | 2024-2026  |
| Project Sites                           | Cambodia   |
| Main Objectives                         | To develop a comprehensive regulatory framework, structure and strengthen governance of PPP implementation in the forestry sector  |
| Benefactors                             | FA's officers, Private sector, Local community, NGOs and relevant stakeholders   |
| Est. Budget                             | USD\$ 215,000  |
| Potential Co-Financing Partners         | None   |
| Potential environmental and social risk | Illegal land issues, Covid 19 pandemic   |

### Project Background

- Forests are in valuable natural resources, which provide many economic, social economics and social benefits such as timber and others forest products, watershed protection, mitigation of floods and droughts and wildlife habitats.
- In the face of unprecedented climate change, forests have a critical role to play in sequestering carbon, consequently their protection and restoration is extremely urgent.
- At present, forests in Cambodia are seriously threatened by economic land concession, social land concessions and illegal encroachment for private ownership.
- The government have conducted on Procedure of Private Forest to support public sector on investing in forest plantation.
- The procedure of private forest is the guideline for establish and develop private forest in Cambodia.

### Project Design and Methodology

| No  | Item  | Budget | 2023 | 2024 | 2025 | 2026 | Year 5 |
|---|---|--------|------|------|------|------|--------|
| Output 1: The capacity of government institution and awareness is improved  |   |        |      |      |      |      |        |
| 1   | Develop a guideline or procedure to implementation of PPP in forestry sector                | 30k    |      |      |      |      |        |
| 2   | Formulation a institution to manage PPP (PPP units in forestry sector)                      | 50k    |      |      |      |      |        |
| 3   | Provide a raising awareness and capacity building on PPP in related sectors                 | 25k    |      |      |      |      |        |
| Output 2: Administrative management in PPP in forestry sector is strengthen |   |        |      |      |      |      |        |
| 4   | Provide capacity building on the PPP policy, PPP project development and implementation     | 50k    |      |      |      |      |        |
| 5   | Develop a monitoring framework and strategy   | 10k    |      |      |      |      |        |
| 6   | Assessing and collecting a baseline information, unconsolidated efforts from various sector | 20k    |      |      |      |      |        |
| Output 3: Financial sources and resources is created and expanded           |   |        |      |      |      |      |        |
| 7   | Establish a piloting study with testing a monitoring tools in the existing PPP project site | 20K    |      |      |      |      |        |
| 8   | Create an opportunities by integrating PPP project into REDD+ project                       | 10K    |      |      |      |      |        |

### Expected Outcome and Output

#### Economic Effects

- Long-term economic growth, increase economic effectiveness, enhance competitiveness, and accelerate Cambodian economic diversification
- Contribute to prospect of reaching the status of upper-middle-income country in 2030, and high-income country in 2050

#### Technical Effects

- Comprehensive legal framework and monitoring mechanism
- Establishing necessary financial support mechanism, and
- Clearly defining public investment priority sectors to be implemented through PPPs in conformity to the progressive context of Cambodia.

#### Social and Environmental Impacts

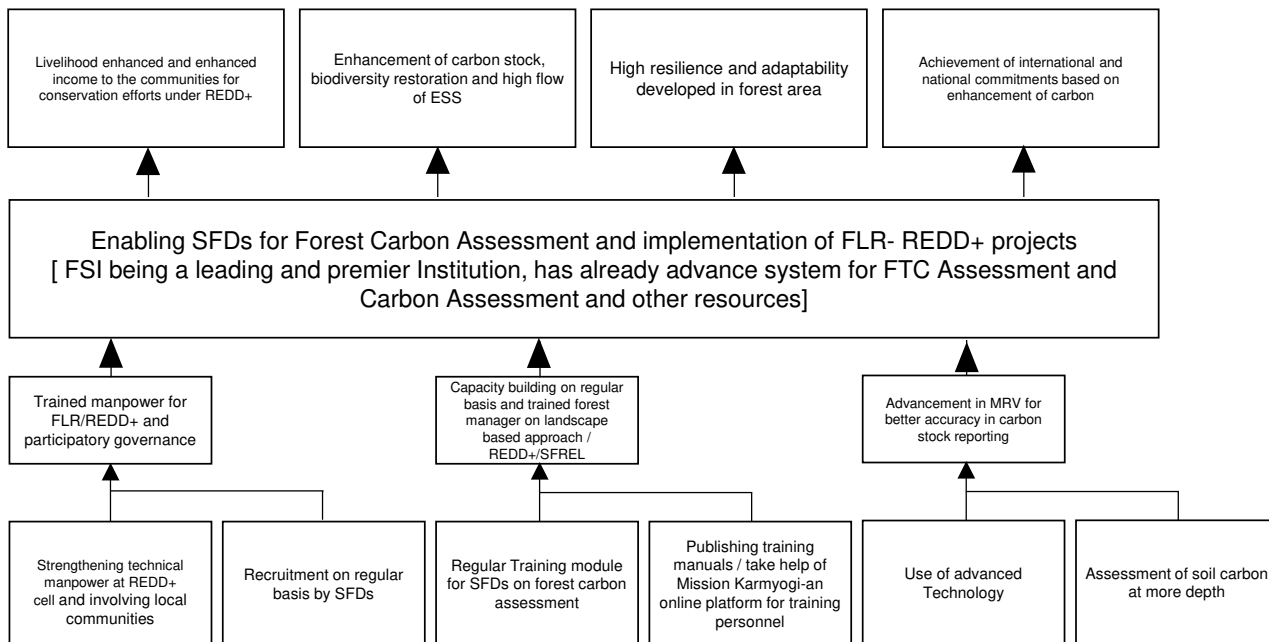
- Assuring sustainable development and poverty reduction
- Giving an opportunity to create enabling environment for promoting the participation of private sector and financial institutions in public investments

## 6.4 FIJI

N/A

## 6.5 INDIA

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|   | DETAILS  |
|---|--|
| Project Title                           | Enable State Forest Department to develop REDD+ Projects for submission to UNFCCC  |
| Implementing Organization               | Organization Name: FSI, Ministry of Environment, Forest and Climate Change<br>Nature or type: Government<br>Major functions/duties : |
| Project Duration                        | 2024-2018  |
| Project Sites                           | All SFDs   |
| Main Objectives                         | Implementation of FRL-REDD+ Projects in India  |
| Benefactors                             | SFD, Local Communities , NGOs,   |
| Est. Budget                             | USD\$3,00,000  |
| Potential Co-Financing Partners         | None   |
| Potential environmental and social risk | Local issues Safeguarding local rights   |

## Project Background

Forest landscape restoration has become a global initiative. As there is a clear connection between FLR and climate change mitigation, FLR activities will help in achieving the international commitment. Government of India has started various schemes at national level such as Green India Mission, afforestation and forestry activities under Compensatory Afforestation Fund which helps FLR in India.

FLR activities under REDD+ framework have considerable opportunities in forest restoration. FLR needs to be designed and implemented as per need basis with bottom up approach.

However, due to lack of adequate knowledge on FRL and REDD+ mechanism up to the field level staff, REDD+ Project is not started yet by SFDs in India despite having National REDD+ Strategy, National FREL, SIS for REDD+ and a robust Forest Monitoring System including MRV. The Project will focus on developing capacity building of SFDs and helping SFDs in development of REDD+ projects for preparation and submission of REDD+ project and ensuring biodiversity restoration, enhanced carbon stock and increased flow of ESS.

## Project Design and Methodology

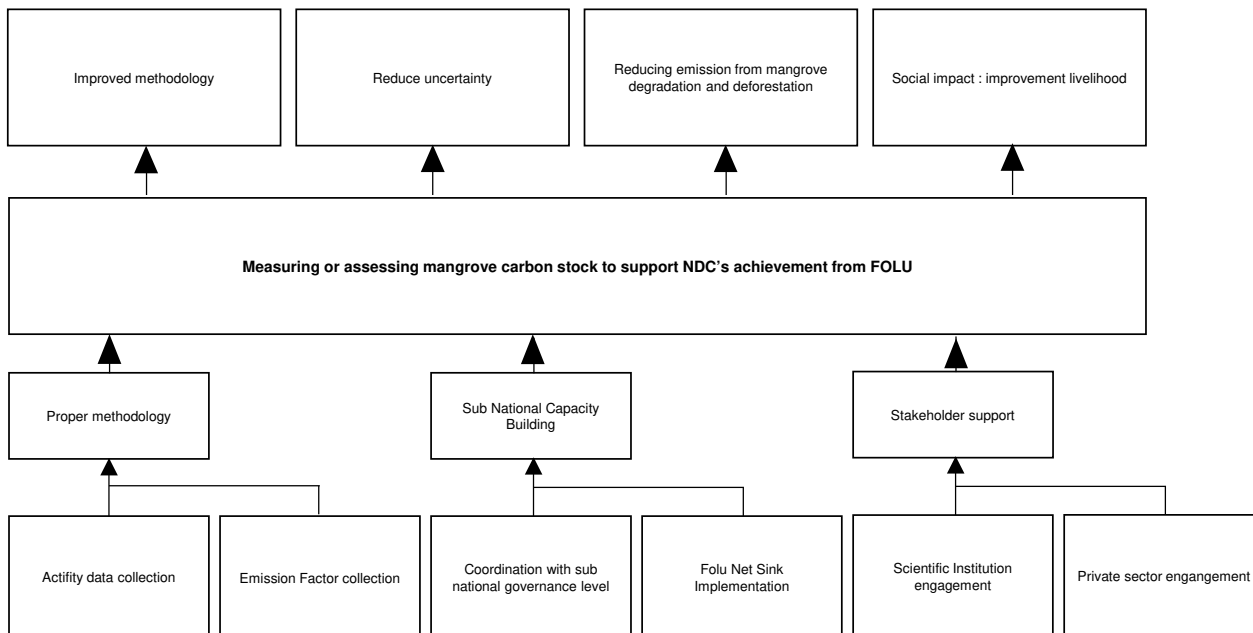
- Creation of Training module at FSI
- Capacity building program of SFDs
- Creation of REDD+ Cell in all SFDs
- Development of REDD+ Plan and Projects based on stakeholder consultation
- Use of advance technology in MRV
- Implementation of REDD+ Projects
- Submission of REDD+ Projects
- Verification and Result Based payments under REDD+

## Expected Outcome and Output

- Landscape Restoration
- Enhanced carbon stock
- Biodiversity restoration
- Contribution towards achieving NDC, Bonn Challenge and GBF

## 6.6 INDONESIA

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|   | DETAILS  |
|---|--|
| Project Title                           | Sustainable Mangrove Management and Resilience Project   |
| Implementing Organization               | Organization Name: Ministry of Environment and Forestry<br>Nature or type: Cross cutting mitigation and adaptation issue<br>Major functions/duties : each related Directorate will function as their own tasks   |
| Project Duration                        | 2024-2027<br>- research and engagement<br>- Implementation<br>- Reporting and evaluation   |
| Project Sites                           | Sumatera   |
| Main Objectives                         | Mainstreaming sustainable management of Mangroves at the subnational level to support NDC achievement simultaneously with leverage the community resilience  |
| Benefactors                             | Carbon assessment, community resilience, biodiversity  |
| Est. Budget                             | USD\$ 500,000  |
| Potential Co-Financing Partners         | GCF or other resource institution  |
| Potential environmental and social risk | Degradation and mangrove deforestation has been occurred in large area. There would be a potential economy and social conflict to address this issue, regarding the need of infrastructure development and livelihood. Therefore, the stakeholder's commitment is needed to be engaged |

## Project Background

Spanning around 3.4 million hectares (ha), Indonesia's mangroves account for over 20 percent of the total global mangrove area (MoEF, National Mangrove Map, 2021). It has high biodiversity importance. Indonesia's mangroves serve as crucial fisheries habitat (nursery, habitat, and source of food) and are home to numerous endangered, threatened, and unique animal species. In addition, mangroves store significant amounts of blue carbon and mitigate climate change. Overall, Indonesia's mangroves store 3.1 billion tons of carbon (Alongi et al., 2016). Despite their significant value, mangroves are threatened by deforestation and unsustainable use. Conversion to aquaculture ponds accounts for almost 50 percent of the loss, followed more recently by the development of oil palm plantations, which account for 16 percent of mangrove loss in Indonesia. The degradation and loss of mangroves put coastal communities, which are heavily dependent on these coastal resources, at risk.

## Project Design and Methodology

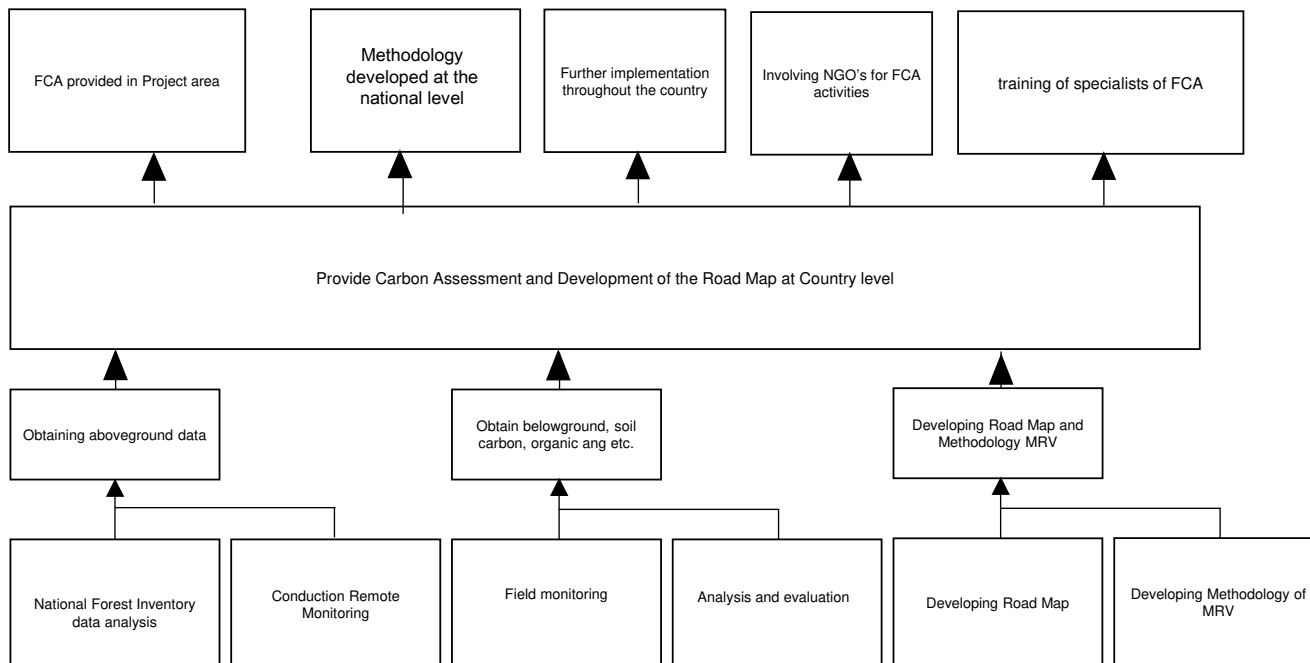
- Restoration (plantation)
- Stakeholder engagement related the regional planning, sub national regulation
- Community capacity building
- Scientific research

## Expected Outcome and Output

- Mangrove carbon assessment
- Stakeholder commitment shifting livelihood, awareness
- Biodiversity increasing
- Achievement NDC'S target form FOLU sector

## 6.7 KAZAKHSTAN

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|   | DETAILS  |
|---|--|
| Project Title                           | Pilot project on Carbon Assessment in Semey Ormani National Reserve  |
| Implementing Organization               | Organization Name: Forestry and Wildlife Committee<br>Nature or type: Government Body<br>Major functions/duties : Management and Implementation of the project |
| Project Duration                        | 2024-2026  |
| Project Sites                           | Abay region  |
| Main Objectives                         | Provide Carbon Assessment and Development of the Road Map at Country level   |
| Benefactors                             | Government of Kazakhstan   |
| Est. Budget                             | USD\$  |
| Potential Co-Financing Partners         | Government of Kazakhstan   |
| Potential environmental and social risk | N/A  |



**Project Background**

There is no Forest Carbon Assessment in Kazakhstan

**Project Design and Methodology**

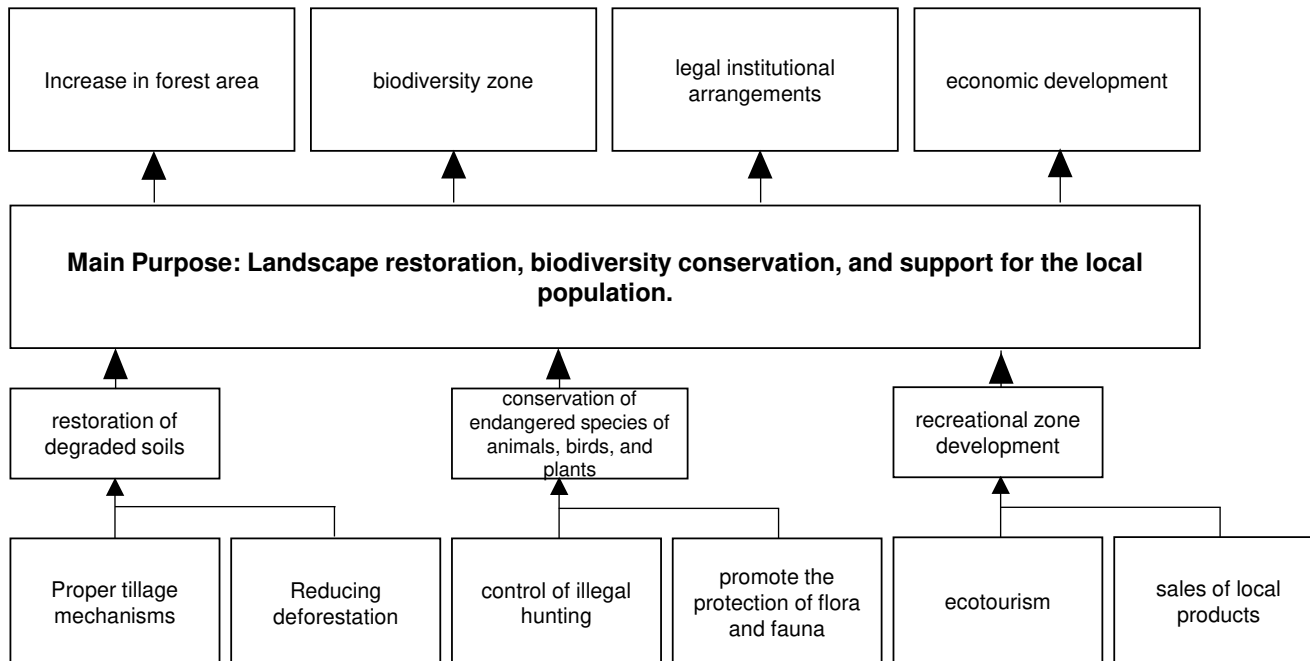
- Obtain belowground, soil carbon, organic and etc. assessment
- Developing Methodology of MRV
- Involving international experts

**Expected Outcome and Output**

Provide Pilot FCA for further implementation throughout the country

## 6.8 KYRGYZSTAN

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|   | DETAILS   |
|---|---|
| Project Title                           | Landscape restoration in spruce and juniper forests of Kyrgyzstan   |
| Implementing Organization               | Organization Name: Forest service under the Ministry of agriculture of the Kyrgyz Republic<br>Nature or type: Government agency<br>Major functions/duties : conservation and development of forest ecosystems, rational forest management and ensuring sustainable development, taking into account the conservation of biodiversity. |
| Project Duration                        | 2024-2028   |
| Project Sites                           | Biosphere Territory "Ysyk-Kel" - a specially protected natural area   |
| Main Objectives                         | protection of landscapes, conservation of biodiversity, development of ecotourism, and improvement of living conditions of the local population   |
| Benefactors                             | Local people and forest biodiversity  |
| Est. Budget                             | USD\$ 5 million   |
| Potential Co-Financing Partners         | N/A   |
| Potential environmental and social risk | N/A   |

### **Project Background**

- The Issyk-Kul basin is one of the unique natural regions Kyrgyzstan with rich forest resources, as well as unique alpine landscapes of deserts and steppes Central Tien Shan with permafrost, highest peaks and an extensive zone of glaciation, which forms the flow of the Aral and Tarim basins, which plays an important role for the whole of Central Asia Project Background.
- Mining, livestock grazing in forests is the main cause of soil degradation, and forests also suffer from an increase in recreational pressure as a result of tourism activities.
- The main task should be to determine measures to prevent further degradation of the natural environment as a result of environmentally unacceptable activities and the imperfection of legislation.

### **Project Design and Methodology**

- Creation of plantations of fast-growing tree species.
- Reproduction and rational use of biodiversity.
- Implementation of scientific research in the field of assessing the state of resources.
- Improvement of normative legal acts.

### **Expected Outcome and Output**

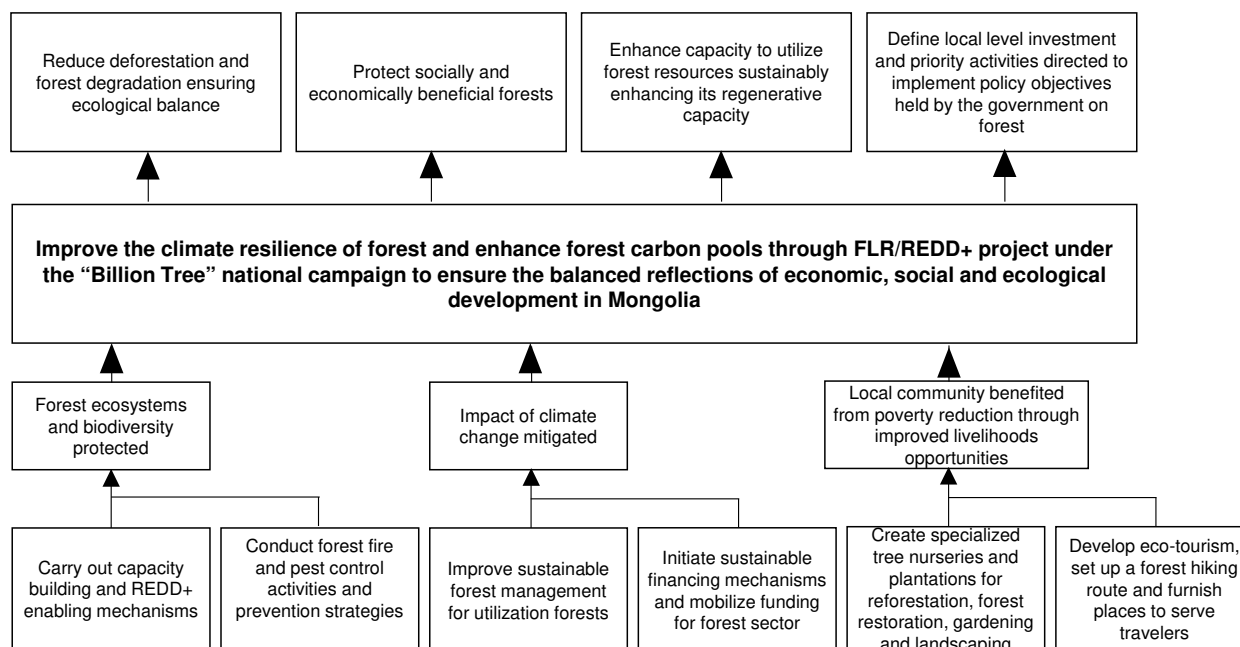
- Fast-growing tree plantations and agroforestry systems will help meet the demand for wood, including firewood, thereby reducing pressure on local forests
- Restored forest landscapes.
- Development of ecotourism additional income for the local population.

## 6.9 MALAYSIA

N/A

## 6.10 MONGOLIA

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|                           | DETAILS  |
|---------------------------|--|
| Project Title             | Improving the Climate Resilience of Forest and Enhancing Forest Carbon Pools through FLR/REDD+ Project and "Billion Tree" National Campaign in Selenge Province  |
| Implementing Organization | <p>Organization Name: The Forestry Agency (FA), Ministry of Environment and Tourism of Mongolia (MET)</p> <p>Nature or type: Government organization in charge of forestry issues</p> <p>Major functions/duties: The FA will be responsible for managing the project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of resources. Major functions include: approving and signing the annual work plan; approving and signing the combined delivery report at the end of the year; and signing the financial report or the funding authorization and certificate of expenditures.</p> |
| Project Duration          | 2024-2026  |
| Est. Budget               | USD\$ 1 million  |
| Main Objectives           | <ol style="list-style-type: none"> <li>1. Enable access to climate financing on FLR/REDD+ projects at the national level</li> <li>2. Strengthen the REDD+ management system and capacity building</li> <li>3. Enhance carbon stock enhancement and mitigate GHG emissions through sustainable forest management</li> <li>4. Improve the local livelihoods resilience to climate change</li> </ol>  |
| Benefactors               | <ul style="list-style-type: none"> <li>• The Government of Mongolia (FA of MET, Bureau of Environment and Tourism of Selenge Province, Inter-Soum Forest Units, Authority of SPA, Authority of Water Basins)</li> <li>• Local Organizations (Forest User Groups, Professional Forest Enterprises)</li> <li>• Local Communities (residents that are dependent from forests, herders groups, civil society, NGOs and other participants)</li> </ul>  |

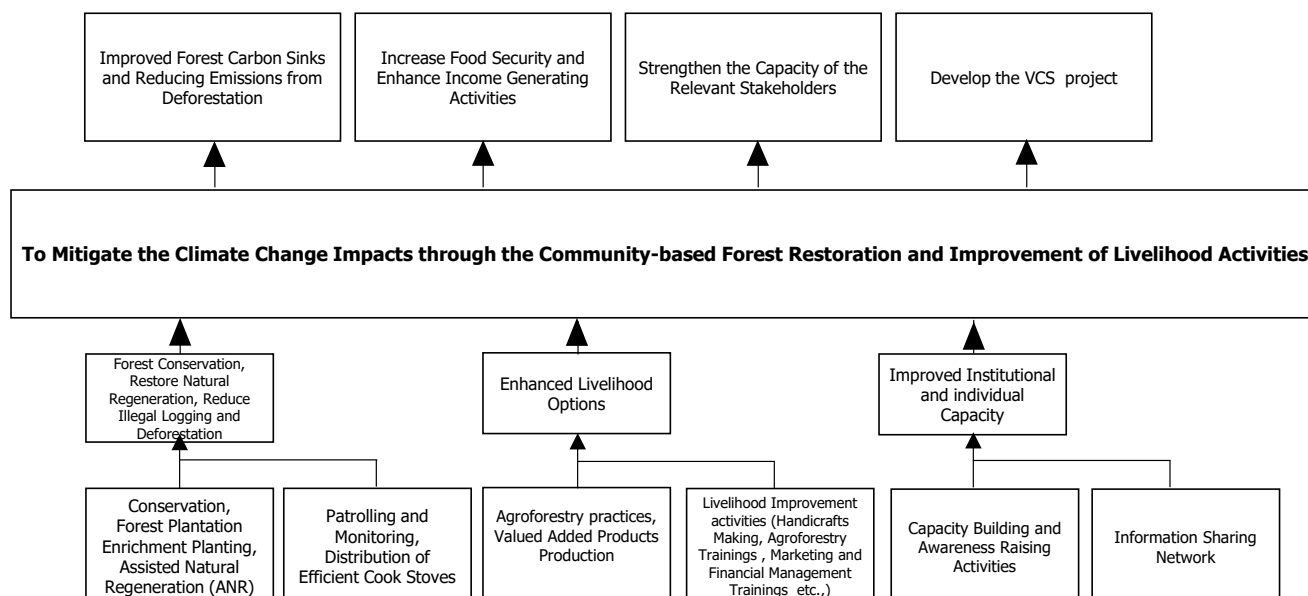
|   |   |
|---|---|
| Project Title                           | Improving the Climate Resilience of Forest and Enhancing Forest Carbon Pools through FLR/REDD+ Project and "Billion Tree" National Campaign in Selenge Province   |
| Potential Co-Financing Partners         | <ul style="list-style-type: none"> <li>In spring, the climate in Mongolia is characterized by dryness and there is a potential risk of forest fires.</li> <li>Grazing in a reforested area can have a harmful effect on planted trees and restored forests.</li> <li>Drought may show negative effect to seedling survival and growth in the tree nurseries of the local community.</li> <li>Pests and disease outbreaks at the project site.</li> <li>Extreme weather risks.</li> <li>Other natural risks, such as use of plant species tolerant of salinity fluctuations.</li> </ul>  |
| Potential environmental and social risk | <p>Selenge province is located in the northern part of Mongolia with a total territory of 4,115.3 thousand Hectare. Out of total territory, 43.9% or 1,931.2 thousand ha is considered as forestland. In terms of origination, the forests of the province are natural forests that regenerate naturally, and are composed of mixed forests of coniferous and deciduous trees, mainly larch, pine, spruce, birch and poplar. Local organizations concluded that main factors for forest degradation are forest fire, pests, illegal harvesting and over-utilization.</p> <p>In addition, climate change, livestock grazing, poor forest management, unstable structure, utilization of the non-timber forest products, haymaking, transplantation from forests and farming activities were defined as factors contributing to forest degradation. According to the local experts, factors leading to deforestation include livestock grazing, mining, repeated incidents of fire, and repeated pest outbreak, climate change, and farming.</p> <p>Through successful implementation of the FLR/REDD+ project, forest ecosystems and biodiversity can be protected, impact of climate change can be mitigated, and local community can benefit from poverty reduction through improved livelihoods opportunities at the site as a pilot project, but has potential to expand into other provinces at national level.</p> |

- Duration: 3 years

| No   | Item   | Budget (USD) | Year 1 | Year 2 | Year 3 |
|--|--|--------------|--------|--------|--------|
| <b>Output 1. Capacity building trainings conducted and REDD+ management system strengthened</b>  |  |              |        |        |        |
| 1  | Conduct capacity building programs and organize trainings on sustainable forest management as well as REDD+ mechanisms for the local organizations and communities   | 100,000      |        |        |        |
| 2  | Provide forest units with strong vehicles and technical equipment.   | 150,000      |        |        |        |
| <b>Output 2. Enhance forest carbon stocks and improve resilience of forests to climate change through improved effectiveness of restoration and tree planting;</b> |  |              |        |        |        |
| 3  | Conduct research on the main drivers for deforestation and forest degradation, and forest restoration (feasibility study) for further detailed planning of the REDD+ | 50,000       |        |        |        |
| 4  | Establish new tree nurseries and expand the current ones to increase the seedling production   | 300,000      |        |        |        |
| 5  | Conduct reforestation and forest restoration in 1,000 ha   | 250,000      |        |        |        |
| <b>Output 3. Improve local livelihoods through the provision of ecosystem services and REDD+</b>   |  |              |        |        |        |
| 6  | Enable incentive opportunities for the local communities by conducting reforestation, forest protection and management activities. (open-ended)                      | 50,000       |        |        |        |
| 7  | Establish small factory in soums to produce briquette, biochar and to process wood through processing remaining and fallen woods from forest cleaning                | 100,000      |        |        |        |

## 6.11 MYANMAR

### 1. Background: Objective Tree

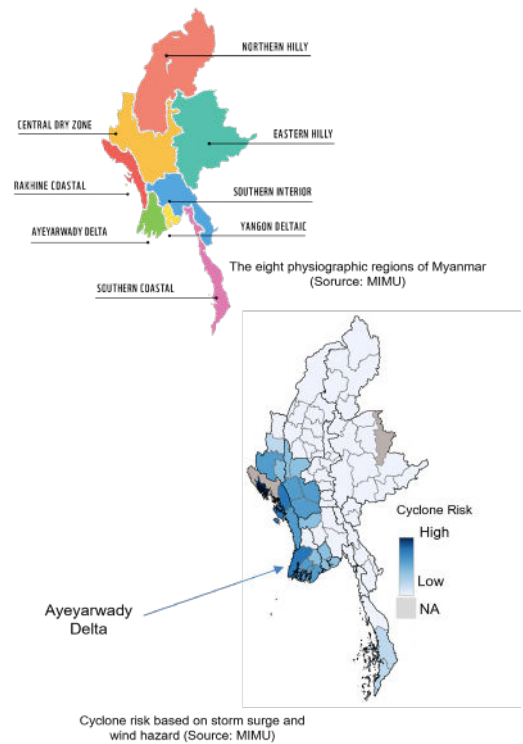


### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

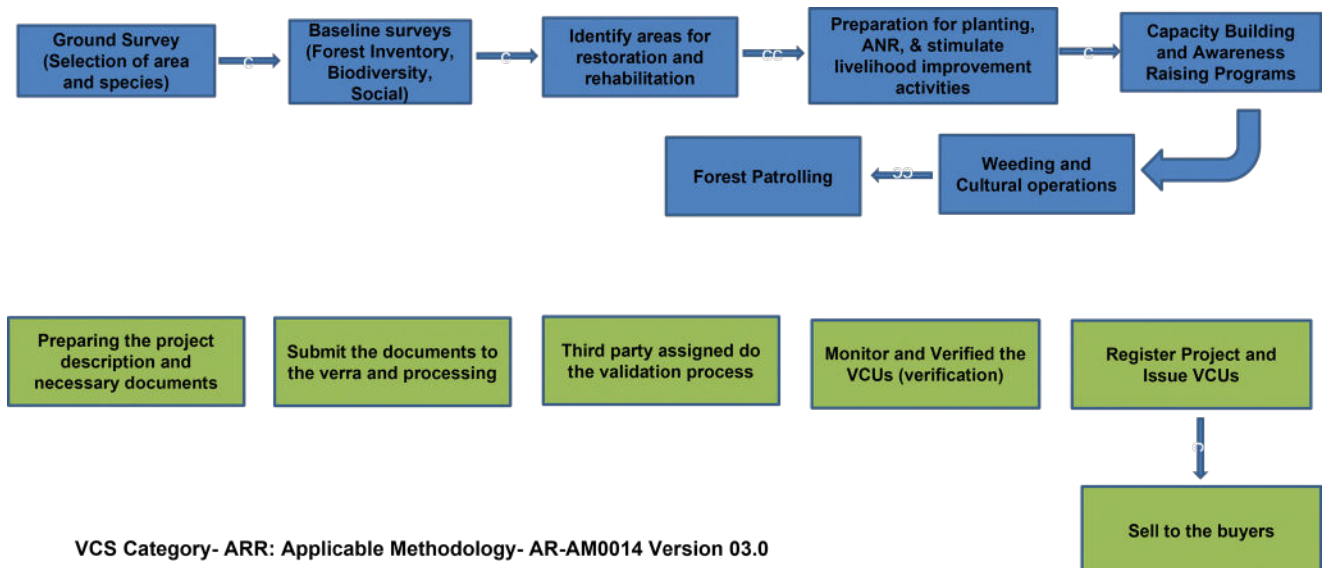
|   | DETAILS  |
|---|--|
| Project Title                           | Climate Change Mitigation through the Community-based Forest Restoration and Improvement of Livelihood Activities  |
| Implementing Organization               | Organization Name: Forest Department (Head office and Township offices)<br>Nature or type: Government Organization<br>Major functions/duties : Implementing Agency as Facilitator, Technical Provider  |
| Project Duration                        | <date of commencement> – <date of completion>  |
| Project Sites                           | Climate Vulnerable Areas in Ayeyarwaddy Delta<br>(To be selected based on desk review and preliminary ground survey)   |
| Main Objectives                         | <ul style="list-style-type: none"> <li>To reduce climate change impacts and enhance the forest carbon sinks through the forest restoration and rehabilitation</li> <li>To contribute the livelihood improvement of the forest dependent local communities in the project area</li> <li>To enhance the conservation of forest ecosystems and biodiversity through the awareness raising programs, creating alternative job opportunities and forest patrolling</li> </ul> |
| Benefactors                             | FD, Local Communities and Relevant Stakeholders  |
| Est. Budget                             | USD\$ 0.9 million  |
| Potential Co-Financing Partners         | KFS/ AFoCO/ GEF/ GCF   |
| Potential environmental and social risk | Issue of land tenure property; Conflicts of interest among the relevant stakeholders; Political Issue  |

### Project Background

- Ayeyarwady Region is one of the most climate vulnerable area especially to the cyclone, intense rain, flood and strong surge.
- In 2008, the Nargis Cyclone was recorded as the worst natural disaster in the history of Myanmar causing extremely devastating, and death to the thousands of people.
- The vulnerability of the delta is probably mainly the result of reduced sediment supply, further compounded by the impacts of population growth and mangrove deforestation (Brakenridge et al., 2017, Fritz et al., 2009).
- Loss of mangrove forests could be due to the land use changes in the expansion of the agriculture and aquaculture expansion and fuelwood extraction.
- The project will be implemented in the most vulnerable parts of the Ayeyarwaddy Region.
- The objective of the project is to contribute to the sustainable forest management for carbon sequestration, disaster risk reduction and poverty alleviation of the communities.



### Project Design and Methodology





## **Expected Outcome and Output**

### **Economic Effects**

- Creating alternative job opportunities
- Increasing household incomes from alternative livelihoods
- Creating market network for local products
- Potential to trade the VCUs

### **Technical Effects**

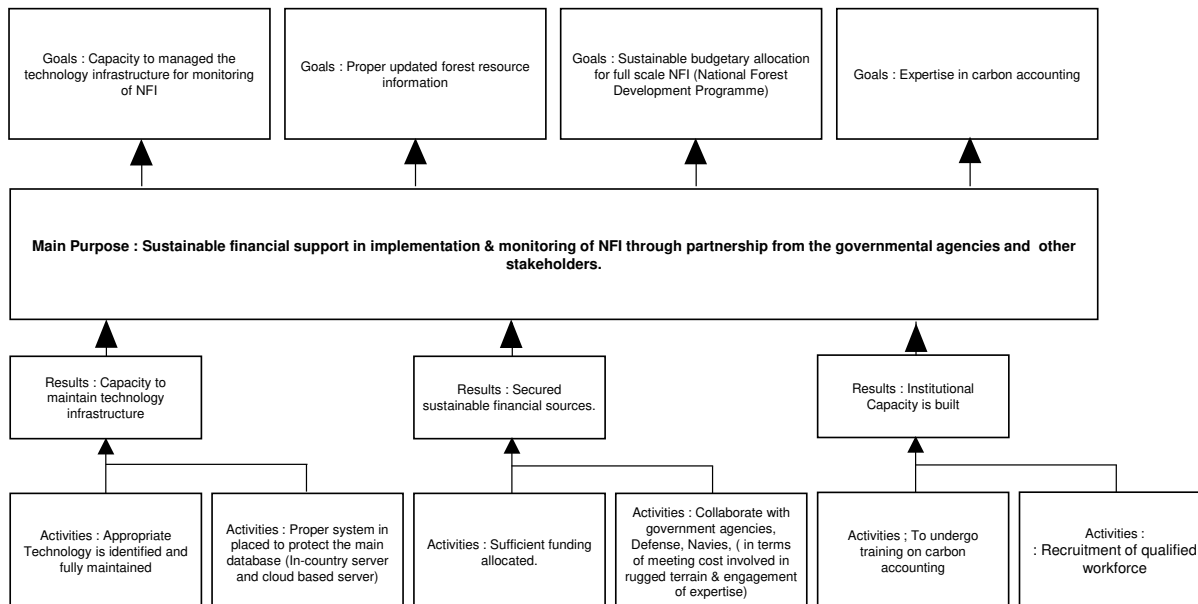
- Accessibility to advanced mangrove restoration techniques
- Accessibility to the livelihood improvement initiatives
- Raise the capacity of the local communities and related stakeholders

### **Social and Environmental Impacts**

- Increasing the climate resilience of local communities
- Reducing the potential risk of natural disasters (e.g. storms and flooding) and less vulnerable to those natural disasters
- Basic Infrastructure development i.e. transportation, health care system and access to good water etc.
- Well-being and social welfare

## 6.12 PAPUA NEW GUINEA

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

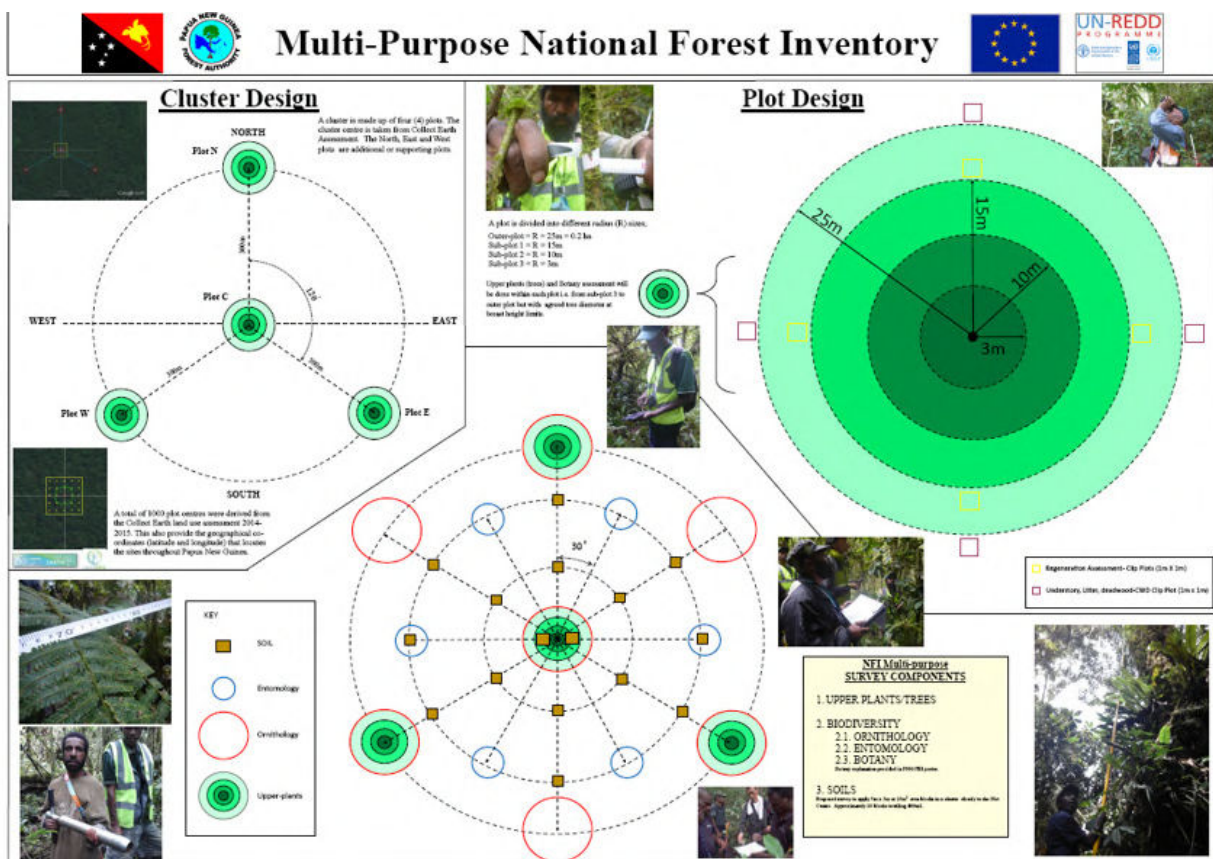
|   | DETAILS  |
|---|--|
| Project Title                           | Implementation of the Multi-purpose National Forest Inventory  |
| Implementing Organization               | Organization Name: PNG Forest Authority and Binatang Research Center<br>Nature or type: Government Agency<br>Major functions/duties : Forest Management  |
| Project Duration                        | 2023-2018  |
| Project Sites                           | Cover 15 provinces   |
| Main Objectives                         | <ol style="list-style-type: none"> <li>To determine the country's carbon stock</li> <li>To provide accurate data for international reports (FRL, BUR, etc.)</li> <li>To update the forest resource information for forest planning and development.</li> </ol> |
| Benefactors                             | National Government, Resource Owners, NGOs/CBOs, Academia and other stakeholders (private sector, etc..)   |
| Est. Budget                             | USD\$ 20 million   |
| Potential Co-Financing Partners         | National Government, EU, GEF, US Aid,  |
| Potential environmental and social risk | <ul style="list-style-type: none"> <li>Resource Owners may not give consent to access cluster site</li> <li>Weather patterns and natural disaster</li> </ul>   |

### Project Background

- Improve existing forest data.
- Carbon stock assessment
- Identify economic and social values
- contribute to international actions to combat climate change and biodiversity loss

### Project Design and Methodology

Based on systematic selection of total forest points – 1000 points by forest types (using collect earth)

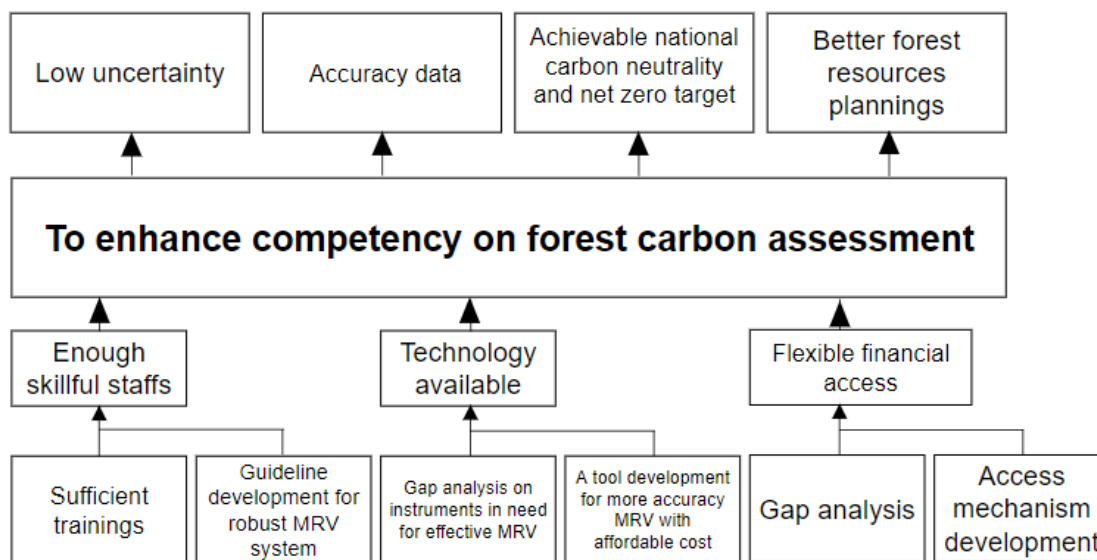


### Expected Outcome and Output

- Confirm remote sensing data and ground truth (carbon stocks)
- Update the existing forest resource information
- Improve country's next Forest Reference Level submission
- Enhance biodiversity database

## 6.13 THAILAND

### 1. Background: Objective Tree



### 2. Specific Action Plan - Overview of Country Proposal for Forest Carbon Assessment

|   | DETAILS  |
|---|--|
| Project Title                           | Capacity building on field MRV implementation to improve MRV data accuracy   |
| Implementing Organization               | Organization Name: Royal Forest Department<br>Nature or type: Capacity building in human capital<br>Major functions/duties : Implementing agency |
| Project Duration                        | 1 year   |
| Project Sites                           | Nationwide   |
| Main Objectives                         | RFD staffs   |
| Benefactors                             | USD\$ 100,000  |
| Est. Budget                             | USD\$  |
| Potential Co-Financing Partners         | AFoCO, FAO   |
| Potential environmental and social risk | N/A  |

### **Project Background**

Due to high accuracy of forest carbon assessment may closely correlate with a collective small number of errors along entire MRV process. To minimize any errors, all data taken during MRV process must be consistent with its standard as much as possible. To do so, related standard methodologies on data measurement, report, and verification must be disseminated to field staffs carefully and continuously. Therefore, this project aims to enhance capabilities on MRV for RFD frontline staffs who directly are operating at the ground level to minimize errors of fresh field data which eventually improve accuracy of forest carbon data.

### **Project Design and Methodology**

1. Gap analysis to find out what we have and need
2. Arrangement of skills in need through series of training
3. Producing and disseminating series of short video clips on MRV through social media platforms such as YouTube
4. Evaluation of trained staff's competency
5. Project documentation

### **Expected Outcome and Output**

1. Gap analysis report
2. 4 Training courses
3. Video clips related to MRV
4. At least 100 Competency staffs on MRV
5. High MRV data accuracy

## 6.14 VIET NAM

N/A

## 7. SURVEY RESULT

After completing all sessions of the workshop, the participants were asked to fill out the questionnaire composed of the organization and preparation of the workshop, subjects, design, comparisons with other workshops, and opinions for the workshop and thirty-four of them responded.

### 7.1 ORGANIZATION AND PREPARATION

Based on the results of the questionnaire (Table 1), 29.4% of the respondents strongly agreed that the organization of the workshop was appropriate, and 47.1% of them agreed to the same survey item.

**Table 1. Organization and Preparation**

| Variable  | Percentage (%) |       |
|---|----------------|-------|
|   | Strongly Agree | Agree |
| The organization of the workshop was appropriate                            | 29.4           | 47.1  |
| I was well informed and kept updated before, during and end of the workshop | 20.6           | 52.9  |
| I was satisfied with the pre-arrangement of the organization                | 20.6           | 67.6  |

### 7.2 EDUCATIONAL ENVIRONMENT

Based on the results of the questionnaire (Table 2), 41.2% of the participants were very satisfied with the Zoom setting and 47.1% of them were satisfied with the same statement. 42.4% of the participants were very satisfied that the hospitality of the RETC staff and 45.5% of them were satisfied with the same statement.

**Table 2. Educational Environment**

| Variable                      | Percentage (%) |           |
|-------------------------------|----------------|-----------|
|                               | Very Satisfied | Satisfied |
| Zoom Setting                  | 41.2           | 47.1      |
| Hospitality of the RETC staff | 42.4           | 45.5      |

### 7.3 COMPARISON WITH OTHER WORKSHOP

Relative to other workshops taken by the participants (Table 3), 52.9% of the respondents answered the overall quality of this training course was "higher", followed by 32.4% who said it was "similar". Half of them said that the level of intellectual challenge presented was "higher", and the participants who said "similar" was 32.4%. 44.1% of the respondents said that the amount of effort they put into this course was "higher", followed by 26.5% who said it was "similar" and "much higher". 44.1% of the respondents answered that the level of involvement/participation in this course was "much higher", followed by 38.2% who responded it was "similar". When they were asked about the amount of knowledge/ information gained through this workshop, 52.9% said it was relatively "higher" than other workshop.

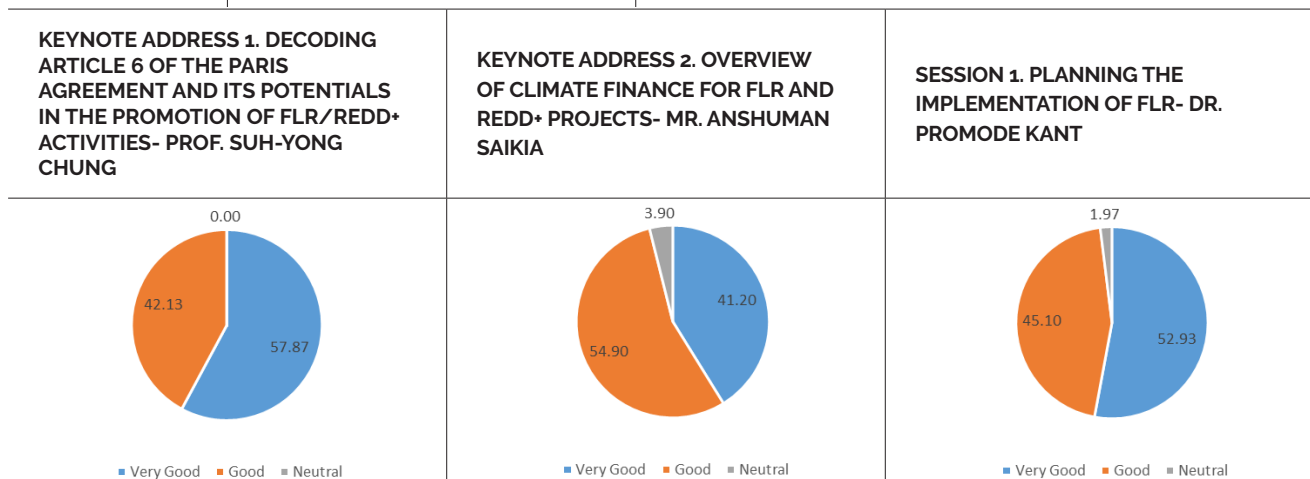
**Table 3. Relative to other workshops taken by the participants**

| Variable   | Frequency (%) |        |         |
|--|---------------|--------|---------|
|  | Much higher   | Higher | Similar |
| The overall quality of this workshop                             | 14.7          | 52.9   | 32.4    |
| The level of intellectual challenge presented                    | 17.6          | 50     | 32.4    |
| The amount of effort participants put into this workshop         | 26.5          | 44.1   | 26.5    |
| The level of involvement/participation in this workshop          | 11.8          | 44.1   | 38.2    |
| The amount of knowledge/information gained through this workshop | 29.4          | 52.9   | 17.6    |

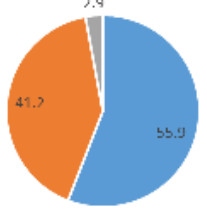
## 7.4 RESOURCE PERSON EVALUATION

| 1. Resource Person Evaluation Elements | Frequency in Average (%) |       |         |
|--|--------------------------|-------|---------|
|  | Strongly agree           | Agree | Neutral |
| Helpful for work and self- improvement | 40.49                    | 52.74 | 6.77    |
| Professionalism of Lecturer            | 56.31                    | 42.43 | 1.26    |
| Performance and attitude of Lecturer   | 55.5                     | 41.2  | 3.4     |

| 2. LIST OF RESOURCE PERSONS |  |  |
|-----------------------------|--|--|
| Name                        | Affiliation  | Sessions   |
| Prof. Suh Yong Chung        | Professor, Korea University  | Keynote address 1. Decoding Article 6 of the Paris Agreement and its potentials in the promotion of FLR/REDD+ activities |
| Mr. Anshuman Saikia         | Portfolio manager for Asia and Oceania-Multilateral Finance (GEF, GCF)- IUCN                                     | Keynote address 2: Overview of Climate Finance for FLR and REDD+ Projects  |
| Dr. Promode Kant            | Chairman of the Expert Appraisal Committee (INFRA2) at the Ministry of Environment, Forestry, and Climate Change | Session1: Planning the Implementation of FLR   |
| Dr. Laddawan Rianthakool    | Associate Professor of Forest Faculty, Kasetsart University  | Session2: Monitoring Activity Data for Forests Using Remote Sensing and Field Measurements                               |
| Prof. Rizaldi Boer          | Professor, Bogor Agricultural University   | Session3: Reporting FLR/REDD+ Performance Using IPCC Guidelines  |
| Dr. Devendra Pandey         | Former Director-General of the Forest Survey of India  | Session4: Estimation of Uncertainties in MRV   |
| Dr. Motoshi Hiratsuka       | Professor of Faculty of Human Science, Waseda University   | Session 5: Joint Crediting Mechanism in Northern Lao PDR   |





| <p><b>SESSION 2. MONITORING ACTIVITY DATA FOR FORESTS USING REMOTE SENSING AND FIELD MEASUREMENTS- DR. LADAWAN RIANTHAKOOL</b></p>   | <p><b>SESSION 3. REPORTING FLR/ REDD+ PERFORMANCE USING IPCC GUIDELINES- PROF. RIZALDI BOER</b></p> | <p><b>SESSION 4. ESTIMATION OF UNCERTAINTIES IN MRV- DR.DEVENDRA PANDEY</b></p> |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
|--|---|---|-----------|-------|------|-------|---------|------|---|----------|------------|------------|----------------|------|-------|---------|---------|---|----------|------------|-----------|-------|------|-------|---------|------|
|  <p>■ Very Good ■ Good ■ Neutral</p> <table border="1"> <tr><th>Category</th><th>Percentage</th></tr> <tr><td>Very Good</td><td>44.43</td></tr> <tr><td>Good</td><td>47.60</td></tr> <tr><td>Neutral</td><td>7.97</td></tr> </table>  | Category  | Percentage  | Very Good | 44.43 | Good | 47.60 | Neutral | 7.97 |  <p>■ Very Good ■ Good ■ Neutral</p> <table border="1"> <tr><th>Category</th><th>Percentage</th></tr> <tr><td>Very Good</td><td>56.87</td></tr> <tr><td>Good</td><td>39.20</td></tr> <tr><td>Neutral</td><td>3.93</td></tr> </table>             | Category | Percentage | Very Good  | 56.87          | Good | 39.20 | Neutral | 3.93    |  <p>■ Very Good ■ Good ■ Neutral</p> <table border="1"> <tr><th>Category</th><th>Percentage</th></tr> <tr><td>Very Good</td><td>52.97</td></tr> <tr><td>Good</td><td>42.17</td></tr> <tr><td>Neutral</td><td>4.87</td></tr> </table> | Category | Percentage | Very Good | 52.97 | Good | 42.17 | Neutral | 4.87 |
| Category   | Percentage  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Very Good  | 44.43   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Good   | 47.60   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Neutral  | 7.97  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Category   | Percentage  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Very Good  | 56.87   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Good   | 39.20   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Neutral  | 3.93  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Category   | Percentage  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Very Good  | 52.97   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Good   | 42.17   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Neutral  | 4.87  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| <p><b>SESSION 5: JOINT CREDITING MECHANISM IN NORTHERN LAO PDR-DR. MOTOSHI HIRATSUKA</b></p>   | <p><b>OVERALL QUALITY OF THE WORKSHOP</b></p>   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
|  <p>■ Very Good ■ Good ■ Neutral</p> <table border="1"> <tr><th>Category</th><th>Percentage</th></tr> <tr><td>Very Good</td><td>49.00</td></tr> <tr><td>Good</td><td>47.07</td></tr> <tr><td>Neutral</td><td>3.93</td></tr> </table> | Category  | Percentage  | Very Good | 49.00 | Good | 47.07 | Neutral | 3.93 |  <p>■ Strongly Agree ■ Agree ■ Neutral</p> <table border="1"> <tr><th>Category</th><th>Percentage</th></tr> <tr><td>Strongly Agree</td><td>55.9</td></tr> <tr><td>Agree</td><td>41.7</td></tr> <tr><td>Neutral</td><td>2.9</td></tr> </table> |          | Category   | Percentage | Strongly Agree | 55.9 | Agree | 41.7    | Neutral | 2.9   |          |            |           |       |      |       |         |      |
| Category   | Percentage  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Very Good  | 49.00   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Good   | 47.07   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Neutral  | 3.93  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Category   | Percentage  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Strongly Agree   | 55.9  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Agree  | 41.7  |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |
| Neutral  | 2.9   |   |           |       |      |       |         |      |   |          |            |            |                |      |       |         |         |   |          |            |           |       |      |       |         |      |

## 8. RECOMMENDATIONS FROM PARTICIPANTS

### Thank you notes:

- Sticking to time limit for presentation
- It would benefit me more if the training was physically arranged, where we can interact and engage face to face, networking with other countries etc...
- Expand workshop one more day is better.
- Overall, the training was good. The way you assigned the role for participants was smart. However, there are some rooms to improve, e.g., moderating regarding the presentation time management.
- N/A
- Everything is good. I hope thankful of this workshop we can achieve goals and take a high result.
- In my opinion, the time for this training could be even longer, considering that there are participants who are still unfamiliar with the material being presented.
- Overall good. Although time-keeping could be made better
- Because of the time difference we were not able to continue with the full programme. That's the only setback I would like to point out.
- Very interesting even though it was a new topic for me...I am very keen to learn more. And please timing needs to be considered in future we don't want to omit some lectures or discussions.
- allow to extend the workshop to 5 days (for next training)
- Probably on the timing of each sessions
- Training was overall Very good on the subject matter.
- Было бы хорошо если бы больше было практических рекомендаций с чего начинать налаживание системы верификации и мониторинга по оценке углерода в стране (It would be nice if there were more practical recommendations on how to start establishing a verification and monitoring system for carbon assessment in the country)
- It would be very useful for Kyrgyzstan to receive more detailed training on the methodology of Monitoring, Reporting and Verification in forest carbon assessment for government officials.
- 3 days training is quite tight and the participant did not have ample time to ask questions. Maybe lengthen the duration will give a better impact to the participant. Thank you.
- 1. Could improve on time management
  2. Need rating session for moderator also
  3. Country report and action plan can be clubbed to a 5-10 presentation
- 1. Training was less interactive and very limited time for participant engagement with lecturer.
  2. Lot of time consumed by the moderator particularly in session 1,2,3 and 4.
  3. Poor time management/ or less time allocation for country presentation.
  4. Country presentation from all country may not be required. Few case studies or countries doing very well in area relevant to training topics may be considered for presentation.
  5. In person training/workshop may be considered in future.
  6. Rating provision for moderator
  7. Development and implementation of MRV was not fully addressed.
- Good
- Some of the lecture/presentations/discussion does not relate to the MRV in Forest Carbon Assessment. No follow up on the action plans that have been prepared and presented.
- No, I don't have any comments on the training.
- Thank You for the opportunity

## 9. LIST OF PARTICIPANTS

| Country           | Name                           | Position                                      | Affiliation   |
|-------------------|--------------------------------|---|---|
| Bhutan            | Mr. Dorji Wangdi               | Principal Forestry Officer                    | Forest Monitoring and Information Division  |
|                   | Ms. Kinley Dem                 | Offtg. Chief Forestry Officer                 | Forest Monitoring and Information Division  |
|                   | Mr. Dawa Zangpo                | Dy. Chief Forestry Officer                    |   |
|                   | Mr. Arun Rai                   | Principal Forestry Officer                    |   |
| Brunei Darussalam | Ms. Miza Ghani                 | Technical officer                             | Forestry Department   |
|                   | Ms. Rahmalina Rahman           | Technical officer                             | Forestry Department   |
|                   | Ms. Liyana Yahya               | Forestry Officer                              | Forestry Department   |
| Cambodia          | Mr. Phuong Sophea              | Technical Officer                             | Department of Forest Plantation Development and Private Forest, Forestry Administration |
|                   | Mr. Khin Sokimon               | Technical Officer                             | Department of Forestry and Community Forestry, Forestry Administration                  |
| Fiji              | Mr. Viliame Tupua              | The Ministry's MRV expert                     | Ministry of Forestry  |
|                   | Ms. Zoyha Nisha                | Forestry Officer GIS                          | Ministry of Forestry  |
|                   | Mr. Aporosa Ramulo             | Forestry Officer Projects and Related Support | Ministry of Forestry  |
| India             | Mr. Vinod Kumar                | Assistant Commissioner (Forestry)             | Ministry of Environment, Forest and Climate Change                                      |
|                   | Mr. Jitesh Kumar               | Assistant Commissioner (Forestry)             | Ministry of Environment, Forest and Climate Change                                      |
| Indonesia         | Ms. Riana Indria Astita        | Forest Technician                             | Directorate General of Watershed Management and Forest Rehabilitation                   |
|                   | Ms. Rully Dhora Carolyn        | Policy Analyst                                | Directorate General of Climate Change   |
|                   | Mr. Frengki Ardiansyah Saputra | Forest Ecosystem Management                   | Balai KPH Ampang Plampang   |
|                   | Mr. Satrio Erland Prakoso      | Staff   | UPT KPHP Minas Tahura   |
|                   | Ms. Antun puspanti             | Researcher                                    | National Agency for Research and Innovation, Indonesia (BRIN)                           |
|                   | Mr. Mohamad Siarudin           | Researcher                                    | National Agency for Research and Innovation, Indonesia (BRIN)                           |
|                   | Ms. Rezki Wahyuni Anwar        | Staff   | UPT KPHP Unit I Bulusaraung   |
| Kazakhstan        | Mr. Yernar Sarsenbayev         | Project Manager AFoCO 028                     | Ministry of Ecology and Natural Resources of Kazakhstan                                 |
|                   | Ms. Ainur Zhassulanova         | Chief Expert                                  | Ministry of Ecology and Natural Resources of Kazakhstan                                 |

| Country          | Name                              | Position  | Affiliation  |
|------------------|-----------------------------------|---|--|
| Kyrgyzstan       | Ms. Seideeva Siuzanna             | Chief specialist  | Forest Service under the Ministry of Agriculture of the Kyrgyz Republic  |
|                  | Ms. Bostonalieva Zhyldyz          | Leader specialist   | Forest Service under the Ministry of Agriculture of the Kyrgyz Republic  |
|                  | Ms. Kozhombardieva Zhyldyz        | Chief Specialist  | Forest Service under the Ministry of Agriculture of the Kyrgyz Republic  |
| Lao              | Mr. Veosavanh Saysavanh           | Technical staff   | REDD+ Division, Department of Forestry, Ministry of Agriculture and Forestry   |
|                  | Mr. Somphavy Keoka                | Technical staff   | Forest Inventory and Planning Division, Department of Forestry, Ministry of Agriculture and Forestry                         |
| Malaysia         | Ms. Eirna Yani binti Mohd Arip    | Senior Assistant Secretary                                | Ministry of Plantation and Commodities   |
|                  | Ms. Nor Hasnita binti Mohd Shukri | Assistant Secretary                                       | Ministry of Plantation and Commodities   |
|                  | Ms. Millicent Abdullah            | Researcher  | Forest Department Sarawak, Malaysia  |
| Mongolia         | Ms. Maralgoo Ganbat               | Healthy Forest Project Coordinator                        | National Forest Agency (NFA) and ICCF Group  |
|                  | Mr. Altangadas Janchivdorj        | Senior Forest Research, Innovation and Technology Officer | National Forest Agency (NFA)   |
| Myanmar          | Mr. Nay Myo Win                   | Assistant Director  | Forest Department  |
|                  | Ms. Kay Khine                     | Staff Officer   | Training and Research Development Division, Forest Department  |
|                  | Dr. Yu Ya Aye                     | Assistant Director  | Forest Research Institute, Forest Department   |
|                  | Ms. Khaing Wut Hmone              | Staff Officer   | Forest Research Institute, Forest Department   |
|                  | Dr. San Win                       | Director  | Climate Change Division, Environmental Conservation Department, Ministry of Natural Resources and Environmental Conservation |
|                  | Ms. Hsu Yemon Kyaw                | Staff Officer   | Forest Department  |
| Papua New Guinea | Ms. Elizabeth Kaidong             | Acting Manager Climate Change                             | Papua New Guinea Forest Authority  |
|                  | Mr. Timothy Palpali               | Senior Plantation Management Officer                      | Papua New Guinea Forest Authority  |
|                  | Mr. Manuel Wakol                  | Inventory Officer   |  |

| Country     | Name                        | Position                                       | Affiliation   |
|-------------|-----------------------------|--|---|
| Singapore   | Mr. Hassan Ibrahim          | Deputy Director                                | International Biodiversity Conservation, National Parks Board (Singapore) |
|             | Mr. Mohamad Fairoz Mohamed  | Senior Manager                                 | International Biodiversity Conservation, National Parks Board (Singapore) |
|             | Ms. Lorraine Tan            | Senior Manager                                 | International Biodiversity Conservation, National Parks Board (Singapore) |
|             | Ms. Ester Suen              | Senior Manager                                 | International Biodiversity Conservation, National Parks Board (Singapore) |
| Thailand    | Mr. Komsan Rueangritsarakul | Forestry Technical Officer, Senior Level       | Royal Forest Department   |
|             | Ms. Hathaiporn Buathong     | Forestry Technical Officer, Practitioner Level | Community Forest Management Office  |
| Timor-Leste | Mr. Mario Godinho           | National Director                              | Directorate of Community Forest Development                               |
|             | Mr. Fonseca Julio           | Forestry Technical Officer                     |   |
| Viet Nam    | Dr. Phung Van Khoa          | Associate Professor, Vice President            | Vietnam National University of Forestry                                   |
|             | Mr. Do Anh Tuan             | Lecturer                                       | Vietnam National University of Forestry                                   |
|             | Mr. Nguyen Van Thinh        | Head   | Department of Forest inventory and sustainable forest management          |
|             | Mr. Pham Tien Dzung         | Deputy Head                                    | Department of Forest inventory and sustainable forest management          |
| -           | Ms. Chi Bui                 | Doctoral Researcher                            | University of Helsinki  |



### **Asian Forest Cooperation Organization (AFoCO)**

AFoCO is a treaty-based intergovernmental organization that is committed to strengthening forest cooperation and taking concrete actions to promote sustainable forest management and address the impacts of climate change.

### **AFoCO Regional Education and Training Center (RETC)**

AFoCO RETC was established as a subsidiary organ of AFoCO to develop the capacities of member countries in dealing with forestry and related environmental issues. The RETC provides practical and problem-solving oriented training programs, training courses, and workshops to enhance the knowledge and skills of diverse participants including government officials from member countries, researchers, university students, and members of local communities, among others.

[www.afocosec.org](http://www.afocosec.org)

### **International Tropical Timber Organization (ITTO)**

ITTO is an intergovernmental organization promoting the sustainable management and conservation of tropical forests and the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests.

[www.itto.int](http://www.itto.int)

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