

**Introduction to
PNG REDD+ Registry: DMS
(Data Management System)
- Demo Version -**

June 2022



**Introduction to PNG REDD+ Registry: DMS (Data Management System)
(Demo Version)**

<https://pngreddplus.shinyapps.io/png-reddplus-registry/>

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The information in this document is subject to change without notice.

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Acronyms

AOI	Area of Interest
BUR	Biennial Update Report
CCDA	Climate Change and Development Authority
CEPA	Conservation and Environment Protection Authority
DAL	Department of Agriculture and Livestock
DLPP	Department of Lands and Physical Planning
DMS	Data Management System
DSS	Decision Support System
EU	European Union
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FRIMS	Forest Resource Information Management System
FRL	Forest Reference Level
GCF	Green Climate Fund
GEDI	Global Ecosystem Dynamics Investigation
GEF	Global Environment Facility
GFW	Global Forest Watch
GLAD	Global Land Analysis and Discovery
GPS	Global Positioning System
HCV	High Conservation Value
HCS	High Carbon Stock
LCOP	Logging Code of Practice
MRA	Mineral Resource Authority
MRV	Measurement, Reporting and Verification
NDC	Nationally Determined Contribution
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NRS	National REDD+ Strategy
NSO	National Statistical Office
PaMs	Policies and Measures
PMCP	Planning, Monitoring and Control Procedures
PNG	Papua New Guinea
PNGFA	Papua New Guinea Forest Authority
REDD	Reducing Emissions from Deforestation and forest Degradation
RSPO	Roundtable on Sustainable Palm Oil
SEPAL	System for earth observations, data access, processing & analysis for land monitoring
SIS	Safeguard Information System
SLMS	Satellite Land Monitoring System
TA	Technical Annex
TLVS	Timber Legality Verification System
UN	United Nations
UNDP	United Nations Development Programme
URL	Uniform Resource Locator

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DRAFT

Introduction and Background

History and Vision of REDD+ in PNG

“REDD” stands for Reducing Emissions from Deforestation, Forest Degradation and the “+” stands for the role of Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks.”



PNG has been at the forefront of REDD+ negotiations globally since 2005 when PNG and Costa Rica introduced the concept of reducing emissions from deforestation to the 33rd UN Framework Convention on Climate Change Conference (UNFCCC). Over this time, the Government of PNG has worked to lead international discussions on REDD+ while building capacity and testing approaches to REDD+ domestically as part of a broader approach to climate change.

PNG’s vision of REDD+ is to catalyze change within the forest and land use sector towards a new responsible economy with lower greenhouse gas emissions (GHGs), stronger long term economic growth and community livelihoods and the effective conservation of biodiversity and ecosystem services while ensuring that Papua New Guinea’s forest resources are used in a sustainable and equitable manner for the benefit of current and future generations.

Background of PNG’s REDD+ Registry

PNG submitted its Forest Reference Level (FRL) in January 2017 and submitted Biennial Update Report (BUR) including Technical Annex (TA) on REDD+ to UNFCCC in April 2019. This PNG’s submission of BUR with TA was 8th in the world and 1st in the pacific islands countries. Furthermore, PNG submitted the Second BUR including the updated Technical Annex on REDD+ in 2022.

PNG’s REDD+ Results of 2014 and 2015 against the technical assessed FRL by UNFCCC (2014-2018 for 5 years is based on the annual historical emissions of 2001-2013 as reference period with linear projection) was about 9 million of tCO₂ equivalent and about 6 million against the FRL based on the Green Climate Fund (GCF) scorecard (Annex II of terms of reference for the pilot programme for REDD+ results-based payments (RBPs)).

One of the important requirements for the countries to be eligible for REDD+ results-based payments such as GCF RBPs pilot programme or Forest Carbon Partnership Facility (FCPF) Carbon Fund is to have a registry or similar system, that tracks emission reductions and corresponding payments to ensure there is no past or future double payment [or use] of such Emission Reductions. Therefore, PNG’s has been working on development of the REDD+ Registry Data Management System (DMS).

What is a “REDD+ Registry System”?

A “REDD+ registry system” is a repository for information on REDD+ actions preserving knowledge of facts, events, documents, maps, the details of ownership and value, etc. in a verifiable format. As such it is a tool that can help capture, process, store and report on all the relevant data and information related to REDD+ projects and programs in a way that is verifiable and accessible to various categories of stakeholders or end-users for decision making purposes.

From a country perspective, a REDD+ Registry system can be a tool to facilitate the operation of a country’s REDD+ implementation framework (policies and rules and requirements) irrespective of where the ERs generated by REDD+ projects/programs are transacting within a market framework. Therefore, the definition of a country’s implementation framework processes and procedures is a prerequisite to registry development and roll-out.

REDD+ Projects/Programs List in PNG

Currently, the following REDD+ projects in the table below are registered and under evaluation in PNG.

Project_ID	Project_Name	Geo_Boundary	Proponent	Status	Scope	Methodology	Carbon_Pool	Gases	Estimated_ER	Buffer_Credit	Area(ha)	Ref_Period	Credit_Period	Uncertainty	Registry
VCS_1122	April Salumei REDD Project	April.Redd.kml	Rainforest Project Management Limited	Registered	DF, DG, SFM	VM0007, VM0010	AGB, BGB, DW, LTR, SOC	CO2, CH4, N2O	1,032,650	614,104	204,343	2000 to 2009	2009 to 2049	Provided	APX
VCS_2293	NIHT Topaiyo REDD+	NIHT.kml	NIHT Inc.	Registered	DF, DG	VM0009	AGB, BGB, DW	CO2	2,262,521	1,327,442	10,443	2008 to 2017	2017 to 2047	Provided	VER
VCS_2483	PNG Communities BEST REDD - Tavolo Project	Tavolo_Project_Boundary.kml	FORCERT Limited	Under development	DF, DG	VM0007	AGB, BGB, HWP	CO2	202,142	Not issued	21,782	2008 to 2018	2019 to 2049	Not provided	Not registered
VCS_2760	REDD+ Project in Oro Province of Papua New Guinea	REDD+ PROJECT IN_ORO_05122021.kml	Kanaka Management Services Pvt. Ltd	Under development	DF, DG	VM0015	AGB, BGB, DW, LTR, SOC	CO2	8,099,752	Not issued	418,000	2001 to 2016	2017 to 2117	Provided	Not registered

Figure 1: REDD+ Projects/Programs List in PNG

Geographic Locations of the REDD+ projects in PNG can be reviewed in [PNG’s Deforestation Alerts and Monitoring System \(REDD+ Activity\)](#)

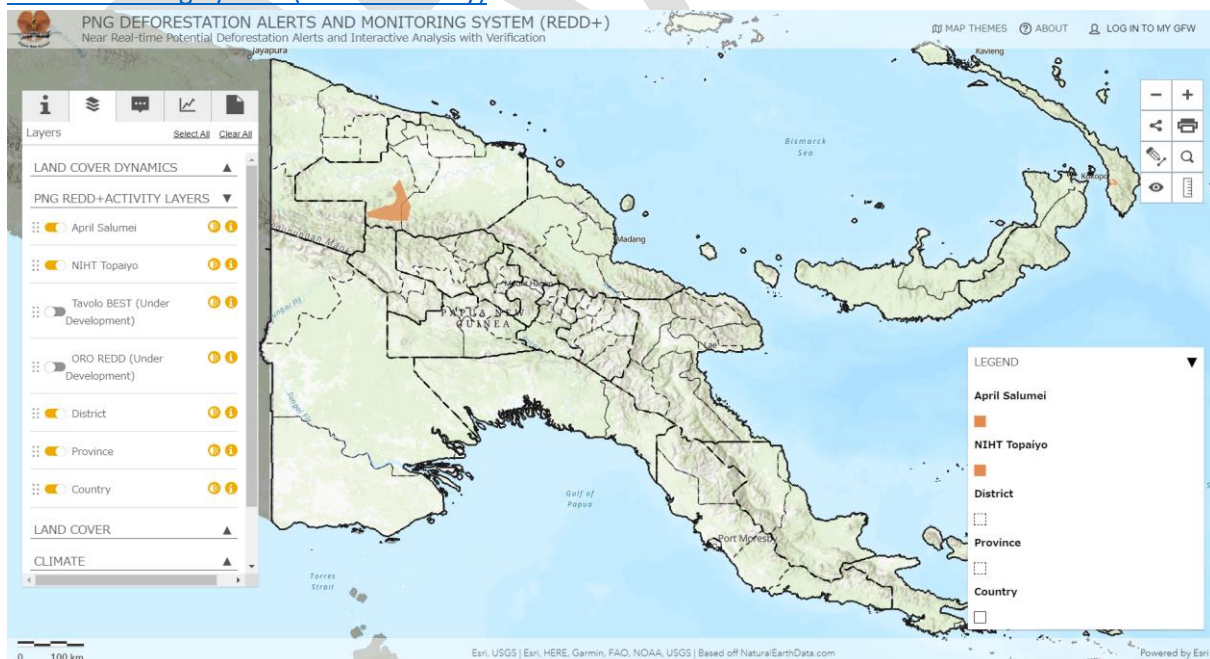


Figure 2: PNG’s Deforestation Alerts and Monitoring System (REDD+ Activity)

Information on the PNG REDD+ Registry

<https://pngreddplus.shinyapps.io/png-reddplus-registry/>

About PNG REDD+ Registry

The Summary in this tab contains background information of the REDD+ Project in Papua New Guinea and definition of what the abbreviation stands for. Listed in this tab is a summary project list and map to the PNG Deforestation and Alerts Monitoring System.

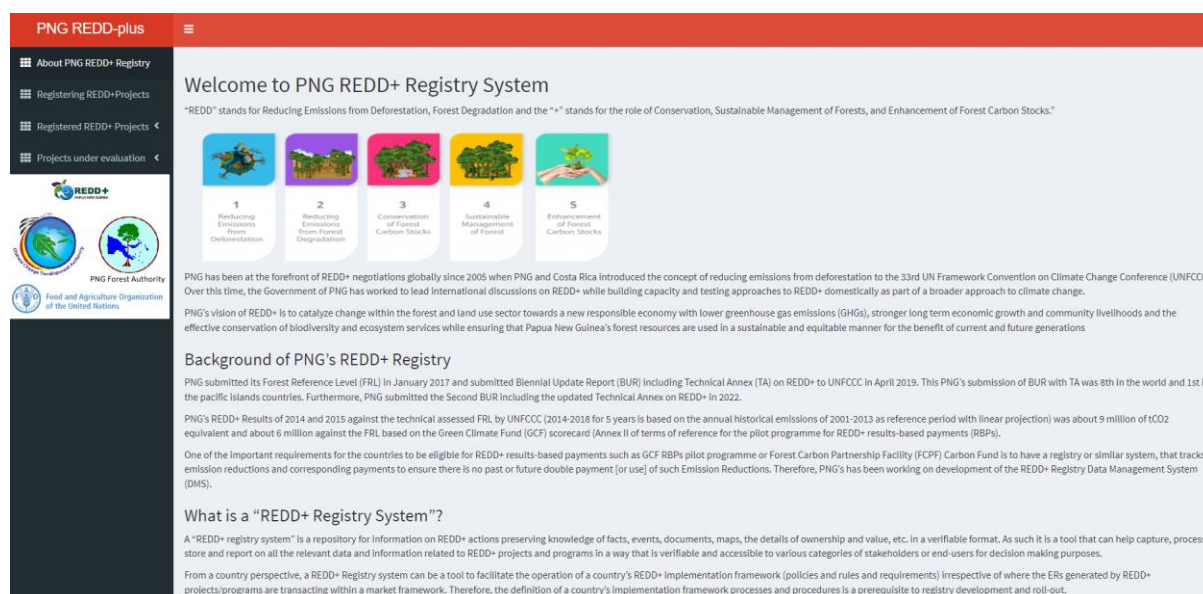


Figure 3: Overview of Welcome Page

Registering REDD+ Projects

This tab contains information for Landowners and Project Developers who are interested to register a REDD+ project under the guidelines set put by the Department of Climate Change Development Authority. An online registration form is available and is submitted directly to CCD A REDD+ Division Officers to review and process accordingly and revert to applicant.

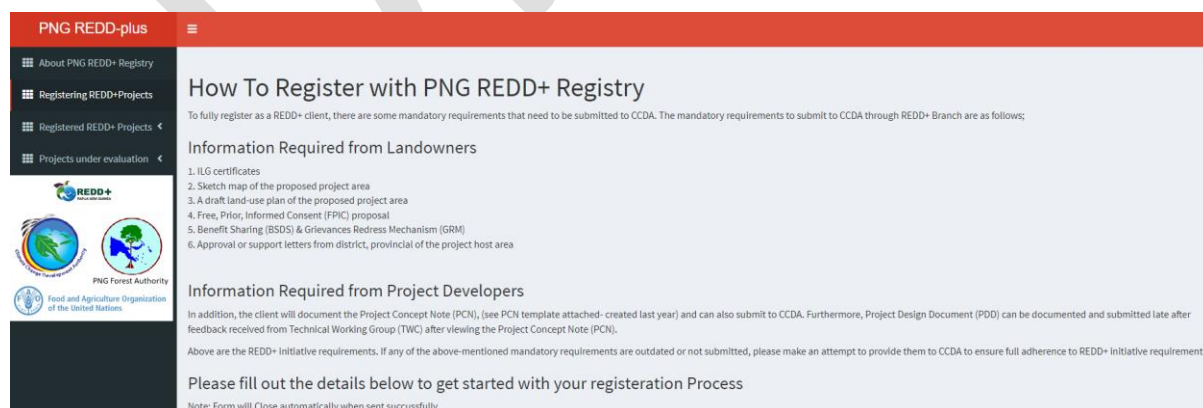


Figure 4: Registering REDD+ Projects (Intro)

PNG REDD+ REGISTRY REGISTRATION

Name *

First

Last

Email : *

Phone :

Mobile number or landline

Contact Address

Postal Address

Province

Current Province residing in

Geographical Location

Proponent(Entity)

Program/Project Type

- | | |
|--|---|
| <input type="checkbox"/> Agriculture Forestry and Other Land Use | <input type="checkbox"/> Energy industries (renewable/non-renewable sources) |
| <input type="checkbox"/> Energy demand | <input type="checkbox"/> Energy distribution |
| <input type="checkbox"/> Waste handling and disposal | <input type="checkbox"/> Livestock, enteric fermentation, and manure management |
| <input type="checkbox"/> Manufacturing industries | <input type="checkbox"/> Transport |

Figure 5: Overview of the Registration page 1

AFOLU Activity

- Reduced Emissions from Deforestation and Degradation - Deforestation
- Improved Forest Management
- Afforestation, Reforestation and Revegetation - Enhancement
- Agricultural Land Management
- Wetlands Restoration and Conservation
- Reduced Emissions from Deforestation and Degradation - Degradation
- Improved Forest Management - Sustainable Forest Management
- Afforestation, Reforestation and Revegetation - Restroration
- Avoided Conversion of Grasslands and Shrublands

Methodology

Carbon Pool

- Above Ground Biomass
- Below Ground Biomass
- Deadwood
- Litter
- Soil Organic Carbon
- Harvested Wood Products

Gases

- CO2
- CH4
- N2O

Estimated Annual Emission Reductions

Project Area (Ha)

Project Validator

Figure 6: Overview of the Registration page 2

Registered REDD+ Projects

Under this tab, are sub-layers that show registered REDD+ Projects in Papua New Guinea. There are 2 VCS registered REDD+ projects in PNG (as of June 2022).

April Salumei REDD+ Project

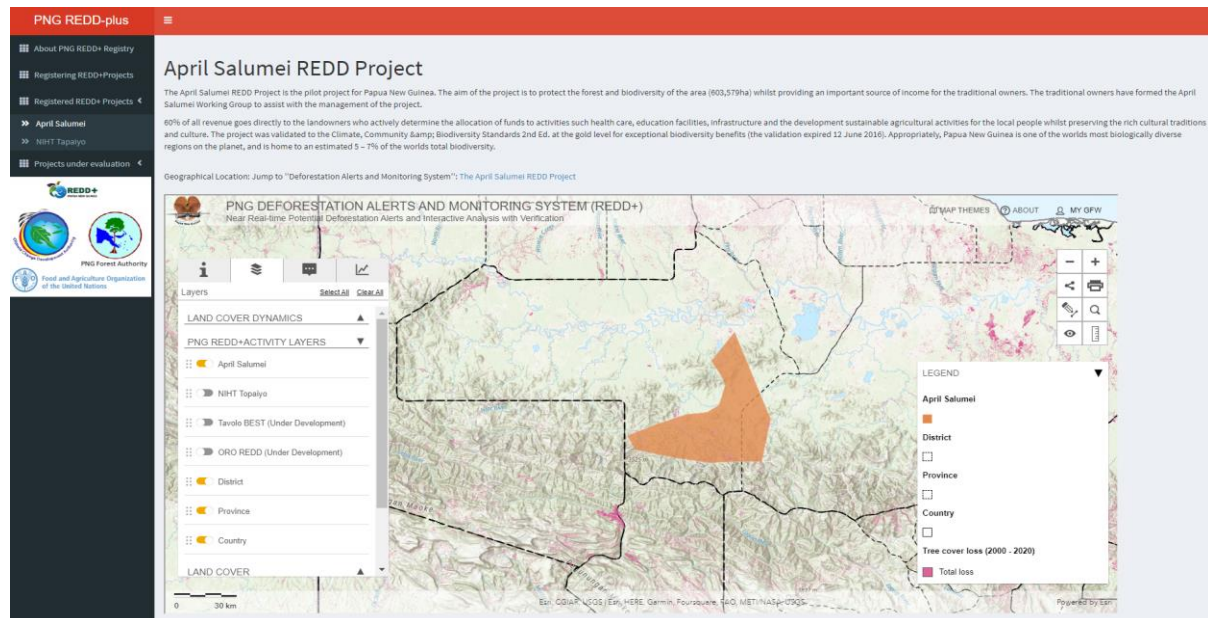


Figure 7 : April Salumei REDD+ Project (Location)

The April Salumei REDD Project is the pilot project for Papua New Guinea. The aim of the project is to protect the forest and biodiversity of the area (603,579ha) whilst providing an important source of income for the traditional owners. The traditional owners have formed the April Salumei Working Group to assist with the management of the project.

60% of all revenue goes directly to the landowners who actively determine the allocation of funds to activities such health care, education facilities, infrastructure and the development sustainable agricultural activities for the local people whilst preserving the rich cultural traditions and culture. The project was validated to the Climate, Community & Biodiversity Standards 2nd Ed. at the gold level for exceptional biodiversity benefits (the validation expired 12 June 2016). Appropriately, Papua New Guinea is one of the worlds most biologically diverse regions on the planet, and is home to an estimated 5 – 7% of the worlds total biodiversity.

Project Summary		
Project ID	Project Name	Proponent
VCS_2483	NIHT_Topaiyo_REDD+	Rainforest Project Management Limited
Methodology	Location	Area(ha)
VM0007, VM0010	-4.558611, 142.688889	204,343
Scope	Carbon_Pool	Gases
DF/DG/SFM	AGB/BGB/DW/LTR/SOC	CO2/CH4/N2O
Ref_Period	Credit Period	Estimated ER
2000 to 2009	2009 to 2049	1032650
Credit Issued	Uncertainty	Registry
614104	Provided	APX
Status		
Registered		

Figure 8 : April Salumei REDD+ Project (Summary)

NIHT REDD+ Project

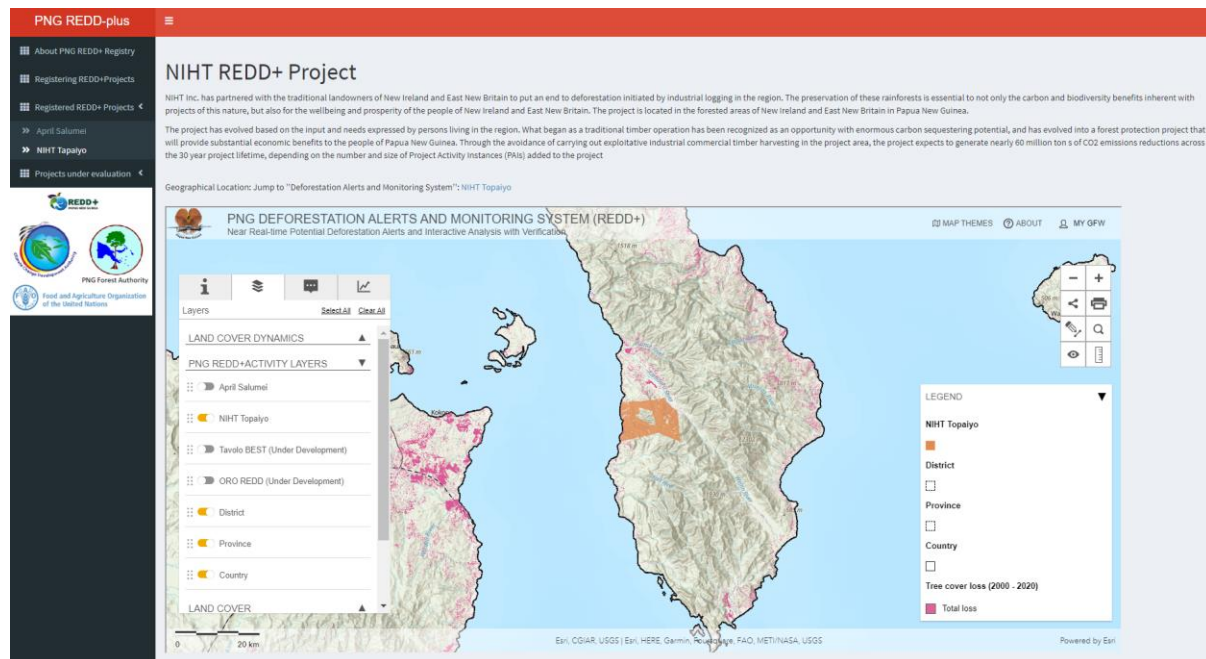


Figure 9: NIHT REDD+ Project (Location)

NIHT Inc. has partnered with the traditional landowners of New Ireland and East New Britain to put an end to deforestation initiated by industrial logging in the region. The preservation of these rainforests is essential to not only the carbon and biodiversity benefits inherent with projects of this nature, but also for the wellbeing and prosperity of the people of New Ireland and East New Britain. The project is located in the forested areas of New Ireland and East New Britain in Papua New Guinea.

The project has evolved based on the input and needs expressed by persons living in the region. What began as a traditional timber operation has been recognized as an opportunity with enormous carbon sequestering potential, and has evolved into a forest protection project that will provide substantial economic benefits to the people of Papua New Guinea. Through the avoidance of carrying out exploitative industrial commercial timber harvesting in the project area, the project expects to generate nearly 60 million tons of CO₂ emissions reductions across the 30 year project lifetime, depending on the number and size of Project Activity Instances (PAIs) added to the project.

Project Summary		
Project ID VCS_2483	Project Name NIHT_Topaiyo_REDD+	Proponent NIHT Inc.
Methodology VM0009	Location	Area(ha) 10443
Scope DF/DG	Carbon_Pool AGB/BGB/DW	Gases CO2
Ref_Period 2008 to 2017	Credit Period 2017 to 2047	Estimated ER 2262521
Credit Issued 1327442	Uncertainty Provided	Registry VER
Status Registered		

Figure 10: NIHT REDD+ Project (Summary)

Project under Evaluation

Under this tab, are sub-layers that show REDD+ Projects in Papua New Guinea that are currently under evaluation. There are 2 VCS REDD+ projects in PNG which are under evaluation (as of June 2022).

Tavolo REDD+ Project

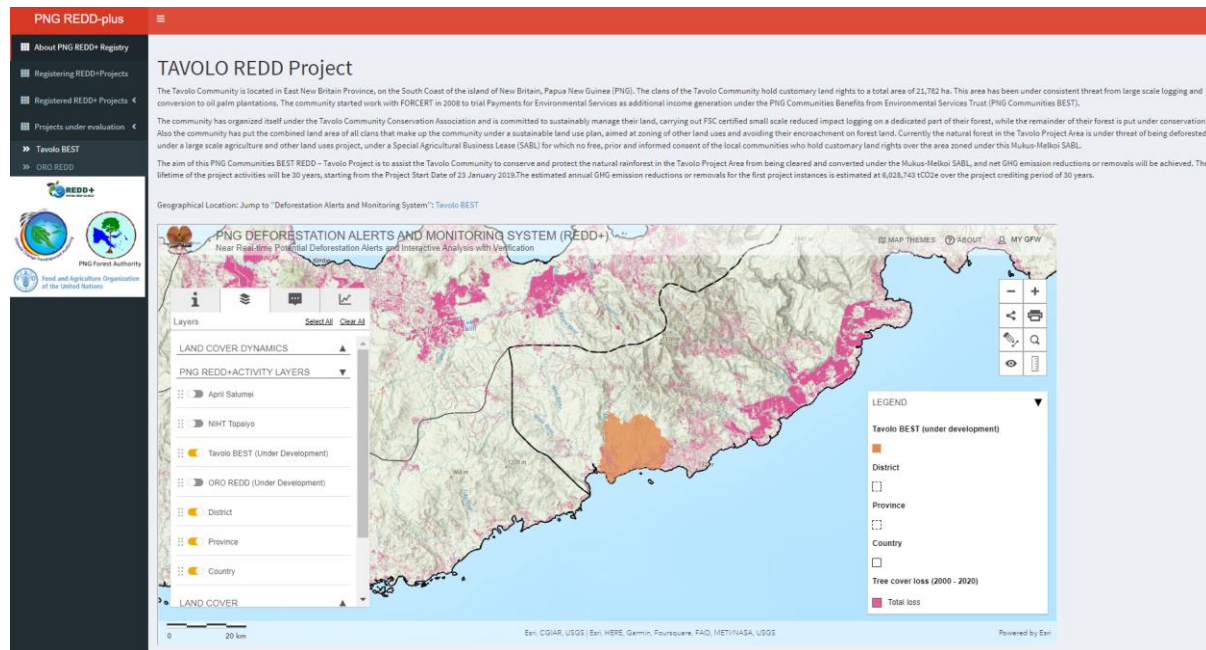


Figure 11: Tavolo REDD+ Project (Location)

The Tavolo Community is located in East New Britain Province, on the South Coast of the island of New Britain, Papua New Guinea (PNG). The clans of the Tavolo Community hold customary land rights to a total area of 21,782 ha. This area has been under consistent threat from large scale logging and conversion to oil palm plantations. The community started work with FORCERT in 2008 to trial Payments for Environmental Services as additional income generation under the PNG Communities Benefits from Environmental Services Trust (PNG Communities BEST).

The community has organized itself under the Tavolo Community Conservation Association and is committed to sustainably manage their land, carrying out FSC certified small scale reduced impact logging on a dedicated part of their forest, while the remainder of their forest is put under conservation. Also the community has put the combined land area of all clans that make up the community under a sustainable land use plan, aimed at zoning of other land uses and avoiding their encroachment on forest land. Currently the natural forest in the Tavolo Project Area is under threat of being deforested under a large scale agriculture and other land uses project, under a Special Agricultural Business Lease (SABL) for which no free, prior and informed consent of the local communities who hold customary land rights over the area zoned under this Mukus-Melkoi SABL.

The aim of this PNG Communities BEST REDD – Tavolo Project is to assist the Tavolo Community to conserve and protect the natural rainforest in the Tavolo Project Area from being cleared and converted under the Mukus-Melkoi SABL, and net GHG emission reductions or removals will be achieved. The lifetime of the project activities will be 30 years, starting from the Project Start Date of 23 January 2019. The estimated annual GHG emission reductions or removals for the first project instances is estimated at 6,028,743 tCO₂e over the project crediting period of 30 years.

Project Summary		
Project ID VCS_2483	Project Name PNG Communities BEST REDD - Tavolo Project	Proponent FORCERT Limited
Methodology VM0007	Location East New Britain Province	Area (ha) 21782
Scope DF/DG	Carbon_Pool AGB/BGB/HWP	Gases CO2
Ref_Period 2008 to 2018	Credit Period 2019 to 2049	Estimated ER 202142
Credit Issued Not issued	Uncertainty Provided	Registry Not registered
Status Under development		

Figure 12: Tavolo REDD+ Project (Summary)

ORO REDD+ Project

The screenshot shows the PNG REDD+ Registry interface. On the left, there is a navigation menu with options like 'About PNG REDD+ Registry', 'Registering REDD+ Projects', 'Registered REDD+ Projects', and 'Projects under evaluation'. The main content area is titled 'ORO REDD' and contains a detailed description of the project, its location in the province of Oro, and the challenges it addresses, such as forest loss due to logging and shifting agriculture. Below the text is a map titled 'PNG DEFORESTATION ALERTS AND MONITORING SYSTEM (REDD+)'. The map shows the geographical location of the ORO REDD project in Papua New Guinea, with various layers and activity layers visible. A legend on the right side of the map identifies the ORO REDD (under development) area in orange, along with other geographical features like District, Province, and Country. The map also shows tree cover loss from 2000 to 2020, with total loss indicated in pink.

Figure 13: ORO REDD+ Project (Location)

This REDD+ project is located in the province of Oro in Papua New Guinea. The Oro forests are among the most valuable natural resources. These forests support hundreds of rare and endemic species, making this place a “mega-biodiverse” district. These forests are also directly critical to the lives and well-being of most of our people, including the communities in this province. For decades, these areas are under tremendous stress due to logging, shifting agriculture, and plantations.

The demand for unprocessed logs from these areas from the Asian market is the biggest cause of forest loss. However, for the past two decades, forest harvesting has occurred in a destructive and ecologically unsustainable fashion. Secondly, a large portion of the forests is being converted to permanent agriculture and long fallow shifting cultivation. In addition, the human population is being tremendously increased in these areas, and hence the dependence on forest resources increased.

Due to the increase in the human population, the poverty among the rural areas is also increased, therefore the subsistence farmers respond to the growing needs of the population by various forms of agricultural intensification. This project is an Avoided Unplanned Deforestation and Degradation (AUD) activity. This initiative proceeds with promoting various activities to mitigate climate change and improving livelihoods.

Project Summary		
Project ID VCS_2760	Project Name REDD+ Project in Oro Province of Papua New Guinea	Proponent Kanaka Management Services Pvt. Ltd
Methodology VM0015	Location Oro Province	Area(ha) 418000
Scope DF/DG	Carbon_Pool AGB, BGB, DW, LTR, SOC	Gases CO2
Ref_Period 2001 to 2016	Credit Period 2017 to 2117	Estimated ER 8099752
Credit Issued Not issued	Uncertainty Provided	Registry Not registered
Status Under development		

Figure 14: ORO REDD+ Project (Summary)

Technical Specification

PNG REDD+ Registry Data Management System is a web application that was developed using the “R” Markup language in the shiny Rstudio Application which are open source software applications. The registry registration form was developed using the WordPress plugin “WPForms” and was linked to the Registry DMS for end users to access and use at easy.



Source Codes for the PNG REDD+ Registry DMS can be accessed on GitHub Repository through communication with Masamichi Haraguchi and Michael Klewaki who are the team that developed the application (Link to GitHub Respiratory):

Appendix:

The following Menu will help users navigate through the PNG REDD+ Registry DMS and view contents such as “Registered REDD+ Projects”, “Project under Evaluation” and so forth.

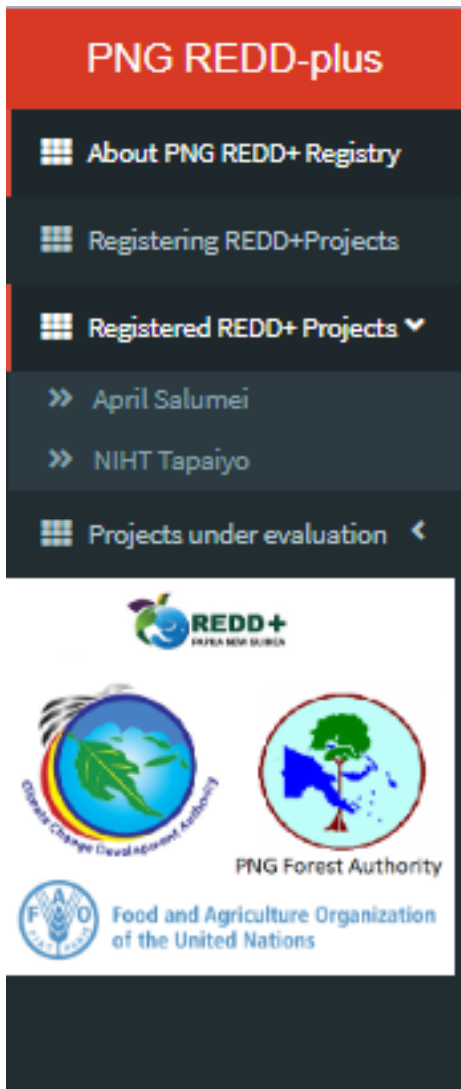


Figure 15 : PNG REDD+ Registry Dashboard Menu

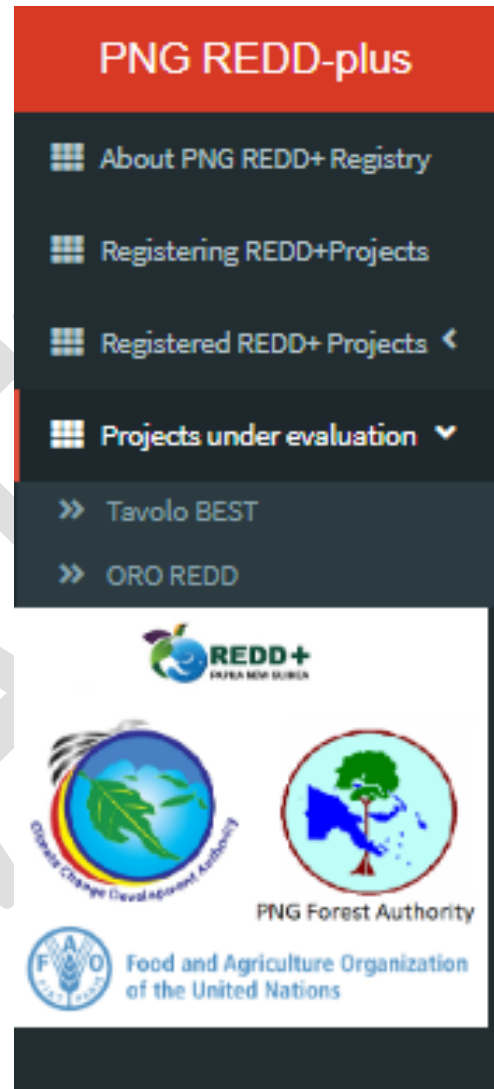


Figure 16: PNG REDD+ Registry Dashboard Menu

Link to PNG Redd+ Registry DMS (Data Management System):

<https://pngreddplus.shinyapps.io/png-reddplus-registry/>