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Carbon cowboys and cattle ranches

Submission on the proposed REDD+ project in Oro Province of Papua New Guinea

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The proposed REDD+ project in Oro Province of PNG covers an area twice the size of London and is expected to generate a huge 800 million carbon credits over its lifetime.

However, the available evidence fails to provide any assurance that this project has integrity, raising broader concerns about the types of carbon credits that Australia, other countries, and the private sector may use to meet their emission reduction commitments.

Polly Hemming
Andrea Babon

March 2022

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Summary

The quality and integrity of 'carbon credits' sits at the heart of global commitments to reduce the atmospheric concentrations of greenhouse gasses. In turn, ensuring the quality and integrity of each project that supplies 'carbon credits' is central to meeting the goals agreed to at the UN climate summit in Glasgow in 2021.

Almost all signatories to the Paris Agreement have made clear their intention to use 'voluntary cooperation' such as carbon offsets in implementing their commitments to reduce greenhouse gas emissions. Similarly, the world's biggest companies overwhelmingly incorporate carbon offsets into their net zero targets.

The proposed REDD+ project in Oro Province of Papua New Guinea is just one of many carbon credit projects being considered by developers globally and that could supply credits to countries and private entities looking to offset their emissions. The Oro project is enormous in scale, with the project proponent claiming that it could avoid over 800 million tonnes of C02 being released over the life of the project.

This submission, while an assessment of an individual project, seeks to draw attention to the need for significantly improved scrutiny of the sorts of carbon credit projects – and their associated frameworks – being established in a rapidly growing and largely unregulated market.

Kanaka Management Services (KMS), the proponent of the Oro project, has provided no evidence to support their claims that their project will result in genuine benefits for the climate or customary landholders. The project document is poorly written, largely incomprehensible and lacks the details that would enable an adequate technical assessment of the project.

Of particular concern, given that the entire premise of the Oro project is that it will deliver 'avoided deforestation' is that KMS fails to demonstrate how the project area is at immediate risk of deforestation and how emissions avoidance activities will be carried out.

The project proponents have shown such a lack of understanding of the environment and people of Papua New Guinea that it borders on contemptuous: not realising that PNG has no railways or cattle in mountainous areas, yet including these things in their assumptions around deforestation in the region they profess to be so familiar with.

The project proponent provides no evidence to suggest that customary landholders have been consulted about the project, nor assurances that they will retain autonomy and control over project activities. This raises serious concerns about potential exploitation and coercion and how future disputes/complaints might be resolved equitably.

It is unclear what safeguards Verra, the framework under which the project would sit, has in place to stop projects of such low integrity being established. Beyond the Oro project, we are concerned that Verra's broader project approval process may be inadequate and that other low-quality projects of this nature could already be supplying 'junk credits' or 'hot air' to corporate and government customers.

KMS has provided no evidence that the Oro project has integrity, and our review of the proposed project has raised numerous concerns about the types of carbon credit projects being established in Papua New Guinea.

Due to the lack of data to support the underlying claims that the Oro project will lead to large reductions in emissions we recommend that the project be refused.

Further, we hope that our assessment of the deficiencies in the documentation of the Oro project serves as a reminder to all participants in the 'global carbon market' of the need for rigorous, independent, project-level scrutiny to ensure good outcomes for the climate and people.

Introduction

While we welcome the opportunity to review the Oro project proposal as an independent party, we have significant concerns about the project and how this proposal was able to get through even the most preliminary stage in Verra's review process.

On 2 March 2022, in response to concerns about the proposed Oro project and the influx of interest from other project developers, Papua New Guinea's Minister for Environment, Conservation and Climate Change announced a moratorium on voluntary REDD+ projects in the country. This would (make the proposed Oro project inconsistent with PNG laws and regulations (invalidating Section 1.15 of the project document).[1]

Nevertheless, we considered an independent assessment of the project worthwhile in the event the moratorium is lifted, and to ensure the significant issues with the Oro project are publicly documented to help understand the need for a significant increase in the oversight of carbon offset projects globally.

THE ORO PROJECT

A document titled *REDD+ Project in Oro Province of Papua New Guinea* (dated 5 December 2021) was developed by project proponent Kanaka Management Services Pvt. Ltd and published on the Verra website on 15 February 2022.[2]

The 130-page document was submitted to Verra to be assessed under the Voluntary Carbon Standard (VCS) program to ensure its credibility as an emission reduction project. Once projects have been certified against the VCS Program's rules and requirements, project developers can be issued tradable Greenhouse Gas (GHG) credits called Verified Carbon Units (VCUs).

The proposed REDD+ Project in Oro Province of Papua New Guinea covers 418,000 Hectares (an area more than twice the size of London) and would be the second largest project under the Verra framework. The project is classified under the 'Agriculture, Forestry and Other Land Use' (AFOLU) category, applying VCS Methodology for Avoided Unplanned Deforestation (VM0015).

The project document estimates Annual Emission Reductions of 8,099,752 tCo2e - or 809,975,248 tCO2e over a 100-year crediting period (06/05/2017 - 05/05/2117). This is a

[1] Carbon Pulse (2022) *Papua New Guinea to put moratorium on REDD+ projects for voluntary market,* https://carbon-pulse.com/152474/

[2] https://registry.verra.org/app/projectDetail/VCS/2760

large volume of emission reductions and crediting period when compared with other Verra REDD+ projects in Papua New Guinea (see Table 1).

Table 1: Scale of the Oro project in comparison with other REDD+ projects in PNG

KMS Oro Redd+ project **418,000 hectares** **Estimated Annual Emission Reductions 8,099,752 tCo2e** **Crediting period = 100 years**		
April Salumei REDD+ Project 603,579 hectares Estimated Annual Emission Reductions = 1,032,650 tCo2e Crediting period = 38 years	**NIHT Topaiyo REDD+ Project** 10,443 hectares Estimated Annual Emission Reductions = 2,262,521 tCo2e Crediting period = 30 years	**PNG Communities BEST REDD+ Tavolo Project** 21,782 hectares Estimated Annual Emission Reductions = 202,142 tCO2e Crediting period = 30 years

GLOBAL CARBON MARKETS

This submission is an assessment of the Oro project in and of itself, however it exists in the context of both domestic and international policy developments that should also be taken into consideration when assessing its integrity.

Though the intricacies around Article 6 of the Paris Agreement – the mechanism facilitating 'voluntary cooperation' between countries – are yet to be determined, most consider that the 'rulebook' agreed upon at COP26 in Glasgow is now sufficiently detailed to enable parties to actively prepare for participation in future global carbon markets.

Since the Glasgow Summit there has been a flurry of activity and pre-emptive dealmaking in relation to carbon markets at all levels. [3] [4] [5] Almost all parties to the Paris Agreement have indicated that they intend to engage in the carbon market to meet their commitments. [6] Article 6 of the Paris Agreement covers the rules that govern both government-to-government and government-to-private sector carbon trading. Significantly, the rules agreed under Article 6 are also informing the shape and activities of the voluntary carbon

[3] UNFCCC (2021) *NDC Synthesis Report*, https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs/ndc-synthesis-report

[4] Macfarlane (2021) *Carbon Offsets Are Used by Companies Seeking 'Net Zero,' but Concerns Persist*, https://www.wsj.com/articles/carbon-offsets-are-used-by-companies-seeking-net-zero-but-concerns-persist-11635079489

[5] Carbon Market Watch & New Climate Institute (2022) *Corporate Climate Responsibility Monitor*, https://newclimate.org/2022/02/07/corporate-climate-responsibility-monitor-2022/

[6] Trove Research (2021) *Future Demand, Supply and Prices for Voluntary Carbon Credits – Keeping the Balance*, https://trove-intelligence.com/

market, which has been disparate and unregulated to date. The voluntary market includes, for examples, the 'net zero' claims made by individual companies who are not directly bound by any of the commitments made at forums such as Glasgow.

Unsurprisingly, there has been extensive lobbying around those rules and rapid growth in the number of projects seeking to profit from those rules. Voluntary carbon offset frameworks are not only facilitating new projects such as the proposed Oro project, they are also pre-emptively attempting to align existing methods and projects to meet future Article 6.4 certification requirements.

At the same time, investors and corporate buyers are looking to tap into new sources of carbon offset supply to assemble investment portfolios and meet future climate targets respectively. [7]

Much of this activity is happening against a backdrop of the increasing popularity of 'nature-based solutions' – carbon offsets derived from protecting or restoring natural sinks, such as forests and oceans. [8] Just under half of existing carbon offset projects globally are based in developing countries, with Pacific countries seeing a flood of interest in the potential for 'blue' and 'green' carbon offsets based on their vast forests and oceans. [9]

Given the enormity of expected growth in new carbon credit projects, and the centrality of carbon credits to the ambitions of so many countries and companies, it is critical that investment in compliance and oversight grow at least as rapidly. In short, if the world is going to rely on offsets to play a central role in reducing global greenhouse gas emissions then the growth of the carbon market will need to be accompanied by equivalent growth in transparency and independent scrutiny to ensure that carbon offset projects have environmental integrity (i.e. they represent genuine emissions reductions) and safeguard the rights of people and the environment in host countries (i.e. they don't displace people or negatively impact biodiversity).

VERRA AND THE VOLUNTARY MARKET

Verra, previously known as the Verified Carbon Standard and formerly the Voluntary Carbon Standard, is a voluntary standard for certifying carbon emissions reductions. Under Verra's framework, emissions reduction projects can be developed according to certain rules

[7] Trove Intelligence (2022) *Corporate Climate Commitments*, https://trove-intelligence.com/modules/company-climate-commitments/

[8] Unlike its predecessor, the Clean Development Mechanism, the Article 6.4 Sustainable Development Mechanism allows carbon removal projects from natural sinks.

[9] Gross (2020) 'Carbon offset market progresses during coronavirus', *Financial Times*, https://www.ft.com/content/e946e3bd-99ac-49a8-82c9-e372a510e87c

(methodologies) and awarded carbon credits called Verified Carbon Units (VCUs) for every tonne of CO2-e they reduce or remove.

Under Verra's Voluntary Carbon Standard program rules, prospective project proponents must provide a detailed description of their projects that can be viewed by the public on the Verra 'pipeline' register.[10] Projects must also be independently verified by a 'validation/verification body (VVB)'. It is under the public listing process that we are able to review Kanaka Management Service's (KMS) proposed carbon credit project in Oro Province in Papua New Guinea. The Oro project is an Avoided Unplanned Deforestation and Degradation (AUD) activity within the REDD+ program.

Verra claims to have issued (sold) 300 million VCUs in 2021 alone and to have retired around 127 million VCUs in the same year. This means that 127 million tonnes of CO2-e have allegedly been 'offset' with VCUs by businesses in a single year.[11] In its 2021 third quarter report Verra said that it has 1745 projects currently registered with another 357 proposed projects in the 'pipeline'.[12]

REDD+

REDD+ (reduced emissions from deforestation and degradation) is a UNFCCC framework designed to reduce emissions from harmful forest activities and encourage forest preservation. [13] Countries are essentially paid by other governments, the private sector, and multilateral funds to retain their forests. Carbon markets as a material incentive to REDD+ activities are just one element of the broader framework.

[10] Verra (2022) *Registry* https://registry.verra.org/app/search/VCS

[11] Verra (2022) *Data and Insights January 2022*, https://verra.org/datainsights/data-and-insights-january-2022/

[12] Verra (2021) *Data and Insights October 2021*, https://verra.org/datainsights/data-and-insights-october-2021/

[13] REDD+ is an acronym for 'reducing emissions from deforestation and forest degradation', with the 'plus' referring to an expansion of the program to include forest restoration and the sustainable management of forests.

REDD+ (along with other avoided deforestation carbon credit methodologies) has been widely criticised as failing to curb deforestation, generally lacking integrity and systematically crediting non-additional abatement globally.[14] [15] [16]

In particular, REDD+ projects have a long and vexed history in Papua New Guinea, with the significant issues around integrity, governance, and exploitation by 'carbon cowboys' in the past still present today.[17] We are concerned the proposed Oro project appears to be continuing this tradition.

REDD+ credits exist predominantly on the voluntary carbon market. However, in 2020 jurisdictional REDD+ credits were officially accepted under the pilot phase of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), the first time that a compliance-based carbon market (i.e. one that places a legal obligation on a party to buy them rather than the self-imposed voluntary obligations parties sometimes place on themselves) has accepted international deforestation and may set a precedent for REDD+ to be used in other compliance markets.[18]

COP27 in Egypt is likely to include discussion of whether REDD+ will be included in the Article 6 rulebook. The relevant supervisory body has been asked to consider "whether activities [under the 6.4 mechanism] could include emissions avoidance and conservation enhancement activities."[19] If REDD+ and other avoided deforestation activities are officially accepted under the Article 6 framework it would mean that they could be used by countries to meet their Nationally Determined Contributions (NDCs).

In the domestic context, Australia is currently carrying out a review of international carbon credits to determine what sorts of credits might be used to meet Australia's 2030 Paris target. Included in this review is an assessment of existing carbon credit frameworks in the Indo-Pacific region and the credits currently used to meet the requirements of the Australian Government's domestic voluntary carbon neutral certification scheme known as Climate Active. VCUs (including REDD+ projects) are currently eligible under the Climate

[14] West, Börner, Sills, Kontoleon (2020) 'Overstated carbon emission reductions from voluntary REDD+ projects in the Brazilian Amazon', *Proceedings of the National Academy of Sciences*, https://www.pnas.org/doi/10.1073/pnas.2004334117

[15] Agarwal, Saxena, Vyas Shrivastava (2018) 'Rethinking REDD+: A CSE assessment', *Centre for Science and Environment*, https://www.downtoearth.org.in/news/forests/redd-has-failed-to-achieve-its-objectives-cse-report-62600

[16] Fletcher, Dressler, Büscher Anderson (2016) 'Questioning REDD+ and the future of market-based conservation', *Conservation Biology*, https://www.jstor.org/stable/24760998

[17] Babon (2011) 'Snapshot of REDD+ in PNG', *infobrief*, Center for International Forestry Research, https://www.researchgate.net/publication/257247433_Snapshot_of_REDD_in_PNG

[18] Carbon Pulse (2020) *Two CORSIA programmes approved as first REDD standards in a compliance carbon market*, https://carbon-pulse.com/115328/

[19] UNFCCC (2021) *Matters relating to Article 6 of the Paris Agreement: Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement*.

Active standard for Australian businesses to purchase voluntarily and may be considered suitable by the Australian Government to meet the regulatory requirements of the compliance market.

REDD+ and other avoided emissions projects offer a relatively cheap source of near-term abatement that can be produced at scale. [20] Given the urgency with which state and private sector actors are looking to source affordable and readily available offset options to meet climate targets it seems likely that demand for REDD+ is likely to be maintained or increased, especially if they are deemed eligible to meet compliance requirements.

It is therefore critical that sufficient attention is paid to the integrity of individual projects and that the assessment of such projects is both comprehensive and robust. If the proposed Oro project is indicative of the types of VCU projects being established, important questions should be asked about the frameworks that are currently relied on to oversee the integrity of carbon credits on the voluntary market.

[20] Eliasch (2008) *Climate Change: Financing Global Forests*. HMSO, London, UK

Reviewing the Oro Project

SUMMARY OF FINDINGS

We have assessed the claims made by KMS in their project proposal and find five major issues with the Oro project:

- Verra's assessment process offers no obvious assurance that there are safeguards that would stop such a problematic project going ahead if not for it being noticed by members of the public.
- The project proposal fails to provide sufficient and credible information in relation to:
    - Project location
    - Project proponent
    - Project activities
- The proponents have not accurately identified the owners of the land on which the proposed project sits, undermining any assertions that they have carried out appropriate consultation with stakeholders.
- The analysis underpinning KMS' assumptions of deforestation in the project area is incomplete and demonstrates a profound lack of understanding of the region's environment and land use.
- Calculations of carbon stocks are vague and, in many cases, illegible.

On this basis it cannot conceivably be said that the abatement from the Oro project would be real, additional, permanent, transparent, verified, owned unambiguously, and address leakage – it therefore does not meet any of the criteria of a credible carbon credit project.[21]

The issues raised above are discussed in more detail in the following sections of our submission.

[21] World Resources Institute (2014) 'Mitigation Goal Standard', *Greenhouse Gas Protocol*, https://ghgprotocol.org/sites/default/files/ghgp/Mitigation%20Goal%20Standard_1.16.15.pdf

Project approval process

The Verified Carbon Standard (VCS) Program is managed by Verra and is the world's most widely used voluntary GHG program. [22] According to their website, Verra was founded in 2007 by environmental and business leaders who saw the need for greater quality assurance in voluntary carbon markets. [23] The Verra Registry provides the public interface to all project, program and VCU information. [24]

Projects developed under Verra's VCS Program "must follow a rigorous assessment process in order to be certified". [25] Once projects have been certified "project developers can be issued tradable GHG credits…Verified Carbon Units (VCUs). Those VCUs can then be sold on the open market and retired by individuals and companies as a means to offset their own emissions". [26]

In order to issue Verified Carbon Units (VCUs) with the VCS Program, projects follow five steps to demonstrate environmental integrity. [27]

1. Choose a methodology
2. Describe project and list project on VCS project pipeline
3. Contract a verification body to validate project description
4. Verify emissions reductions
5. Issue Verified Carbon Units

The Verra website invites comments from the public about whether projects meet the requirements of the VCS program and must be considered by the project proponent. [28]

However, there is no detail on the process for considering public comments by either the project developer or Verra. The public are able to provide feedback on proposed projects, but the opportunity for active engagement and consultation appears limited, only having access to the information the proponent chooses to provide. It is not clear how Verra assesses and incorporates public assessments of proposed projects, nor whether proponents will demonstrate they have implemented recommendations.

Verra clearly states that a listing of a project on the Verra pipeline is not an endorsement, it raises the question of if they have even done a preliminary assessment to filter out projects of such obvious low integrity or relying on the public to do this for them.

[22] https://verra.org/project/vcs-program/
[23] https://verra.org/about-verra/who-we-are/
[24] https://verra.org/wp-content/uploads/2022/01/VCS-Program-Guide_v4.1.pdf
[25] https://verra.org/project/vcs-program/
[26] https://verra.org/project/vcs-program/
[27] https://verra.org/wp-content/uploads/2016/05/Project-Cycle-Factsheet.pdf
[28] https://verra.org/open-for-public-comment/

The project process listed above also raises questions beyond the scope of our submission about the safeguards Verra has in place to ensure external project 'validation' is robust and carried out by qualified parties (with no vested interest in the project).

Though Verra officially states that all projects must prove that they comply with the VCS program rules, we are very concerned that Verra's processes may not be adequately screening out low integrity projects.

Furthermore, if projects are found to be inadequate or inequitable, we are very interested to know how exactly disputes or perceived injustices are arbitrated and resolved. This is a critical aspect of projects involving multiple landholders and interest groups.

Project proposal

The project document submitted to Verra by the project proponent, Kanaka Management Services (KMS), raises a number of questions about the quality and legitimacy of the Oro REDD+ project.

On the whole, the proposal document lacks credible information and sufficient detail to be considered a project of integrity. It is concerning that Verra did not address this issue in the first instance and request that the proponent improve the quality of its data and analysis before publishing the proposal on their website and inviting public comment.

The key problems we have identified include:

- The proponent has indicated that the project will have a retrospective crediting date from 2017 despite not having yet established the project.
- The information on the project contained in the proposal is confusing, contradictory, generic and vague, and provides insufficient justification for the conclusions it draws.
- Despite this being an 'avoided deforestation' project the proposal provides no explanation of how proposed project activities will reduce forest loss.
- The information and analysis is inadequate for a project proposed on customary land in Papua New Guinea. There is no evidence of consultation with landowners.
- Evidence of forest decline and the project counterfactual assumptions are unconvincing. There is no historical evidence of deforestation in the relevant region.
- The basic calculations in relation to carbon stocks, GHG reductions and removals are unclear.

A detailed review of the project document is provided in the following sections covering: 1. Insufficient project information, 2. Inadequate consultation and, 3. Incomplete analysis.

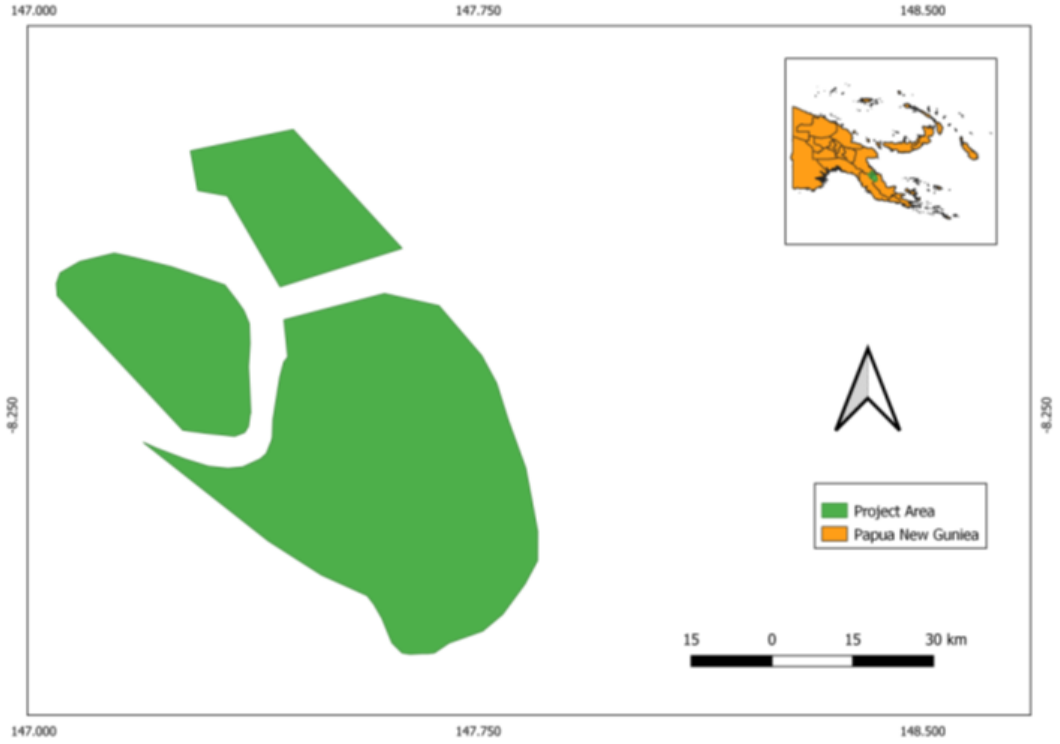
1. INSUFFICIENT PROJECT INFORMATION

1a. Project location

The project document published on the Verra website on 15 February 2022 included a project location map (Figure 1) with no identifying feature or landmarks that would enable the exact project location to be identified. A .kml file was uploaded to the Verra website separately to the project document (Figure 2), which provided slightly more detail of the exact project location but appears to show that the Oro project extends beyond the boundaries of Oro province (orange line is the regional boundary; red line is the project

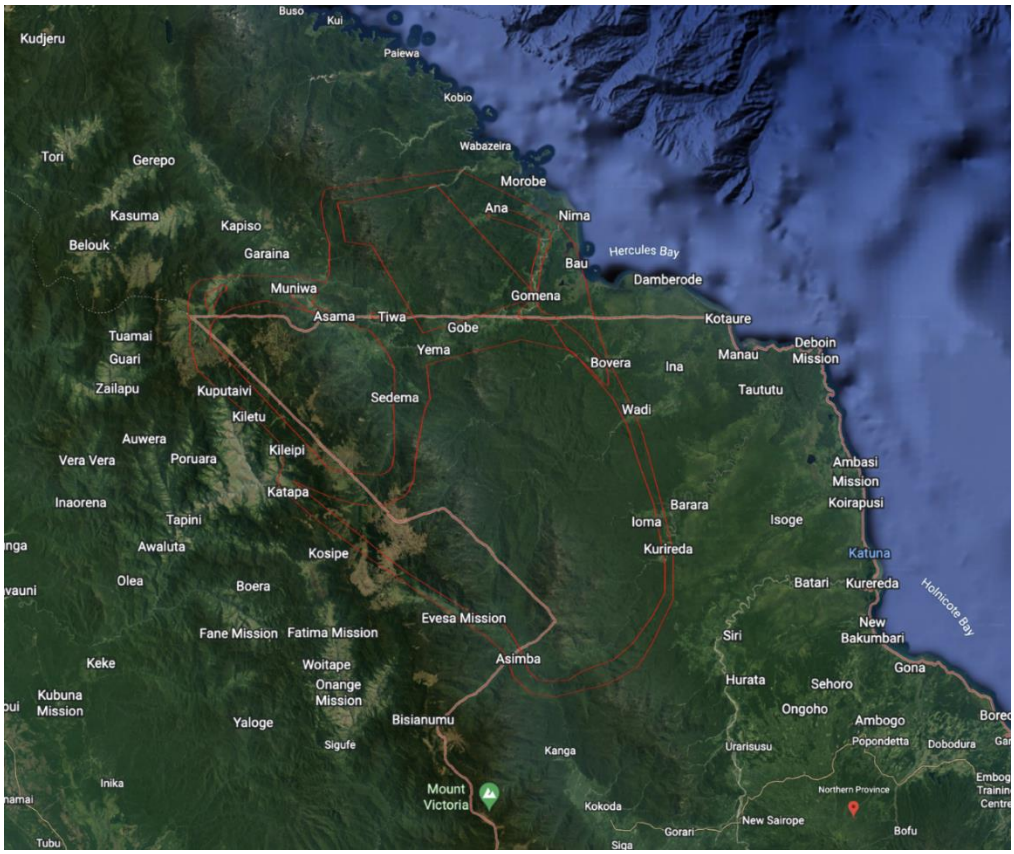
boundary) and into Morobe and Central Provinces which has implications for stakeholder and landholder consultation.

Figure 1: Location Map of the project area in PNG in project document (p14)



Source: REDD+ project in Oro Province of Papua New Guinea proposal document

Figure 2: Project location details provided by KMS



Source: Mapping .kml files provided by the proponent on the Verra Pipeline

These maps, and the maps used to provide details of conditions prior to project initiation (Section 1.13) lack sufficient detail to enable the public to understand the project in terms of population, administrative boundaries or land use.

To support this submission, independent mapping of the project area was provided by Bryant Allen, Honorary Associate Professor at the Australian National University. These maps serve the dual purpose of demonstrating that KMS' claims around land use are implausible and also show what credible analysis of the area looks like.

Maps are based on data from CSIRO's PNG Resource Information System (PNGRIS) and the ANU Mapping Agriculture Systems in PNG (MASP) platform (See Appendix 1).[29] These maps provided the following information that was not included in the project document developed by KMS:

- **Project areas:** The three distinct areas on the maps provided by KMS do not appear to be related to any geographic features on the ground or political administrative areas.

[29] Allen (2022) *Notes on the attributes of the Oro REDD+ project area*. 12 March 2022. Unpublished.

- **Administrative areas:** The project is located in the Sohe District of Oro province and covers two Local Level Government Areas, Kira Rural and Tamata Rural. The area extends out of Oro Province into Morobe Province and also into Central Province, although this area is all high and steep mountains.
- **Forest Management Agreement and Local Forest Area:** The project area overlaps two Forest Management Agreement Areas (FMAs), Ioma Block 4 and Ioma Block 5 and a Local Forest Area (LFA) Yema Gaiara [Gaepa]. Logs have been exported from these areas since 1985 but it appears none are currently active. These areas do not cover a majority of the REDD+ project area and are on the flatter land to the east and south of the area
- **Population and settlement patterns:** The project area includes all of Kira Rural LLG but only part of Tamata Rural LLG. In the 2011 PNG National Census Kira had a population of 1431 persons and Tamata 7380, so the total number of people in the project is probably around 4000. The villages in the area mostly located along streams running north and east off the Owen Stanley Mountains, the central mountain range of Papua. The central part of the project area is uninhabited.
- **Slopes and landforms:** Two-thirds of the project area is covered by very steep slopes (more than 20 or 30 degrees). The remaining one-third is flat land, much of which is flooded much of the time.
- **Land use and Agricultural systems:** Most of the REDD+ project area is unoccupied and not used by people. Land use is restricted to narrow strips along rivers and streams in valley bottoms. All land use takes the form of low land use intensity shifting cultivation, or swidden systems. There is some evidence that, as a result of population increase, the fallows are becoming shorter.

1b. Project proponent

There is a lack of transparency and clarity around exactly who is running the Oro project.

The project proponent is listed as Kanaka Management Services (KMS), a consultancy and carbon developer based in India. However, the address provided on Verra pipeline differs from the address provided in the project proposal: the Verra pipeline lists KMS' location in the United Kingdom, while the project proposal states KMS is based in India. The contacts also differ, with the contact on the Verra pipeline being an individual from Arreon Carbon and the project proposal being an individual from KMS. Arreon Carbon is a completely separate carbon broker/developer with dual locations in the UK and China. Arreon describes itself as "one of the earliest entrants into the Chinese CER and VER markets".

Regardless of who is officially running the Oro project, the project proposal fails to provide any evidence that the proponent is qualified to develop a large, complex REDD+ project in

PNG.[30] It is not clear that the proponent has experience and cultural understanding required to negotiate agreements with customary landowners in PNG. Nor is it clear who the proponent's representative is in PNG. It is highly unusual for a project of this nature to go ahead without engaging local authorities or other organisations at the local, provincial or national level.[31]

Significantly, the term 'Kanaka' has derogatory implications throughout the Pacific. [32] A racial slur with colonial origins, it was originally used to describe indentured labourers and now persists in Papua New Guinea as an offensive word to describe 'uncivilised' bush people or 'natives'. [33] While Kanaka Management Services is a legitimate business name (with the word meaning 'gold' in Sanskrit) it seems unusual that an organisation that professes to be genuinely consulting closely with local communities would not have discovered the problematic dual meaning of the term very quickly.

1c. Project activity

The project aims to conserve 418,000ha of land that the proponents claim is at risk of deforestation and degradation. However, the proposal doesn't provide reliable evidence that this area is at risk of forest loss, nor how it will be conserved.

The main project activities are stated as "awareness & training to community members" and "monitoring and patrolling" by community 'brigades' to identify forest clearance. However, the mountainous nature of the area and its steep slopes, which is not described in the project document, means that that logging (which the proposed REDD+ project promises to prevent) almost certainly will not occur over much of the area.[34] In addition, KMS also states without evidence that "a large portion of the forests are being converted to permanent agriculture and long fallow shifting cultivation" (p13), without explaining that less than 20% of the project area is used for shifting cultivation. [35] The project document implies that shifting cultivation will be not practiced once the proposed REDD+ project is implemented without describing what alternative livelihood practices the project will support or what people will eat.

The project proposal doesn't identify how KMS will work with the government of Papua New Guinea or other stakeholders and does not describe how the project will work within existing or proposed policies or legislation governing forest management and conservation

[30] The project document states that access to project documents will be published on the project website https://pngreddproject.wixsite.com/oroproject (p27) however this website is still under construction.

[31] For comparison see project document titled 'PNG Communities BEST REDD – Tavolo project' developed submitted to Verra for VCS certification in 2021 (https://registry.verra.org/app/projectDetail/VCS/2483).

[32] Miller (2010) 'Sugar slaves', *Queensland Historical Atlas*, https://www.qhatlas.com.au/content/sugar-slaves

[33] Tok Pisin English Dictionary (2017) https://www.tokpisin.info/kanaka/

[34] Allen (2022) *Notes on the attributes of the Oro REDD+ project area*. 12 March 2022. Unpublished.

[35] Allen (2022) *Notes on the attributes of the Oro REDD+ project area*. 12 March 2022. Unpublished.

(such as the ban on raw log exports). Section 1.15 of the KMS proposal lists a number of laws and regulatory frameworks relevant to REDD+ in PNG but provides no details to support the statement on page 22 that "This Project is compliant with both international and local laws, regulations and conventions."

2. INADEQUATE CONSULTATION

The information and analysis on Safeguards (Section 2) is inadequate for a project proposed on customary land in Papua New Guinea. Negotiations with customary landowners and Incorporated Land Groups in PNG are generally long and involved processes to ensure equitable outcomes for all parties.[36]

2a. The status of land tenure is unclear

The project document states that KMS has entered into an agreement with four Incorporated Land Groups (ILGs), and on page 8 of their proposal lists the area of customary land they represent but they do not provide information on their location or if they have registered a title to any specific area of land. In addition, the project area map provided by KMS extends into other provinces and that is highly likely to affect customary landowners that have not been consulted over this project.[37]

2b. Inadequate stakeholder engagement and FPIC processes

The project document provides limited detail on how KMS have engaged relevant stakeholders in the development of the project, including national, provincial and local level governments. [38] The PNG Office for Climate Change and Development (OCCD) has published draft guidelines for establishing free, prior and informed consent (FPIC) for REDD+ in PNG. The Oro project proposal alludes to FPIC principles but does not provide evidence of specific meetings or agreements that could provide evidence of a legitimate process for securing

[36] Power (2008) 'Incorporated land groups in Papua New Guinea', *Making Land Work: Volume two, Case studies on customary land and development in the Pacific,* https://www.sprep.org/att/IRC/eCOPIES/Pacific_Region/251.pdf

[37] Anecdotal information from a Papua New Guinean lawyer in Oro province suggests that some of the project area's customary landowners are not even aware of the project, let alone have provided their free, prior and informed consent.

[38] Anecdotal information suggest that the Governor of Oro province was unaware of the project until members of the public brough it to his attention.

free, prior and informed consent from affected landowners that is consistent with OCCD guidelines.[39]

For example, the project document states that "At the ILG level exhaustive meetings were held and the meetings with stakeholders with all the community members during March-April17' (p27)'; that "All the information about community costs risks and benefits was exchanged and discussed during community meetings" (p27); and that "As part of the FPIC process, the consultative meetings were held in all [sic] the Chiefs." (p28). Such vague and brief statements are inadequate in the PNG context where land and forests are owned under customary land tenure, and where negotiations with customary landowners about natural resource management are often lengthy and contested processes.

The project documentation also provides a series of 'project photographs' (p127) seemingly showing individuals meeting, but no names, title, dates, or details of what the photos purport to show are provided. The KMS documentation provides no evidence of engagement with individuals or community-based organisations that may be able to support culturally appropriate stakeholder engagement or processes to obtain free, prior and informed consent.

3 INCOMPLETE ANALYSIS

3a. Application of Methodology

KMS has used the VCS Methodology VM0015 for avoiding unplanned deforestation (v1.1 sectoral scope 14) for the Oro project. This methodology "quantifies greenhouse gas emission reductions generated from unplanned deforestation as well as protection from the conversion of the native forest ecosystem by a variety of agents and drivers" (p28)

Section 3 of the KMS project document details how the methodology was used to establish the project boundary, baseline scenario and additionality of the project. This section of the project document is largely incomprehensible and difficult to accurately assess because of a number of inconsistencies and a complete lack of references to support the underlying analysis of historical and future land use and land cover change.

For example, the project document refers to literature reviews and expert consultations to identify deforestation agents but provides no references to support the claim that 'ranchers' are key deforestation agents in the project area (p39). Based on the additional mapping

[39] Office for Climate Change and Development (2014) *Final Working Draft Guidelines on FPIC for REDD+ In Papua New Guinea, Version 4*, https://www.un-redd.org/sites/default/files/2021-09/REDD%2B%20Guidelines.pdf

sought for this review, the steep slopes and flooded low lying areas make most of the project area unsuitable for large scale cattle ranching. [40]

KMS have not demonstrated the additionality of the proposed REDD+ project (Section 3.5), providing only the following statement on page 35: "Simple cost investment analysis is used to demonstrate the additionality. Since the project areas are the community forest lands and no any [sic] external support or investment is received, the project is found to be additional."

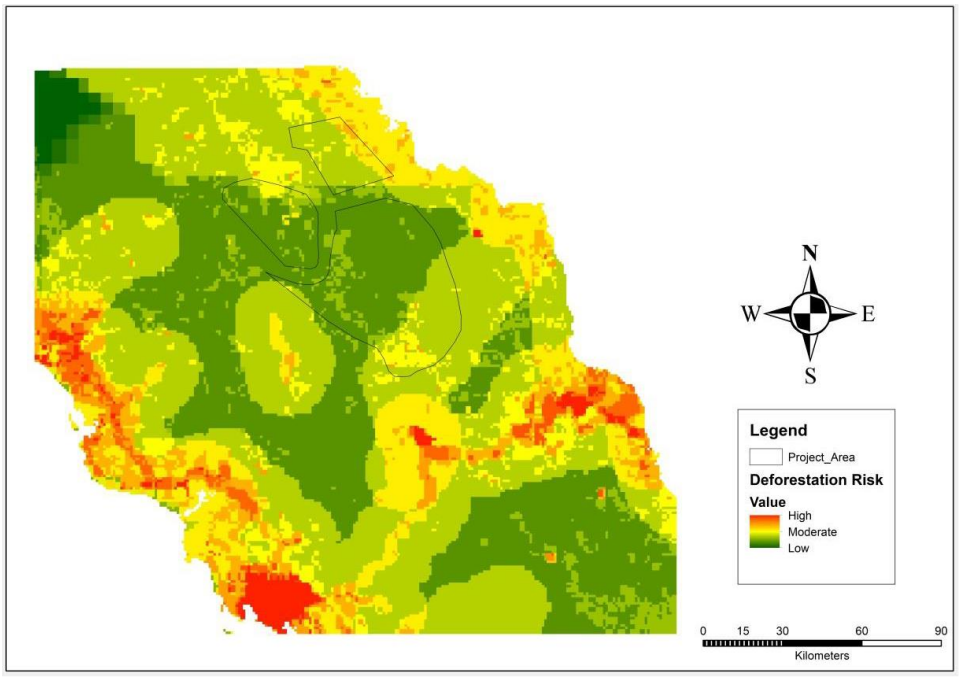
In addition, the methods used to model land use and land cover change are superficial and references to ground truthing are not supported with evidence.

3b. Assumptions and modelling of future forest loss

Estimates of future forest loss not supported by data

KMS claim that "85-95% of the forested area would be deforested in the case of the absence of the Project in the lifetime of the Project" (p35). However, there is no evidence to support this claim and the deforestation risk map developed by KMS (p46 – reproduced below as Figure 3) shows a ***low risk of deforestation*** in most of the proposed project area.

Figure 3: Deforestation risk map developed for the project and its surrounding area



Source: REDD+ project in Oro Province of Papua New Guinea proposal document

[40] Allen (2022) *Notes on the attributes of the Oro REDD+ project area*. 12 March 2022. Unpublished.

Alleged drivers of deforestation not supported by data

KMS lists various drivers of forest loss in the proposed project area, including illegal logging, conversion for agriculture, and (surprisingly for this area of PNG) 'cattle ranching' (page 39).

The project document mentions several times that "demand for the unprocessed logs from these areas from the Asian market is the greatest cause of the forest loss." Yet as noted on page 15 of KMS's own document "The overall topo[graphy] of the project area is extremely rugged" (p15), which suggests that many parts of the project area are likely to be too steep and inaccessible for logging operations to be viable.

As noted above, it is also highly unlikely for 'cattle ranching' to be a driver of deforestation in the project area given the steep and rugged terrain and inundation of low-lying areas, and the fact that the cattle industry in PNG is not expanding.[41]

For the assertions made by KMS to be credible they would need to provide an analysis of the historical rates of clearing and land conversion as well as evidence that the proposed project land area was at imminent risk of clearing for the next 100 years (not merely a possibility at some future point in time) such as documents demonstrating that landowners had a legal right to clear and that there was a market imperative to clear. However, there are no references to historical data or published literature in the proposal that would verify this.

In addition, as evidence of calculation of human pressure on forests and to generate the deforestation risk map (Figure 13, p46 – reproduced above) the project document provides the following, incomprehensible statement 'The following factors were used for creating index such as 1) Human population density having resolution of 30minutes for the year 2015 (GPW V4.0, 1), 2) Roads, 3) Railways downloaded from Diva-GIS website (http://www.diva-gis.org/Data,)."

This is particularly confusing because there are no roads in the project area, and no railways in PNG.

Without reference to scientific studies on drivers of deforestation in the project area, these anomalies in identifying and quantifying actors and drivers of forest loss raises suspicions that some of the text in the project document may have been copied from another project proposal in an area where there were railways.

[41] Vincent and Low (2000) *A Review of Papua New Guinea's Red Meat Industry*, Australian Centre for International Agricultural Research.

3c. Carbon stock calculations

The sections in the project document estimating greenhouse gas emission reductions and removals (Sections 4 and 6) are incomprehensible and call into question the validity of the entire project, and KMS's legitimacy to deliver a credible REDD+ project in PNG.

Analysis of historical and future land use and land cover change is not supported with any evidence and is even inconsistent with information provided in other sections of the document (for example, information presented in Table 11 states that loggers were converting forests to 'charcoal production' - not log exports for the Asian market identified elsewhere).

The document then presents pages of tables purporting to provide the results of modelling to establish rates of forest loss and carbon stock changes over the 100-year crediting period. The small font makes these tables unreadable, and there is no explanation in the text of what these tables show. Even a cursory review of the document by Verra would have identified that this document was unreadable and unsuitable to be released for public comment.

The section concludes with another unreadable table titled 'Estimated net anthropogenic GHG emission reductions and Voluntary Carbon Units (VCUt) ((Table 28). Presumably, this is the calculation that supports the claim by KMS that the project will generate '809,975,248 (Eight hundred nine million nine hundred seventy-five thousand two hundred forty-eight) tCO2e-1 over the lifetime of the Project' (p4).

Section 6 (pp 93 – 122) of the project document is an exact repeat of Section 4 - including the same unreadable tables.

Conclusion

The Oro REDD+ project fails the most rudimentary integrity test that all carbon offset projects require. That is, it is unclear from the information provided that the Oro project is real, additional, permanent, and verifiable.

The lack of transparency, robust analysis and evidence of a counterfactual presented in their development documentation is alarming for a project covering a land area over twice the size of London and proposing to generate 800 million carbon credits over 100 years. Similarly concerning is the absence of evidence of adequate consultation with relevant customary landholders in Oro Province.

The proponents have not adequately or credibly justified their assumptions around the current rate of forest loss in the Oro Province with analysis of historical clearing rates. Nor have they demonstrated how the forest is at imminent risk of clearing that would only be curbed by the existence of the project.

KMS' failure to identify the exact landowners and ILGs within the project area is concerning, as is the lack of documented consultation and evidence of FPIC with those landholders that are identified.

The issues of integrity of the Oro project extend beyond the project itself. The voluntary carbon offset market is growing rapidly, with many 'carbon neutral' claims already being made with REDD+ and other VCU credits. Existing voluntary frameworks such as Verra will potentially be incorporated into the compliance market via Article 6.2, Article 6.4 and other mechanisms. It is therefore critical that carbon offsets are underpinned by integrity and robust assessment and verification processes.

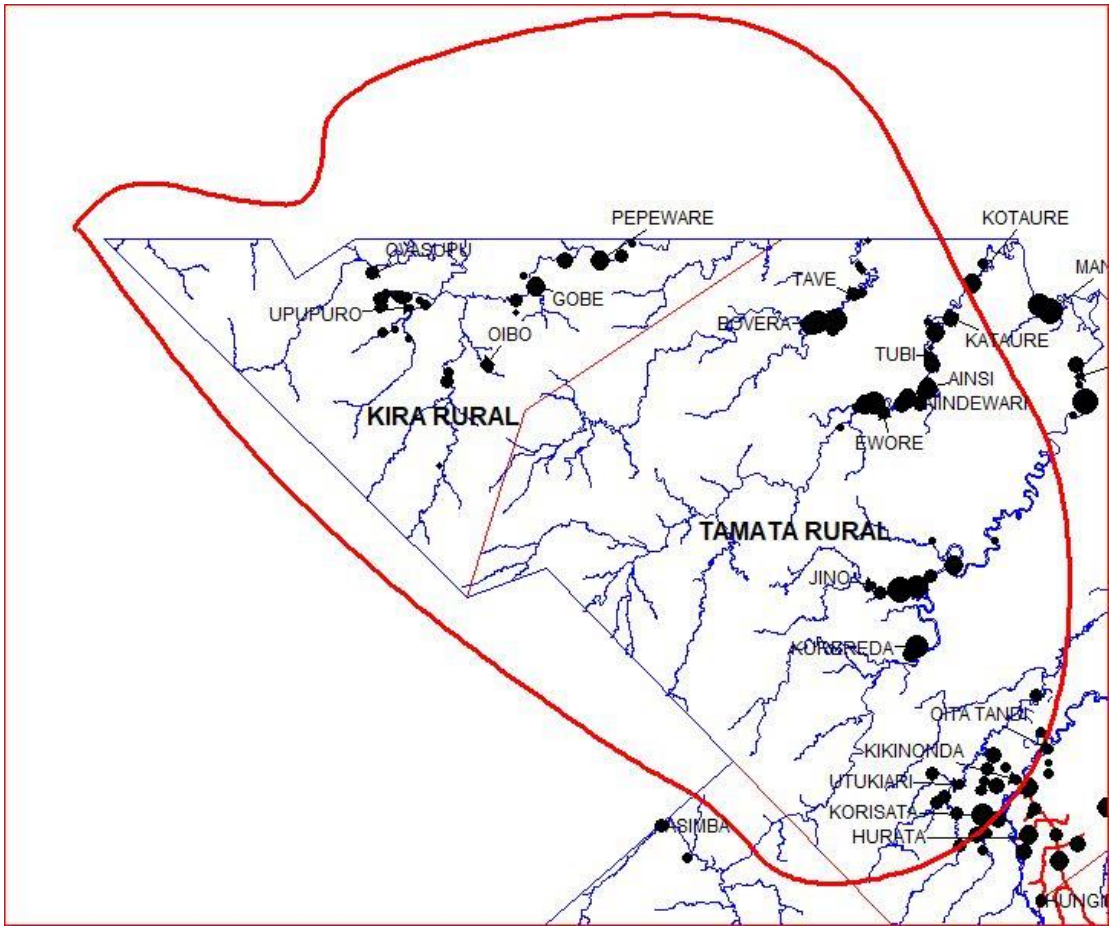
It is unclear how or why Verra did not identify the significant deficiencies in the project document itself, before it was published on the Verra pipeline for public consultation, raising questions about Verra's approval process and project safeguards more generally. While public consultation is welcome, such a poorly written and referenced document (that so obviously does not meet minimum standards expected of a document seeking VCS certification) leads us to wonder how many other similar projects have passed through the Verra approval process unnoticed.

APPENDIX 1: Maps of the Oro REDD+ project area

Source: Dr Bryant Allen, Honorary Associate Professor, Coral Bell School of Asia Pacific Affairs, Australian National University

The maps below are created from data in CSIRO's PNG Resource Information System (PNGRIS) GIS, a GIS of Forest Areas, and the ANU Mapping Agriculture Systems in PNG (MASP) GIS.

Figure A1: Administration areas

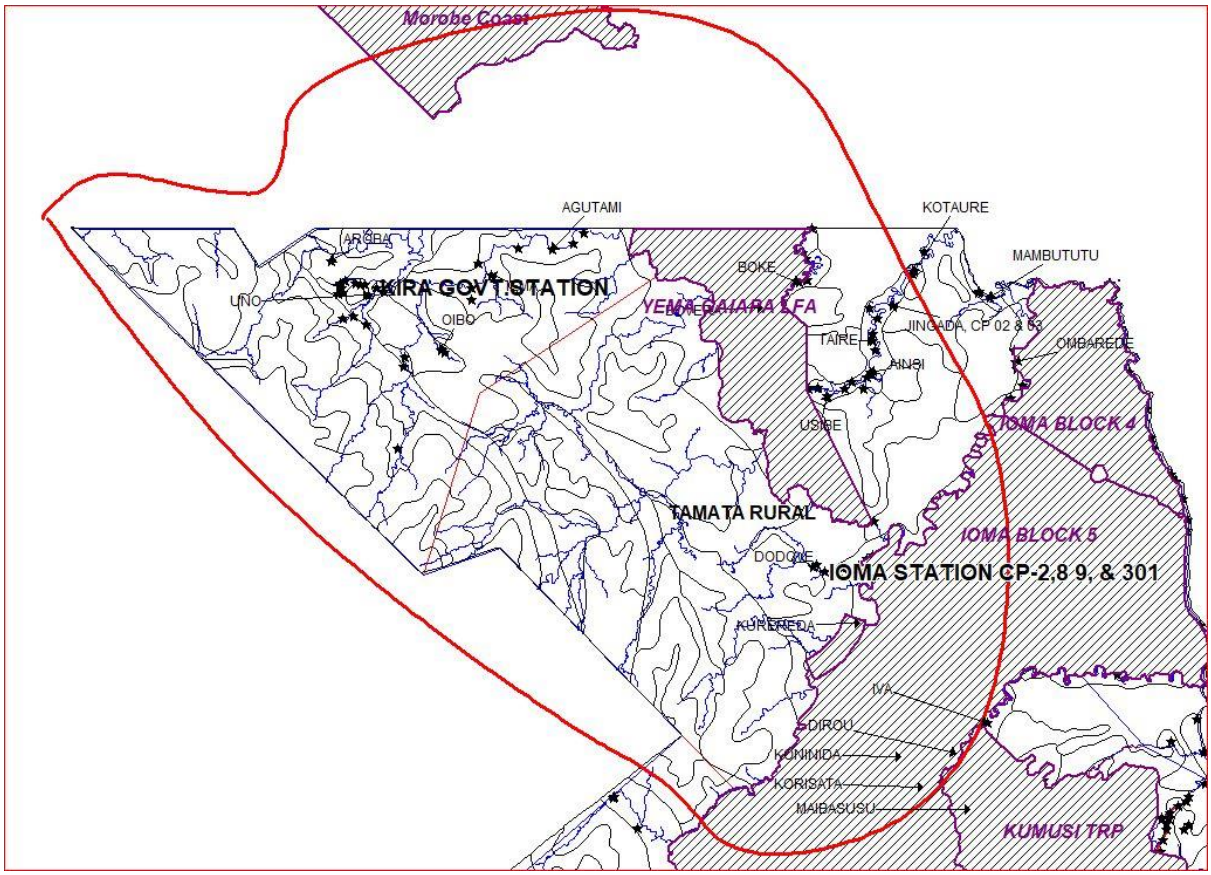


The project is located in the Sohe District of Oro province and covers two Local Level Government Areas, Kira Rural and Tamata Rural. The area extends out of Oro Province into Morobe Province and also into Central Province, although this area is all high and steep mountains.

The project area includes all of Kira Rural LLG but only part of Tamata Rural LLG. In the 2011 PNG National Census Kira had a population of 1431 persons and Tamata 7380, so the total number of people in the project is probably around 4000.

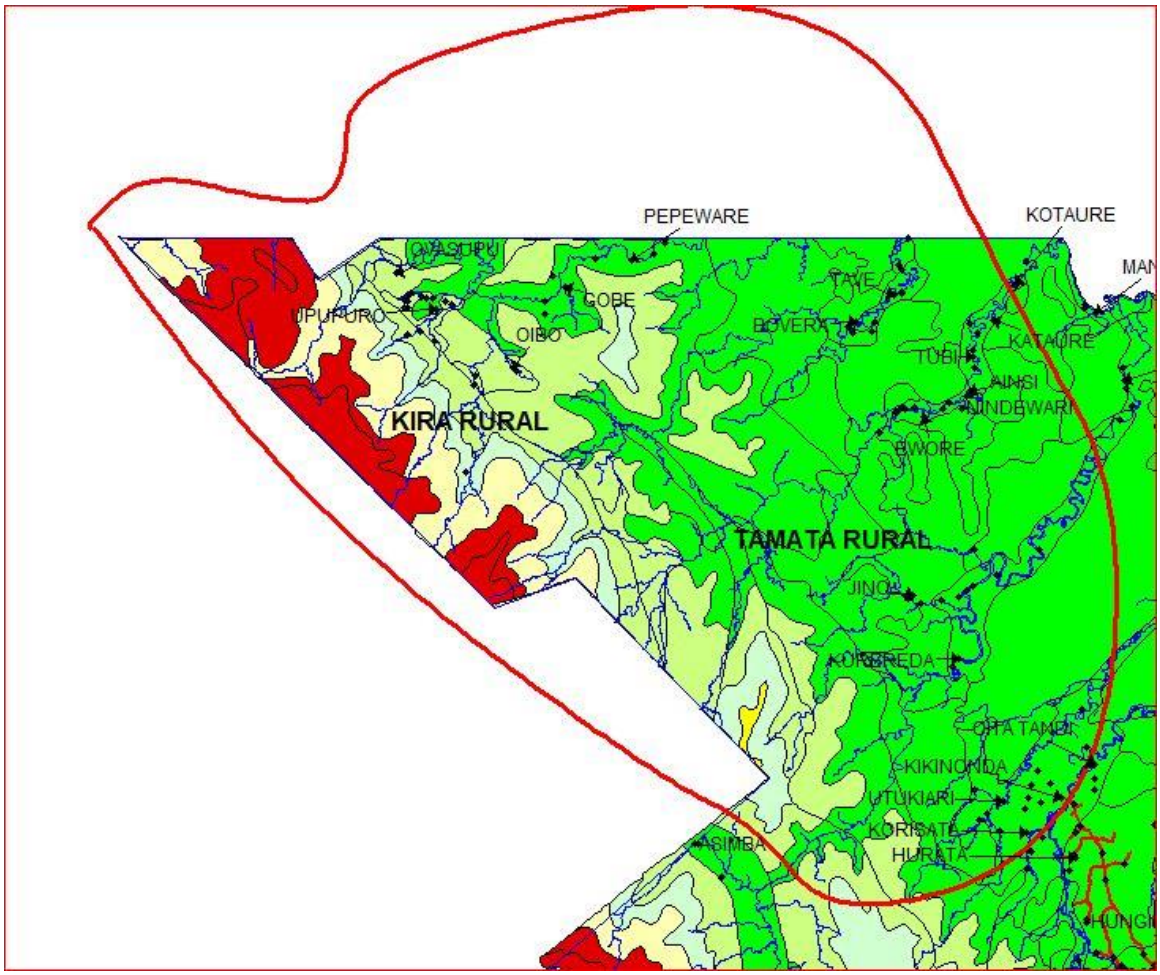
The administration headquarters of Kira Rural LLA is Kira Government Station and of Tamata Rural LLA is Ioma Government Station. Neither place is connected by road to the rest of the district. Both have airstrips.

Figure A2: Forest Management Agreement and Local Forest Area



The REDD+ project area overlaps two Forest Management Agreement Areas (FMAs), Ioma Block 4 and Ioma Block 5 and a Local Forest Area (LFA). Yema Gaiara [Gaepa]. Logs have been exported from these areas since 1985 but it appears none are currently active. These areas do not cover a majority of the REDD+ project area and are on the flatter land to the east and south of the area.

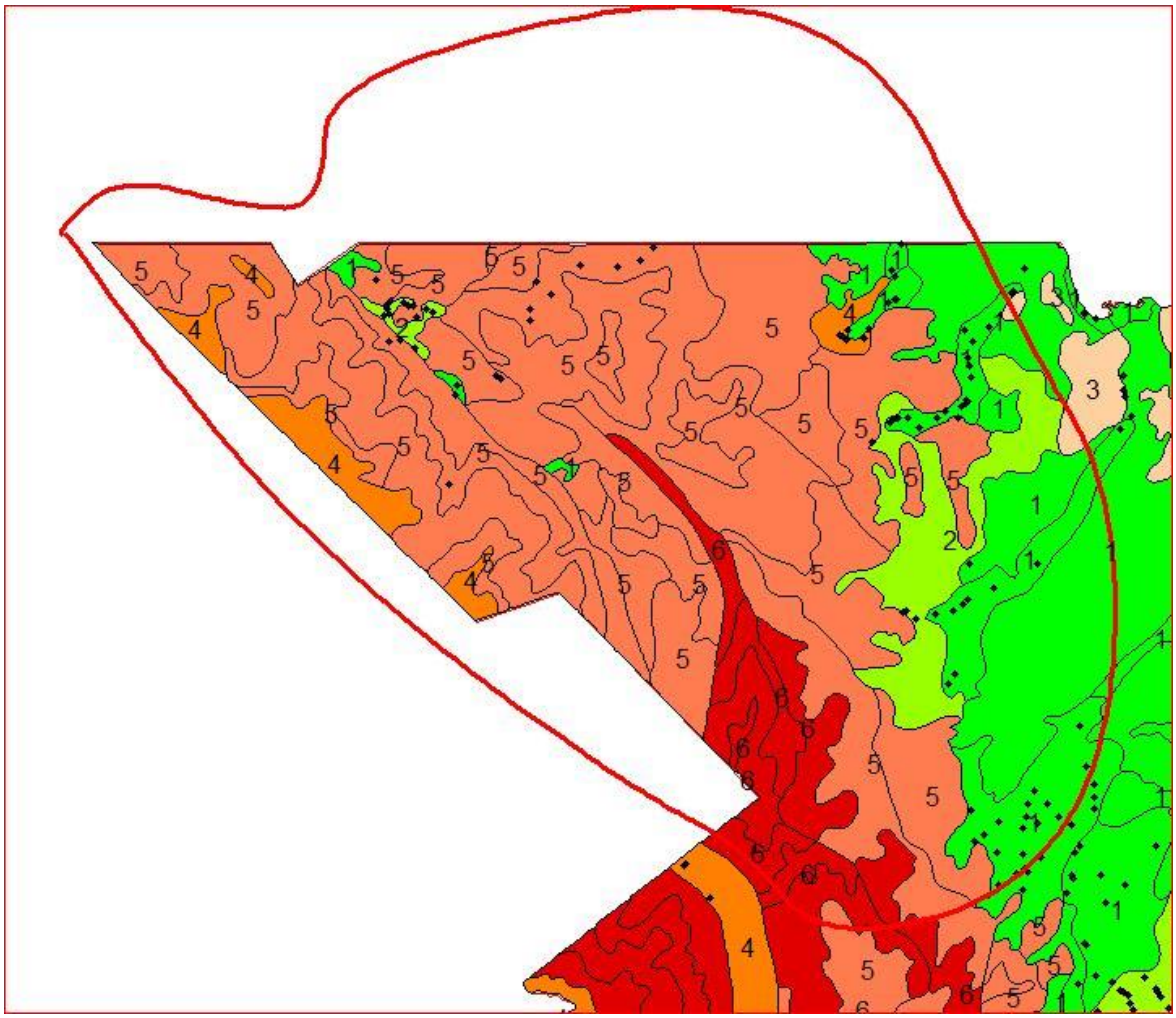
Figure A3: Village locations and altitude



The villages in the area mostly located along streams running north and east off the Owen Stanley Mountains, the central mountain range of Papua. The highest point in this mountain range is Mt Albert Edward, 3810 m above sea level (asl) which is located on the very edge of the project area, near the border between Kira LLGA and Tamata LLGA and Central Province. Immediately to the west of Kira station, Mt Nelson rises to 3540 m asl. None of the population in the project area live above 1800 m above sea level. Most live below 600 m.

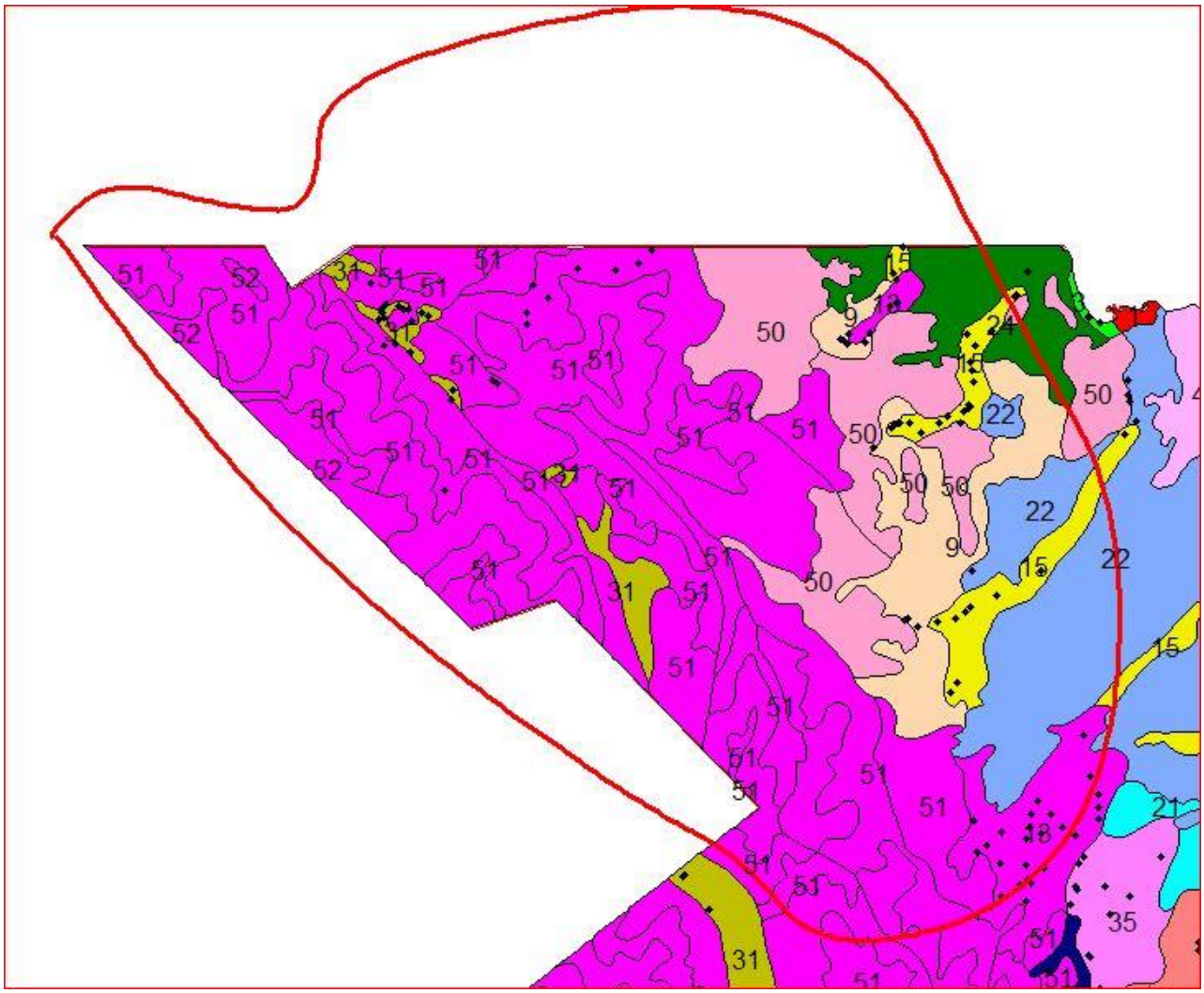
The central part of the project area is uninhabited. On this map the altitude classes are below 600m; 600-1200 m; 1200-1800 m; 1800-2400 m; 2400-2800 m; and above 2800 m.

Figure A4: Slopes



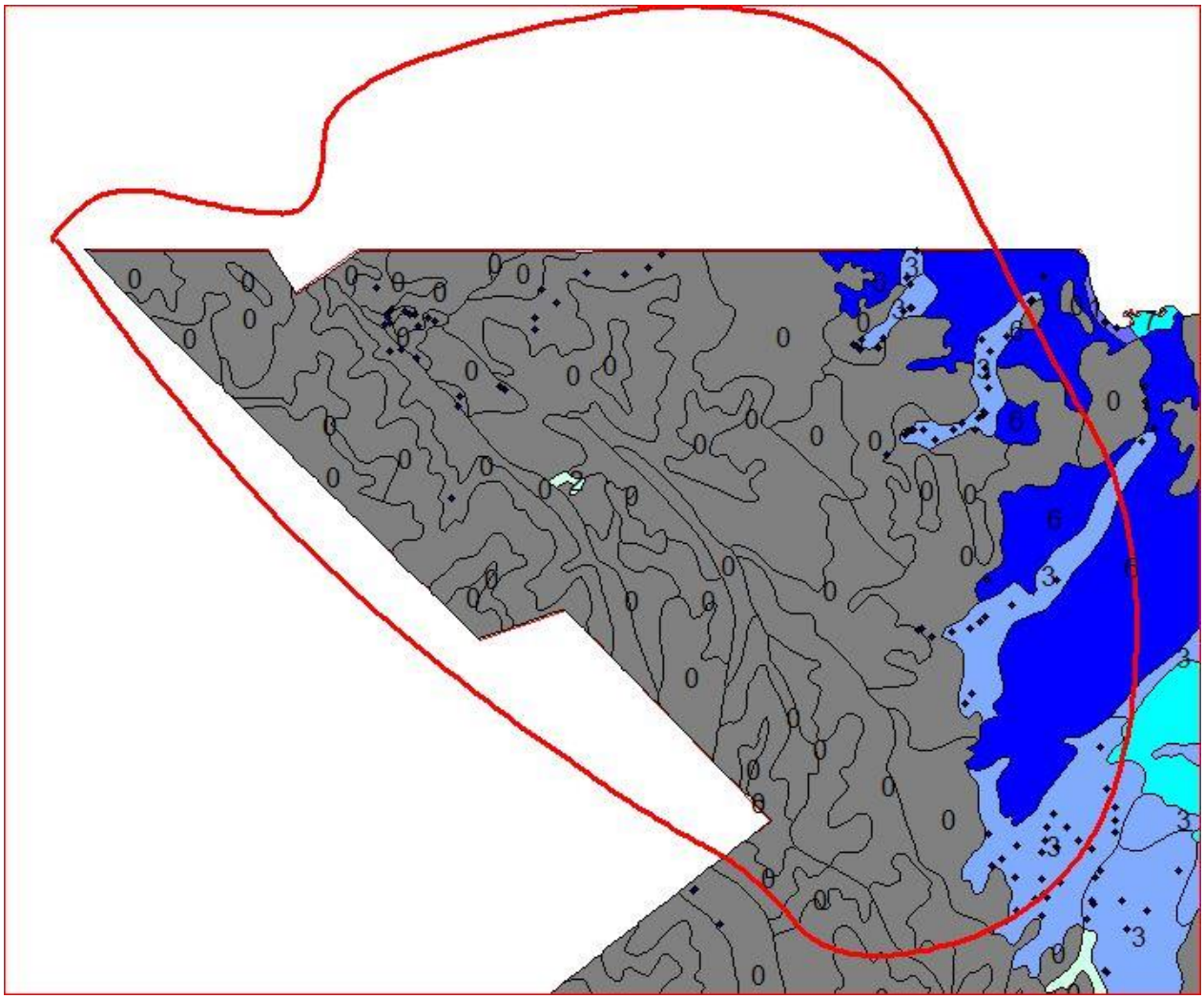
The project area is two-thirds very steep slopes The other third is flat land, much of which is flooded much of the time. Flat (1); 5-10 degrees (3); 10-20 degrees (4); 20-30 degrees (5); More than 30 degrees (6)

Figure A5: Landforms



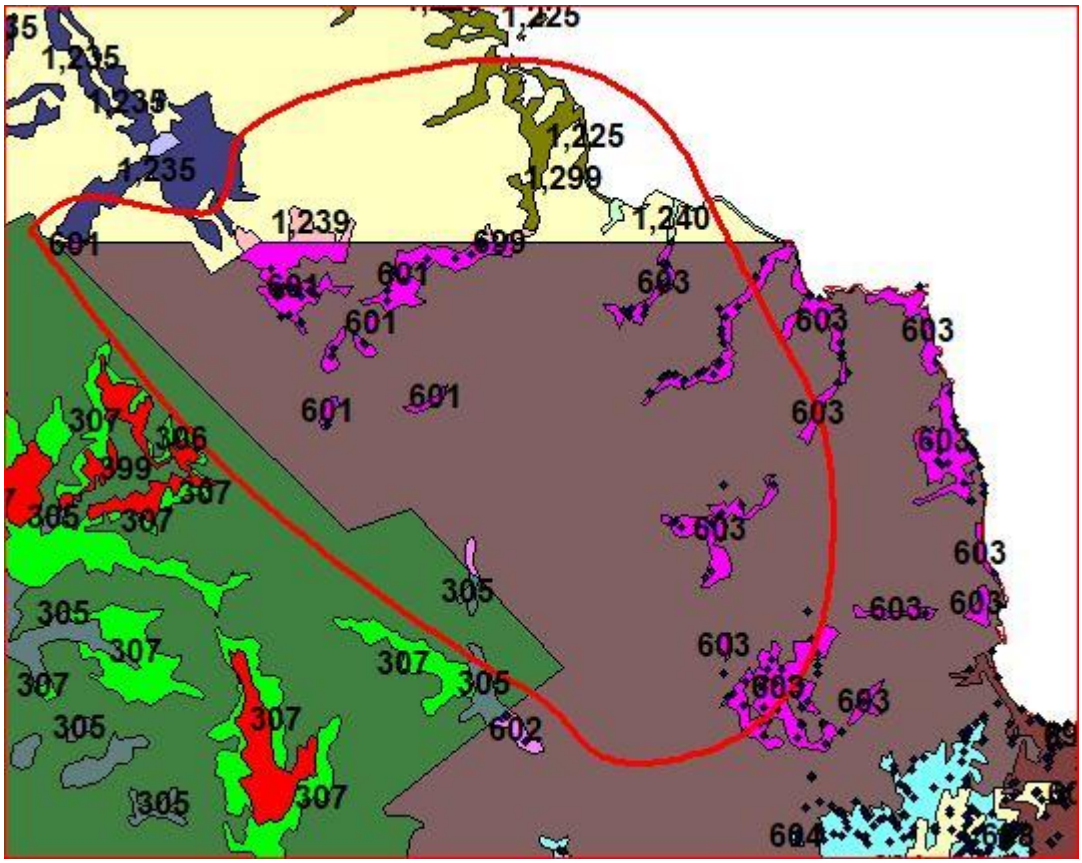
About three quarters of the area is hills or mountains (50, 51). The rest is swamps (22, 24) or flood plains along rivers (15). Some dissected fans occur (31)

Figure A6: Inundation



One-third of the project area floods much of the time. Land is permanently flooded (6); flooded for long periods (3) or flooded tidally (7). The hills and mountains do not flood (0).

Figure A7: Land use and agriculture systems



Most of the REDD+ project area is unoccupied (dark grey) and not used by people. Land use is (purple) restricted to narrow strips along rivers and streams in valley bottoms.

All land use takes the form of low land use intensity shifting cultivation, or swidden systems. This means secondary forest, frequently older than 15 years, that is growing on land previously used as a garden site, is felled, cleared and often burnt, before crops are planted. After one or two years under cultivation, the site is abandoned and apart from bananas which often go on producing for some years and fruit trees planted on the gardens during its cultivation, the land is left to a natural recovery. It is a source of house building materials, medicines and is used for hunting pigs and smaller marsupials.

There is some evidence that, as a result of population increase, the fallows are becoming shorter. That is the garden sites are being used more frequently, every 10-15 years rather every 15-20 years. After 15 years of fallow, the garden site is covered in medium height trees and resemble a forest. The fallow tree species in fallows change composition relatively quickly over time. Previously undisturbed forest has a more stable species composition than secondary forest fallows which change over time because they progress through a succession of plant communities. Forest fallows have been shown to absorb as much or more carbon from the atmosphere than primary forests.

One of the agriculture systems **(System 601 on the map)** is located in the middle Waria River Valley, east of Mt Nelson, and extends into Morobe Province. The Upper Waria Valley is steep and rugged hill country. Most villages are located on benches high above the rivers. Tall tree fallows, more than 15 years old, are cleared and burnt. Sweet potato is the most important crop; taro is an important crop. Only one planting is made before a long more than 15-year long fallow. Older people say that shorter tree regrowth is being used more commonly. Fallows to be planted in sweet potato or taro are felled and burnt, but Chinese taro is planted beneath standing trees, the trees are felled onto the crop two or three months after planting and no burning takes place.

Planted sago grows in the valley bottoms and is eaten in June-September, a period when taro is not available. Coconuts are planted in villages and along the sides of streams in valley bottoms. The most important fruit trees are marita pandanus, guava and Malay apple. Lemon, mandarin, orange and avocado are also grown. Mango does not bear fruit at Kira, just over 1000 m above sea level but climate change may see that change. Two varieties of okari nut are grown. People also harvest wild karuka pandanus growing on the slopes of Mt Nelson above 2000 m asl. The main karuka season is said to be August to October.

The second agriculture system in the project area **(System 603 on map)** is located on the almost flat alluvial flood plains of the Mambare, Opi and Kumusi Rivers and extends into Morobe Province on the lower Waria River. Some parts of the system are flooded from time to time. Most gardens and settlements are located along rivers and people travel to gardens by canoe. Only in the western part of the system are gardens made on slightly higher, dissected fans. Most land on the plains is flooded every year in November-April and is not used for agriculture.

Tall tree fallows, more than 15 years old, are cleared and burnt. Sweet potato is the most important crop; important crops are taro and banana. Sweet potato, taro and yam are planted in separate gardens. Two plantings are made before a long fallow. So land is used two years out of 15 years, or twice as often as in the hill system. Soil fertility here is probably enhanced by the frequent flooding and the deposition of alluvium.