Developing a framework and methodology to carbon sinks from the forestry sector in Samoa

Deliverable 4.2-4.4.-Workshop Presentation, Program agenda

NATIONAL INSTITUTE OF GREEN TECHNOLOGY

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

NATIONAL INSTITUTE OF GREEN TECHNOLOGY

Capacity building workshop for REDD+ implementation in Samoa

◆ **[Date]** 20-24 May, 2024

◆ **[Venue]** National Institute of Green Technology (NIGT), Seoul, Republic of Korea

◆ **[Aim]**

- Assess Samoa's readiness for REDD+ implementation by sharing CTCN project results
- Identify a policy framework for REDD+ implementation in Samoa
- Explore opportunities for bilateral cooperation by sharing Korea's overseas experience in REDD+ implementation

◆ **[Schedule]**

Time	Schedule	Note
(Day 1) 20 May, Monday		
Arrival		(KE 176)
(Day 2) 21 May, Tuesday		
09:00-11:00	Go to Songdo	
11:00-12:00	Meeting with CTCN PALO	
12:00-13:30	Lunch	
13:30-14:30	Meeting with GCF	
14:30-16:30	Back to Seoul	
(Day 3) 22 May, Wednesday		
09:00-09:10	Welcoming	NIGT President Dr. Sanghyup Lee
09:10-09:30	Kick-off meeting	**NIGT** (Presentation) Project Progress
09:30-10:10	Seminar 1 (Presentations and Discussions)	**Korea University** (Presentation) Forest carbon management and policy in Pacific Island countries
10:10-10:50	Seminar 2 (Presentations and Discussions)	**National Institute of Forest Science** (Presentation) Case of REDD+ MRV assessment in developing countries
10:50-11:30	Seminar 3 (Presentations and Discussions)	**APEC Climate Center** (Presentation) Case of Climate Information

		Services for Resilient Development Planning in Pacific Island
11:30-13:30	Lunch	
13:30-14:00	Samoa's readiness for REDD+	**Samoa** (Presentation) Samoa's REDD+ readiness
14:00-15:00	Follow-up project discussion	
15:00-15:30	Break	
15:30-17:30	REDD+ Workshop	**NIGT & Samoa** Developing a REDD+ framework for Samoa -Define the framework objective -Formulate a draft of framework
18:00-19:00	Dinner	
(Day 4) 23 May, Thursday		
10:00-12:00	REDD+ Workshop	**Developing a REDD+ framework for Samoa** - Share and Review the draft of the framework - Finalize the framework
12:00-14:00	Lunch	
14:00-16:30	Wrap-up Meeting	**Lessons Learned from CTCN TA** **Follow-up project proposal**
16:30-17:00	Break	
17:00-19:00	Dinner	
(Day 5) 24 May, Friday		
Departure		(KE 411)

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Follow-up Project Idea

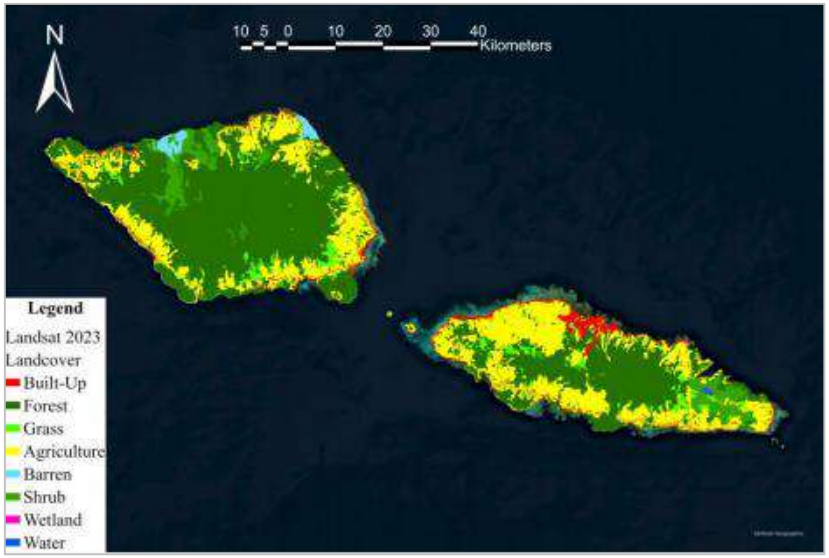
Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

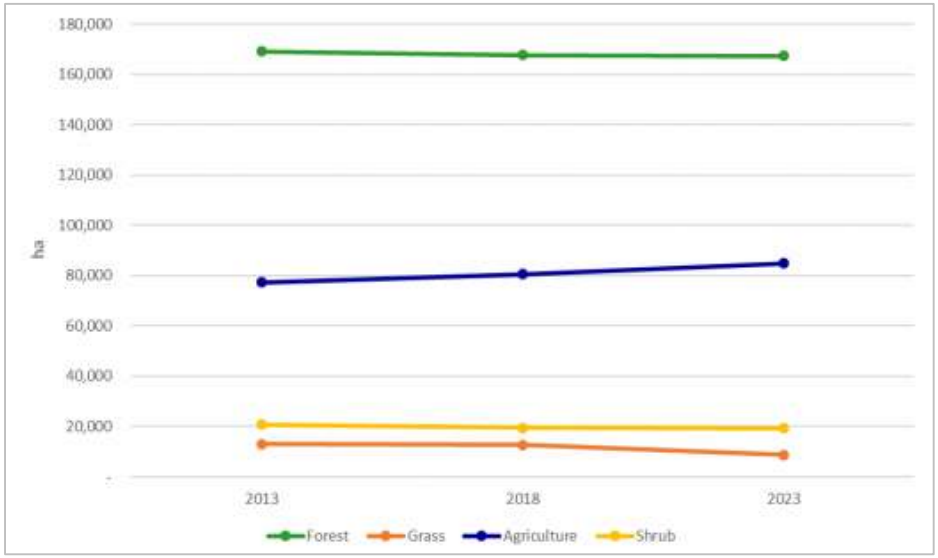
April 17, 2024

1. Key outputs of the CTCN/TA project

1.1 Classification of land use

- Utilization of Landsat 8 and 9 for creating **time-series land use maps** for Samoa (covering the years 2013, 2018, and 2023).
- These time-series land use maps were instrumental in identifying **patterns of land use change**, which were subsequently linked to socioeconomic factor analysis.





Time-series land use maps for Samoa (2013, 2018, and 2023)

1. Key outputs of the CTCN/TA project

1.1 Classification of land use (cont'd)

- Utilization of Landsat 8 and 9 for creating **time-series land use maps** for Samoa (covering the years 2013, 2018, and 2023).
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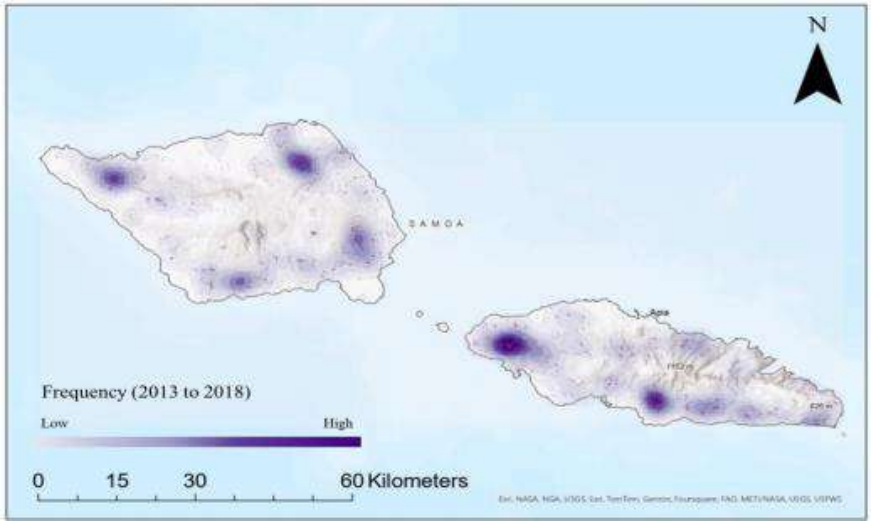
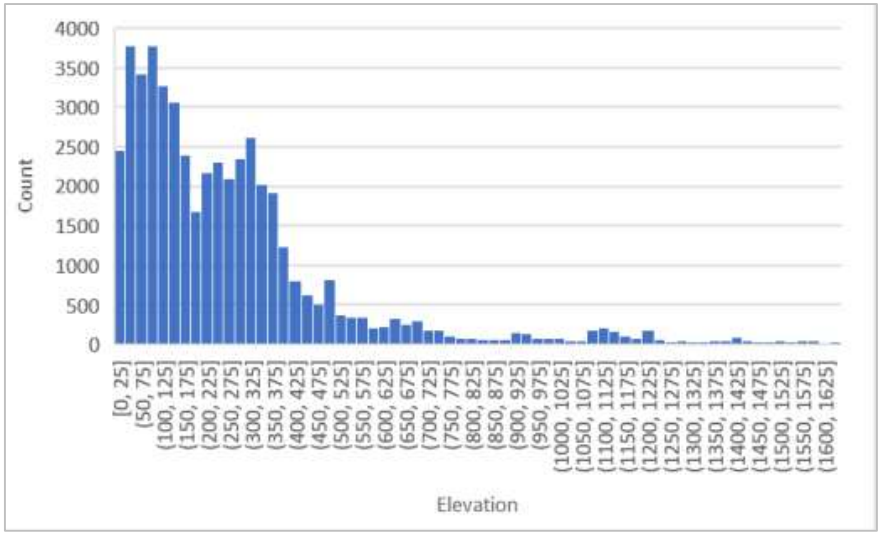


Spatial distribution of land use change (2013 and 2018)



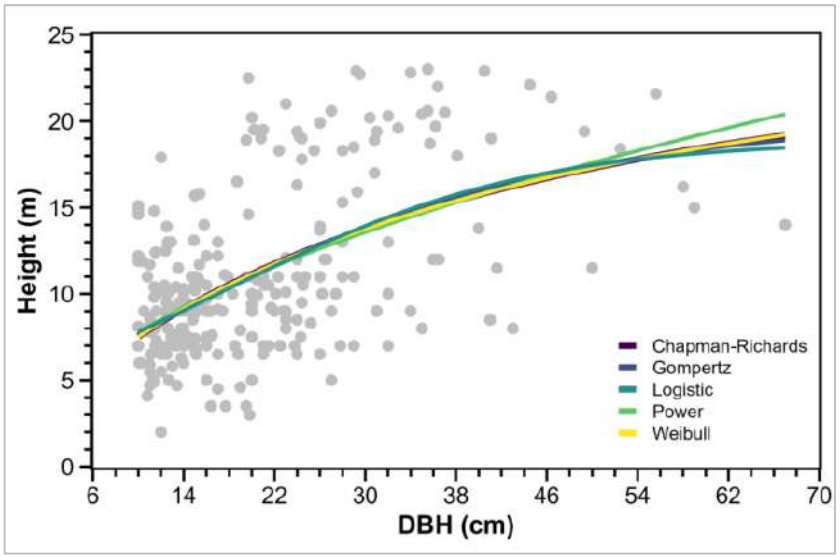
Distribution of land use change by elevation (2013 and 2018)

1. Key outputs of the CTCN/TA project

1.2 Forest carbon estimation model

- Conducted **fieldwork** at 12 sites in Upolu, Samoa (6 FO, 4 FP, 2 FS)
- Selected five models based on height and thoracic height data and used non-linear regression to derive the **height-diameter at breast height(DBH) relationship**

Field research area

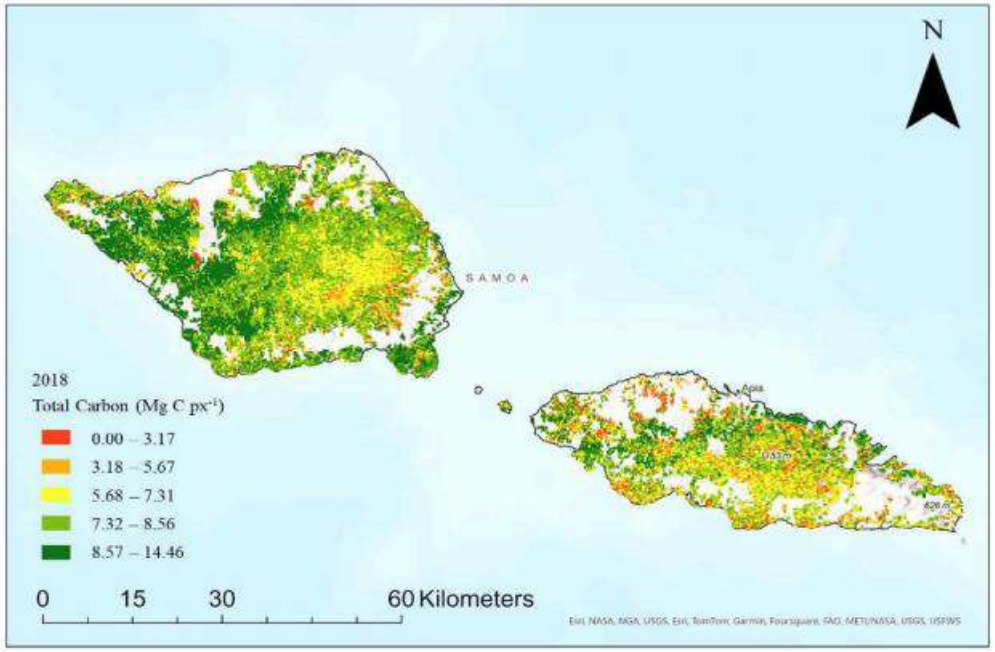


Height-DBH height relationship

1. Key outputs of the CTCN/TA project

1.2 Forest carbon estimation model (cont'd)

- Calculation of aboveground and belowground biomass using the tree height-DBH relationship and literature review
- Development of a regression model to estimate forest carbon stocks using NDVI(normalized difference vegetation index) and biomass



Forest carbon stocks (2018)

2. Areas of advancements

2.1 Quality of data

- Method of imagery classification and the criteria for classification require refinement
  - Pixel-based classification to segmentation classification → reducing noise and achieving smoother segmentation of land surfaces

- Land use at a macro scale, restricting its understanding of the division between forests and other land uses
  - Need to adopt a classification system based on Samoa's six categories

3. Follow-up project idea

Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

3.1 Objectives

- The project aims to establish the **technological and institutional foundations for REDD+-based mechanisms in Samoa**
  - To enable results-based compensation and the utilization of carbon markets through bilateral agreements.

- It endeavors to stimulate international carbon reduction projects by harnessing **South Korea's bilateral Official Development Assistance (ODA)** and other resources
  - This strategy outlines the utilization of Government-to-Government (G2G) and ODA for similar initiatives.

3. Follow-up project idea

Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

3.2 Components

1 Advancing Forest Carbon Data

- Enhancing forest carbon data accuracy
- Adoption of precise imagery methods and refined forest classification techniques
- Validation of data accuracy through cross-comparison of different set of data

2 Building a Web-Based System

- Developing a system using satellite imagery and data to precisely assess carbon stocks across different land uses
- Key functionality includes land use classification, carbon storage quantification

3 Developing Guidelines/Conducting Training Programs

- Developing system user guidelines tailored for government officials and researchers
- Comprehensively covering the operational aspects of the system, enabling users to effectively leverage its features to contribute to Samoa's forest carbon management

4 Establishing a NS/AP

- Developing a strategic framework which will serve as a precondition for REDD+ implementation
- Integrating the data-driven into the framework using the insights provided by the established web-based system.

3. Follow-up project idea

Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

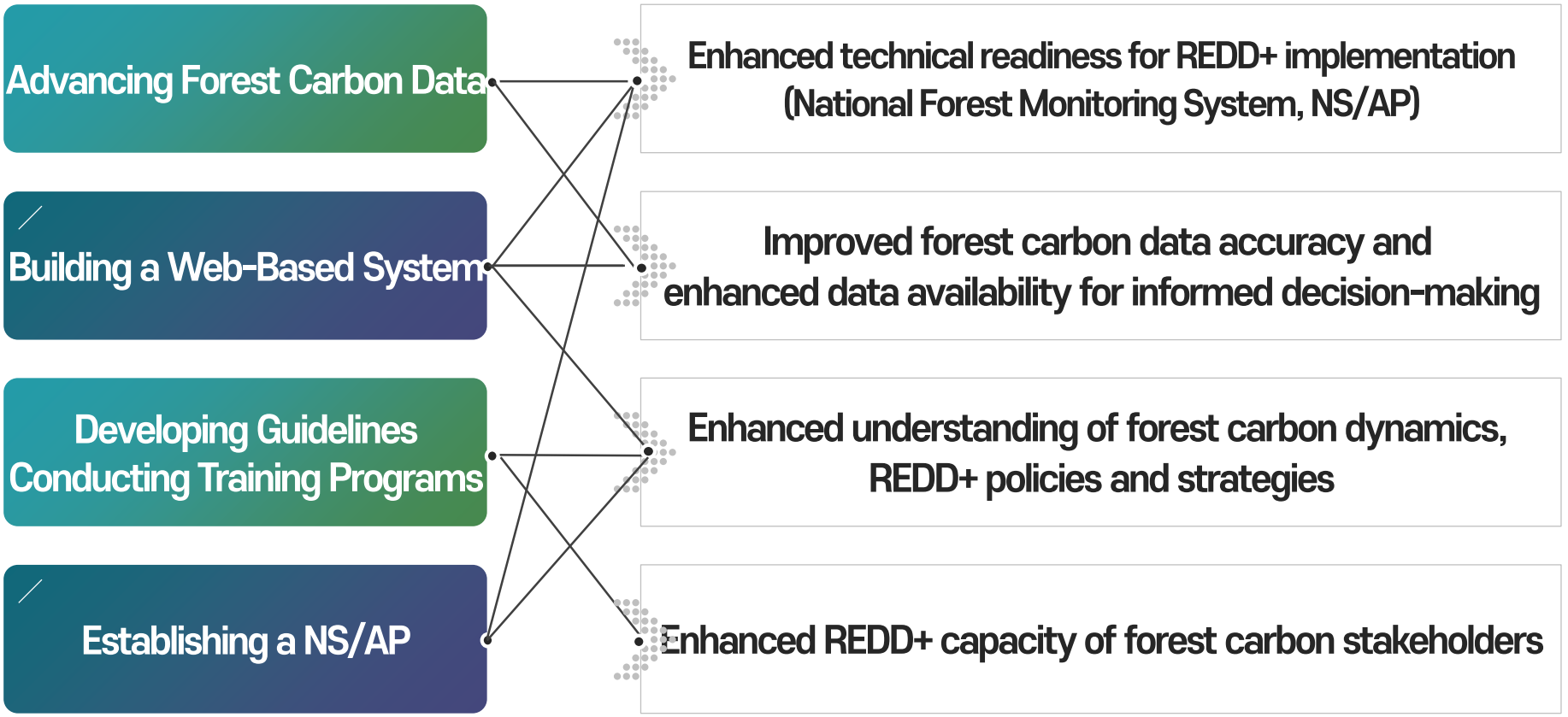
3.3 Key Outputs

Advancing Forest Carbon Data	Development of forest carbon estimation data (by 6 forest categories)
Building a Web-Based System	Development of forest carbon web-based system (software tool)
Developing Guidelines Conducting Training Programs	Development of system user guidelines Development/operation of training programs
Establishing a NS/AP	Establishment of a national strategy or action plan for REDD+ implementation

3. Follow-up project idea

Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

3.4 Expected Outcomes



3. Follow-up project idea

Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

3.5 Target funding

01	**Funding**	Korea ODA (Ministry of Science and ICT)
02	**Duration**	3 years (2026–2028)
03	**Budget**	USD 1.1 M
04	**Implementation**	Collaborative RD&D research (Korea and Samoa)
05	**Application**	Submission of Application Form

Apr 2024

Submission of Application Form to MOF (signed by MNRE)

Submission of Official Letter to Embassy (signed by MOF)

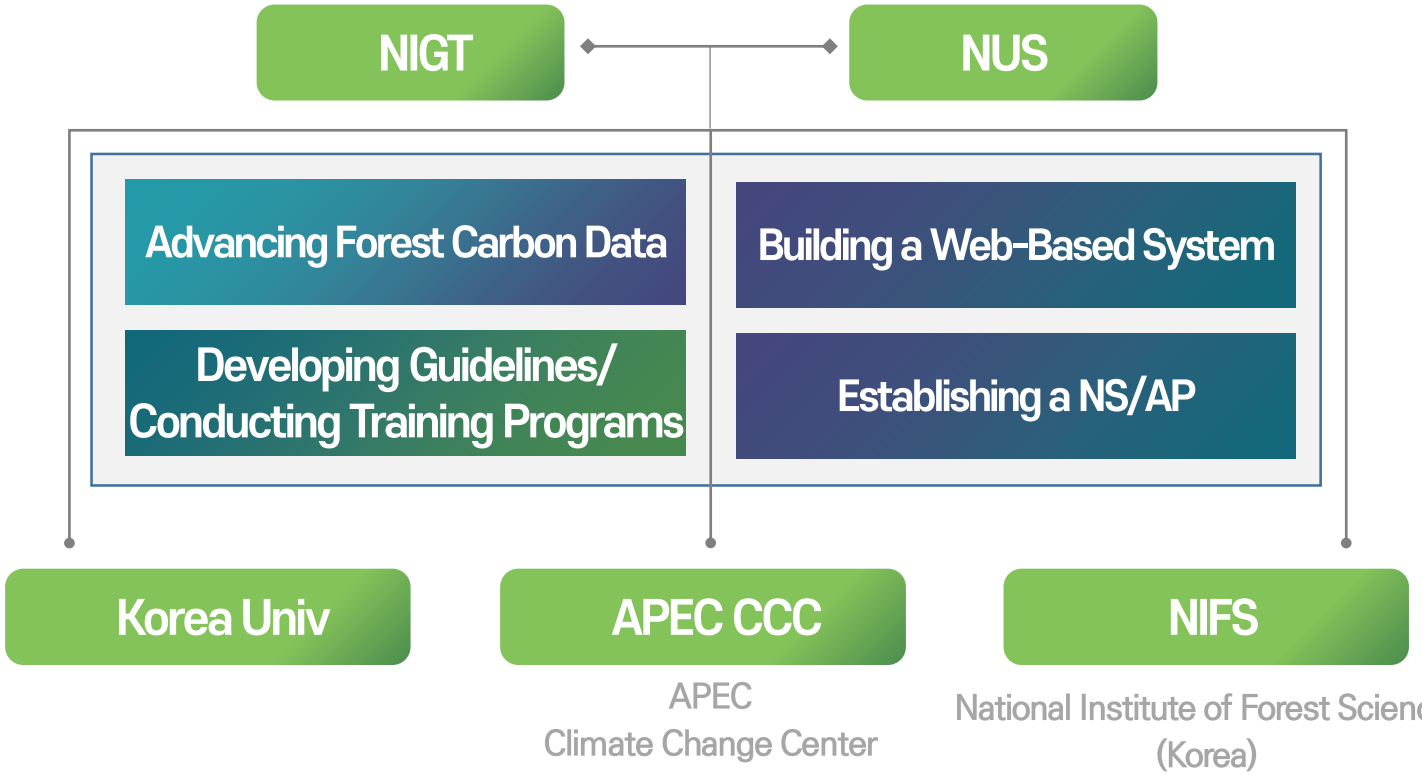
MAY 2024

Submission to Korea's Ministry of Science and ICT

3. Follow-up project idea

Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

3.6 Implantating institutions (tentative)



3. Follow-up project idea

Development of Forest Carbon Data System and Policy Framework for REDD+ Implementation in Samoa

3.7 Current status

- Revising a Concept Note to draft an Application Form
  - In collaboration with the Korean implementation institutes

- A collaboration request has been sent to the National University of Samoa, addressed to Vice Chancellor Tuifuisa'a Professor Patila Malua-Amosa
  - *Not yet received the response (Focal: Professor Faainuseimalie Latu)*

Thank you

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