

WOODLARK TRIP REPORT

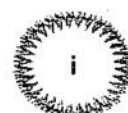


ASSESSMENT OF PROPOSED AGRO – FOREST PROJECT ON WOODLARK ISLAND IN MILNE BAY PROVINCE, PNG.

Cover page: *The only coral sealed road runs
from the east to the west through the thick
forest.*

TABLE OF CONTENT

Content	Page
Abbreviation and Glossary	i
Acknowledgement	iii
1. Introduction	1
1.1 Background	2
1.1.1 Location and Accessibility	2
1.1.2 Population and LLGs	2
2. Trip Participants / Team	2
2.1 Purpose of the trip	4
3. Forest and Agriculture	4
4. Agriculture farming system (both livestock and vegetables)	4
5. Economic Activities	5
6. Infrastructures	6
7. Law and Order	7
8. Agriculture Potential	7
8.1 Crop limitation	8
8.1.1 Cocoa	8
8.1.2 Pepper	8
8.1.3 Coconut	8
8.1.4 Rubber	8
8.1.5 Oil Palm	8
9. Strength, Weakness, Opportunity, Treats (SWOT) Analysis	9
9.1.1 Strengths and Opportunities	9
9.2 Weakness and Treats	10
10. Proposed Market Structure for Agriculture cooperatives	10
10.1 Functional explanation of the above conceptional market structure	10
10.1.1 Landowner farmers	10
10.1.2 Cooperative Society	11
10.1.3 Markets	11



12. Conclusion	12
13. Appendix	14
13.1 Appendix 1: Attachment of Public Consultation Hearing Meeting Minutes	14
13.2 Appendix 2: Land Suitability Assessment	20

ABBREVIATIONS AND GLOSSARY

Abbreviations	Meaning
DAL	Department of Agriculture and Livestock
FCA	Forest Clearance Authority
FMA	Forest Management Authority
FPDA	Fresh Produce Development Agency
Ha	Hectare
MoA	Memorandum of Agreement
MoU	Memorandum of Understanding
NFB	National Forest Board
NAQIA	National Agriculture Quarantine Inspection Authority
NDAL	National Department of Agriculture and Livestock
NGO	Non - Government Organisation
NISIT	National Institute of Standards and Industrial Technology
NSO	National Statistics Office
P&ISS	Provincial and Industry Support Services
SABL	Special Agriculture Business Lease
SWOT	Strength, Weakness, Opportunity and Treat

The humble visiting team from DAL - P&ISS Southern Region would like to highly commend, thank and acknowledge those that made the trip possible to eventuate and made it a success. Without your involvement, it may have not turned out as expected. For this regard, the following individuals and organisations are worthily acknowledged:

Firstly, Mr. Samson Siguyaru – the investor for funding; accommodation, meals, transportation (air and land) and all entire arrangement done. Also organising and mobilising the community and their leaders to participate meaningfully.

Secondly, Woodlark Mining Ltd management staffs for providing accommodation, hospitality services and transport. On that same token, Tropicair Ltd for the twin engine plan to fly us to and fro and our on- site two guides; Mr Niwela Kapowota and Mr. Richard Joe and others.

Thirdly, the community and their leaders for their respect and participation and those also in our hearts but not mentioned here, we acknowledge your special services offered.

Finally, to pen off, I would salute my two colleague Mr. Brown Gende and Mr. Jospeh Nou for their input toward the completion of this report.

needed revenues from development projects. There are widespread expectations that revenues from these projects should transform into better or improved quality of life and purchasing power for both the urban and rural population. In terms of tropical rainforest, PNG is rated third largest in the world but the demand for logs and large scale land based agricultural development has led to extensive deforestation.

The 97% of land in this country is customary owned and for PNG to revolutionize the under developed rural poverty corridors into rural economic corridors through generating expansion in agriculture output, customary land need to be freed by at least 10-15%.

There was a concession introduced by the Government of PNG in 2003 called the Special Agriculture Business Lease (SABL) purposely to free up customary land for agriculture major projects. However, there was a lot of issues between land owners and investors and intention of SABL was not fully materialised therefore Government of PNG put on hold / cancelled all SABL deals in the country.

Other Timber Authorities such as Forest Management Authority (FMA) and Foresting Clearance Authority (FCA) or any others dealing with 2A and 2B types are admissible by the National Forest Board (NFB).

For the Woodlark proposed agriculture project, the local investor chaired by Mr. Samson Siguyaru in partnership with overseas partners intend to venture into Agro-forestry projects. DAL conducts appraisal and public hearing before it issues compliance certificate for the next process.

Where a project is comprised of a forested area, the PNG Forest Board grants FCA consistent with its requirements to clear the forest for agriculture development. Such requirement are closely appraised by the DAL before the proposed project is submitted to the NFB, hence the purpose of this report.

1.1 Background

1.1.1 Location and Accessibility

Woodlark Island, known to its inhabitants simply as Woodlark or Muyua, is the main island of the Woodlark Islands archipelago, located in Milne Bay Province of Solomon Sea. The proposed agriculture project will be concentrated on the western part of the main Island. The access to the island from Port Moresby is through third level airling (Tropicair) which takes about 1 hour 30 minutes. The flights to and fro is only chattered as there is no commercial flights. From Alotau to the Woodlark is by boat (dinghy) or ship which takes around two days for ships and a day for the boats.

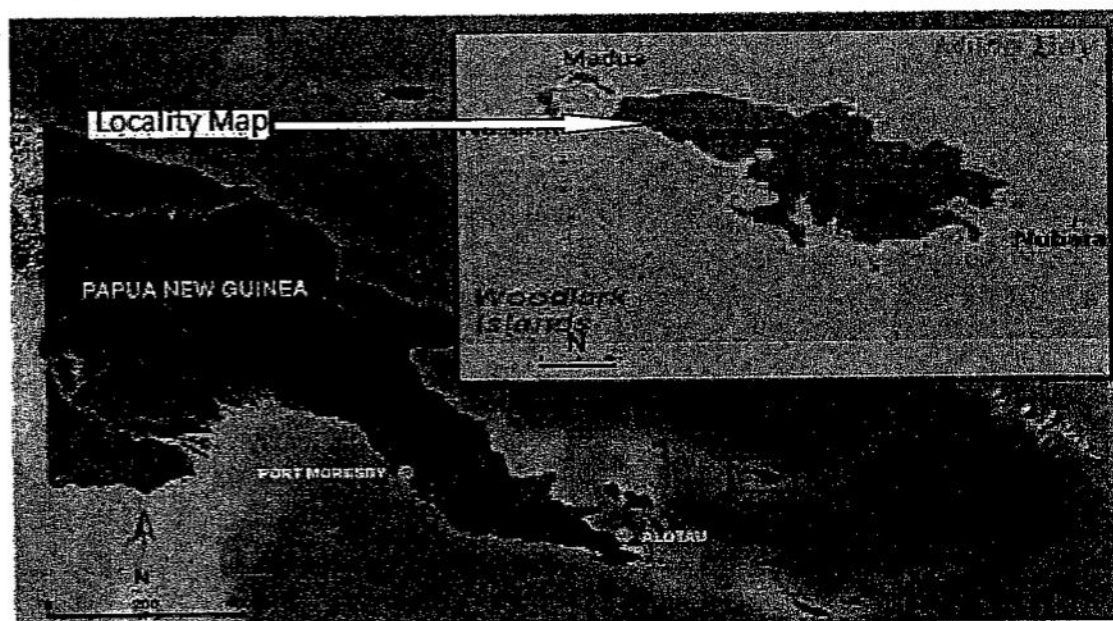


Fig 1: Locality Map

1.1.2 Population and LLGs

Woodlark is in Samarai Murua District of Milne bay province. It is comprised of 17 councils under one council president and their current local MP is Hon. Henry Isi Leonard and is part of the current opposition regime. According to one of the ward councillor, the population on the Island is estimated to be over 9000 of which more are believed to be females. The exact figures to be confirmed with National Statistical Office (NSO).

2. Trip Participants/team

The visiting team from NDAL were mainly officers from the Provincial & Industry Support Services section of the Southern region who conducted the area appraisal. The officers include;

- ❖ Mr. Aaron Kotto – Planning and Economic Advisor
- ❖ Mr. Brown Gende – Project Planning Advisor
- ❖ Mr. Joseph Nou Taunao – Livestock Advisor

The four days visit from Tuesday 08th – Friday 11th August 2017 was a worthwhile visit. The itinerary included;

❖ *Day 1, Tuesday 08th August 2017:*

The team left for Woodlark Island. Depart Pom by Tropicair Airways at 9.00am and touched down at Guasopa airstrip at 11.30am. Picked up by a Woodlark Mining Ltd 10 seater vehicle and headed to Woodlark Mining Ltd site 1 (Bomagai camp) arriving at 1.30pm. Checked in (rooms) followed by late lunch at Woodlark Mining Ltd mess. At 2.45pm, western side from the Bomagai camp area (down Kulomodau areas including the abandoned Forestry residential area) were visited.

❖ *Day 2. Wednesday 09th August 2017.*

Rise and shine. Main activities covered were; visited farming areas (rice, cocoa, subsistence farming), site/soil/environment observation as well as drilling sites (mining), interviewed random farmers, met with company (mining) operational manager and dining chef, including seeing Kumadau Primary school and the mini wharf.

❖ *Day 3. Thursday 10th August 2017.*

Rise and shine. Main activity conducted; Public Consultation meeting. The meeting was held in the afternoon as morning part of the day was taken up by the movement (walking) of meeting participants to the meeting venue – Komadau village. In the evening met with Mr. Samson. Siguyaru (Investor) and had an informal short discussing. *For more information on meeting minutes, refer to the attachment.*

❖ *Day 4. Friday 11th August, 2017.*

Rise and shine. Breakfast, than by 6.30am left for Guasopa airstrip. On board Tropicair Airways twin engine plane and arrived Pom at 12.00pm. By 1.30 – 2.00pm picked up by Director Mr. Leka Mou.

2.1 Purpose of the trip

The trip was requested and funded by the Investor (Mr. Samson Siguyaru) to inspect and assess the proposed logging area for agriculture development as a sustainable pathway plan after logging. The trip was also to assess socio economic activities in relation to agriculture and general livelihoods. More so, was to conduct public hearing and to confirm and make official for the issuance of forest clearance authority (FCA).

3. Forest and Agriculture

It was reported that, there was logging operation in the early 80s and can be evidenced by the remaining like, abandoned houses and equipment. The forest is blessed with ebonies and some other trees that can fetch good money if logged and sold out. The only way to do this is for the investor to clear the log in the name of agriculture. As far as the land is concerned, cocoa and other crops can be grown successfully based on the past experience. Cocoa was once grown successfully but due to hindrance to the market excess resulted in abandonment. It is recommended to carry out full land and crop suitability assessment before major agriculture development take place.

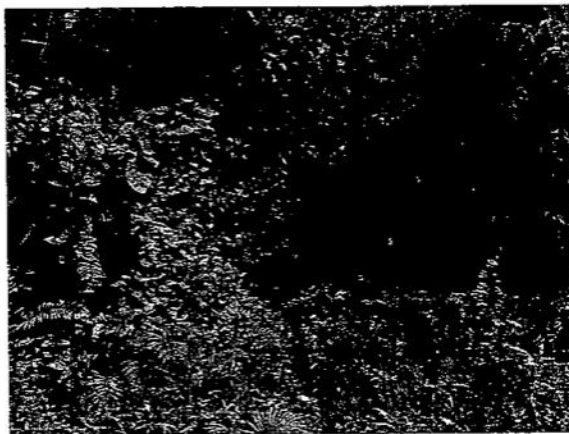


Fig 2: Abandoned cocoa plots



Fig 3: Abandoned forest storage shed

4. Agriculture farming system (both livestock and vegetables)

The main agriculture farming system practiced on the island is the shifting cultivation. Unlike some other parts of PNG, there is abundant arable farm land. Therefore fallow period is higher (around five years) compare to other parts of PNG. Part of the reason why fallow period is that

high is because weed is common in secondary clearing which discourages farmers therefore they often abandon after the first clearing.

Livestock especially Pigs was observed to be doing well and there is enormous potential to develop this livestock industry. At the moment, pigs are looked after in a free range style.

Village chickens are also doing fine there. Apart from these two animals, nothing was seen or heard.

5. Economic Activities

❖ Trade store

During the time of visit, seven (07) trade stores were operating. The store goods are shipped from Alotau which takes about two days to reach the island.

❖ Woodlark Mining Ltd

Provides employment and pays out compensation to landowners for damage done to environment and noise pollution especially in areas that drilling is taking place.

❖ Alluvial panning

Locals do alluvial mining to earn income. Alluvial mining provides an avenue where locals get their income and meet their obligations that deals directly with finance like shopping, school fee and etc.

❖ Fresh produce Market

Woodlark Mining Ltd is in the exploration phase therefore don't buy foods in large quantity. This is because they have less workers to feed. With this scenario in place, the company came up with unique 'buying arrangement' for vegetables. That is, each villagers are allocated certain amount of fresh produce to be supplied depending on the request from the management. The mining support truck goes around and buys from those requested villages. The island can produce all most anything. The produces that are grown and sold to the mining are aibika, yam, pumpkin, lettuce, tomato, capsicum.

❖ Marine products

Some locals have been reported of engaging in harvesting and selling sea cucumbers but during the time of visit, that activity was ceased. Some fish are caught and sold at the mess on an ad hoc arrangement.

❖ Employment opportunity

There is no employment opportunities or activities apart from Mining. The mining is in the exploration phase so doesn't provide employment for locals on a large scale. There is huge potential to create a lot of job opportunities if the proposed project successfully come on board.

6. Infrastructures

There is only one health centre serving the entire population on the island. All sickness are treated there except for referrals that goes to Alotau. People are scattered all over the long island and to get from one place to another is difficult especially when people are very sick. Thus, arrangement are done with the mining company vehicles to get to the clinic. They have four schools, all are top ups (up to grade eight) with more than four elementary schools. Successful students from grade eight goes to Alotau to do grade nine. There is only one serving airstrip (Guasopa) on the eastern end of the island and two wharves, one located on the east and the other on the west of the island. The all-weather road sealed with corals runs from the east to the west.

Communications is effective with radio on mining site. Digicel services available but not in full function as the digicel signal is low or weak signal strength.

There is no PNG power therefore the mine use generators for their electrical needs.

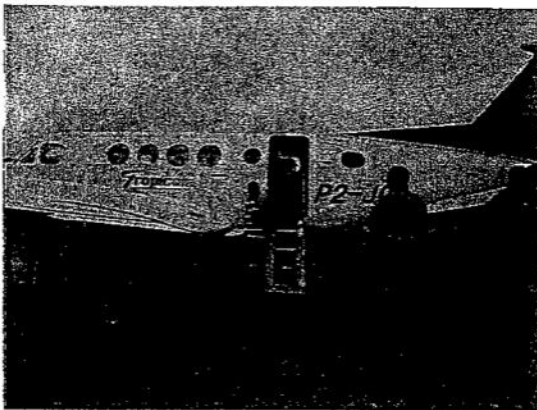


Fig 4: Guasopa Airstrip



Fig 5: Team on one of the two wharves

7. Law and Order

There is a village court system in place that deals with all law and order issues. There is minimal law and order issues on the island. However once an issue gets out of hand, police from Alotau or Misima are normally requested to intervene and solve the problems.

8. Agriculture Potential

The FAO (1976) method of suitability assessment is used where crops requirement are matched against the soil and other land characteristics of each landform type. Climatic parameters have the greatest influence in the evaluation process therefore it is the pre-condition for selection of crops. The classification categories are indicated below;

- S1. Highly suitable - no major limitation
- S2. Moderately suitable - fewer minor limitations or major limitation
- S3. Marginally suitable – many minor limitation or few severe limitation
- S4. Not suitable - many major limitation including climate as the overriding limitation.

The land use survey conducted previously evaluated five cash crops for establishment. The first stage was to identify cash crops which are climatically suitable and which would provide a basis for agricultural development. However the land seemed to lack major qualities required by a crop. Below are the suitability rating for selected crops.

Table 1.0 Land Capability of Woodlark Island

Landform	Suitability Rating				
	Cocoa	Peppe r	Coconu t	Rubber	Oil Palm
Limestone Plains	S3	S2-S3	S2-S3	S4	S3-S4
Igneous Hills moderately sloping	S4	S4	S3	S2	S3
Steep sloping	S4	S4	S4	S4	S4
Limestone Karst	S4	S4	S4	S4	S4
Marine Swamp	S4	S4	S4	S4	S4

Freshwater Swamp	S4	S4	S4	S4	S4
Grassland Swamp	S4	S4	S4	S4	S4
Beach	S4	S4	S1	S4	S4

8.1 Crop limitation

8.1.1 Cocoa

The chemical status of the highly weathered soils developed on volcanic rock is not suitable for cocoa. Soil acidity is very high, the cation exchange capacity is low and low base minerals. Chemical deficiency can overcome however it would require high management input.

8.1.2 Pepper

Pepper does not require much rooting depth however may be susceptible to aluminium and manganese toxicity. The crop is seen as suitable for Woodlark Island. More information is needed on market potential and economics before it can be consider for large scale production.

8.1.3 Coconut.

Coconut is most suitable along the beach and also limestone plain where isolated deep soils are found. This crop is recommended for large scale production however a detail survey is needed to map out the amount of land available.

8.1.4 Rubber

Rubber is most suitable on igneous hill with moderate slope. Rooting depth and drainage are the major limitation. The deep red clay soils of volcanic landform are well suited for rubber and nutrient limitations are minor. Rainfall may well interfere with tapping on some significant number of days.

8.1.5 Oil Palm

Oil palm is marginally suitable in few land units. It requires high management input and is considered uneconomical for Woodlark Island.

9. STRENGTH, WEAKNESS, OPPORTUNITY, TREATS (SWOT) Analysis

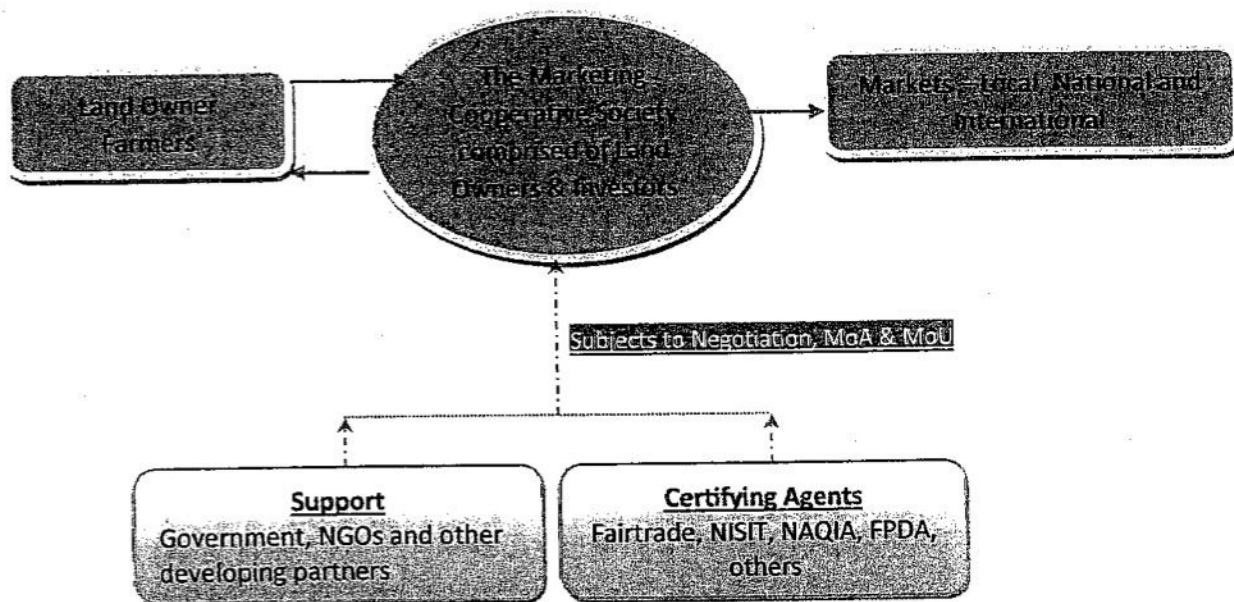
9.1 Strengths and Opportunities

- ❖ Large arable land for commercial farming yet to be developed
- ❖ The Island itself is blessed with forests, gold and potential for agriculture. Has the potential to export forest and agriculture products in large volume if coordinated and developed well.
- ❖ Gold, forest and agriculture all have the potentials to create employment, wealth prosperity, and boost economic activities to the Island community. Having this proposed agro-forest project on board will create prime time and opportunity where vision 2050 under section 1.17 on wealth creation through agriculture can be realised and add meaning to it.
- ❖ Has rich marine resources and if harnessed properly can generate good returns for the locals.
- ❖ Currently, the mine is in the exploration phase and employ around 70 workers. To feed these 70 workers for six months, it costs around K15000.00 each for pork and chicken. That means a total of K30 000.00 is spent on those livestock that can be easily raised and supplied by the locals. If it comes to production phase, more workers will be needed and consumption of these livestock and other fresh produce will be more. This is just a scenario that gives a picture of the opportunity that lies ahead. To harness and make this scenario come true, proposed agroforestry project is a way forward. See the proposed market structure (10) on how landowners can organise themselves and market their produces.
- ❖ With concern to livestock health welfare, PNG is known to be a disease –free country, the Woodlark island had no reports of animal disease outbreaks for that matter. Small animal farming can make a difference and have impact on the lives of the community

9.2 Weakness and Threats

- ❖ Isolated from main land and can cause trade more expensive
- ❖ Lack of infrastructure and Government services
- ❖ Slim economic activities that financially marginalise buying powers for mass Island (Woodlark) population
- ❖ No commercial flights that disadvantaged majority of people from accessing services in Alotau or Port Moresby
- ❖ As far as the development is concern, there is no major threat except for the concern of environmental damage in the name of development.

10. Proposed Market Structure for Agriculture Cooperatives



10.1 Functional explanation of the above conceptional market structure

10.1.1 Landowner farmers

Market has been the major constraint for local farmers in most PNG farming community and woodlark is no exception. This problem has been compounded with the isolation of this island community. No efficient and reliable transport services to transport agricultural produces therefore there is slim to nil commercial agriculture activities. What the community farm is for home consumption and if and when request comes from mine site, whatever little is requested is fully met.

The farmers will supply the cooperative. In this instance, the cooperative becomes the immediate market for the locals.

10.1.2 Cooperative Society

The cooperative will be made up of investors, locals and qualified personal to run the affairs and business operations of the cooperative. The cooperative will be well equipped. It will provide logistic support, extension services, perform value adding, packaging, branding and negotiate best market price both within and out of the country. As you can see, the arrow from the farmers' points to the cooperatives meaning farmers will sell to the cooperatives. You can also see that, another arrow is coming from the cooperative to the farmers. This means that, cooperative will also support farmers by providing efficient and effective transport, provide necessary extension services needed by the local farmers so that production target quantity, quality and consistency is met. Once the three mention important attributes (QUANTITY, QUALITY, and CONSISTANCY) of agriculture marketing are met, then the cooperative can attain comparative advantage to negotiate better deals and attain premium markets.

10.1.3 Markets

The markets can be sourced from both local, national and abroad.

Once the woodlark mining come into production phase, it will have more people working. To supply three meals a day to this growing workforce need consistence supply from the cooperative. This again gives unique market opportunity. The cooperative will also find markets in Alotau, Port Moresby, Misima and other centres conducive to negotiate and secure markets. Again another opportunity arise here as financiers are from overseas therefore can be easily source market outside with the help of this connection.

10.1.4 Government and NGO Support

Government has now seen agriculture as a priority sector and to realise vision 2050 section 1.17 on wealth creation come true, it will appropriate to seek government support. For the government to support individual local farmers with limited resources and capital is not workable unless there is handy policy to cater such. Therefore the idea to have a cooperative

and structure in place provides suitable avenues to attract government's attention for funding as well as other donor agencies.

Developing partners like National Agriculture Institute (NARI), Department of Agriculture and Livestock (DAL), NGOs like CARE international, Oxfam, World Vision and others works well with communities who are well organised and structure therefore having a cooperative in place is a sign of order that will easily attract those developing partners especially in providing support and assistance in production. The involvement of NGOs and Government all subjects to proper negotiation leading to formalising of the partnership through legal engagement like memorandum of Agreement (MoA) and Memorandum of Understanding (MoU).

10.1.5 Certifying Agents

The involvement of satisfying agents are critical when produces/ products from developing countries are marketed in developed economies. Involvement of certifying bodies like Fairtrade, National Institute of Standards and Industrial Technology (NISIT), Fresh Produce Development Authority (FPDA), National Agriculture Quarantine Inspection Authority (NAQIA) and others can provide assurance and guarantee by making sure produces are satisfied according to the set guidelines and criteria. Generally, Fairtrade make sure whatever produce produced by farmers in the developing world are certified to meet set criteria of the developed economies especially the consumers in the developed countries. NISIT responsible for making sure processed foods meet international quality and food safety requirement before it can be sold or traded. FPDA and NAQIA can also be the important players in the certifying roles. All the certifying agents are again subject to proper negotiation and engagement.

11. Recommendations

- ❖ The choice of major cash crop for the project must be limited to coconut and pepper. Cocoa can be cultivated but will be limited to deep limestone soil which occur in small patches.
- ❖ Food crops and livestock especially piggery and poultry are recommended should the company wants to venture into commercial agriculture projects.
- ❖ Forestry projects such as planting of Acacia for woodchip production is an option worth consideration.

- ❖ The proposed company should progress preparation for Incorporation of Land Groups. That would require a surveyor to identify land boundaries for various clans located within the proposed area.
- ❖ The proposed company should also apply to be a forest participant entity before the FCA application is made.

12. Conclusion

Woodlark is one of the isolated islands rich with natural resources (forest, minerals like gold, marine resources and good farming land). There is lack of economic activities with slim to nil infrastructures on the Island. Woodlark is blessed with forest and marine resources that is yet to be fully utilised. It also has enormous potential for agriculture development therefore this proposed agro-forest impact project has great potential to bring in positive changes. Out of 130 000ha, 87 000 ha is available for farming but proper agriculture assessment is needed. Upon conducting public hearing, the community at large are fully aware of the project and are in full support and urged for the urgency for the project to start. The investor also shown financial strength so the project success looks so promising. The island may be disadvantaged of its isolation but the potential it has can supersede all odds as investor is serious in securing markets. The proposed market structure is for the landowners and investor to have a market cooperative society so farmers sell their produce to the cooperative and the cooperative find market outside both in PNG and overseas.

Forest Clearance Authority (FCA) was already granted to investor by NDAL and our visit was to make formalise the issuance of the permit and process. Economic potential and infrastructure development that will be created from the proposed project looks promising. To pen off, detail impact assessment of the project area is needed as well as the detail agriculture assessment. The profiles of the investors must be screened and adherence to government's regulations and processes in regards to such impact project must be uphold at all times.