



ITTO Project: PD 927/22 Rev.2 (F)

DEVELOPMENT OF AN INFORMATION SYSTEM ON THE POTENTIAL OF WOOD AND CARBON TO SUPPORT SUSTAINABLE FOREST MANAGEMENT IN SOUTH KALIMANTAN, INDONESIA

**Progress Report
(August 2024 – February 2025)**



**INTERNATIONAL TIMBER TRADE ORGANIZATION
February 2025**

Brief of the Project

Project Title : DEVELOPMENT OF AN INFORMATION SYSTEM ON THE POTENTIAL OF WOOD AND CARBON TO SUPPORT SUSTAINABLE FOREST MANAGEMENT IN SOUTH KALIMANTAN, INDONESIA

Project Number : PD 927/22 Rev.2 (F) Indonesia

Project Objective : to contribute to the effective planning and monitoring sustainable forest management practices in South Kalimantan, Indonesia. Specifically, the project is to develop an information and database system on the potential of wood production and carbon emission/sequestration to facilitate decision-making, identify opportunities and monitor the progress of sustainable forest management in South Kalimantan, Indonesia.

Donor : Forest Services of USA and Australian Government

Project Signed : ITTO with Directorate of Forest Resources Inventory and Monitoring Ministry of Environment and Forestry on June 2024

Duration : 36 months

Starting Date : 01 August 2024

Completion Date : 31 Januari 2027

Executing Agency : Directorate of Forest Resources Inventory and Monitoring Ministry of Environment and Forestry in collaboration with Planning Board Agency South Kalimantan Province

Implementing Agency: BAPPEDA Kalsel (local government developing and planning agency)

Funding from ITTO : USD 233,300

Funding from Government of south Kalsel : USD 35,020

Total Project Budget : USD 268,320

Key contact person:

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List of Abbreviations and Acronyms

BAPPEDA Regional Planning Board

BPKHTL Forest Area Consolidation and Environment Governance Agency

BPHL Production Forest Management Agency

BPSKL Social Forestry and Environmental Partnership Office

IAC (Information Awareness Community)

KPH (Kesatuan Pengelolaan Hutan = Forest Management Unit (FMU))

NDVI (Normalized Difference Vegetation Index)

KTH (Kelompok Tani Hutan = forest farmer group)

Table of Contents

	Page
1. Description of the project	4
1.1 Recruitment of Project Coordinator and Project Staff.....	4
1.2 ITTO Secretariat	5
1.3 Recruitment of Experts	6
2. Execution of the Workplan.....	7
2.1 Workplan review	7
2.2 Progress in Implementation of the project activities.....	8
2.3 Highlight of achievement in august 2024-February 2025	11
2.4 Financial Progress.....	17
2.5 Output Achievements	18
3. Critical Analysis and Project Progress	31
4. Conclusions	32

Annex

Annex 1 Signed MoU between ITTO and Directorate of Forestry Planning and Environmental Governance	33
Annex 2 NOL for recruitment of Project staff	44
Annex 3 NOL for recruitment of Project Experts	45
Annex 4 TORs of project staff	46
Annex 5 Transferred fund from ITTO and remaining fund in the bank account.....	56

Annex 4

1. Description of the project

Developing a robust information system on the potential of wood production and carbon sequestration is essential to promote sustainable forest management in South Kalimantan, Indonesia, where the timber industry is important for economic growth, value-added products, and export potential. This information system would provide forest managers and policymakers with reliable and up-to-date information on the potential of wood production and carbon emission/sequestration, as well as the monitoring and evaluation of progress toward sustainable forest management goals. This system would facilitate evidence-based decision-making, leading to more sustainable forest management practices. This could also lead to the development of new forest-based industries, job creation, and income generation for local communities.

The project aims to contribute to the effective planning and monitoring sustainable forest management practices in South Kalimantan, Indonesia. Specifically, the project is to develop an information and database system on the potential of wood production and carbon emission/sequestration to facilitate decision-making, identify opportunities and monitor the progress of sustainable forest management in South Kalimantan, Indonesia.

To ensure the effective achievement of sustainable forest management, the project intends to produce three outputs: 1) Strengthening the data and information collection system to assess changes in forest cover, forest growth, carbon stocks, wood production, social information and others as a solid foundation for sustainable forest management. 2) Improving the wood and carbon information systems to support decision-making tools and monitoring and evaluation of progress to toward achieving sustainable forest management goals. 3) Enhancing the coordination of SFM policy information network systems with engagement of forest managers, policymakers, local communities, academics and other relevant groups.

1.1 ITTO Secretariat

The project management team consists of a Project Coordinator, project finance/Secretary and local field coordinator (project technician). Project planned activities will be executed with the assistance of partners as indicated in the previous section.

The appointment of the project main staff has not been made yet but initial contact has been conducted to individual persons. It is noted that some project staff are actually working in normal positions and assigned to assist with the project as additional work. The proposed names, positions and contact details are shown below:

Table 1. The names, position and contact in the project

Title	Name	Position/Telp/Email
Supervisor	Erik Teguh Primiantoro, S.hut., MES.	Director of Inventory and Forest Resources Monitoring, Directorate General of Forestry Planning and Environment Governance, MoEF
Project Coordinator	Ahmad Jauhari	Project Coordinator/+62-82158494646/ ajauhari@ulm.ac.id
Project Secretary-Finance	Kamila Rizqa Devisasmita	Secretary-Finance/+62-81257347545/kamilarizqa29@gmail.com

TORs of the project staff are attached in Annex ---

1.2 ITTO Secretariat

Table 2. The name, position and contact in the ITTO

Title	Name	Position/Telp/Email
Supervisor	Dr. Tetra Yanuardi	Projects Coordinator of Division of Trade and Industry, ITTO Secretariat Tel. +81-45-223-1110 Email: tetra@itto.int

The organizational units related to this project

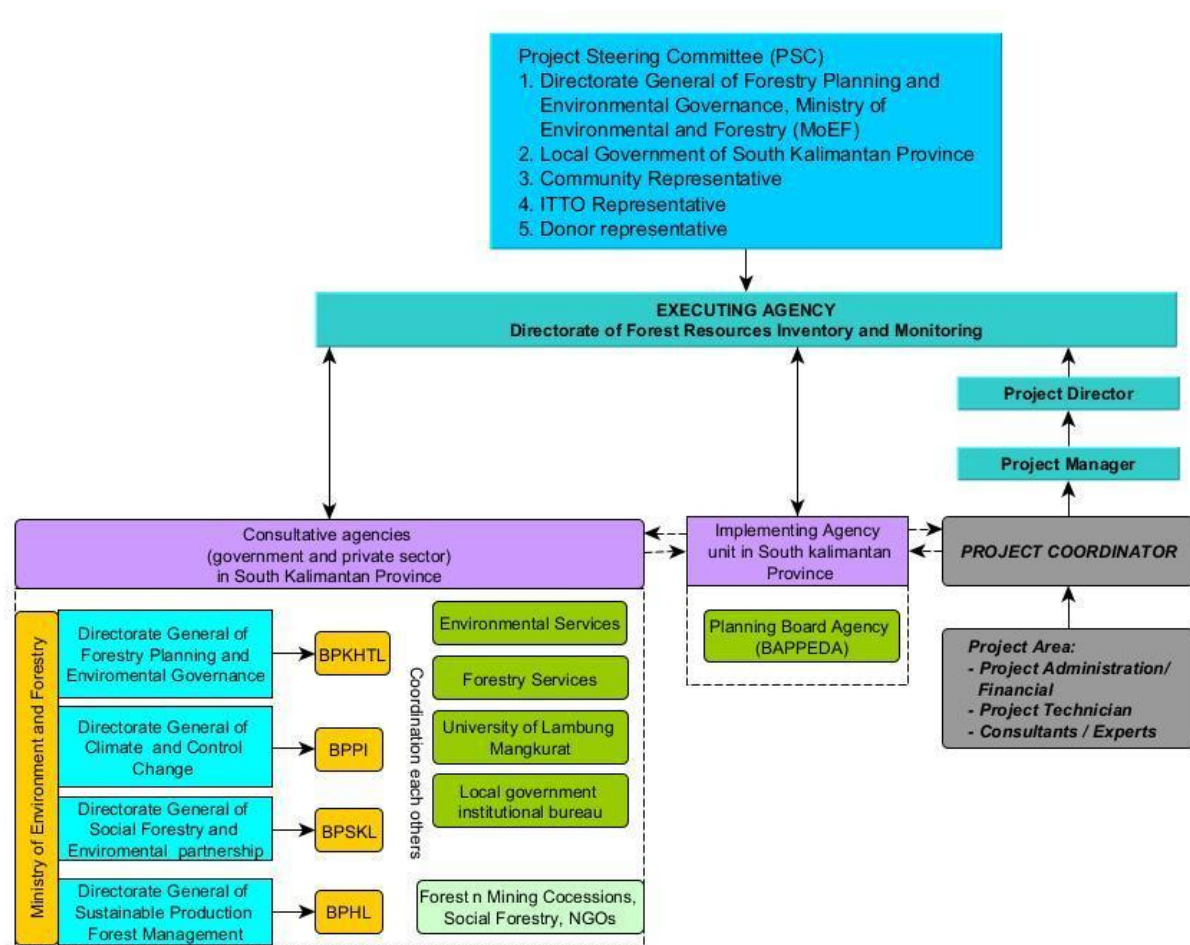


Figure 1. Organizational units of the project

1.3 Recruitment of Experts for the project

On October 21, 2024 , the experts was appointed to support the implementation of ITTO Project: PD 927/22 Rev.2. The presence of this expert aims to strengthen the project's execution, particularly in the areas of sustainable forest management, forest carbon measurement, and community-based timber inventory. With their expertise and experience, the expert is expected to make a strategic contribution to enhancing the methodologies and effectiveness of the programs implemented in South Kalimantan.

Table 3. Experts of the project

No	List of Experts	Position	Duration	Activity Number
1	Dr. Ir. Hafizianor, S. Hut, MP, IPU	Community-based expert	2 Months	1.1
2	Dr. Yusanto Nugroho, S.Hut, MP	Expert of carbon stock analysis (PSP Area)	2 Months	1.2
3	Dr. Ir. Mufidah Asyari, MP	Expert of carbon stock analysis (Non PSP Area)	2 Months	1.2
4	Munysi, S. Kom, M.T	Programmer (Expert of IT)	2 Months	1.3
5	M. Deta Gian Faiz, S.Kom	Assistant expert of IT	1 Month	1.3

TORs of experts for the project are attached in Annex

2. Execution of the Workplan

2.1 Workplan review

The progress in implementation at the last date of the period covered by this report (August-February 2025) is shown below:

Table 4. Work Plan Project

Work Plan Monthly August-February 2025 ITTO PD 927/22 Rev 2										
Output 1	Activities	Sub Activities	2024					2025		Status
			Aug	Sep	Oct	Nov	Des	Jan	Feb	
Strengthening the data and information collection system to assess changes in forest cover, forest growth, carbon stocks, wood production, social information and others as a solid foundation for sustainable forest management.	Preparing	Preparing for operational office	X							
		Kick off meeting		X						
		Preparing forestry and computer equipment			X					
	1.1 To organize two focus group discussions on planning framework for the establishment of a robust data and information system for SFM involving concerned authorities and the Information-Aware Community	Focus Group Discussion (FGD) with experts to design a data and information system.				X				
		Training for the Community-based Information for data updates on-site.							X	
	1.2 To review the performance of the existing permanent sample plots (PSP) and reconstruct six PSPs (4 in natural forests and 2 in plantation forests) with a detailed survey list forest cover, forest growth, carbon stocks, wood production, social information and others	Preparation of permanent sample plots (PSP) and initial assessment (4 natural forests, 1 plantation forest).				X				
		Collecting the data of established PSP and non-PSP plots.						X		

Work Plan Monthly August-February 2025 ITTO PD 927/22 Rev 2										
Output 1	Activities	Sub Activities	2024					2025		Status
			Aug	Sep	Oct	Nov	Des	Jan	Feb	
		Development of Standard Operating Procedures (SOP) for PSP data management.							X	
	1.3 To establish a data and information system for the targeted PSPs with development of standard operating procedures for conduction of management operations by difference stakeholders and establish community units/groups at the site level to help update the latest data on forest conditions.	Procurement of web hosting for website development and real-time data reporting for the project.		X						

2.2 Progress in Implementation of the project activities

Progress of the activities for all outputs

Table 5. Progress of workplan

Outputs and Activities	Percentage executed	Original planned completion date	Estimated completion date
Output 1: Strengthening the data and information collection system to assess changes in forest cover, forest growth, carbon stocks, wood production, social information and others as a solid foundation for sustainable forest management.			
Preparing the project			
Preparing for operational office	100 %	Aug 2024	Aug 2024
Kick off meeting	100%	Sept 2024	Oct 2024
Preparing forestry and computer equipment	100%	Oct 2024	Oct 2024
Activity 1.1 To organize two focus group discussions on planning framework for the establishment of a robust data and information system for SFM involving concerned authorities and the Information-Aware Community (IAC)			
Focus Group Discussion (FGD) with experts to design a data and information system.	100%	Nov 2024	Jan 2025
Training for the Community-based Information for data updates on-site.	100%	Feb 2025	Feb 2025
Activity 1.2 To review the performance of the existing permanent sample plots (PSP) and reconstruct six PSPs (4 in natural forests and 2 in plantation forests) with a detailed survey list forest cover, forest growth, carbon stocks, wood production, social information and others			
Preparation of permanent sample plots (PSP) and initial assessment (4 natural forests, 1 plantation forest).	100%	Nov 2024	Dec 2024
Collecting the data of established PSP and non-PSP plots.	100%	Nov 2024	Dec 2025
Development of Standard Operating Procedures (SOP) for PSP data management.	100%	Jan 2025	Feb 2025

Activity 1.3 To establish a data and information system for the targeted PSPs with development of standard operating procedures for conduction of management operations by difference stakeholders and establish community units/groups at the site level to help update the latest data on forest conditions.

Procurement of web hosting for website development and real-time data reporting for the project.	100%	Sept 2024	Oct 2024
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2.3 Highlight of Achievements in 2024-2025

2.3.1 Kick Off Meeting (ITTO) Project PD 927/22 Rev 2(F)

On Monday, September 23, 2024 The Kick-Off Meeting for the implementation of the International Tropical Timber Organization (ITTO) Project PD 927/22 Rev 2(F) "Development of an Information System on the Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan" was held on BAPPEDA South Kalimantan. The Head of BAPPEDA South Kalimantan Mr. Dr. Ir. Ariadi Noor, M.Si as implementing agency in this project reaffirmed his commitment to supporting the development of a sustainable carbon information system. He emphasized the use of advanced technology in the project, including drones, satellites, and field surveys, to ensure accurate and up-to-date data availability. With these technologies, decision-making regarding forest management and carbon emission control can be improved and expedited. He also expressed his hope that the carbon information system would not only aid in environmental management but also contribute to the overall development of South Kalimantan. The system is expected to be a crucial step in supporting environmental sustainability while fostering economic growth through more efficient and sustainable resource management.



Figure 1. Kick-Off Meeting for the implementation of the International Tropical Timber Organization (ITTO) Project PD 927/22 Rev 2(F) in BAPPEDA of South Kalimantan.

2.3.2 First Socialization of Community-Based Information for the ITTO Project in KPH Tanah Laut

On November 18, 2024, the first socialization was conducted to introduce and strengthen Community-Based Information in support of ITTO Project: PD 927/22 Rev.2(F) at KPH Tanah Laut. This activity aimed to introduce the concept of community-based reporting for forest monitoring, particularly in reporting timber yields from their respective areas. During the session, the community was given an understanding of the importance of accurate and transparent information systems in sustainable forest management. An interactive discussion was held to explore the community's aspirations and readiness to actively participate in this reporting system. As a result of this socialization, the community expressed their willingness to participate in reporting timber yields from their forest areas. They also welcomed the upcoming training sessions designed to enhance their capacity in systematic data collection and reporting. The success of this socialization marks a positive initial step in establishing a community-based information system that supports more sustainable forest management.



Figure 2. Socialization of Community-Based Information for the ITTO Project in KPH Tanah Laut

2.3.3 *Expose of Project to all KPH in South Kalimantan*

On January 14, 2025, the first project expose was conducted for all Forest Management Units (KPH) in South Kalimantan at BAPPEDA South Kalimantan. This event aimed to present the progress and implementation results of ITTO Project: PD 927/22 Rev.2, focusing on forest land change by community-based using reporting systems. The event was officially opened by the Head of Regional Infrastructure, Mrs. Anisa Murni, ST, MM, who emphasized the importance of community involvement in forest conservation and understanding the potential of forest resources, particularly carbon and timber. It is hoped that this activity will raise public awareness about forest conditions and the sustainable utilization of forest resources. Following the opening, Project Coordinator Mr. Dr. Ir. Ahmad Jauhari, MP. IPU delivered a technical presentation on the project's implementation, including progress updates, field challenges, and future strategic steps. Through this exposé, all KPHs in South Kalimantan are expected to gain a deeper understanding of the project and actively contribute to supporting its sustainability in their respective areas.



Figure 3. first project expose was conducted for all Forest Management Units (KPH) in South Kalimantan at BAPPEDA South Kalimantan.

2.3.4 *Development of the Information Awareness Community-Based (IAC)*

On February, 10 2025. The IAC was established as a platform for community participation

in sustainable forestry information management. The formation of IAC began with a Focus Group Discussion (FGD) involving forest farmer groups (KTH) and other stakeholders to align perceptions regarding the role and benefits of a community-based information system. Following this, digital technology training based on a Geographic Information System (GIS) was conducted, enabling communities to report forestry activities in real-time through a smartphone-based application. Through this training, communities are expected to manage forestry data, including timber products, non-timber forest products, and carbon stock, to support evidence-based policies and a more transparent carbon trade system.

After the establishment of IAC, a digital information system was developed to support forestry data management and reporting. The IAC management structure was formed to ensure the sustainability of activities and strengthen coordination between the community, government, and the private sector. Initial evaluations indicated a high level of community participation, with strong willingness to adopt digital systems for forestry data reporting. Moving forward, strengthening the legal status of IAC through an official Decree (SK) and institutional support at the district and provincial levels is necessary to ensure the long-term operation of this information system, maximizing its benefits for sustainable forest management.

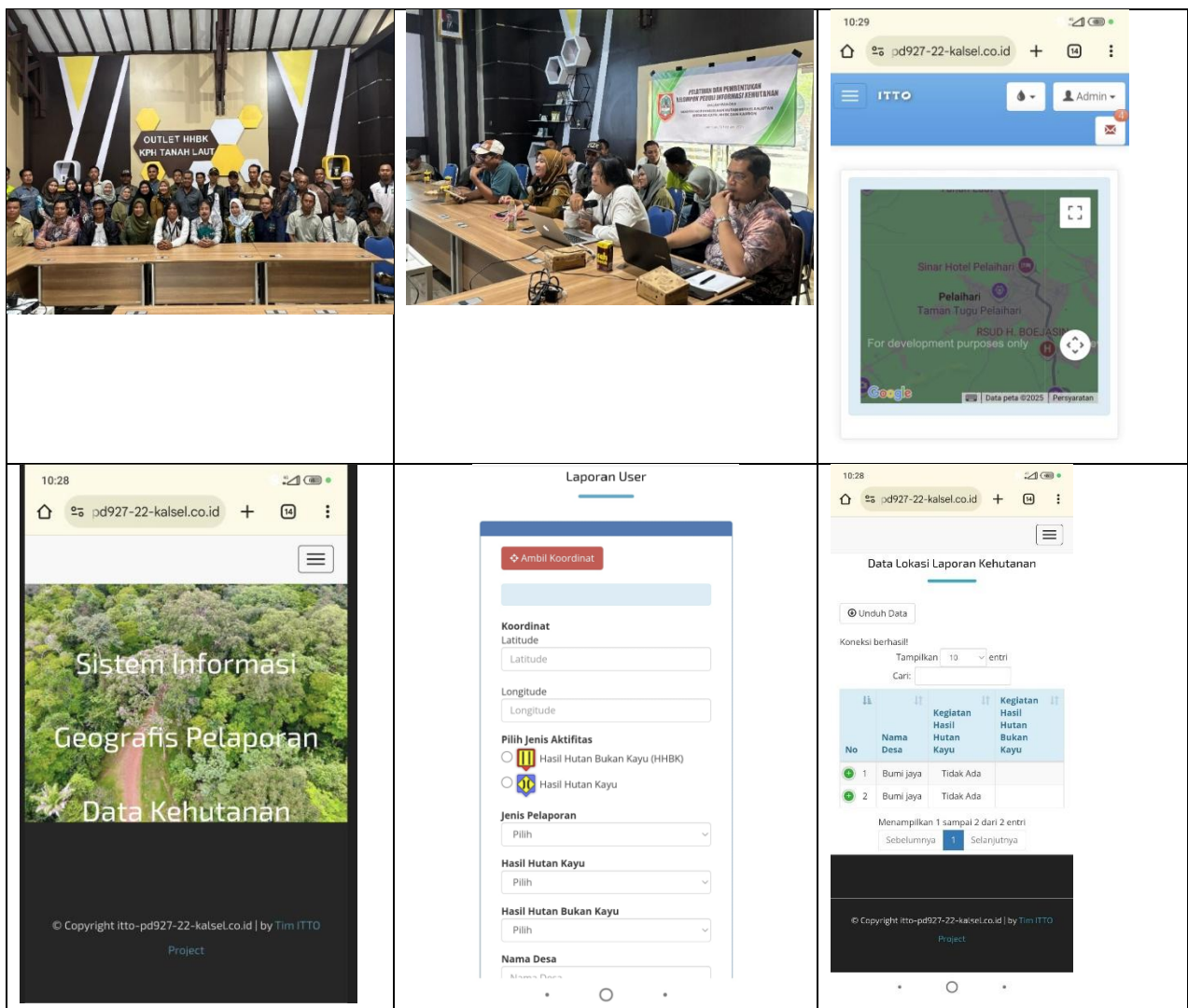


Figure 4. Development of the IAC in KPH Tanah Laut

2.3.5 Permanent Sample Plot (PSP) Development

On November 5, 2024, preparations were carried out for the selection of locations for Permanent Sample Plots (PSP) based on specific criteria, including soil types classified as Oxisol (infertile soil) and Cambisol (moderately fertile soil), proximity to accessible areas, and safety considerations. The selected locations meeting these criteria were situated within the Education Forest of Lambung Mangkurat University.

In the areas with Oxisol soil, two PSPs were established within secondary forests and two within natural forests. Meanwhile, in the areas with Cambisol soil, two PSPs were designated within secondary forests. Additionally, one PSP was established within a plantation forest located in the Miniature Tropical Rainforest (MH2T) area, which has been planted with a diverse range of native tree species.

All PSP locations were surveyed using a Multispectral Drone, which enabled the acquisition of NDVI (Normalized Difference Vegetation Index) values with a resolution of 10 cm per pixel. In contrast, satellite imagery, such as Sentinel-2 satellite images, provided NDVI data at a resolution of 10 meters per pixel. By utilizing both sources of imagery, regression equations can be formulated to generalize NDVI data across the entire study area.

The establishment of PSPs plays a crucial role in facilitating long-term monitoring and assessment of forest growth. The data obtained from PSPs allow for the prediction of timber volume and carbon stock increments over the years through the analysis of growth increment data. This approach provides valuable insights for sustainable forest management and conservation efforts.

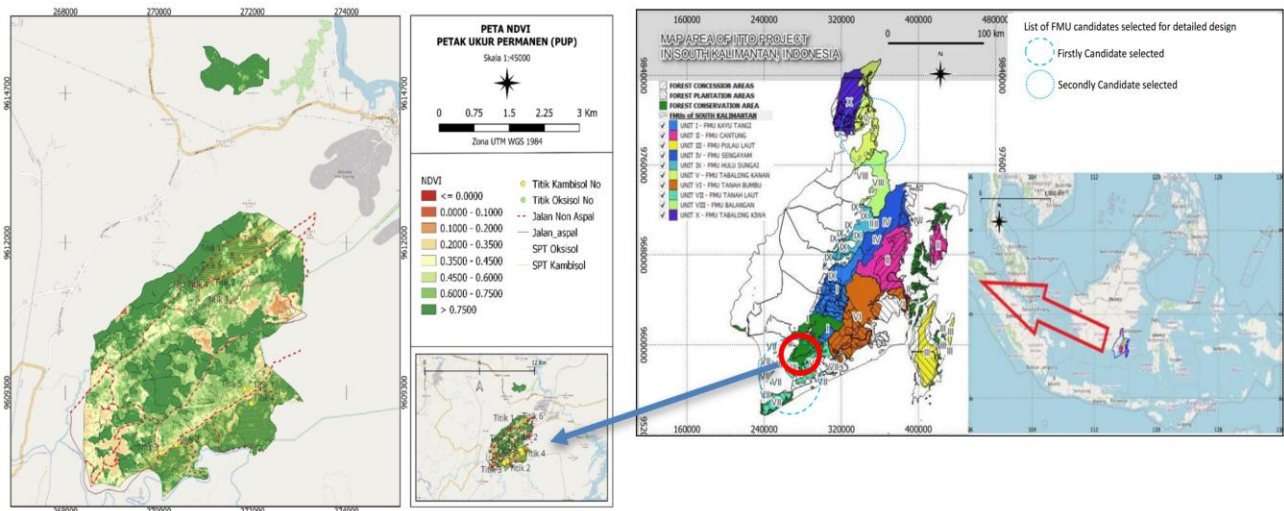


Figure 5. Map Location of PSP and Non-PSP area



Figure 6. Development of PSP, data PSP collecting and analysis.

2.3.6 Ground Survey for Wood and Carbon Potential

On November 20, 2024, a field survey was conducted to assess the potential timber and carbon stocks in the Non-PSP area located within the Forest Education zone of Universitas Lambung Mangkurat. This area is classified as a conservation forest and is an integral part of the Forest Park TAHURA Sultan Adam in South Kalimantan. The primary objective of this

survey was to evaluate the potential biomass and necromass of vegetation, providing essential data on timber volume, carbon stock, and species richness within the study area. A total of 35 sample plots, each measuring 20x20 meters, were systematically distributed across the selected study area. The placement of these plots followed a random yet proportionally stratified approach based on the different classes of Normalized Difference Vegetation Index (NDVI) values present in the area. The assessment included detailed measurements of both living and dead vegetation, focusing on key dimensional attributes necessary for estimating biomass accumulation and decomposition processes.

By gathering data on timber stock, carbon sequestration potential, and biodiversity, this survey contributes to a broader understanding of forest ecosystem dynamics in conservation areas. The findings are expected to support sustainable forest management strategies, enhance conservation efforts, and provide valuable insights into the ecological role of the Forest Education area within the larger TAHURA Sultan Adam landscape.



Figure 7. Data Collecting, processing and Analysis in Non-PSP Area.

2.4 Financial Progress

Under the MOU signed, ITTO will provide up to **USD 233,300** (Two hundred thirty-three thousand three hundred US Dollars) to and the Government of South Kalimantan Province shall contribute **USD 35,020** (Thirty-five thousand, twenty-eight) to cover the estimated project costs. The amount will be paid in semi-annual instalments as the project progresses. The first disbursement of **USD 50,000** (fifty thousand US Dollars).

In this period, the government of South Kalimantan contribute for the preparation and during this project is Rp 82,824,807 (**USD 5,405**).

The expenditure of the Project Budget currently incurred is explained below

Table 6. Financial Report August-February 2025

Project No: PD 927/22 Rev 2(F) **Period on:** August 2024 - February 2025

Project title: DEVELOPMENT OF AN INFORMATION SYSTEM ON THE POTENTIAL OF WOOD AND CARBON TO SUPPORT SUSTAINABLE FOREST MANAGEMENT IN SOUTH KALIMANTAN, INDONESIA

Category	Description	TOTAL	ALLOCATION YEAR 1	TOTAL EXPENDITURE	BALANCE
10.	Project Personnel	(Unit Cost US\$)			
11.	National Experts				
	11.1 Project Coordinator	54000	21,600	10,800	10,800
	11.2 Project Secretary/Financial	12,150	4,860	2,430	2,430
	11.3,Project Technician	12,300	4,920	0	4,920
	11.4 Other	0	0	0	0
12.	Other Personnel				
	12.1 Assistant 1	5,845	1,948	1,863	85
	12.2 Other labour	2,969	990	186	804
13.	National Consultant(s) (short term)				
	13.1 Consultant Forest Management in PSP	4,552	1,517	1,510	7
	13.2 Consultant Forest Management in Non-PSP	4,552	1,517	1,510	7
	13.3 Consultant Forest Institution	4,138	1,379	1,510	-131 *)
	13.4 Consultant Programmer (+Assistant)	5,172	1,724	1,705	19
	13.5 Consultant Forest Economic	1,517	0	0	0
	13.6 Consultant Gender	2,621	0	0	0
14.	International Consultant(s)				
	14.1 Forest Inventory Expert	0	0	0	0
	14.2 Consultant 2	0	0	0	0
15.	Fellowships and Training				
	15.1 Training 1 (specify beneficiaries)	1,966	0	0	0
	15.2 Training 2	0	0	0	0
19.	Component Total:	111,781	40,456	21,514	18,941
20.	Sub-contracts				
21.	Sub-contract (Topic e.g. mapping, etc.)	0	0	0	0
22.	Sub-contract (Topic 2)	0	0	0	0
29.	Component Total:	0	0	0	0
30.	Travel				
31.	Daily Subsistence Allowance				
	31.1 National Expert(s)/Consultant(s)	4,500	1,500	0	1,500
	31.2 International Consultant(s)	0	0	0	0
	31.3 Others	3,000	1000	427	573
32.	International Travel	0	0	0	0
	32.1 National Expert(s)/Consultant(s)	0	0	0	0
	32.2 International Consultant(s)	0	0	0	0
	32.3 Others	0	0	0	0
33.	Local Transport Costs	0	0	0	0
	33.1 National Expert(s)/Consultant(s)	1,500	500	0	500
	33.2 International Consultant(s)	0	0	0	0
	33.3 Others	0	0	0	0

	34	Domestic Travel	3000	1,000	0	1000
	39.	Component Total:	12,000	4000	427	3,573
40.	Capital Items					
	41.	Capital Items	0	0	0	0
	42.	Land	0	0	0	0
	43.	Vehicle(s)	0	0	0	0
	44.	Capital Equipment	0	0	0	0
		44.1 Computer Equipment (specify)	2,225	2,225	4,332	-2,107 **)
		44.2 Forestry Equipment (specify)	36,897	36,897	14,666	22,231 **)
		44.3 Others	2,815	2,815	846	1,969
	49.	Component Total:	41,937	41,937	19,844	22,093
50.	Consumable Items					
	51.	Raw Materials	0	0	0	0
	52.	Spares	0	0	0	0
	53.	Utilities	0	0	0	0
	54.	Office Supplies	3000	1,000	54	946
	59.	Component Total:	3000	1,000	54	946
60.	Miscellaneous					
	61.	Sundry	0	0		
	62.	Audit Costs	6,000	0		
	63.	Contingencies	0	0		
	64.	Meeting / Workshop	12,000	4,000	3,486	514
	65.	Miscellaneous	706	235	239	-4
	69.	Component Total:	18,706	4,235	3,275	510
70.	Project Preparation / Production					
	71.	Project preparation / Production	700	700	0	700
	79.	Component Total:	700	700	0	700
		Sub-Total:	188,124	92,328	45,562	46,766
80.	Project Monitoring & Administration					
	81.	ITTO Monitoring and Review	15,000			
	82.	ITTO Mid-term and Ex-post Evaluation	5,000			
	83.	ITTO Programme Support Costs	24,996			
	83.	Donor Monitoring Costs	0			
	89.	Component Total:	44,996			
90.	Refund of Pre-project Costs		0			
		Sub-Total:	44,996			
100.		GRAND TOTAL:	233,300	92,328	45,562	46,766

*) This value is due to an input error for salary in the contract

**)) change in value due to changes in the type of Drone and its software purchased which are adjusted to the needs of the project. This is already known by the Project Manager and is in accordance with NOL.

2.4 Output Achievements

The objectives of this project for the first year is:

Output 1: Strengthening the data and information collection system to assess changes in forest cover, forest growth, carbon stocks, wood production, social information

and others as a solid foundation for sustainable forest management.

Activity 1.1 To organize two focus group discussions on planning framework for the establishment of a robust data and information system for SFM involving concerned authorities and the Information-Aware Community (IAC)

Achievement 95%

The recruitment of Dr. Hafiz as a community and institutional development expert commenced on October 14, 2024, and concluded on November 14, 2024 (Annex 2). Throughout his tenure, Dr. Hafiz undertook a series of activities aimed at enhancing community engagement and institutional capacity in forest resource management.

1.1.1 Focus Group Discussion (FGD)

The formation of the Community Information Care Group (IAC) was initiated through a socialization activity in the form of FGD, which aimed to raise community awareness about the importance of information in forest resource management. The FGD was convened at the KTH (Forest Farmer Group) Kariya Jaya, Ambungan Village, Pelaihari District, Tanah Laut Regency, on November 18, 2024. This interactive forum facilitated an exchange of ideas and perspectives among community members, enabling them to better comprehend the significance of information in forest management.



Figure 8. FGD Activities in Forest Farmer Groups in KHP Tanah Laut

1.1.2 Training on the Use of Smartphone-Based Land Cover Change Monitoring Application

A training program on the utilization of digital technology (e.g., website or smartphone-based application) was conducted on February 10, 2025, at the Tanah Laut Forest Management Unit (KPH) Hall, Pelaihari City. The primary objective of this training was to enhance the capacity of community members in accessing and managing information related to forest resource management.

The training curriculum encompassed: 1) Understanding the basics of KMPI: Acquiring knowledge on the fundamental principles of KMPI, existing regulations, and its benefits. 2) Operationalization of geographic information systems for forestry data reporting: Utilizing digital technology (e.g., website or smartphone-based application) to monitor changes in forest ecosystems and analyze relevant data. 3) Data-Driven Decision Making: Leveraging data to make informed decisions that support sustainable forest management at the local level.



Figure 9. Smartphone-Based Land Cover Change Monitoring Information System

1.1.3 Establishment of the Community Information Care Group (IAC)

The establishment of the IAC took place on February 10, 2025, at the Tanah Laut Forest Management Unit (KPH) Hall, Pelaihari City. Community members from the Social Forestry Group who participated in the Focus Group Discussion (FGD) and training activities were constituted into the Tanah Laut Forest Management Unit IAC. This group is entrusted with the responsibility of sharing information related to forest resource management and utilization.

The IAC members have undergone training to collect, store, and distribute relevant information through a digital information system accessible via smartphone. This platform enables the community to access and share information on forest management, thereby facilitating informed decision-making. Furthermore, the IAC will serve as a vital communication channel between the community and the government or related institutions to convey issues or policies related to forest management.

The IAC management structure comprises a Chairperson, Secretary, Treasurer, Socialization Division, Technology Division, and Members. The management team was elected through a deliberation among all KTH representatives present during the FGD and training activities, ensuring a democratic and inclusive decision-making process.



Figure 10. Rapat Pembentukan IAC pada KTH-KTH di KPH Tanah Laut

Activity 1.2 To review the performance of the existing permanent sample plots (PSP) and reconstruct six PSPs (4 in natural forests and 2 in plantation forests) with a detailed survey list forest cover, forest growth, carbon stocks, wood production, social information and others

Achievement 90%

Pursuant to the project requirements, Dr. Yusanto was engaged as a carbon stock analysis expert for the Permanent Production Forest (PSP) area, while Dr. Mufidah was engaged as a carbon stock analysis expert for the non-PSP area, for the period of October 14 to November 14, 2024 (Annex 2). During his tenure, Dr. Yusanto undertook the following activities:

1.2.1 PSP Development

A total of 13 Permanent Sample Plots (PSPs), each measuring 20x20 meters, were successfully established as part of this activity. These PSPs were divided into two main areas based on soil type, with eight PSPs located in Oxisol areas and five in Cambisol areas. The selection of PSP locations was conducted by considering key criteria, including land cover classification derived from NDVI analysis using Multispectral Drone imagery, soil type (fertility level), and safety conditions.

The land cover classification used as the basis for site selection included several NDVI value ranges: -0.90 to 0.00, representing areas with cloud and water cover; 0.00 to 0.10, covering open land and mining areas; 0.10 to 0.20, representing grasslands and paddy fields; 0.20 to 0.30, indicating old shrubland; 0.30 to 0.40, covering plantations or young secondary forests; 0.40 to 0.75, representing secondary forests with varying tree densities from sparse to dense; and >0.75, indicating primary natural forests. This approach ensures that each PSP represents a distinct ecosystem condition, thereby providing comprehensive data for vegetation and carbon analysis. Meanwhile, the PSPs within the plantation forest areas of the Miniature Tropical Rainforest (MH2T) and PT Hutan Rindang Banua are still under development.

Each established PSP has been equipped with various supporting facilities to ensure the sustainability of future research. These facilities include permanent boundary markers at each corner of the plot to maintain long-term territorial identification. Additionally, an information board is installed at each site, displaying details such as the PSP code, location, and soil type. Access routes to each PSP have also been marked to facilitate the mobility of researchers and the transportation of necessary equipment for data collection.

With these facilities in place, the PSPs are expected to serve as long-term research sites, supporting a wide range of ecological and forestry studies in the years to come.

The location of the PSP that has been built can be seen in Figure 5 above.

1.2.2 Vegetation Dimension Measurement for Wood and Carbon Potential Assessment

A vegetation dimension measurement was conducted to determine the wood and carbon potential. The activity involved a survey of wood potential in the Permanent Production Forest (PSP) and non-PSP areas. The data collected provided insights into biodiversity, wood and carbon potential, and their distribution.

Spatial Model for Prediction of Wood and Carbon Potential using in PSP or non-PSP area. Utilizing the developed regression model, the wood and carbon potential and its spatial distribution can be accurately predicted across the entire study area. This predictive capability enables forest managers and planners to make informed decisions regarding sustainable forest management, conservation, and utilization of forest resources.

Biodiversity preserves carbon sinks, while its loss reduces carbon sequestration capacity. Effective carbon trade must prioritize biodiversity conservation.

Land Cover Classification used based on NDVI classes.

Table 7. NDVI Class Classification KHDTK ULM

No.	NDVI Classes	Land Cover
0	0.0-0.1	Open area, mining
1	0.1-0.2	Grassland
2	0.2-0.3	Shrubland
3	0.3-0.4	Shrubland, Young Plantation
4	0.4-0.5	Old Plantation, Young Secondary Forest
5	0.5-0.6	Medium Secondary Forest
6	0.6-0.7	Old Secondary Forest
7	0.7-0.8	Natural Forest
8	0.8-0.9	Primary Natural Forest

Biodiversity Condition in PSP Area

The research findings indicated that Oksisol soil had a higher level of vegetation diversity compared to Kambisol soil across all growth stages, including saplings, poles, and trees. The number of species was higher in Oksisol, particularly at the sapling stage, with 29 species recorded, whereas Kambisol had only 13 species. As the vegetation growth stage increased, the number of species decreased, with Oksisol having 17 species remaining at the tree stage and Kambisol having only 4 species.

The Shannon-Wiener diversity index (H') revealed that Oksisol had a higher value compared to Kambisol across all vegetation stages, with the highest value recorded at the sapling stage (-3.86) and the lowest value at the tree stage in Kambisol (-1.26). The evenness index (E) illustrated the distribution of individuals among species within a community. In this study, the highest evenness was found at the tree stage in Kambisol (E = -0.91), while the lowest evenness was recorded at the sapling stage in Oksisol (-1.15).

Wood and Carbon Potential Assessment in PSP Area

To predict the wood and carbon potential across the entire Oksisol and Kambisol areas, a regression analysis between wood and carbon potential and validated NDVI values was necessary. The regression model between NDVI values and wood potential (m³/400m²) was established to facilitate the prediction of wood and carbon potential.

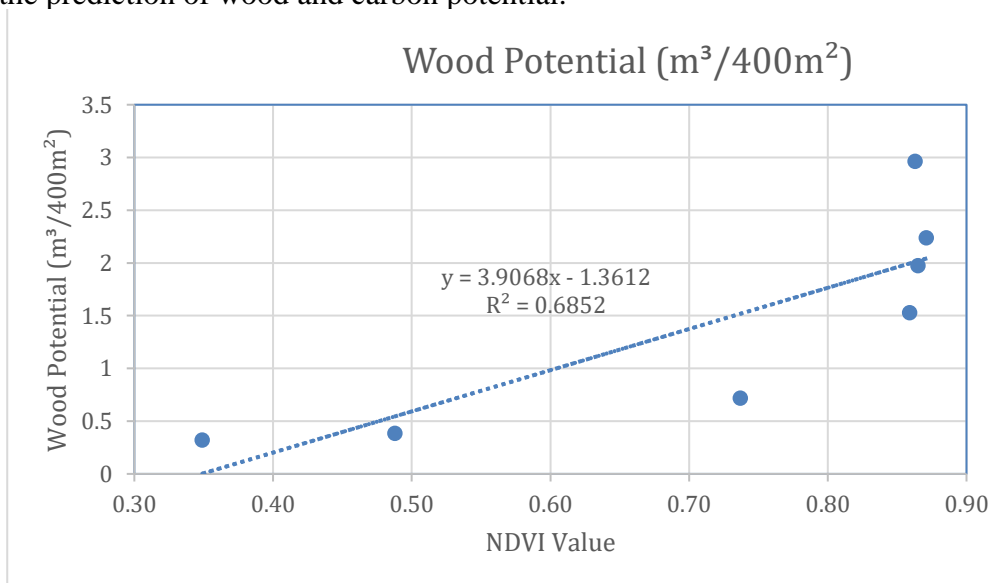


Figure 11. Regression relationship model for NDVI values and wood potential in PSP area

The potential and distribution of wood in $\text{m}^3/400\text{m}^2$ in the oxisol and cambisol areas can be seen on the map presented in Figure 12 below.

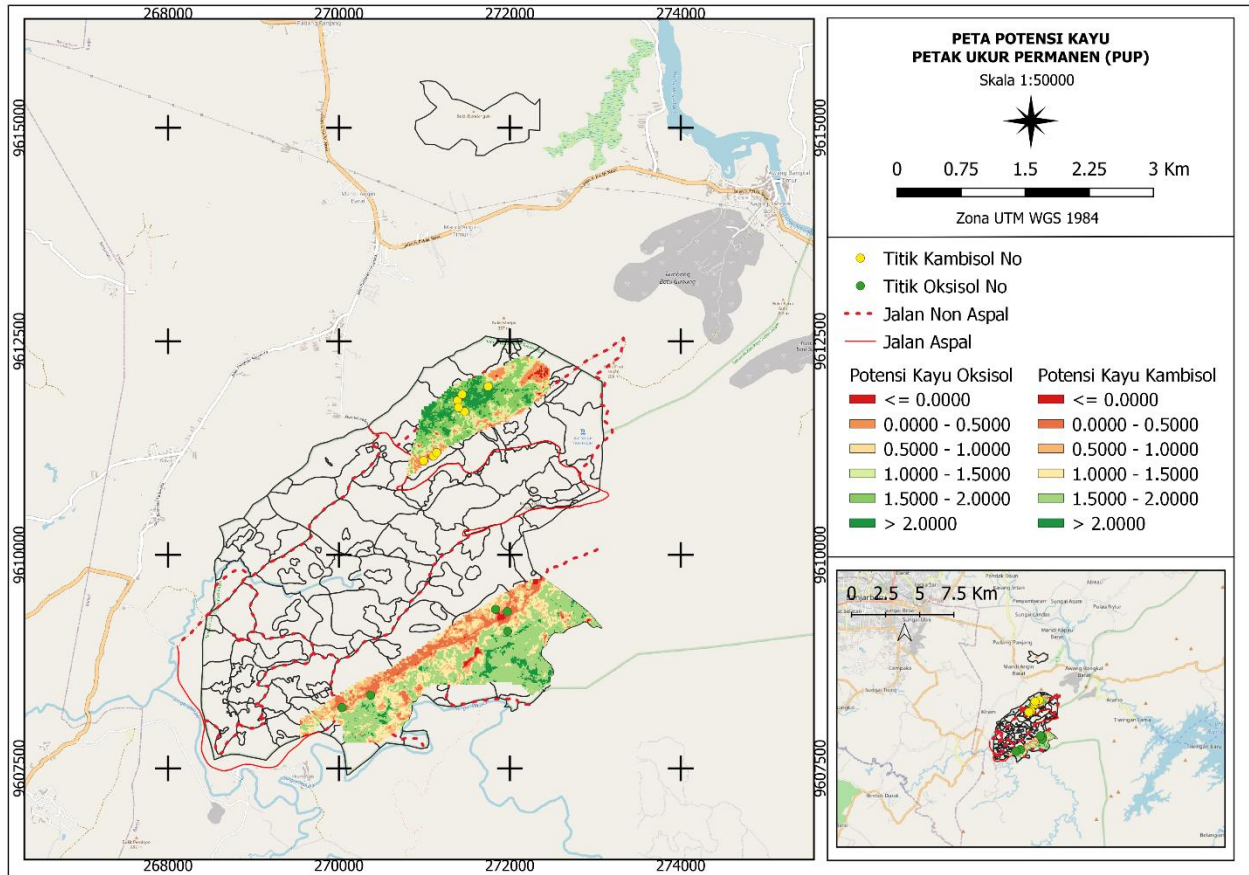


Figure 12. Wood potential and distribution (>20 cm) map ($\text{m}^3/400\text{m}^2$)

In the PSP area, for carbon potential and distribution.

Regression relationship model of NDVI value with carbon potential ($\text{kg C}/400 \text{ m}^2$)

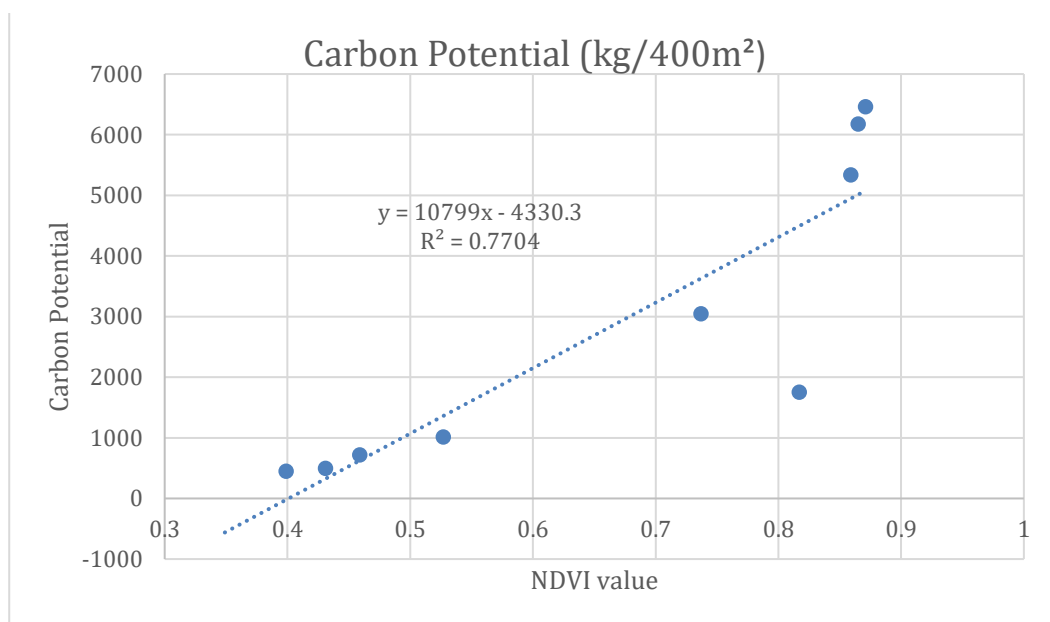


Figure 13. Regression relationship model for NDVI values and carbon potential in PSP area

The potential and distribution of carbon in KgCarbon/ 400m² in the oxisol and cambisol areas, the results can be seen on the map presented in Figure 14 below.

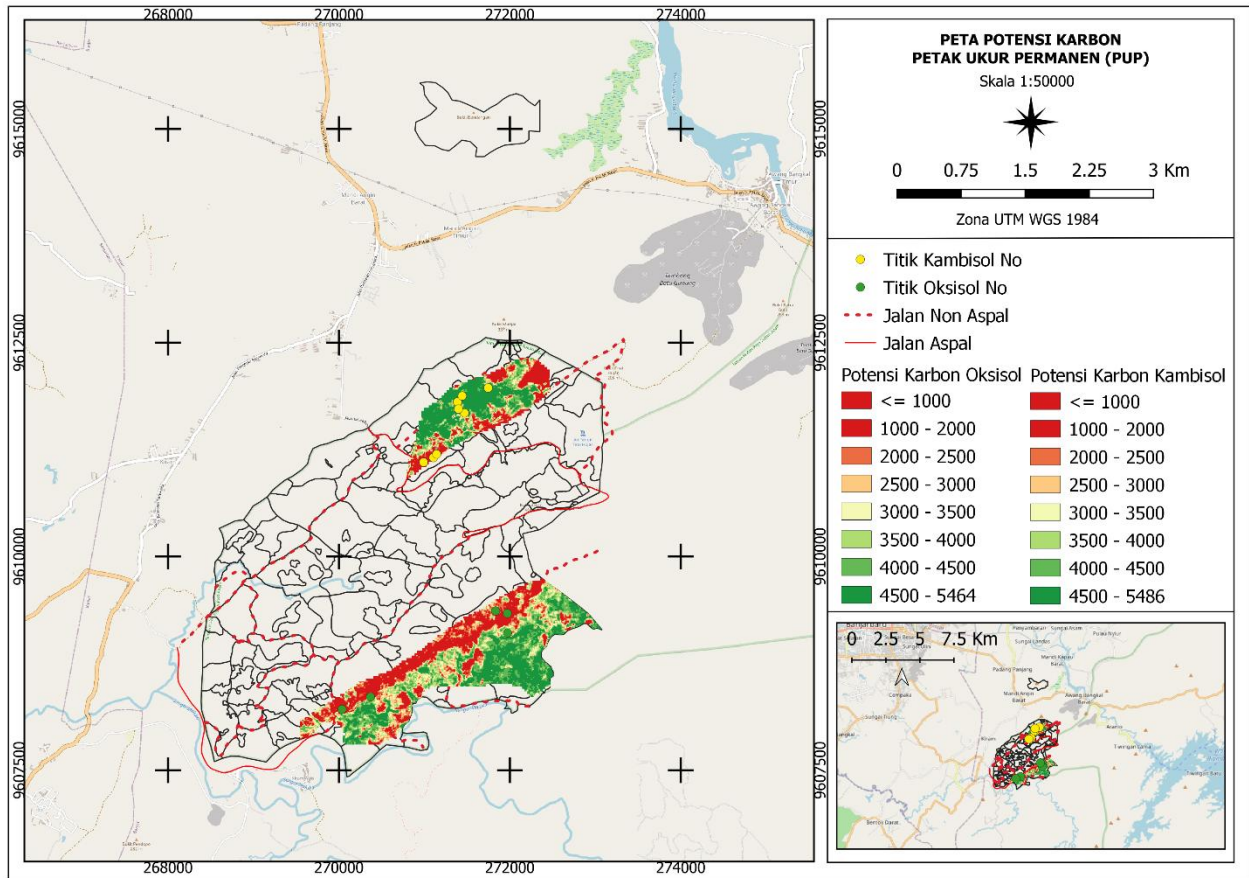


Figure 14. Carbon potential and distribution map (kg Carbon/400m²)

Biodiversity condition in non-PSP area

There were 45 types of vegetation spread across 24 different families. The following is a tabulation of biodiversity conditions in Table 8 below.

Tabel 8. Values of Diversity Index, Evenness Index, and Richness Index

No	Level	Diversity Index Value	Evenness Index	Value Richness Index Value
1	Sapling	-2.7771	-0.7942	-0.5162
2	Pole	-2.6706	-0.8014	-0.4702
3	Tree	-2.7747	-0.8080	-0.5011

To predict the potential in all non-PSP areas, it is necessary to create a regression relationship between wood and carbon potential with validated NDVI values.

Regression relationship model of NDVI value with Wood Potential (m³/100m²)

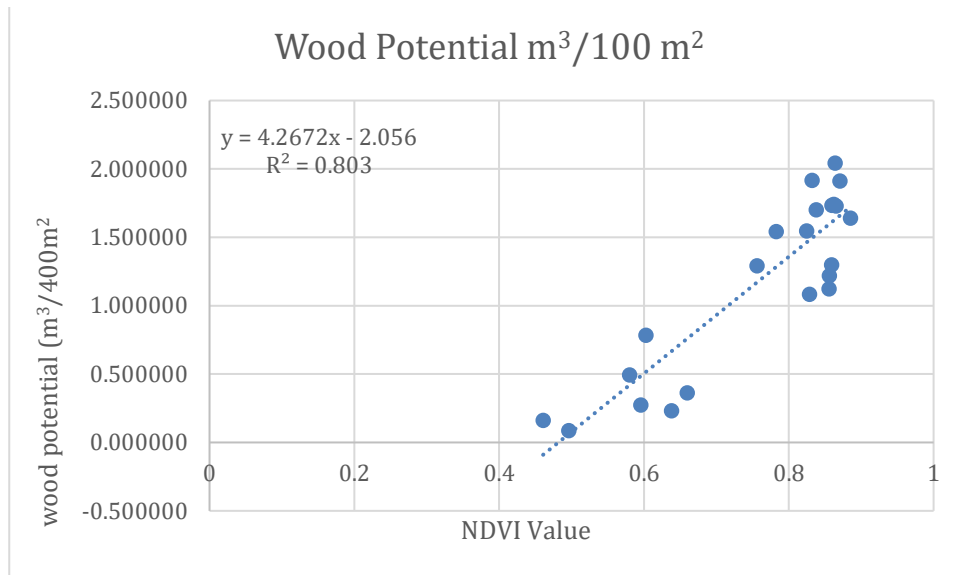


Figure 15. Regression relationship model for NDVI values and wood potential in non-PSP area

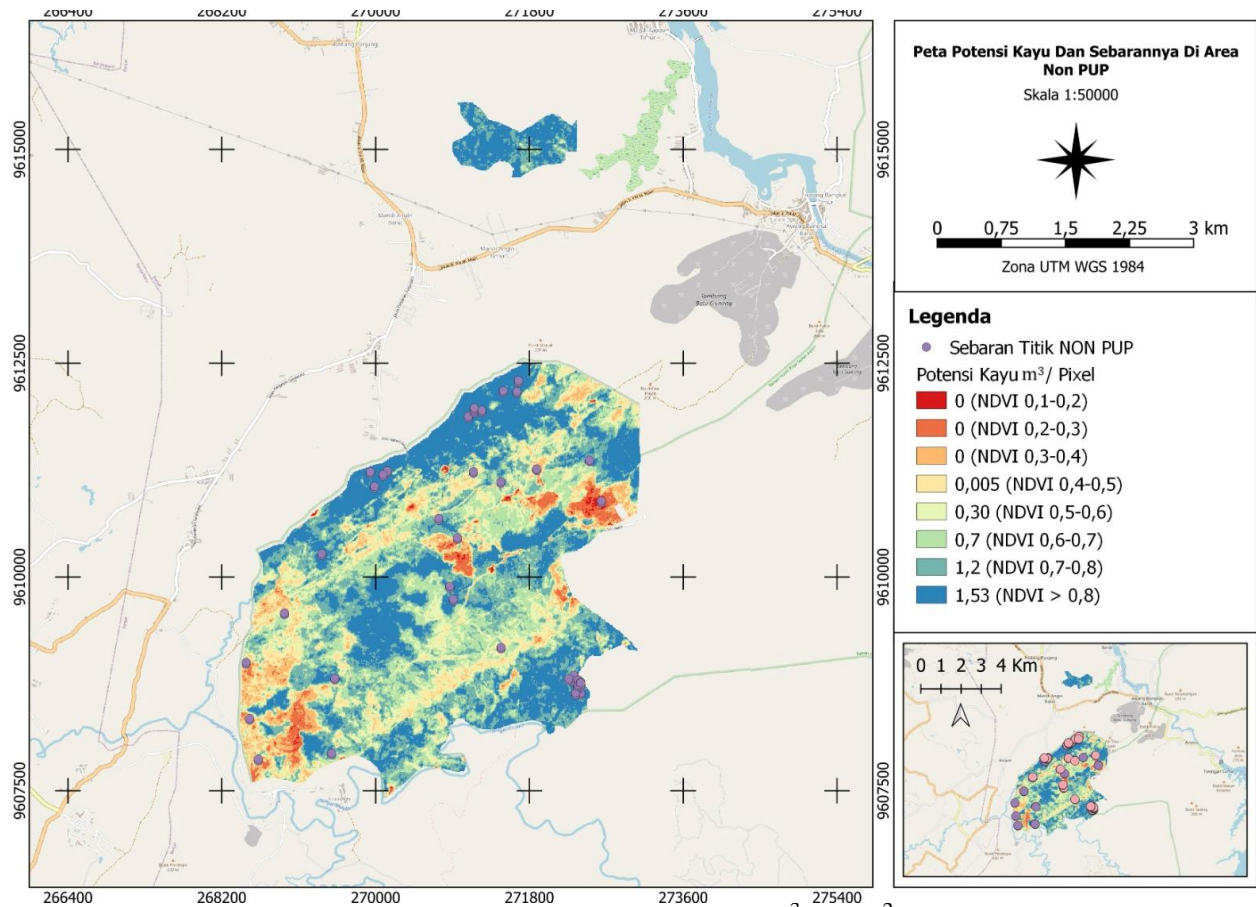


Figure 16. Wood potential and distribution (>20 cm) map ($m^3/100m^2$)

Numerically, the wood potential per NDVI class in the study area is presented in Table 9 below.

Table 9. Wood potential in research based on ground survey and Sentinel-2 2024

No	NDVI Class	Area (ha)	Wood Potential (m ³)
1	0.1-0.2	0.52	0
2	0.2-0.3	16.6	0
3	0.3-0.4	51.4	0
4	0.4-0,5	277.96	133.1
5	0.5-0.6	157.94	4317.3
6	0.6-0,7	291.36	21050.5
7	0.7-0.8	347.77	40472.6
8	>0.7	474.37	72628.0
Total		1617.92	138601.5

Regression relationship model of NDVI value with Carbon Potential (KgCarbon/100m²)

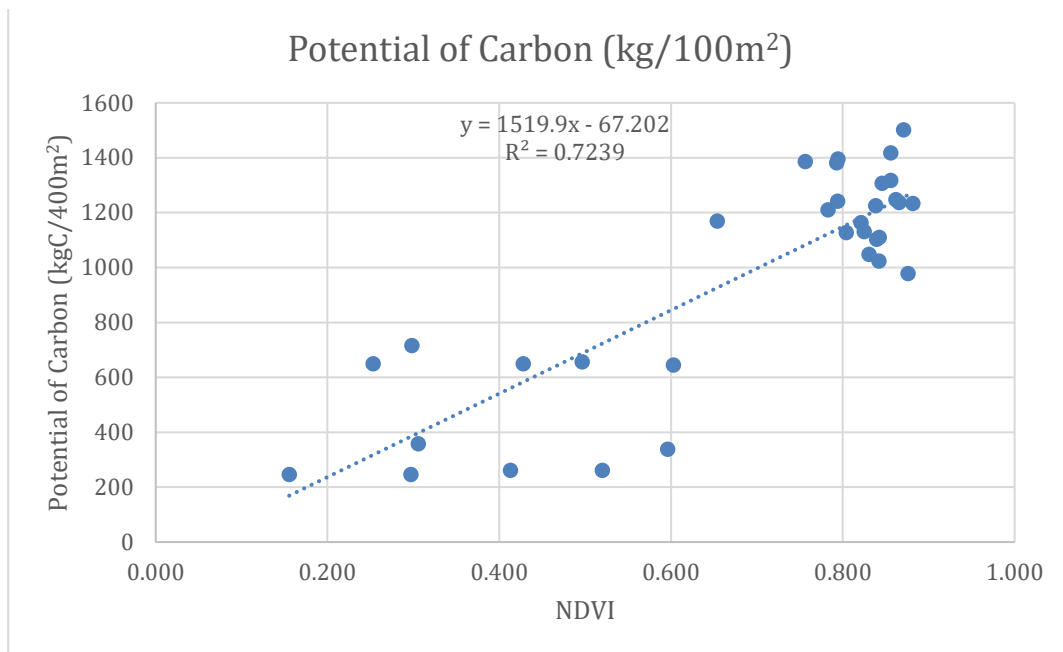


Figure 17. Regression relationship model for NDVI values and carbon potential in non-PSP area

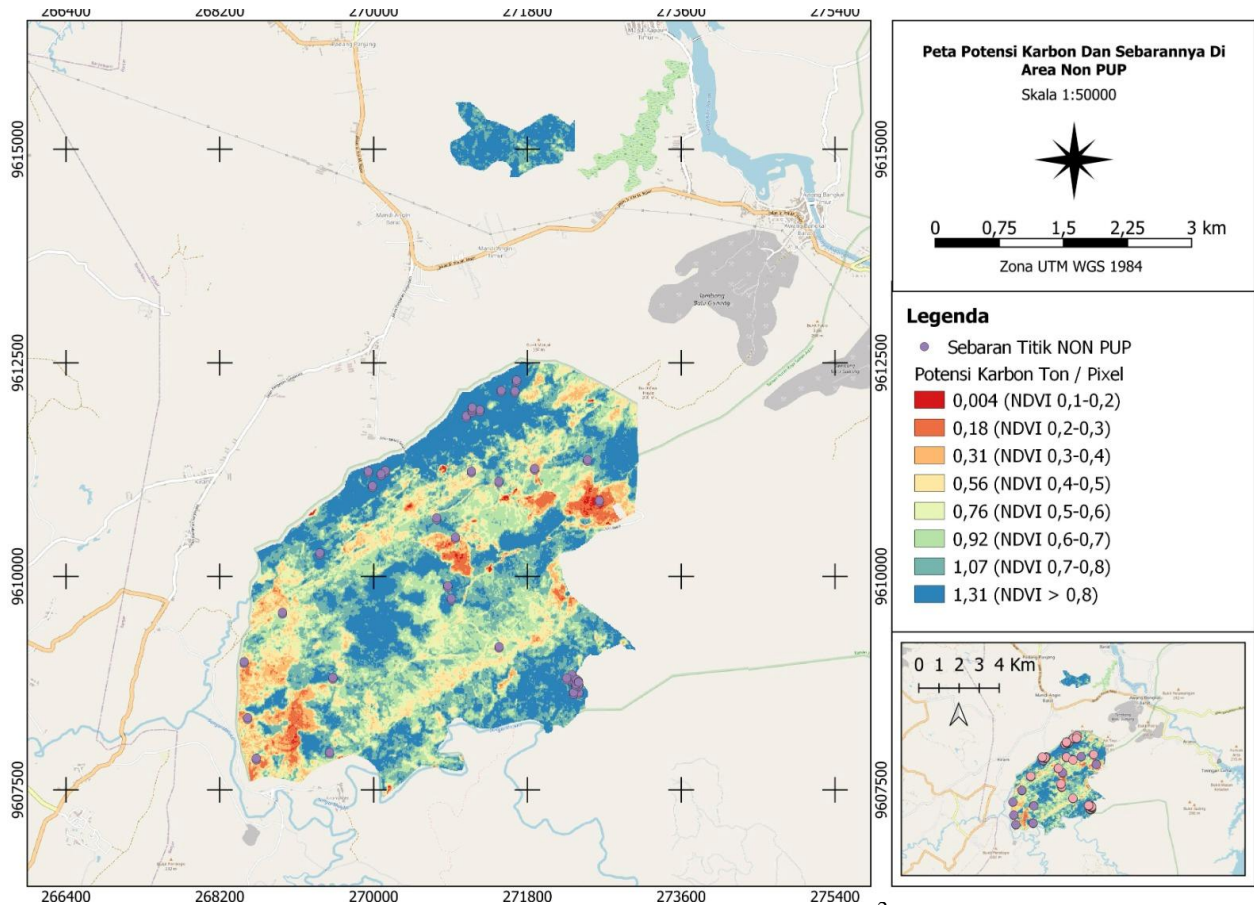


Figure 18. Carbon potential and distribution map (ton Carbon/100m²) in non-PSP area

Numerically, the carbon potential per NDVI class in the study area is presented in Table 10 below.

Table 10. Potential of Carbon in area research based on ground survey and Citra Sentinel-2 2024

No	NDVI Classes	Area (ha)	Potential of Carbon (ton)
1	0.1-0.2	0.52	2.3
2	0.2-0.3	1.6	311.2
3	0.3-0.4	51.4	1636.9
4	0.4-0.5	277.96	15569.6
5	0.5-0.6	157.94	12042.5
6	0.6-0.7	291.36	26876.4
7	0.7-0.8	347.77	37546.1
8	>0.7	474.37	57419.5
Total		1617.92	151404.5

1.2.3 Procedure for Permanent Sample Plot (PSP) Maintenance

The following presents the PSP area maintenance procedures:

1. Regular Inspection

- Conduct routine inspections every 6 months to assess plot conditions.
- Check for any physical damage to boundary markers, information boards, and access paths.
- Record and report any disturbances such as illegal logging, land encroachment, or natural hazards.

2. Boundary Marker Maintenance

- Ensure that corner markers remain intact and clearly visible.

- Replace or reinforce any missing or damaged markers.
- Repaint markers if necessary to maintain visibility.

3. *Vegetation and Data Collection Maintenance*

- Control excessive undergrowth that may obscure plot boundaries without disturbing the natural ecosystem.
- Maintain a clear access path to facilitate data collection.
- Ensure that measuring tapes, tags, and tree labels remain readable and properly placed.

4. *Information Board Maintenance*

- Check and clean the information board to ensure visibility.
- Replace faded or damaged boards and update information if required.

5. *Security and Accessibility*

- Maintain safe and accessible pathways leading to the PSPs.
- Identify potential safety hazards such as falling trees or unstable terrain.
- Ensure research teams follow proper safety protocols when visiting the site.

6. *Documentation and Reporting*

- Keep detailed maintenance logs after each inspection.
- Report any significant changes or issues to the responsible management team.
- Document photographs before and after maintenance activities for reference.

By following these procedures, PSPs can remain well-maintained, ensuring long-term data reliability and facilitating ecological and forestry research.

Activity 1.3 To establish a data and information system for the targeted PSPs with development of standard operating procedures for conduction of management operations by difference stakeholders and establish community units/groups at the site level to help update the latest data on forest conditions.

Achievements 75%

The recruitment of Mr. Munsyi as a programmer and IT expert began on October 14, 2024 and ended on November 14, 2024 (Attachment 2). During his tenure, Dr. Munsyi carried out a series of activities aimed at providing a spatial web-based wood and carbon information system and a smartphone-based land change monitoring information system. During his tenure, Dr. Munsyi and his assistant undertook the following activities:

1.1 Website development

Website Development and Spatial Web-Based Information System

The website development has been completed; however, it is still awaiting the finalization of the survey data collected during activity 1.2. This year, the spatial web-based information system has been completed and is ready for testing. The system will also be presented during the final seminar report in the second semester. A screenshot of the system's interface is provided in Figure 18.

The relational database management system utilized is PostgreSQL (Postgres), which was chosen due to its open-source nature and compatibility with the databases employed by the South Kalimantan BAPPEDA and the Indonesian Ministry of Forestry. This ensures seamless integration and data sharing between the systems.

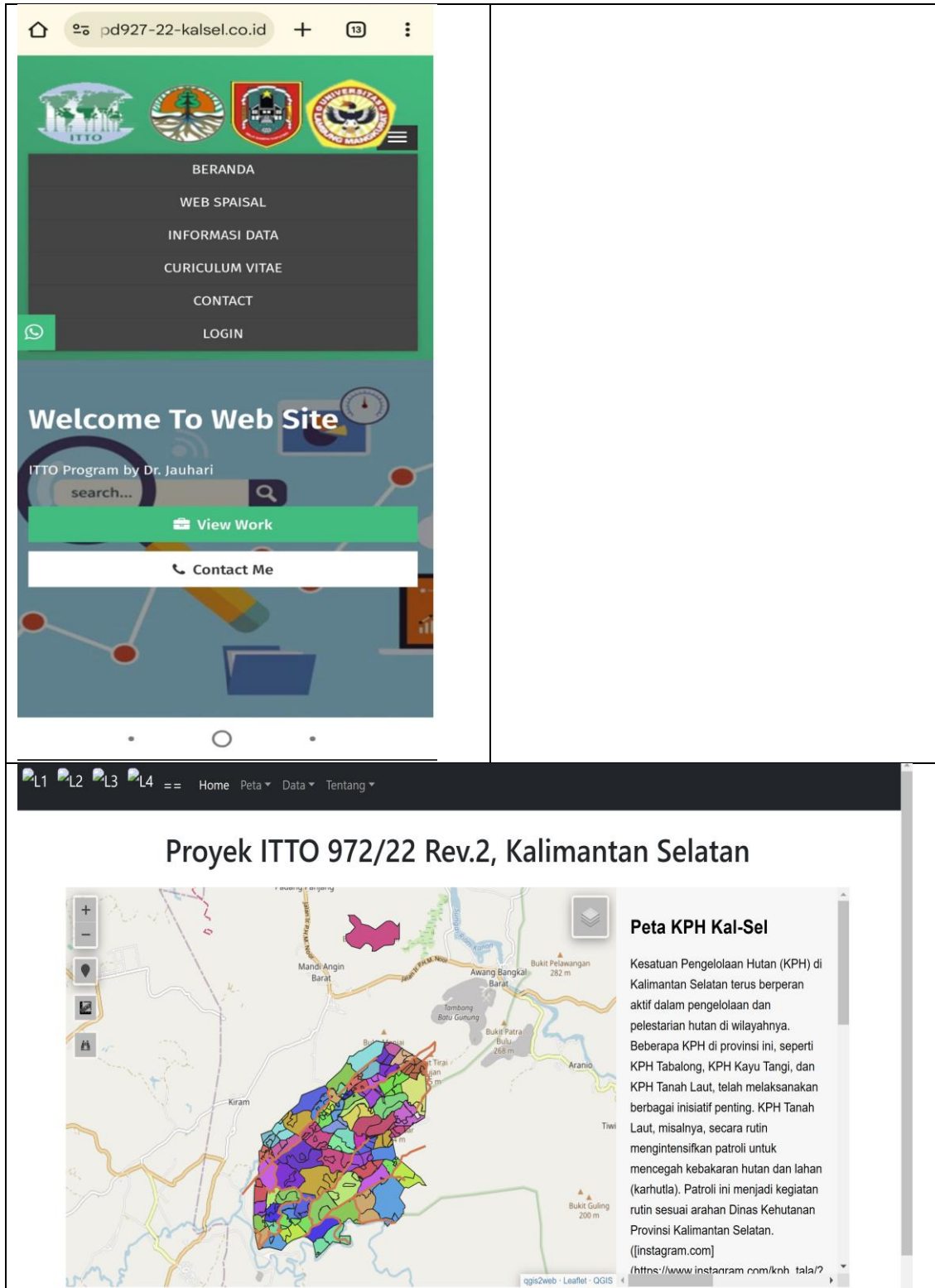
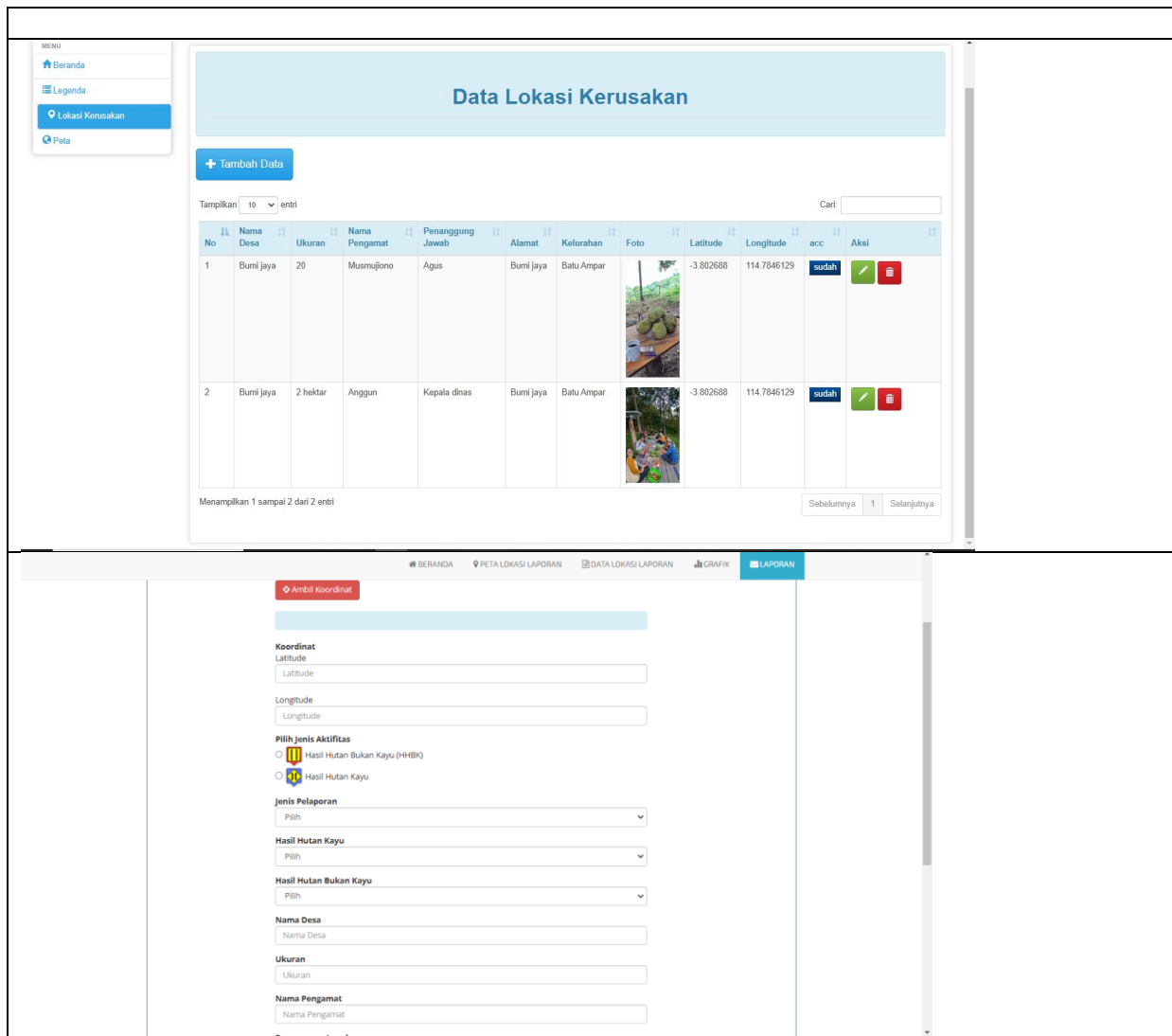


Figure 18. Part of the display of the spatial web-based Wood and Carbon Information System.

1.2 Real-time data monitoring/reporting for the project.

This activity was conducted concurrently with activity 1.1, as it is closely related to the real-time data expected from the Community Information Care Group (IAC) regarding land cover changes in their surrounding areas. The project provided a smartphone-based application system that enables community members to report changes in land use to the project's information system and relevant BAPPEDA agencies.

The application is still in the development and testing phase. Several smartphone interface prototypes have been completed, demonstrating the system's potential for effective real-time monitoring and reporting of land cover changes.



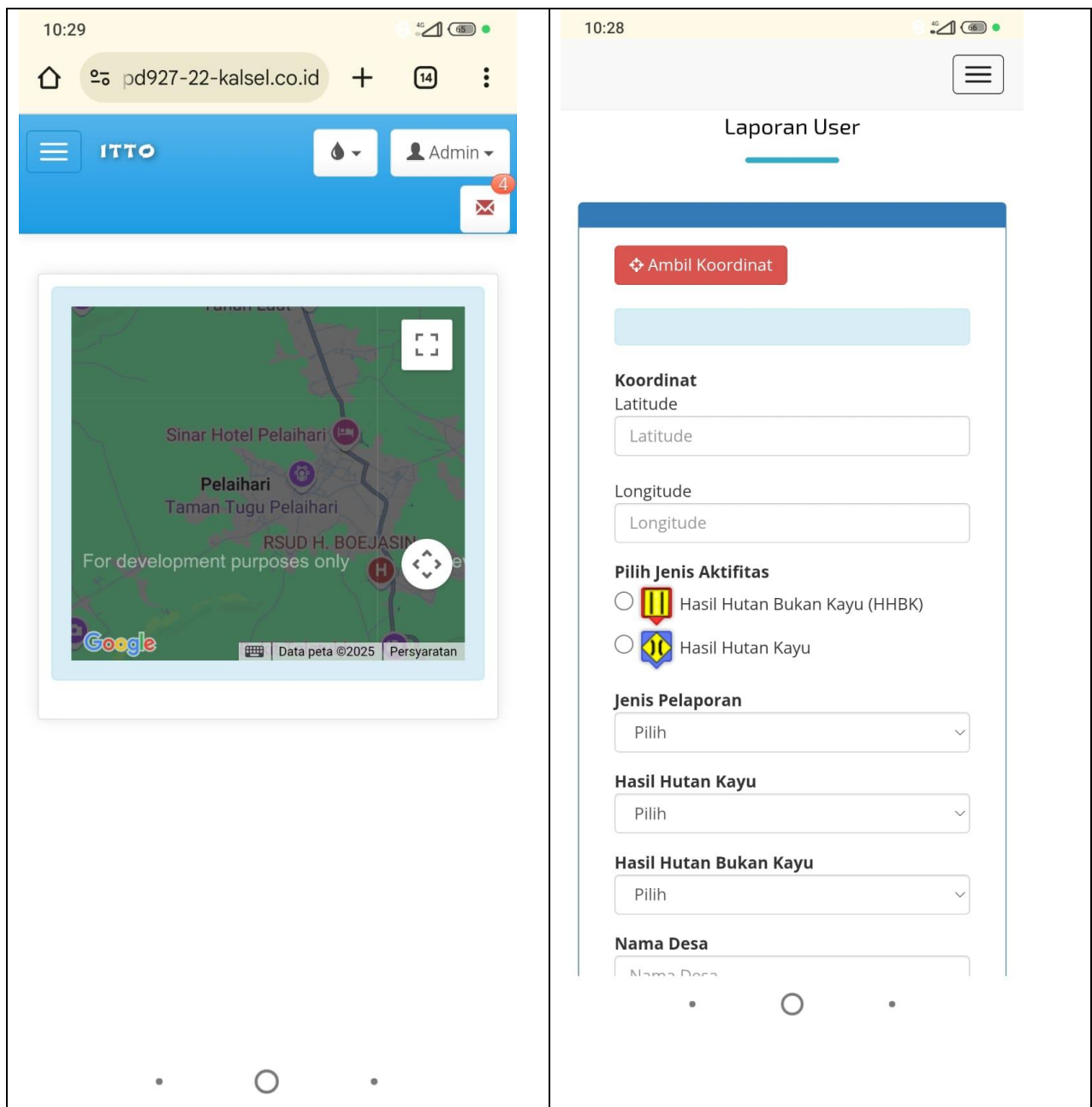


Figure 19. Partial view of the smartphone-based application

3. Critical Analysis and Project Progress

The project implementation was delayed for several months due to the delay in signing the agreement between ITTO and the Ministry of Forestry, this is due to regulations that require international cooperation projects to be under the technical ministry.

Nevertheless, project activities are generally on the right track, with strong support from the South Kalimantan regional government and the Ministry of Forestry and good collaboration with related stakeholders.

Until now, the obstacles that have arisen can be overcome.

4. Conclusions

The **ITTO Project: PD 927/22 Rev.2 (F)** is designed to develop an information system that assesses the potential of wood production and carbon sequestration, supporting sustainable forest management in South Kalimantan, Indonesia. Since its initiation in August 2024, the project has made substantial progress in data collection, community engagement, and the integration of advanced technologies for forest monitoring and management.

One of the key accomplishments of the project is the establishment of Permanent Sample Plots (PSP) across different soil types, including Oxisol and Cambisol. A total of 13 PSPs has been successfully developed, providing critical data on forest growth, biodiversity, and carbon stock potential. These plots serve as long-term monitoring sites, facilitating precise estimations of timber volume and carbon sequestration capacity.

In addition to scientific monitoring, the project has prioritized community involvement through the formation of the Information Awareness Community (IAC). This initiative enables local forest communities to participate in data collection and land cover monitoring using smartphone applications and GIS technology. Through a series of training programs, community members have been equipped with the skills needed to report forestry data in real-time, ensuring a more inclusive and transparent monitoring process.

To enhance data accuracy and decision-making, the project has leveraged advanced technologies, including multispectral drones and Sentinel-2 satellite imagery. These technologies have been instrumental in analyzing NDVI values to assess biomass and carbon stock distribution across different forested areas. Additionally, a spatial web-based information system has been developed to centralize and manage forestry data, providing a digital platform for sustainable forest governance.

Despite its achievements, the project has encountered some challenges and delays, primarily due to administrative processes required for international collaboration agreements. However, strong cooperation between stakeholders, including local government agencies and the Ministry of Forestry, has facilitated continuous progress, ensuring that key objectives remain on track. Looking ahead, the project will focus on refining the spatial web-based information system to enable real-time integration of forestry data.

The **ITTO Project: PD 927/22 Rev.2 (F)** has established a strong foundation for sustainable forest management in South Kalimantan. By combining **scientific data collection, community engagement, and digital technology**, the project enhances forest monitoring, supports biodiversity conservation, and improves carbon assessment methodologies. Future efforts should focus on ensuring **data accessibility, stakeholder collaboration, and policy alignment** to maximize the project's long-term benefits for sustainable forest management.

Responsible for the Report



Dr. Ahmad Jauhari
Project Coordinator
Date: 28 February 2025

Annex 1 Signed MoU between ITTO and Directorate of Forestry Planning and Environmental Governance

INTERNATIONAL TROPICAL TIMBER

ORGANIZATION PROJECT AGREEMENT

PD 927/22 Rev.2 (F)

**“DEVELOPMENT OF AN INFORMATION SYSTEM ON THE
POTENTIAL OF WOOD AND CARBON TO SUPPORT SUSTAINABLE
FOREST MANAGEMENT IN SOUTH KALIMANTAN, INDONESIA”**

between

THE INTERNATIONAL TROPICAL TIMBER ORGANIZATION (ITTO)

and

THE GOVERNMENT OF INDONESIA

and

**THE DIRECTORATE GENERAL OF FORESTRY
PLANNING AND ENVIRONMENTAL GOVERNANCE**

PROJECT AGREEMENT

between

THE INTERNATIONAL TROPICAL TIMBER ORGANIZATION (ITTO)

and

THE GOVERNMENT OF INDONESIA

and

THE DIRECTORATE GENERAL OF FORESTRY PLANNING AND ENVIRONMENTAL GOVERNANCE

ON THE IMPLEMENTATION OF PROJECT PD 927/22 Rev.2 (F)

“Development of an Information System on the Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan, Indonesia”

WHEREAS:

- A. The International Tropical Timber Council (hereafter referred to as “ITTC”) has approved the Project PD 927/22 Rev.2 (F) “Development of an Information System on the Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan, Indonesia”, (hereinafter referred to as “the Project”), and the International Tropical Timber Organization (hereinafter referred to as “ITTO”) wishes to make available to the Government of Indonesia funds not exceeding a total of *US\$ 233,300.00 (United States dollars two hundred thirty-three thousand three hundred only)*, for the purpose of implementing the afore-mentioned Project as provided for in this Agreement;
- B. The Government of Indonesia (hereinafter referred to as “the Government”) has indicated its willingness to facilitate the implementation of the Project within its territory;
- C. It has been agreed that the Directorate General of Forestry Planning and Environmental Governance (hereinafter referred to as the “Executing Agency”) shall implement the Project;
- D. It has been agreed that the Government of the South Kalimantan Province shall contribute to the Project a total of *US\$ 35,020.00 (United States dollars thirty-five thousand twenty only)*.

The parties hereby agree as follows:

ARTICLE I

Definition of the Project

Section 1.01: The Project Document PD 927/22 Rev.2 (F), (hereinafter referred to as “the Project Document”) attached hereto as the Appendix, shall be read as part of this Agreement, and shall govern the scope and details of the Project, subject to any subsequent clarifications and supplementary arrangements which may be agreed between the Parties.

ARTICLE II

Execution of the Project

Section 2.01: The Executing Agency shall be responsible for implementing the Project in accordance with the Project Document, a detailed workplan for the duration of the Project approved by ITTO, and with any supplementary arrangements which may be agreed between the Parties.

Section 2.02: The Executing Agency shall implement the Project in a manner consistent with the “ITTO Manual for Project Monitoring, Review, Reporting and Evaluation (Third Edition)”, “ITTO Manual on Standard Operating Procedures for the ITTO Project Cycle (2009)” and “ITTO Guidelines for the Selection and Employment of Consultants, Procurements and Payments of Goods and Services (Second Edition)”.

Section 2.03: The Executing Agency may, in accordance with the Project Document, the “ITTO Guidelines for the Selection and Employment of Consultants, Procurements and Payments of Goods and Services” (Second Edition), and with the prior approval of ITTO, delegate or sub-contract specific tasks and functions in connection with the Project to any other consultant(s), legal entities or institutions which are not under its daily supervision and control. However, such delegation or sub-contracting shall not free the Executing Agency from its responsibility and obligation for the Project as defined by the Project Document and this Agreement.

Section 2.04: ITTO shall not be liable for any claims arising as a result of implementation of the Project or due to the use of any Project equipment. The Executing Agency shall indemnify and hold harmless ITTO and their members, employees and representatives, from and against any liability, damages, costs or expenses, or any claim, action, suit or other proceeding arising out of the execution or implementation of this Agreement.

Section 2.05: The Executing Agency shall do its utmost to ensure that the Project is implemented on schedule, within the agreed budget, and in such a way as to achieve its objectives.

Section 2.06: A Project Steering and Technical Committee shall be established. The core composition of the Project Steering and Technical Committee shall include one representative of ITTO, at least one representative of the Executing Agency and at least one representative of the project host government(s) which implements the Project. Additionally, a representative of the government(s) providing funds for implementation of the Project, if they wish to participate, and representative(s) of collaborating agency(ies)/partner(s) to the Project could be invited to become members. Project Steering and Technical Committee will meet at least once a year to review progress in Project implementation.

ARTICLE III

Finance

Section 3.01: The respective contributions of the Executing Agency and ITTO contributing in cash or in kind to the Project shall be as set out in the budget and operating expenses sections in the Project Document.

Section 3.02: ITTO undertakes, as provided for in this Agreement, to contribute an amount not exceeding *US\$ 233,300.00 (United States dollars two hundred thirty-three thousand three hundred only)* for the purpose of implementing the Project.

Section 3.03: ITTO will make payments in United States dollars related to its contribution to a separate bank account maintained in United States dollars to be opened for the Project, with a bank of commonly high reputation, to be determined by the Executing Agency, as follows:

- (a) ITTO will cause the first payment of *US\$ 50,000.00 (United States dollars fifty thousand only)* to be deposited, upon signature of this Agreement, and after the Executing Agency provides the Executive Director of ITTO with:
 - (i) an inception report approved by ITTO containing a detailed workplan for the duration of the Project approved by ITTO for the implementation of the Project,
 - (ii) selection of consultant(s)/expert(s), if required at the beginning of the implementation, and
 - (iii) a notification that implementation of the Project is about to commence.
- (b) The second installment of *US\$ 40,000.00 (United States dollars forty thousand only)* upon receipt by ITTO of the first bi-annual Project progress report from the Executing Agency in accordance with the procedures of ITTO, and a justified request for the payment in terms of the timing, amount and estimated costs foreseen in the work plan for the first year, in light of implementation thus far, for the period to which funds will relate;
- (c) The third installment of *US\$ 40,000.00 (United States dollars forty thousand only)* upon receipt by ITTO of the second bi-annual Project progress report, the work plan for the second year, an annual financial audit report for the first year from the Executing Agency in accordance with the procedures of ITTO, and a justified request for the payment in terms of the timing, amount and estimated costs foreseen in the second year work plan, in light of implementation thus far, for the period to which funds will relate;
- (d) The fourth installment of *US\$ 40,000.00 (United States dollars forty thousand only)* upon receipt by ITTO of the third bi-annual Project progress report, the work plan for the second year, an annual financial audit report for the first year from the Executing Agency in accordance with the procedures of ITTO, and a justified request for the payment in terms of the timing, amount and estimated costs foreseen in the second year work plan, in light of implementation thus far, for the period to which funds will relate; and

- (e) The fifth and final installment of *US\$ 18,304.00 (United States dollars eighteen thousand three hundred four only)* upon receipt by ITTO of the fourth bi-annual Project progress report from the Executing Agency in accordance with the procedures of ITTO, and a justified request for the payment in terms of the timing, amount and estimated costs foreseen in the second year workplan, indicating the steps taken to build the sustainability of the project after the end of ITTO support in light of implementation thus far, in order to successfully complete the Project.

Section 3.04: The total amount of *US\$ 44,996.00 (United States dollars forty-four thousand nine hundred ninety-six only)* will be retained by ITTO from the total ITTO contribution to meet ITTO and other costs as follows:

- (a) an amount of *US\$ 15,000.00 (United States dollars fifteen thousand only)* to meet ITTO's monitoring and review costs;
- (b) an amount of *US\$ 5,000.00 (United States dollars five thousand only)* to meet ITTO's mid-term and ex-post evaluation costs; and
- (c) an amount of *US\$ 24,996.00 (United States dollars twenty-four thousand nine hundred ninety-six only)* to meet ITTO's programme support costs.

Section 3.05: The Executing Agency shall provide its joint contribution of *US\$ 35,020.00 (United States dollars thirty-five thousand twenty only)* to the Project promptly in accordance with the agreed budget contained in the Project Document and any agreed amendments thereto. The Executing Agency shall report immediately to ITTO any circumstances which threaten significantly its ability to make its contributions in full or on time.

Section 3.06: The contribution of the Executing Agency shall include the provision of office facilities and appropriate office accommodation for all Project activities including any monitoring, review and evaluation meetings.

Section 3.07: Notwithstanding any provision of any Section in this Article, ITTO shall not be liable to disburse any funds to the Executing Agency which exceed the sum credited to its Special Account and/or the Bali Partnership Fund as contributions earmarked for this Project.

ARTICLE IV

Use of Funds

Section 4.01: The funds provided by ITTO under this Agreement shall be used solely to meet those direct Project costs assigned to ITTO which are itemized in the agreed budget of the Project Document. Funds allocated to one budget heading or subheading item shall not be transferred to another without the express prior approval of ITTO. All materials, equipment, supplies and services purchased or rented using ITTO resources shall be used exclusively for the implementation of the Project.

Section 4.02: Funds which have not yet been made available by ITTO to the Executing Agency shall not be committed by the latter, without specific previous authorization from ITTO.

Section 4.03: All goods and services for which funds are provided by ITTO shall be procured in accordance with the "ITTO Guidelines for the Selection and Employment of Consultants, Procurements and Payments of Goods and Services", and the Executing Agency shall obtain ITTO approval prior to issuing procurement order. The Executing Agency shall consult ITTO in advance on the selection and appointment of any sub-contractors or individual consultants used for any aspect of work associated with the implementation of the Project, as well as the appointment of professional Project staff and selection of participants in Project activities such as seminars and workshops.

Section 4.04: ITTO shall recover from the Executing Agency any amounts spent from funds provided by ITTO for purposes, items or activities, or in ways, not authorized under this Agreement. Such amounts may be deducted from any installment not already released to the Executing Agency under Section 3.03 of this Agreement.

ARTICLE V

Accounts, Records and Reports

Section 5.01: The Executing Agency shall keep strict budgetary control over the funds allocated to it by ITTO for the purpose of implementing the Project, and shall keep such funds, until the time of their actual disbursement, in a separate [dollar] bank account with a bank of commonly recognized high reputation.

Section 5.02: The Executing Agency shall take every precaution against any unauthorized use of the funds provided to it by ITTO, and shall at all times keep up-to-date and full accounts of the expenditures incurred by the Project. ITTO may at any time request a financial statement from the Executing Agency, accompanied by certified balances of the Project's bank accounts, and such a request shall be promptly complied with.

Section 5.03: The Executing Agency shall submit to ITTO in the Project progress reports and at the conclusion of the Project, and as otherwise requested by ITTO in accordance with Section 5.02 above, statements of account and use of the funds of the Project under the headings listed in the budget in the Project Document.

The Project accounts shall be audited by duly recognized independent auditors appointed by ITTO in consultation with the Executing Agency. For the audit, the Executing Agency acknowledges the contents of "TERMS OF REFERENCE FOR A PROJECT AUDIT" as an integral part of this agreement. For the purpose of the Project, the financial year of the Project shall be from 1 January to 31 December of each year. Audit reports are to be completed within 3 months from the end of the year for annual audits and 4 months from the completion of the Project for final audits.

Section 5.04: If the actual costs of the Project which are to be borne by ITTO are less than is provided for in the Project budget under this Agreement, the balance remaining unspent on completion of the Project, including bank interest earned, shall be returned to ITTO.

Section 5.05: The Executing Agency shall establish and maintain records and procedures adequate to record and monitor the physical, technical and financial progress of the Project, including its costs, interests on capital and other benefits, and to identify the goods and services financed by ITTO.

Section 5.06: Representatives of ITTO shall be entitled to visit any facilities and sites included in the Project and to examine the accounts and records, and the goods and services provided under the Project.

Section 5.07: The Executing Agency shall, upon request, make available to ITTO any information relevant to the implementation, financing or follow-up of the Project. The Executing Agency shall provide Project progress and technical reports, as well as a completion report in the form, detail and time-frame required by ITTO, for the monitoring, review and evaluation of the Project. The Executing Agency shall promptly provide ITTO with information on any delay, event or obstacle that might significantly endanger the success of the Project.

Section 5.08: The Executing Agency shall submit to ITTO in each year during the implementation of the Project:

- (i) monthly highlights;
- (ii) bi-annual progress reports not later than 31 January and 31 July in each year during the implementation of the project;
- (iii) detailed un-audited project financial statements for ITTO funding and counterpart funding, as part of the progress report;
- (iv) all documented outputs, products, and other means of verifications as per the Logical Framework Matrix as soon as finalized or as per the project timeline;
- (v) a completion report not later than three months after Project completion.

All aforementioned documents must be submitted via the ITTO Online Monitoring System (OLMS). The progress, completion and technical reports shall be prepared following the model reports established in the "ITTO Manual for Project Monitoring, Review, Reporting and Evaluation".

Section 5.09: Monitoring and review meetings will be convened at the request of ITTO with the participation of representatives of the Executing Agency, ITTO and the Government. ITTO shall bear the costs of its participation and other representatives shall bear their own costs. Representatives of donors providing funds to the Project may also attend the steering/technical committee meetings at their own expense.

ARTICLE VI

Publications, Technical Reports and Project Events

Section 6.01: All outputs (publications, technical reports, other materials, etc.) resulting from work financed by the Project shall give appropriate recognition to ITTO's role and carry statements disclosing that they are part of the documentation produced in an ITTO approved Project. Cover pages of any publications shall prominently bear the name and logo of ITTO.

Proper recognition of ITTO's role shall also be given during any events organized as part or resulting from work financed by the project, including the ITTO name and logo on all banners, posters and other visual materials. Drafts of such outputs shall be shared with the Secretariat prior to finalization.

Section 6.02: The Executing Agency is responsible for coordinating dissemination of the Project outputs on appropriate occasions both in national/sub-national and international levels.

Section 6.03: The Executing Agency accepts that ITTO discloses project relevant information in ITTO publications, including the name and address of the Executing Agency, the purpose of the fund, the amount contributed and the percentage of co-financing (both in cash and in kind) according to the Project Agreement.

Section 6.04: The Executing Agency shall provide ITTO with an electronic copy of each publication from the Project together with hard copies if requested by the Secretariat. The Executing Agency will also provide ITTO with high-resolution captioned photographs of project activities.

Section 6.05: The Executing Agency shall prepare, in liaison with the ITTO Secretariat brief article(s), for possible inclusion in the ITTO Tropical Forest Update (TFU) reporting on the Project progress and outcomes, Project publications and lessons learned. An outline of the TFU article should be submitted to the Secretariat prior to release of the final installment of funds (See section 3.03 (c)).

ARTICLE VII

Disposal of Capital Goods

Section 7.01: Prior to completion of the Project, the Executing Agency shall propose, and ITTO will decide, what arrangements are to be made for the continued use or disposal of any equipment or other supplies purchased with ITTO Project funds. Written notice to accept the arrangements, modify them or implement alternative arrangements will be given by ITTO to the Executing Agency.

Section 7.02: Notwithstanding the provisions of Section 7.01 of this Article, responsibility for the execution of the Project shall rest with the Executing Agency and ITTO shall not be liable for any claims arising from the implementation of the Project or for the use of any equipment provided under the Project.

ARTICLE VIII

Responsibilities of the Government

Section 8.01: The Government shall ensure that the Executing Agency's ability to carry out its obligations under this Agreement, especially those prescribed by Articles II, III, IV and V, is not adversely compromised.

Section 8.02: The Government shall take all necessary action in order to ensure:

- (a) prompt clearance of experts and other persons performing services financed by ITTO under the Project; and
- (b) prompt release from customs of any imported equipment, or other kinds of supplies required by the Project with import duties and associated fees applicable to such material either waived or entered in the Project accounts as part of the Government's contribution to the Project.

Section 8.03: The Government agrees that ITTO shall not be responsible for any customs charges and taxes that may be imposed for the import of equipment, materials and supplies for the Project. Project funds shall not be authorized for payment of such charges and taxes.

ARTICLE IX

Intellectual Property

Section 9.01 All intellectual property rights (including copyright) in the work to be performed under this Agreement shall be vested in the Executing Agency and ITTO, including, without any limitations, the right to use, publish, translate, sell or distribute, privately or publicly, any item or part thereof.

ARTICLE X

Suspension

Section 10.01: Notwithstanding the provisions of Section 3.03 of this Agreement, where any violations of this Agreement becomes apparent, or where it appears that the conditions surrounding the Project have changed to such an extent that, in the opinion of the Executive Director, the successful completion of the Project is unlikely, ITTO may, by written notice, suspend all further disbursements of funds pending a review.

Section 10.02: If ITTO funding of the Project is suspended the Executing Agency shall not incur any further expenditures on activities, goods or services financed by such funds unless and until such funding is resumed, except with the previous written approval of ITTO. The Executing Agency shall keep all assets and values previously funded by ITTO for the Project in safe custody, and shall give notice immediately to any sub-contractor whose services are being paid for from ITTO's funds to suspend its activities as soon as possible, so as to minimize the cost to the Project.

ARTICLE XI

Termination

Section 11.01: The ITTC may, by written notice, terminate its approval and funding of the Project, in particular in cases where it is satisfied that:

- (a) the financial resources provided for the Project are being misapplied to an extent which compromises the fulfillment of the objectives of the Project; or
- (b) the technical means and/or personnel being used for the implementation of the Project are being misapplied to an extent which compromises the fulfillment of the objectives of the Project; or
- (c) its continued approval and funding no longer serve the objectives of the Project.

Section 11.02: In case of a decision by ITTC to terminate, the provisions of Article X above shall be applied; and the unused part of the resources contributed by ITTO to the Project shall be returned to ITTO together with a final audited statement within three months after the date of termination.

ARTICLE XII

Force majeure

Section 12.01: Force majeure is referred to as any unforeseeable exceptional situation or event, and the occurring and consequence of this situation or event are unavoidable and insurmountable for the Parties, thus prevents either of them from fulfilling or fulfilling on time any agreed responsibilities in this Agreement. It is not attributable to error or negligence on the Parties (or the Project subcontractors, agents or employees). However, defects in equipment or material or delays in making them available, labour disputes, strikes or financial difficulties cannot be invoked as force majeure. A Party shall not be held in breach of its agreed obligations if it is prevented from fulfilling them by force majeure. Without prejudice the Party faced with force majeure shall inform the other Party without delay, stating the nature as well as probable duration and foreseeable effects, and at the same time take any measure to minimize possible damage.

ARTICLE XIII

Settlement of Disputes

Section 13.01: Any dispute arising out of the interpretation or implementation of this Agreement or any breach thereof shall be settled amicably by consultation or negotiation between the Executing Agency and ITTO within the framework of UNCITRAL (United Nations Commission for International Trade Law) arbitration rules.

ARTICLE XIV

Modification of the Agreement

Section 14.01: This Agreement may be modified by written mutual consent between the Parties, each of which shall give full and sympathetic consideration to any proposal for its amendment.

ARTICLE XV

Entry into Force

Section 15.01: **IN WITNESS WHEREOF** the undersigned, duly appointed representatives of the International Tropical Timber Organization, the Government of Indonesia and The Directorate General of Forestry Planning and Environmental Governance, have signed on behalf of the respective Parties this Project Agreement in three originals on the dates indicated below. This Agreement shall enter into force upon signature by all the contracting Parties.



Erik Teguh Primiantoro, S. Hut., MES.
Director of Inventory and Forest Resource Monitoring

On behalf of the Directorate General of Forestry
Planning and Environmental Governance

Dated: 21 June 2024


Place: Jakarta

Sheam Satkuru
Executive Director

On behalf of the International Tropical
Timber Organization (ITTO)

Dated: _____

Place: _____



Ir. Dida Migfar Ridha, M.Si.
Acting Director of International Cooperation Bureau
On behalf of the Government of Indonesia

Dated: 21 June 2024

Place: Jakarta

Annex 2 NOL for recruitment of Project staff



International Tropical Timber Organization (ITTO)

INTERNATIONAL ORGANIZATIONS CENTER – 5F, PACIFICO-YOKOHAMA
1-1-1, MINATO-MIRAI, NISHI-KU, YOKOHAMA 220-0012, JAPAN

F A C S I M I L E

Fax: (81-45) 223-1111

Tel.: (81-45) 223-1110

E-mail: rfm@itto.int

Page 1 of 5 page(s)

Date: 7 August 2024	Ref. No. F.24-0050	
To: Erik Teguh Primiantoro, S.Hut, MES Director of Inventory and Forest Resource Monitoring, Ministry of Environment and Forestry As Executing Agency of ITTO Project PD 927/22 Rev.2 (F) Indonesia	From: Jennifer Conje Director Division of Forest Management ITTO - Yokohama, Japan	
E-mail: eriktpmes2000@gmail.com		

Dear Mr. Erik Teguh Primiantoro, S.Hut, MES,

PD 927/22 Rev.2 (F)

“Development of an Information System on the Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan, Indonesia”

Thank you for your letter of 16 July 2024 which includes the Yearly Plan of Operation (YPO 1) containing the terms of reference for key project resource persons. It is our understanding that the Executing Agency is to engage the following two project personnel for the implementation of the project:

Name	Position	Duration/ Period	Monthly Honorarium (in US\$)	Total Honorarium (in US\$)	ITTO Budget line
Ahmad Jauhari	Project Coordinator	30 months (August 2024 – February 2027)	1,800	54,000	10.11.1
Kamila Rizqa Devisasmita	Project Administration Officer/Treasurer	30 months (August 2024 – February 2027)	405	12,150	10.11.2

I am pleased to inform you that I have no objection to your proposal to engage the above two project personnel, provided that the terms of reference and related costs for the work assigned are in accordance with the provisions specified in the budget for the project.

I hope that the above approval will facilitate the efficient implementation of the project and look forward to working closely with you and the project team for the success of the project.

Yours sincerely,

Jennifer Conje
Director
Division of Forest Management

Annex 3 NOL for recruitment of Project Experts



International Tropical Timber Organization (ITTO)

INTERNATIONAL ORGANIZATIONS CENTER – 5F, PACIFICO-YOKOHAMA
1-1-1, MINATO-MIRAI, NISHI-KU, YOKOHAMA 220-0012, JAPAN

F A C S I M I L E

Fax: (81-45) 223-1111

Tel.: (81-45) 223-1110

E-mail: rfm@itto.int

Page 1 of 9 page(s)

Date: 21 October 2024	Ref. No. F.24-0073	
To: Dr.Ir. Ahmad Jauhari, MP. IPU Project Coordinator South Kalimantan Provincial Government As Implementing Agency of ITTO Project PD 927/22 Rev.2 (F) Indonesia E-mail: eriktpmes2000@gmail.com		Jennifer Conje Director Division of Forest Management ITTO - Yokohama, Japan

Dear Dr.Ir. Ahmad Jauhari, MP. IPU,

PD 927/22 Rev.2 (F)

“Development of an Information System on the Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan, Indonesia”

Thank you for your letter of 14 October 2024 [Ref: 003/NOL/ITTO/927/22/10/2024], regarding your proposal to assign experts for this project with the detail as specified below:

Name	Position	Duration	Monthly Honorarium (in US\$)	ITTO Budget line	Activity Number
Dr. Ir. Hafizianor, S. Hut, MP, IPU	Community-based expert	2 Months	755	13.3	1.1
Dr. Yusanto Nugroho, S.Hut, MP	Expert of carbon stock analysis (PSP Area)	2 Months	755	13.1	1.2
Dr. Ir. Mufidah Asyari, MP	Expert of carbon stock analysis (Non PSP Area)	2 Months	755	13.2	1.2
Munsiyi, S. Kom, M.T	Programmer (Expert of IT)	2 Months	680	13.4	1.3
M. Deta Gian Faiz, S.Kom	Assistant expert of IT	1 Month	345	13.4	1.3

I am pleased to inform you that I have no objection to your proposal to engage the above experts, provided that the terms of reference and related costs for the work assigned are in accordance with the provisions specified in the budget for the project.

I trust that this approval will facilitate the efficient and successful execution of the project.

Yours sincerely,

Jennifer Conje
Director
Division of Forest Management

Terms of References (TORs)
Project Coordinator ITTO
Project PD 927/22 Rev.1 (F) Indonesia

Development of an Information System on The Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan, Indonesia.

1. Background

Tidal floods, rising temperatures, and low wood supply in South Kalimantan, caused by deforestation and land conversion, demand urgent attention. A lack of a wood/carbon database hampers effective management, necessitating a special unit to oversee the Information System and regulate wood yields while controlling carbon emissions. Proper planning and data are crucial for adequate wood supply and emissions control, impacting both the timber industry and forests' greenhouse gas reduction role. Thus, satellite and digital technology, alongside a special unit, are essential for accurate data and effective management.

Developing a robust information system on the potential of wood production and carbon sequestration is essential to promote sustainable forest management in South Kalimantan, Indonesia, where the timber industry is important for economic growth, value-added products, and export potential. This information system would provide forest managers and policymakers with reliable and up-to-date information on the potential of wood production and carbon emission/sequestration, as well as the monitoring and evaluation of progress toward sustainable forest management goals. This system would facilitate evidence-based decision-making, leading to more sustainable forest management practices. This could also lead to the development of new forest-based industries, job creation, and income generation for local communities.

The project aims to contribute to the effective planning and monitoring sustainable forest management practices in South Kalimantan, Indonesia. Specifically, the project is to develop an information and database system on the potential of wood production and carbon emission/sequestration to facilitate decision-making, identify opportunities and monitor the progress of sustainable forest management in South Kalimantan, Indonesia.

To ensure the effective achievement of sustainable forest management, the project intends to produce three outputs: 1) Strengthening the data and information collection system to assess changes in forest cover, forest growth, carbon stocks, wood production, social information and others as a solid foundation for sustainable forest management. 2) Improving the wood and carbon information systems to support decision-making tools and monitoring and evaluation of progress toward achieving sustainable forest management goals. 3) Enhancing the coordination of SFM policy information network systems with engagement of forest managers, policymakers, local communities, academics and other relevant groups

2. Qualifications

- Doctoral degree in forestry or natural resources management
- A minimum of 5 years of working experience in natural resources management and proven experience in managing donor projects and budgets
- Good knowledge of Forest management and Climate Change
- Proven team worker with coordination skills at international, national and local levels
- Familiar with ITTO project management

Responsibilities:

- Manage and administer the execution of the project activities, ensuring the achievement of objectives and dissemination of project outputs.
- Schedule the annual work plan and other plans as required by ITTO in cooperation with national experts, consultants, and technical staff.
- In consultation with ITTO, carry out the recruitment of a national consultant and select an independent auditor to audit project financial documents.
- Coordinate with national experts and consultants to make necessary arrangements to support project implementation, including testing, technology development, data collection and analysis, training/workshops, and preparation of reports/publications.
- Make necessary arrangements for the release of financial resources from ITTO in accordance with the approved Project Agreement.
- Review and submit progress reports, annual reports, completion reports, and technical reports to ITTO and the Government of Indonesia.
- Represent the project at meetings, seminars, and workshops as required.

Duration

The duration of the assignment is 36 months from August 2024 to 31 January 2027.

Terms of References (TORs)
Project Secretary / Finance
Project PD 927/22 Rev.1 (F) Indonesia

Development of an Information System on The Potential of Wood and Carbon to Support
Sustainable Forest Management in South Kalimantan, Indonesia.

1. Background

Tidal floods, rising temperatures, and low wood supply in South Kalimantan, caused by deforestation and land conversion, demand urgent attention. A lack of a wood/carbon database hampers effective management, necessitating a special unit to oversee the Information System and regulate wood yields while controlling carbon emissions. Proper planning and data are crucial for adequate wood supply and emissions control, impacting both the timber industry and forests' greenhouse gas reduction role. Thus, satellite and digital technology, alongside a special unit, are essential for accurate data and effective management.

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Qualifications

- Proven track record in coordinating research projects.

- Experience in administrative and financial management.
- Strong organizational and communication skills.
- Proficiency in using office software and financial management tools.

Responsibilities:

- Assist the Project Coordinator with administrative and financial matters.
- Handle daily administrative tasks, including correspondence, filing, and scheduling.
- Manage financial records, including budgeting, expenditure tracking, and financial reporting.
- Prepare and process invoices, payments, and reimbursements.
- Ensure compliance with financial policies and procedures.
- Support the organization and logistics of project-related events, such as workshops, training sessions, and meetings.
- Maintain project documentation and ensure that all records are accurate and up-to-date.
- Assist in the preparation and submission of financial reports to ITTO and the Government of Indonesia.
- Provide technical support as needed for financial and administrative tasks.

Duration

The duration of the assignment is 36 months from August 2024 to 31 January 2027.

Terms of References (TORs)
Expert of PSP and NON PSP
Project PD 927/22 Rev.2 (F) Indonesia

Development of an Information System on The Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan, Indonesia.

Background

Tidal floods, rising temperatures, and low wood supply in South Kalimantan, caused by deforestation and land conversion, demand urgent attention. A lack of a wood/carbon database hampers effective management, necessitating a special unit to oversee the Information System and regulate wood yields while controlling carbon emissions. Proper planning and data are crucial for adequate wood supply and emissions control,

impacting both the timber industry and forests' greenhouse gas reduction role. Thus, satellite and digital technology, alongside a special unit, are essential for accurate data and effective management.

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To ensure the effective achievement of sustainable forest management, the project intends to produce three outputs: 1) Strengthening the data and information collection system to assess changes in forest cover, forest growth, carbon stocks, wood production, social information and others as a solid foundation for sustainable forest management. 2) Improving the wood and carbon information systems to support decision-making tools and monitoring and evaluation of progress to toward achieving sustainable forest management goals. 3) Enhancing the coordination of SFM policy information network systems with engagement of forest managers, policymakers, local communities, academics and other relevant groups.

Qualifications:

- Master or doctoral in Forestry, Environmental Science, or Natural Resource Management.
- Specialization or coursework in carbon accounting, forest management, or timber inventory.
- 2-3 years of experience in forest management, forest inventories, or forest carbon measurement.
- Experience working with Permanent Sample Plots (PSP) and forest carbon monitoring protocols.
- Proficiency in using field measurement tools such as calipers, hypsometers, GPS devices, and carbon flux sensors.
- Experience with GIS software for mapping forest plots and analyzing spatial data,
- Strong written and verbal communication skills for reporting data and collaborating with team members and ability to summarize complex data in reports for internal and external stakeholders.

Responsibilities:

- Conduct periodic carbon stock assessments by measuring tree diameter, height, and biomass.

- Perform timber inventory by identifying tree species, measuring diameters and heights, and calculating timber volume.
- Collect data on soil carbon, deadwood, and litterfall for comprehensive carbon accounting.
- Accurately record and manage field data, ensuring proper entry into databases,
- Operate and maintain field equipment, such as GPS devices, calipers, and carbon flux sensors.
- Analyze and report data on carbon stocks and timber volumes to internal and external stakeholders.
- Follow carbon measurement protocols, including IPCC guidelines and national standards.
- Collaborate with foresters, researchers, and technicians for efficient fieldwork.
- Ensure compliance with health, safety, and environmental standards during field activities.
- Assist in maintaining PSP plots and ensure the integrity of the sampling areas for long-term monitoring.

Duration

The duration of the assignment in 2 months.

Honorarium per Month

The honor for expert of PSP is US\$ 755 and non-PSP is US\$ 755.

Terms of References (TORs)
Programmer/ Expert of IT and the assistant of IT
Project PD 927/22 Rev.2 (F) Indonesia

Development of an Information System on The Potential of Wood and Carbon to Support Sustainable Forest Management in South Kalimantan, Indonesia.

Background

Tidal floods, rising temperatures, and low wood supply in South Kalimantan, caused by deforestation and land conversion, demand urgent attention. A lack of a wood/carbon database hampers effective management, necessitating a special unit to oversee the Information System and regulate wood yields while controlling carbon emissions. Proper planning and data are crucial for adequate wood supply and emissions control, impacting both the timber industry and forests' greenhouse gas reduction role. Thus, satellite and digital technology, alongside a special unit, are essential for accurate data and effective management.

Developing a robust information system on the potential of wood production and carbon sequestration is essential to promote sustainable forest management in South Kalimantan, Indonesia, where the timber industry is important for economic growth, value-added products, and export potential. This information system would provide forest managers and policymakers with reliable and up-to-date information on the potential of wood production and carbon emission/sequestration, as well as the monitoring and evaluation of progress toward sustainable forest management goals. This system would facilitate evidence-based decision-making, leading to more sustainable forest management practices. This could also lead to the development of new forest-based industries, job creation, and income generation for local communities.

The project aims to contribute to the effective planning and monitoring sustainable forest management practices in South Kalimantan, Indonesia. Specifically, the project is to develop an information and database system on the potential of wood production and carbon emission/sequestration to facilitate decision-making, identify opportunities and monitor the progress of sustainable forest management in South Kalimantan, Indonesia.

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Qualifications:

- Master or Bachelor degree in Computer Science, Information Technology, or Software Engineering.

- Proficiency in programming languages like Python, R, or JavaScript, and experience with databases such as SQL.
- Familiarity with GIS tools, spatial data analysis, and remote sensing technologies.
- Strong skills in data processing, analysis, and visualization using software platforms.
- Experience in integrating APIs and building web applications for environmental data management.
- Ability to debug, troubleshoot, and optimize code for performance and accuracy.
- Ability to create web-based spatial including to create DSS which part of the information system.
- Experience working in multidisciplinary teams, including researchers, technicians, and environmental scientists.

Responsibilities:

- Develop and maintain software for forest carbon measurement and timber inventory data collection and analysis.
- Create algorithms to calculate carbon stocks based on field data inputs (e.g., tree diameters, biomass).
- Build and manage databases to store and process large datasets on forest inventory and carbon measurements.
- Develop user-friendly web or mobile applications for technicians to input field data directly.
- Integrate GIS and remote sensing data into existing systems to support forest monitoring and spatial analysis.
- Ensure the automation of data processing workflows for faster and more efficient carbon and timber analysis.
- Collaborate with field technicians to gather feedback and improve software functionality.
- Implement data visualization tools to generate reports, charts, and maps for carbon and timber data.
- Ensure data security, backup, and integrity of forest monitoring databases.
- Provide technical support and training for field teams using software applications and data collection tools.

Duration

The duration of the assignment for programmer is 2 months and for the assistant in 1 month.

Honorarium per Month

The honor for this expert of programmer is US\$ 680 and for the assistant is US\$ 345.

Terms of References (TORs)
Community-Based Expert
Project PD 927/22 Rev.2 (F) Indonesia

Development of an Information System on The Potential of Wood and Carbon to Support
Sustainable Forest Management in South Kalimantan, Indonesia.

Background

Tidal floods, rising temperatures, and low wood supply in South Kalimantan, caused by deforestation and land conversion, demand urgent attention. A lack of a wood/carbon database hampers effective management, necessitating a special unit to oversee the Information System and regulate wood yields while controlling carbon emissions. Proper planning and data are crucial for adequate wood supply and emissions control, impacting both the timber industry and forests' greenhouse gas reduction role. Thus, satellite and digital technology, alongside a special unit, are essential for accurate data and effective management.

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The project aims to contribute to the effective planning and monitoring sustainable forest management practices in South Kalimantan, Indonesia. Specifically, the project is to develop an information and database system on the potential of wood production and carbon emission/sequestration to facilitate decision-making, identify opportunities and monitor the progress of sustainable forest management in South Kalimantan, Indonesia.

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Qualifications:

- Master or doctoral in Forestry, Environmental Science, or Natural Resource Management.
- Experience in community engagement or outreach programs related to environmental or forestry issues.
- Understanding of forest carbon measurement, timber inventory practices, and basic environmental science.
- Strong verbal and written communication skills for interacting with diverse community groups and stakeholders.
- Familiarity with data collection tools, GIS, and environmental monitoring software is an advantage.
- Experience in organizing and managing community-based projects or initiatives and ability to train and educate community members on forest carbon measurement and timber inventory techniques.

Responsibilities:

- Engage with local communities to raise awareness about forest carbon measurement and timber inventory initiatives.
- Assist communities in collecting data on forest carbon stocks and timber inventory, ensuring accuracy and reliability.
- Work with local organizations, government agencies, and NGOs to integrate community input into forest monitoring programs.
- Gather feedback from community members to improve project implementation and address concerns or suggestions.
- Coordinate community activities related to forest monitoring, ensuring alignment with project goals and timelines.
- Manage resources and materials needed for community training and data collection activities.
- Incorporate traditional knowledge and practices into the forest monitoring process, enhancing community engagement.

Duration

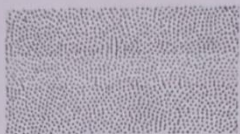
The duration of the assignment is 2 months.

Honorarium per Month

The honor for this expert is US\$ 755.

Annex 5 Transferred fund from ITTO and remaining fund in the bank account

Contoh Tanda Tangan



Pengesahan Petugas Bank



Kantor Cabang : BANJARBARU
No. Rekening : 1863613407 - USD
Nama : Bpk AHMAD JAUHARI

NO. GA 0230688

155 - 59466



NO. GA 0230688



Penarikan BNI Dollar dapat dilakukan di seluruh cabang devisa.

PERHATIAN :

1. Periksa saldo pada buku BNI Dollar Anda sebelum meninggalkan Bank.
2. Jika buku BNI Dollar hilang, agar segera memberitahu Bank.
3. Penyalahgunaan buku BNI Dollar oleh pihak ketiga yang bukan karena kesalahan Bank menjadi risiko/tanggung jawab pemilik rekening sepenuhnya.
4. Perubahan identitas diri agar dilaporkan kepada Bank.
5. Apabila saldo pada buku BNI Dollar sebesar biaya penutupan dan biaya pengelolaan rekening, maka secara otomatis rekening BNI Dollar ditutup oleh sistem.

Keterangan Kode Transaksi

S01 Tarik dari Nasabah Non Fisik	515 Inkaso dari bank lain	11 Akumulasi transaksi Cr
S02 Setor ke Nasabah Non Fisik	590 Pemindahbukuan	27 Pembayaran-pembayaran
S03 Setor ke Nasabah Fisik	3 Kliring	31 In lieu of exchange
S04 Tarik dari Nasabah Fisik	6 Bunga	33 Biaya pengelolaan rekening
S06 Incoming transfer dari bank lain	7 Pembedulan kesalahan	34 Biaya saldo minimum
S08 Incoming transfer dari BNI Cabang lain	8 Pemindahan saldo	8 Reversal/Pembatalan Pembayaran
S10 Outgoing transfer ke bank lain	9 Rupa-rupa	
S11 Outgoing transfer ke BNI Cabang lain	10 Akumulasi transaksi Db	



NO	TANGGAL	SANDI	DEBIT	KREDIT	SALDO	PENGESAHAN PETUGAS BANK
1	22/07/24	4		1,000,000	1,000,000	1
2	30/07/24	4	20,000		980,000	83859
3	30/07/24	4	-30,000		950,000	83859
4	31/07/24	9	11,000		939,000	99
5	31/07/24	9	10,000		929,000	99
6	23/08/24	4	5,451,000	612,600,000	613,529,000	83859
8	11/08/24	6		21,972	608,057,010	1
9	11/08/24	5	4,795		608,089,882	99
0	31/08/24	9	11,000		608,074,487	99
1	31/08/24	9	-10,000		608,064,487	99
2	04/09/24	4	-50,000,000		558,064,487	1
3	23/09/24	4	-1,331,467		556,733,020	1
4	23/09/24	4	-332,889		556,400,131	1
5	24/09/24	4	850,000		555,550,131	1
6	25/09/24	4	6,202,575		549,347,556	1
7	27/09/24	4	-27,567,000		521,780,556	1
8	30/09/24	6		106,759	521,886,915	99
9	30/09/24	5	21,272		521,865,643	99
0	30/09/24	9	-11,000		521,854,643	99
1	30/09/24	9	10,000		521,844,643	99
2	03/10/24	2	150,000,000		371,844,643	83859
23	18/10/24	2	-135,000,000		236,844,643	83850
24	19/12/24	28	-2,500		83,223,224	1
25	20/12/24	4		161,450,000	244,673,224	83850