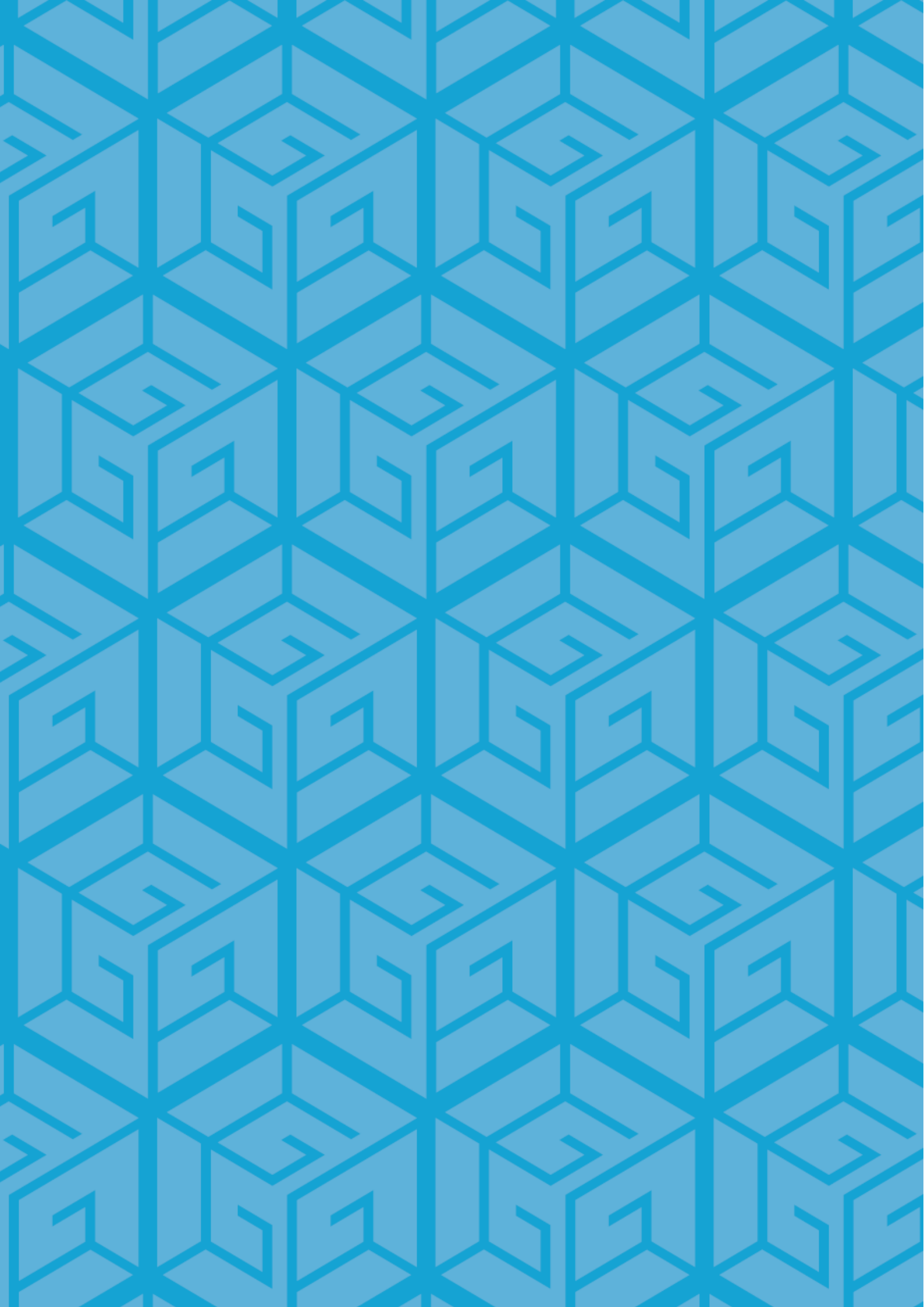# -Vanuatu-

Capacity Building to Strengthen Sustainable Implementation of Renewable Energy Technologies for Rural Energy Access

Pre-implementation Survey Report

December 2019

List of Acronyms

EE - Energy Efficiency

GE - Green Economy

DOE - Department of Energy

DLA - Department of Local Authorities

GGGI - Global Green Growth Institute

KOICA - Korea International Cooperation Agency

MOCC - Ministry of Climate Change Adaptation, Meteorology and Geohazard, Disaster Management, Energy and Environment

PIDF - Pacific Islands Development Forum

RE - Renewable Energy

Contents

Chapter 1

1.1. Introduction

This report presents the findings of the project's pre-implementation survey conducted in communities in Vanuatu, namely, Hogharbor and Malau in Santo, and Tisman and Vinmavis in Malekula, from the 5th to 16th of November 2019. These selected communities are part of the 13 approved sites in Vanuatu for implementation of this KOICA funded regional capacity building project. A total of 81 individuals from the above selected villages were interviewed, these included community leaders, leaders of women's groups, youth leaders, local business entrepreneurs and handymen (carpenters, mechanics) and few government workers. A community baseline information and data collected from the survey presents a national perspective of the level of understanding and knowledge on Green Economy (GE) and Renewable Energy (RE)concepts and uses. The findings are presented in the next chapters.

1.2. Project Background

This regional project is funded by the Korea International Corporation Agency (KOICA) with a two-year term. Its major focus is on enhancing capacity building among community leaders and vulnerable groups and women in selected rural off-grid communities in Fiji, Vanuatu, Solomon Islands and Papua New Guinea (PNG), for sustainable implementation of renewable energy technologies.

The Pacific regional implementing partners of this project are the Global Green Growth Institute (GGGI, the Pacific Islands Development Forum (PIDF) and the government counterpart agencies in Fiji, Vanuatu, Solomon Islands and PNG. In Vanuatu, the project is implemented by GGGI in partnership with the Department of Energy (DOE) of Ministry of Climate Change Adaptation, Meteorology and Geohazard, Disaster Management, Energy and Environment (MOCC), with provincial support from the Department of Local Authorities (DLA).

1.3. Goal and Objective

The goal of the project is to contribute to increased energy access and reduction of CO2 emissions through sustainable use of natural resources and renewable energy technologies in rural areas of Fiji, Vanuatu, Solomon Islands and PNG. Its objective is to achieve an informed and inclusive decision-making by resource owners and local government officials for integration of GE and RE into local level planning and to strengthen implementation of RE infrastructure for rural electrification. The project aims to accomplish this by organizing and conducting capacity building training sessions in rural areas of all four countries, targeting local government officials, traditional/community leaders, women and vulnerable groups, youth, and local technicians. Trainers will be centrally trained and dispatched to rural areas to deliver the trainings.

Chapter 2

2.1. Approved National Project Sites

The project's first national workshop was conducted on 24 May 2019, during which 15 potential project sites were identified and recommended. The list was subsequently refined with 13 final sites approved by MOCC and 2 sites were held on reserve, subject to budget and time availability. All 13 approved and 2 reserve sites are presented in Table A below.

Table A: List of Approved and Reserved Sites for Project Implementation

Name of Community	Population	Island	Province
1. Malao, Big Bay Area	305	Santo	Sanma
2. Hog Harbour	368	Santo	Sanma
3. Small Nanuku	300	Santo	Sanma
4. Parisa	135	Santo	Sanma
5. Craig Cove	30	Ambrym	Malampa
6. Loltong	240	Pentecost	Penama
7. Melsisi	370	Pentecost	Penama
8. Pangi	80	Pentecost	Penama
9. Vinmavis	300	Malekula	Malampa
10. Tisman	908	Malekula	Malampa
11. Wintua, Southwest Bay	440	Malekula	Malampa
12. Utas, SE Ambrym	446	Ambrym	Malampa
13. Morua	500	Tongoa	Shefa
14. Liro, (reserved)	600	Paama	Malampa
15. Beterara (reserved)	300	Maewo	Penama

Figure 1: Map of Project Selected Sites in Vanuatu
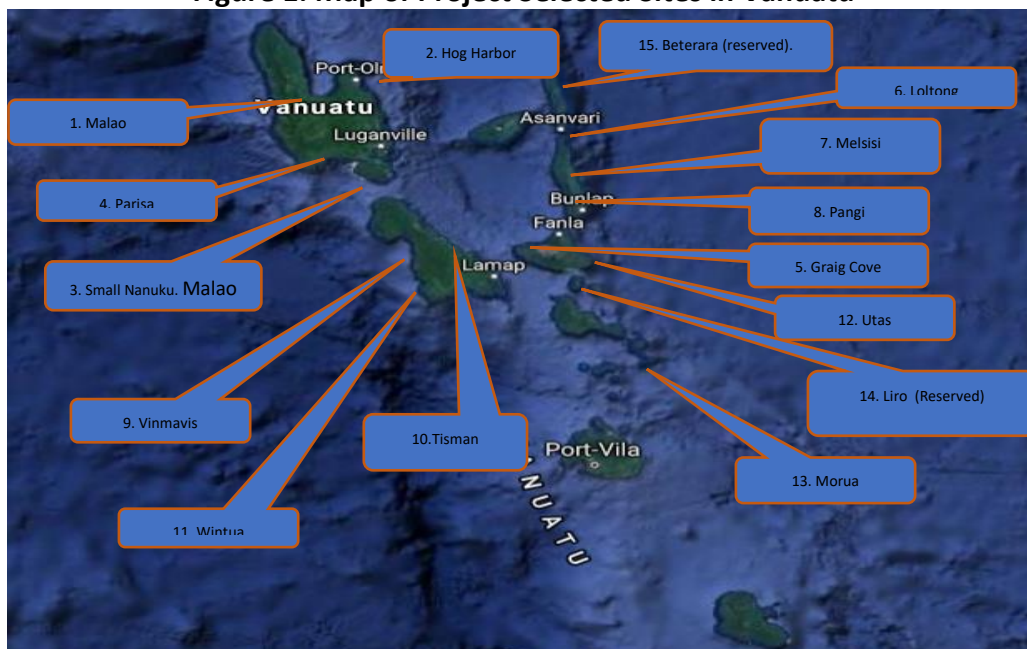
Source: Google Map

The above approved and reserved sites have been selected on the basis that they have already being selected as part of other earmarked RE related development projects that the national government is implementing. Hence, this capacity building project would complement these other projects, by providing needed skills and knowledge to sustain those projects. Furthermore, the project aligns with

the national government's decentralization policy, which aims to strengthen human resources base and improve service delivery in these rural communities. Renewable energy is seen a driver for sustainable growth and development, and by promoting its use in rural communities, should help improve electricity access and increase opportunities for income and revenue generating activities, leading to improvement of livelihood, as part of the Vanuatu National Sustainable Development plan and Vanuatu National Energy Road Map strategy.

2.2. Pre-implementation Survey Sites

The project pre-implementation survey was conducted on four selected rural communities in Santo and Malekula Islands of Vanuatu from 05 to 16 November 2019. The main intend for this survey is to collect the baseline data and information on Green Economy and Renewable Energy and use the data as basis for capacity building and training workshops as part of this project. And also to identify suitable times of the year to run these workshops in selected sites.

The pre-implementation survey sites include ,Hog Harbour Village in East Santo, Malao Village in Big Bay Area, North Santo, Tisman Community, South East Malekula and Vinmavis Village on West Malekula.

These four sites are shown in the map below, compared to Port Vila, the capital city of Vanuatu.

Figure 2: Pre-Implementation Survey Sites

Source: Google Map

The geographic and demographic details of each survey site are presented in the next paragraphs.

2.2.1.   Hog Harbor Village, East Santo

Table B: Hog Harbor Village Community Information

GPS Location	15°08'31.6"S 167°06'12.8"E
Population	368
Male	173
Female	195
No. of Disable People	7
Main Village contact	Mr. August Nalan; Mob: +678 5411945

Hog Harbor is situated on the eastern side of the island of Santo, in Sanma Provice. It currently has a population of around 1000 people. The village is a strong base of Presbyterian Church. In 1897, Dr Bowie, who was then a Scottish missionary had first established Presbyterian Church mission in Hog Harbor. The name Hog Harbor had derived from when the explorers in the Island had then anchored in the harbor, amazingly they saw that the harbor was then full of pigs, in light of this, they named it Hog Harbor. During the time of the British-French Condominium, Hog Harbor was then the site of the British district administration.

The nearest town is Luganville, situated around 41.5km to the south, from the village. This town the second largest town in the country which has international gateways for both land and sea transport. It also has one of the only two airports on the island and to get to Hog Harbor by plane, is through this airport. There is only one main access road to the village from Luganville, which is tar sealed and takes around 45 minutes ride by car to reach the village. The location details are shown on following maps.

**Figure 3: Map Showing location of Hog Harbour from Luganville**

Source: Google Map

The village has English primary and secondary schools. It has a health dispensary which provides medical assistance to the locals. The vast majority of people are members of the Presbyterian Church. The village has a local chief, who runs villages affairs[1].

The village is located near to the sea and the prestige beach of Champaign Beach (one of the tourists attracted beaches in country), is located within the vicinity of the village. As shown in the picture on the next page.

Figure 4: Map Showing Hog Harbor Village and surrounding areas
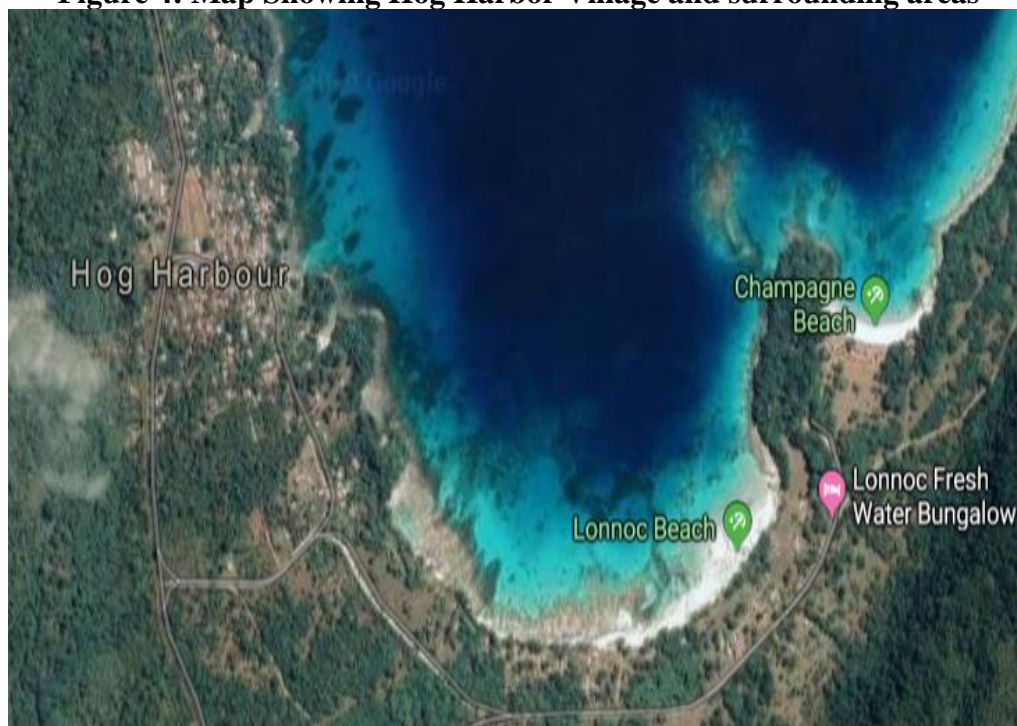
Source: Google Map

Most villagers of Hog Harbor are subsistence farmers, with a few of them being heavily involved in commercial farming. A lot of tourism activities are also happening in the village such as tour operations, diving and snorkeling, game fishing, accommodation, food and beverage services etc. Copra is the village's main agriculture product, followed by cattle farming. Few villagers also commune to Luganville daily for employment, while few others are employed either on fulltime or part time at local tourism bungalows.

Hog Harbor Village is currently situated on an off-grid area and the nearest electricity grid is around 10kms away towards Luganville. There are government plans to extend the Luganville grid network to the village and beyond to the village of Port Olry, further north, under the same funding package with the Brenwe Hydro project in Malekula, to be funded by the Asian Development Bank. However, it has not been confirmed at this stage if this grid extension work will happen, but if it does so, then this project site may need to be reconsidered. More details on this will emerge in early 2020.

The first day began with a meeting with the main village chief and his councilors, followed by other community leaders from various community organizations such as churches, youth, school, women and local businesses. I managed to interview 17 people altogether. Out of the 17 people interviewed, nine were female and eight were male. The big challenge is to get people together, as most villagers are occupied with their daily household chores, mainly farming and gardening

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[1] https://en.wikipedia.org/wiki/Hog_Harbour

in sites which are located some distances from the residential area. I could not interview the provincial government administrator as his office is physically located outside of the community boundary.

2.2.2. Malao Village, Big Bay Area, North Santo

Table C: Malao Village Community Information

GPS Location	15°10'10.3"S 166°51'09.3"E
Population	305
Male	164
Female	141
No. of Disable People	4
Main Village contact	Mr. Lorry Samuel; Mobile: +678 7769556

Malao village is located at Big Bay area on the northern part of the island of Santo. It is situated around 51 kms north of Luganville town and 27 kms west of Hog Harbor Village. Malau is a Seventh Day Adventist (SDA) based village and most village programs and activities coincide with church's ones. It has a primary school and a health clinic.

The village is situated close to a stream, which serves as the village main water source until a year ago when a new water supply system for the village has been installed. The land area is quite flat and the prospect of building a hydro system for the village is very low. The local council of chief is led by a paramount chief of the village, who executes village by-laws and maintains order in the village. There is also a local church minister who administers church programs in the village. The local church women's group (Tokas) is very active in administering to social and spiritual welfare of the village women, including the elderly and the disable. The youth group is also very active in executing similar act of service to youths and the elderly, however, the group is becoming less active in the recent years due to disagreements with the village leaders.

The most accessible means to the village from Luganville town is either by land transport or by sea, with part of the journey by road. The latter takes lesser time to travel but becomes inaccessible during rough seas. Access by road is normally done through pickup 4WD trucks which takes around 2-3 hours, one way journey, due to appalling road condition. The map below shows the two access routes to Malao Village from Luganville town.

Figure 5: Map showing access routes to Malao Village

Source: Google Map

Since this is an SDA based community, all non-church activities conducted in the village have to be concluded by Friday mid-day and Saturday is their day of worship, no activities can happen on this day.

2.2.3.   Tisman Area, East Malekula

Table D: Tisman Area Community Information

GPS Location	16°16'41.6"S 167°40'07.5"E
Population	908
Male	466
Female	442
No. of Disable People	12
Main Village contact	Mr. Seth Susrup; Mobile: +678 5460844

Tisman is a name given to an area on the eastern side of Malekula which consists of seven main villages, which include Bangir, Rerep, Danperper, Rembe, Pandeur, Rejar and Rejarjar, and a number of other smaller settlements. The total population of the area is 908, based on the 2016 National Mini Census Report. The area also houses the South East Malekula Area Provincial Administration Office, and also has a primary school with classes up to year 8 and a health facility which provides maternity service as well. Tisman is easily accessed from Norsup Airport located 35kms north. However, access to the site is often challenging during rainy seasons because of threat of flooding rivers. Figure 5 below shows map of Malekula and the two nearest airports to access the site.

Figure 6: Location of Tisman in Malekula, compared to Norsup and Lamap airports
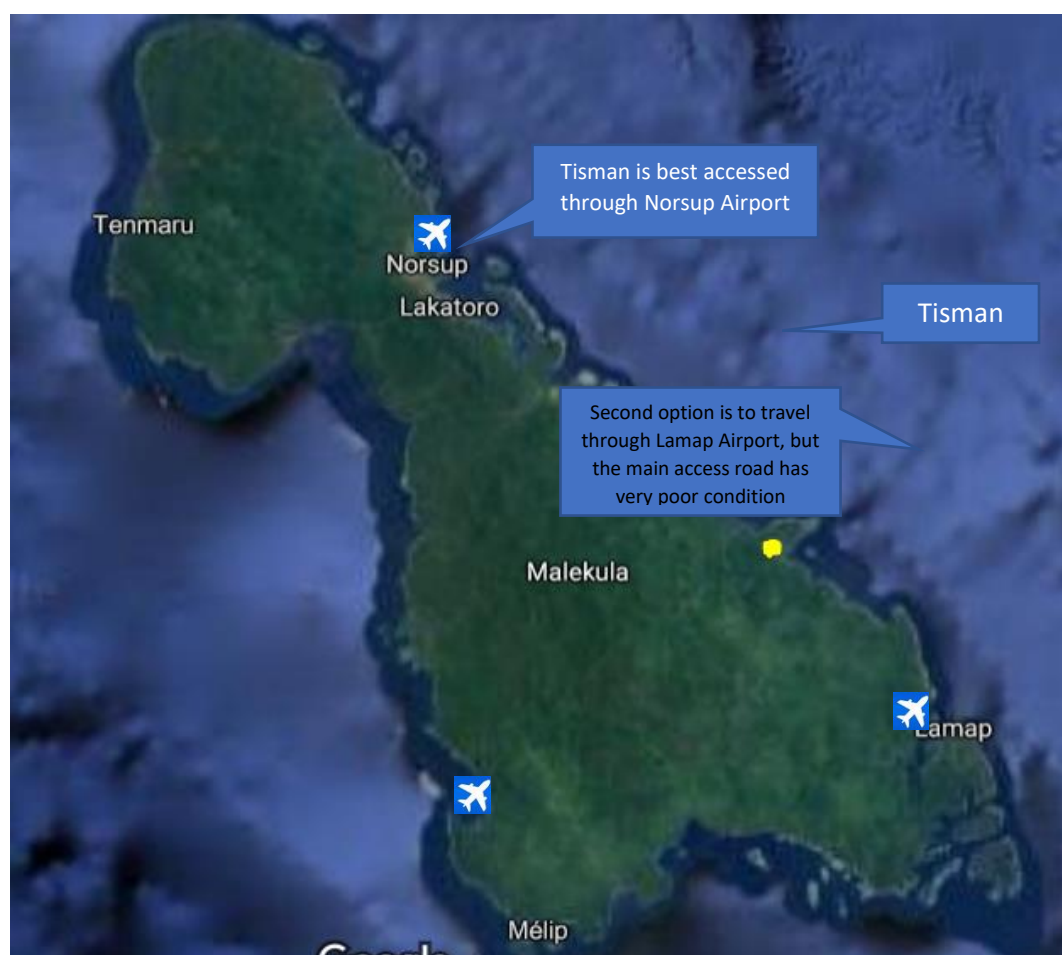
Source: Google Map

A greater advantage of this site to the project is the higher population base and therefore cost per participant could be lower compared to most other sites. Tisman used to serve as a mini commercial center for the south eastern region of Malekula during the coloniel error, boosted by coconut plantation estates and copra production. Copra production continues to dominate the economic activities in the area, followed by beef and cocoa.

The provincial center of south east Malekula region is also located at Tisman, however, the area administrator was not present during the days of the survey, due to voter registration works he was engaged in at the time of survey. Due to the bigger area of site for survey, the survey took two days to complete, with a total of 28 community leaders and individuals being surveyed. This is one of the identified locations which 80 or more people could be easily trained.

2.2.4. Vinmavis Village, West Malekula

Table E: Vinmavis Village Community Information

GPS Location	16°13'49.2"S 167°23'00.8"E
Population	300
Male	144
Female	156
No. of Disable People	4
Main Village contact	Mr. Joel Shema; Mobile: +678 5272493

Vinmavis Village is located on western part of central Malekula and has a population around 300 people. Access to the village is by road from Norsup Airport which normally takes about 30 minutes, but due to current poor road condition, it takes around 50 minutes to get to the village.

Figure 7: Location of Vinmavis in Malekula, compared to Norsup
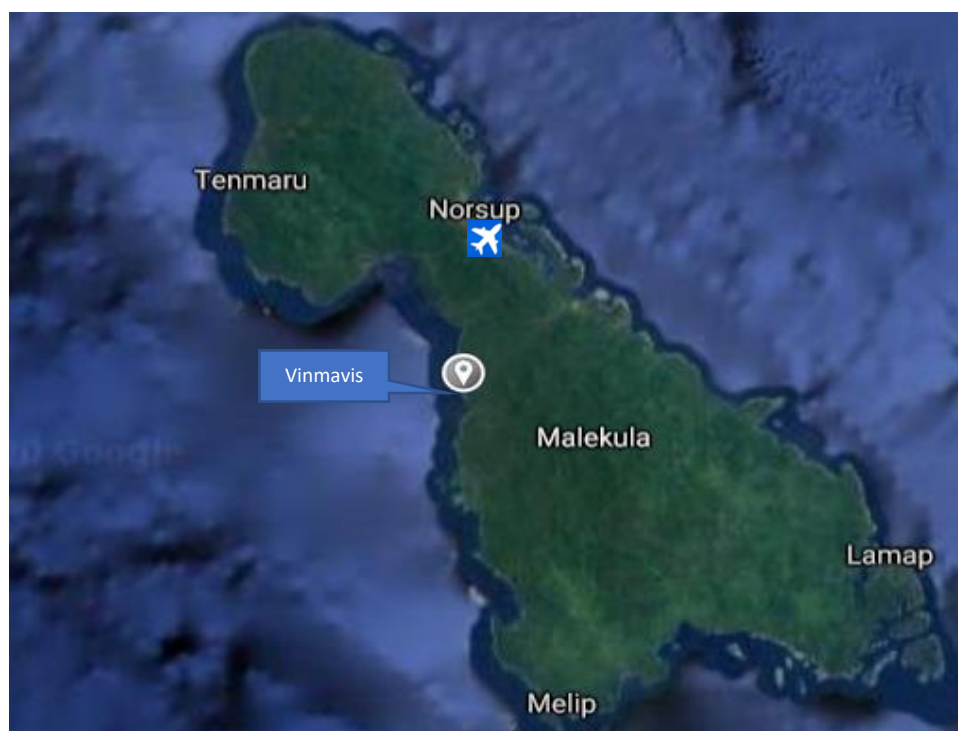
Source: Google earth

The village has a health clinic and a primary school. Most of the villagers are subsistence farmers with copra and cocoa being the main income earners for them. Vinmavis is located about the 15 minutes drive from the Metenesel Cocoa Estate, the largest cocoa plantation in Vanuatu.

It was so fortunate that the survey happened to occur on a date when there was also a community gathering for a community work, which really expedite the survey. The chief of the village, however, was not present during the survey date, to decide on the date of the workshop. Follow up phone calls with the main contact person was unsuccessful to get the chief's confirmation on the workshop date. The venue of the workshop will likely be held either the local village school or the community hall.

Chapter 3 – Defining Community Target Groups

According to the Project document, a target of 3,000 local government officials, traditional leaders, local technicians, women, vulnerable groups and small business leaders in Fiji, Vanuatu, Solomon Islands and PNG will be trained in green economy (GE) principles, and renewable energy (RE) principles. There will also be trained on how to operate and maintain RE systems. Hence, in Vanuatu, the project is expected to deliver capacity building training to more than 780 of the above target groups.

The definition and focus of each of the target group (please see Annex C for standard definition of each target group) would be as follows for Vanuatu;

3.1. Local Government Officials

Local government officials in the national context refers to government area administrators who a based at provincial area centers close to or in communities where the project will be conducted. In project sites where the main government provincial centers are located close by, the provincial officers will also be invited to participate. In addition, local government officials also refers to school teachers and health workers who are employed by the national government, working at and close to selected sites. Out of the 13 confirmed project sites in Vanuatu, we expect at least 13 local government officials will attend these capacity building projects, or 2% of national participants.

3.2. Community Leaders

Community leaders are defined as traditional village chiefs, church pastors/ elders, church women group leaders, church youth leaders, leaders of health and education committees. In communities which are more organized, there are other village committees which may include water committees, environment conservation committees, village soccer club officials, local farmers associations, fisherman's association, etc. Some of these leaders will likely fall in other categories such as representatives from women's groups, businesses leaders and local technicians. Under a typical community setting in Vanuatu, normally there is one main chief of the community, who is assisted by other smaller chiefs in rank, with a minimum of 3, forming the village chief council. Given these, one community could have minimum of 9 leaders altogether, making a minimum national figure of 117, or 15%.

3.3. Women, Youth and Vulnerable Groups

Women and other vulnerable groups in the communities which include children, the physically incapacitated, such as the deaf, blind, lame etc. While of some of these disable people may be able to participate in the workshop, others would practically be incapable of attending to due to their physical and mental states. According to the survey, there are averaging 4-7 disable people in a village community, except for Tisman which has 12 because of the bigger population size. Therefore, with an average of 4 disable people per site, and assuming that one in each site would not be able participate due his/her physical disability restriction, only 39 disable people in Vanuatu would be participate in the workshop, making a national participation ratio of 5%.

In most rural parts of Vanuatu, the norm for women participating in workshops is becoming more common these days compared to 10 or 15 years ago, and therefore it will be quite easy to reach the national project target. However, they need to be informed well in advance to set aside the workshop date from their daily cores. Given such, we would expect a figure of 25 women in each community, apart from community women leaders to participate in the workshop, which would make a minimum national figure of 325 women, or 42%.

There are actually more youths in rural Vanuatu communities than the elderlies, so it is also easy to get 10 to 15 youths to participate in the workshop, so for an average of 13 youths per community, this would give a national figure of 169, or21% .

3.4. Local Business Leaders and Technicians

The typical businesses that exist in rural communities include merchandise trading shops, small commercial farmers, land and sea transport services. Each community could have up to 8 or more businesses. Local technicians and mechanics are normally fewer, ranging from 0-2 persons per community, noting that some of them could also be classified as business leaders and/or community leaders. Therefore, on average, there would be 9 local business and technicians per community, giving a national figure of 117 for all 13 sites.

3.5. Expected Total Nationally Trained Target Groups

Given the above, a total of at least 780 people in Vanuatu will be expected to participate in this KOICA funded capacity building workshop. The breakdown of the different community groups and targets is presented in the table below as follows;

Target Group	Expected No. of People	Percentage of Total Train
Local Government Officer	13	2%
Community Leaders	117	15%
Women	325	42%
Youth	169	21%
Disable People	39	5%
Business Leaders	104	13%
Technicians	13	2%
Total	780	100%

With the above national breakdown, it is like that more people from each target group will be able to attend the workshop, especially in communities which have bigger population sizes such as Tisman. To enable this to happen, the workshop period on the bigger communities has to be extended so that two or three rounds of workshops be held, compared to small ones. For instance, if the normal workshop period is three days, then this could be extended to 6 or 9 days, so all targeted group participants are able to participate.

Chapter 4 – Project Pre-implementation Survey Results

A total of 80 individuals were interviewed during the pre-implementation survey, of whom 51 were male and 29 were female. The main challenge for getting women to participate in the survey, especially in villages of Malao, Tisman and Vanmavis, was because most women were not well-informed in advance of the survey and therefore not many of them were available for the survey. In Vinmavis for instance, most women were tight up in preparing meals for the men doing construction works on one of their church meeting houses during the survey date. Most interviews were instead conducted with men who were sitting around the construction site. In Hog Harbor, the village was more organized, and villagers, with more women participated in the survey than men.

A total of 5 government employees participated in the workshop, these included local government administrators, schoolteachers and health workers, representing 6% of total number of interviewees.

Unfortunately, no disable persons were interviewed during the survey, but through follow up phone calls, the interviewer was able to identify the number of disable people in each of the communities visited. They will be contacted through community focal points in advance before the actual training workshops are conducted towards end of next year and the following year to participate in the workshop.

Furthermore, there were 13 youths (ages between 18 and 30) interviewed during survey, representing 16% of the sample size. 61% of these youth group have indicated that they hold certain community leadership roles in the community.

The interviewees confirmed being engaged various economic activities in their communities, with a bigger portion of them (51%) said there are subsistence farmers. The chart below shows the employment background of those who have participated in the survey.

Chart 1: Employement Background of Interviewees
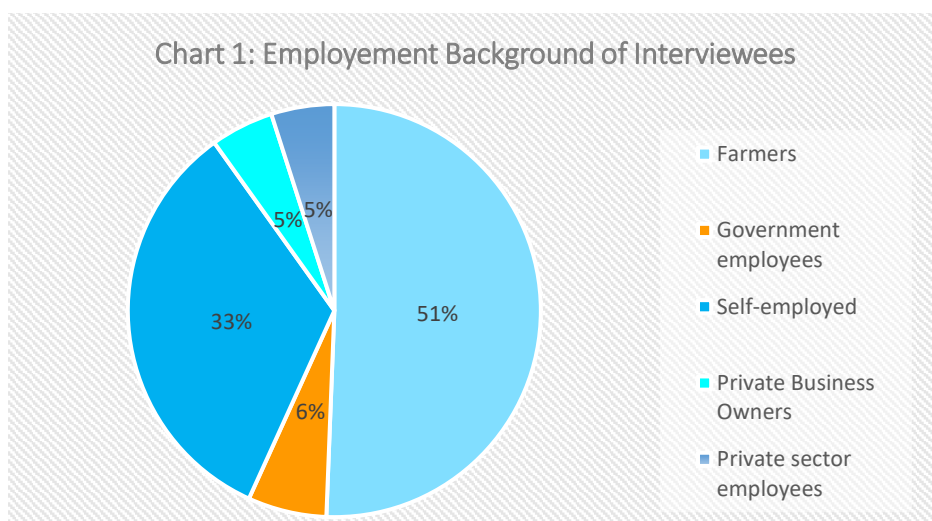
The following paragraphs present the results of the survey, categorized into topics covered under this capacity building training workshops. Questions asked were aimed at getting information from the interviewees on their knowledge level and experience in topics covered under this capacity building workshop.

4.1 Green Economy

Except for two, all interviewees confirmed that green economy (GE) terminology sounds very new for them. When they were asked initially if they knew the term, their answer was no. A short explanation was made, after which some came to fully understand the term, while many of them confirmed they still did not fully grasp the concept. The chart below shows the details.

Chart 2: Level of Understanding of GE

None	73%
Low	20%
Medium	7%
High	0%
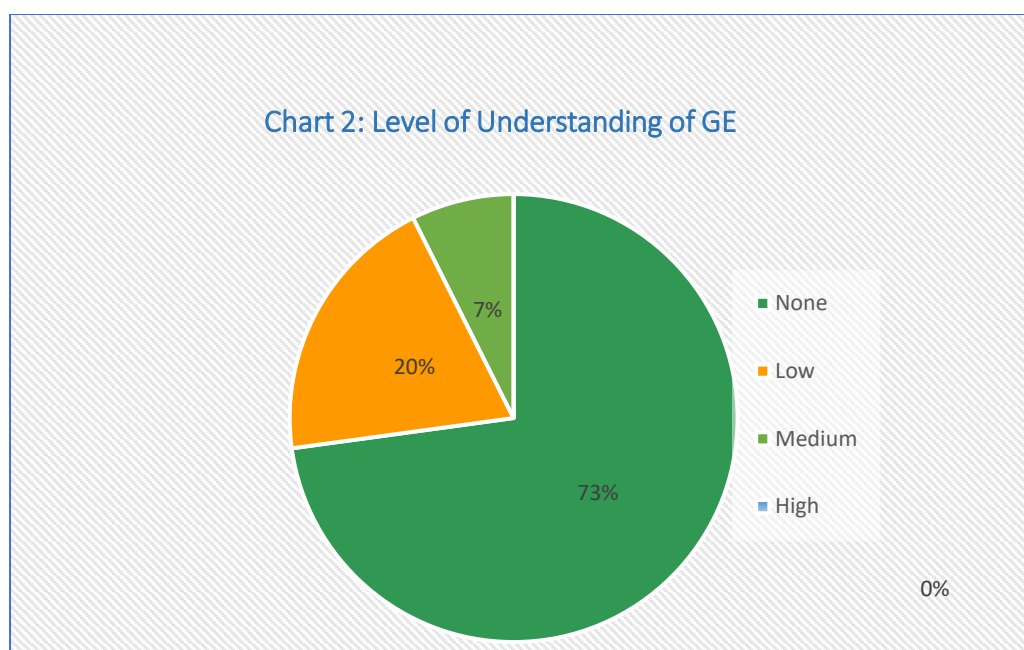
Based on the survey outcome, most interviewees confirmed that they lack knowledge of GE concept, with a percentage ratio of 73%. 42% of these are women. Only 20% said they have some basic understanding of GE, 18% of them are women.

Interestingly, when asked if they are interested to know more about GE, 22% answered they are interested and the other 77% said they are very interest. This is indicating a high level of interest out there among rural community people who would want to know more about GE.

On the question of ways which can be followed to make the economy greener, mixed responses were received, but majority of them believe that more education awareness is needed to preserve the already green communities.

4.2 Renewable Energy

While almost 100% of rural households in Vanuatu use solar for their energy needs, the terminology used to describe these energy sources is new for most of the respondents. 73% of them said they have no idea of RE when initially asked the question, 41% of whom are women. 17% said they have basic understanding and the remaining 9% said they have some understanding of RE. Those who said to have basic understanding of RE, are those who have been as far as high school level in their education. The majority of those who have no idea of RE are mainly primary school dropouts.

Chart 3: Respondents' Understanding of RE
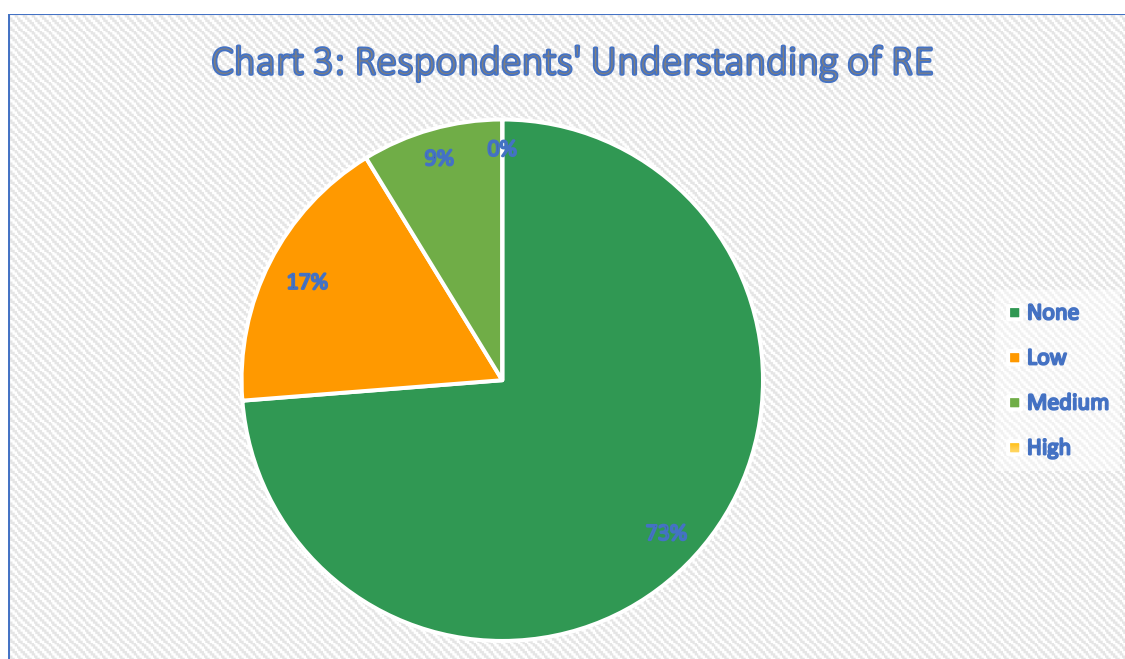
When asked if they will be interested to attend any RE related trainings, 84% said they are very interested, 14 % said they are interested, while only 1 respondent, a female, indicated that she is not interested.

93% of population indicated that the main challenge for accessing RE products is due to lack of finance, 10% stated distance to market of RE products and 7% blamed lack of market information as the main factor.

When asked which of the RE sources they know, and this was after some explanations on various sources of RE, 81% of them said they only knew solar, while only a few of them were able to name other RE forms, especially hydro and wind.

All the interviewees said they use either solar lanterns, plug and play solar systems or a solar home system at their home. 98% of them use solar systems mainly for lighting. Everyone still uses firewood for cooking.

Only 11% of the population know how to operate and maintain their solar systems, while 68% say they only know how to operate their systems. The remaining 21% said they do not know how to both operate and maintain their systems.

Only 28% of the population own a solar home system with an invertor, out of whom 22% said they are able to maintain their systems, while the rest said they get outside help to maintain theirs. However, when they are not able to get the needed assistance, they either leave their systems unfixed, discard them or pay for replacement of damaged parts based on little technical advice they get, either from local village technician or a visitor who has some background experience on solar systems.

Energy storage has been identified as the main cause of failing SHSs in the rural communities, with associated high replacement costs.

The only source of RE used and applicable in the communities surveyed is solar. Out of the 13 nationally selected sites, only five sites may include hydro as part of the RE training, while the rest is just solar PV training modules.

4.3 Energy Efficiency

Energy efficiency (EE) is a new concept for most of the rural community people. The responses received when asked about the understanding of EE is presented in the chart below.

CHART 4: LEVEL OF UNDERSTANDING OF ENERGY EFFICIENCY

Category	Percentage
No idea	91%
Very low	6%
Medium	1%
High	0%
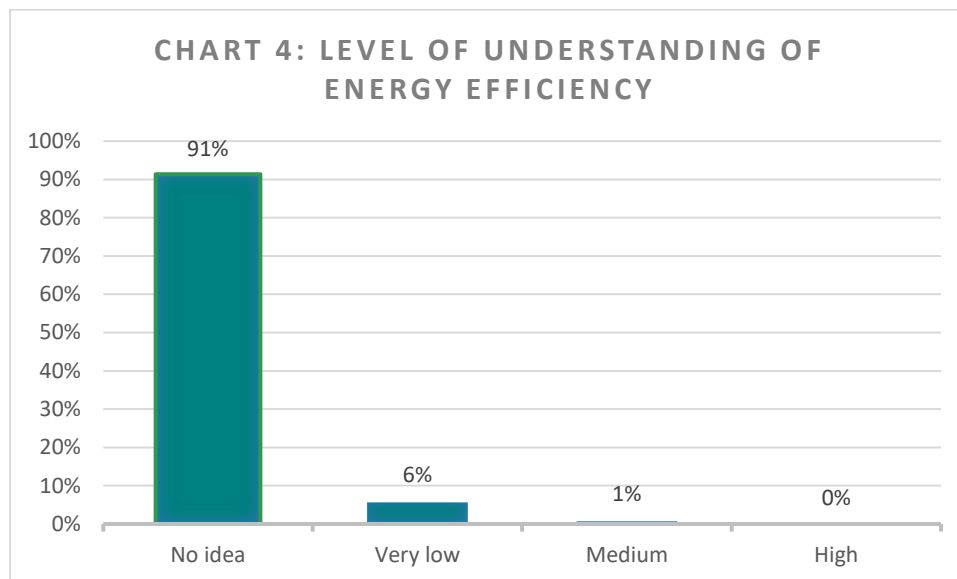
98% of the rural off-grid population said that they do not apply EE practices or measures with their RE systems. Noting that use of RE systems has only risen in last 15-20 years in most rural communities in Vanuatu, most are still getting used different capacities of solar technology systems, hence, EE is a totally foreign concept to them. Therefore, the EE component of the workshop could focus on EE practices that maximize life of batteries.

4.4 Financial Management

In Vanuatu, 36% of rural population do not know about financial management. 60% said they have limited financial management knowledge, of which 30% are women. Some of the government workers are included in this category. Only 1% has really good knowledge of financial management. The 1% comes from the well qualified area administrators with education back ground and work experience in finance. 26% of these rural villagers have indicated that they have some either formal or informal training on FM, while 74% said they not attended any FM trainings.

When asked if they will be interested to attend any financial management trainings, 96% responded that they are very interested to attend any FM trainings.

All local business owners interviewed wanted the training to help them better manage their businesses. Few villagers want to attend the training so they could start a business, while majority of the respondents, especially women indicated that the FM training will help them better manage their family income.

All local area government administrators contacted also indicated interest in this training module, as part of their future roles would involve some budgets and finance.

On the overall, when asked if they have attended any GE, RE or EE trainings in the past, only 6% responded with a yes, the other 94% said no.

Most people interviewed recommended that trainings be best held in May or June, but May would be more ideal, when there is school holidays and the local school classrooms could be

utilized as workshop venue. The month of May is ideal also because it is on off-rainy season, as heavy rainfalls often cause river flooding at the sites requiring river crossings.

Chapter 5 – Results and Recommendations

5.1 Survey Summary

A summary of the different targeted community groups is provided in the tables below, for communities surveyed. The table also shows how many people of each group could potentially participate in the workshop.

Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: **Hog harbor** Population: 368 Gender M/F: 173/195 Vulnerable: 5	Community/ traditional leaders	Pastor	3	3/0	- Church 3
		Women group leaders	4	0/4	-Church 4
		Community leaders	3	3/0	- Chief 3 Hog harbor Chief Council
		Youth group leaders	3	1/2	-Hog Harbor Church Youth (NTM and Presbyterian Church)
		Other prospects	35	10/25	-other community members interested in this target groups courses
	Local Government Officials		2		
	Local Technicians		1		
	Small Businesses		10		

Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: **Malao** Population: 305 Gender M/F: 164/141 Vulnerable: 4	Community/ traditional leaders	Pastor	1	1/0	- Church 1
		Women group leaders	4	0/4	-Church 4
		Community leaders	3	3/0	- Chief 3 Malao Chief Council
		Youth group leaders	1	1/0	-Malao SDA Youth Leader
		Other prospects	30	10/20	-other community members interested in this target groups courses

	Local Government Officials		2		
	Local Technicians		2		
	Small Businesses		9		

Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: **Tisman** Population: 908 Gender M/F: 466/442 Vulnerable: 12	Community/ traditional leaders	Pastor	5	5/0	- Church 3
		Women group leaders	10	0/10	-Church 10
		Community leaders	9	9/0	- Chief 9 Tisman Chief Council
		Youth group leaders	9	5/5	-Tisman Youth Leaders
		Other prospects	40	10/30	-other community members interested in this target groups courses
	Local Government Officials		3		
	Local Technicians		3		
	Small Businesses		15		

Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: **Vinmavis Village** Population: 300 Gender M/F: 144/156 Vulnerable: 4	Community/ traditional leaders	Pastor	2	2/0	- Church 2
		Women group leaders	4	0/4	-Church 4
		Community leaders	3	3/0	- Chief 3 Vinmavis Chief Council
		Youth group leaders	4	2/2	-Vinmavis Youth Leaders
		Other prospects	35	20/15	-other community members interested in this target groups courses
	Local Government Officials		2		
	Local Technicians		1		

	Small Businesses		9		

The Given the outcome of the survey, this capacity building workshop is expected to enhance capacity through introduction of knowledge and acquisition of skills on GE, RE, EE and financial management for at least 780 community leaders, leaders of women's groups, youth leaders, local business entrepreneurs and handymen (carpenters, mechanics), women, disable people and local government workers in rural off-grid Vanuatu.

Over 95% of the pre-implementation survey participants confirmed that they will participate in the workshop.

5.1 Recommendations Based on Survey Results

Based on the findings of the survey, the following points are worth noting either before or during the project implementation phase:

a. Out of the 13 sites selected nationally for the project, only five community sites will have trainings delivered on hydro and solar, these include Parisa in Santo, South West Bay in Malekula, Loltong, Melsisi and Pangi in Pentecost. The other 8 sites will be mainly solar training materials.

b. Hog Harbor Village may get grid connection soon, under an ADB funded government project. If this is confirmed by 2nd quarter of 2020, then this site would likely be dropped off from the project. Another reserved site could be considered it its place instead.

c. Few of the communities visited as located in regions where there are many rivers, and often access is very challenging during wet seasons. The best time to hold workshops in these sites are from May to August each year.

d. Availability of workshop venues in rural communities is a bit an issue, however, most of these communities have schools which could be utilized as workshop venues. Therefore, it would be best to hold workshops during school breaks, such as May and August, and late January.

e. Most respondents prefer practical based training for solar systems modules, and less lecturing.

Chapter 6 – Conclusion

A total of 81 people has participated in the national survey from the 5th to 16th of November 2019 in Vanuatu. The survey results showed that a larger portion of the rural population in Vanuatu lack knowledge relating to green economy, renewable energy, energy efficiency and financial management. The technical skills around operation and maintenance of RE systems in rural communities is also still a major challenge.

Therefore, while the government through its national energy strategy aims at enhancing electricity access and use of RE technologies in rural communities, targeting close to 100% by 2030, the current push does not equate the technical capacity level out there needed to ensure the sustainability of these systems after the installation phase.

The introduction of this project is quite timely and very essential to ensure that there is a start in bridging this knowledge and technical gap. While not everything will be made perfect by the project in itself, but any successes achieved will indeed be useful as part of lessons learned for scaling up of the project.

The survey has indeed found technical capacity constraints in rural communities, while on the contrary, there is pride and eagerness among community groups to participate in the proposed technical capacity building workshops. Hence, believing in themselves that if they are given the opportunity, they too can acquire some portion of knowledge and skills that will be helpful in long run in solving some of their RE technology problems. Based on the survey outcome, 98% of them confirmed that they are interested in attending the planning capacity building training workshops.

Annex A: Survey Questionnaire

Capacity building to strengthen sustainable implementation of renewable energy technologies for rural energy access Project

Pre-implementation Survey Questionnaire

A. **Increased inclusivity in decision-making on the use of natural resource and implementation of RE projects**

	Question	Answer	Question Type
1.	Name		Open
2.	Title		Open
3.	Age		Open
4.	Gender	Male Female	Select one
5.	What is your profession/Work?		Open
6.	What is the location?	Island name Village name	Open Open
7.	How many members are in your household?		Open
8.	How many are men and how many women?		Open
9.	In which of these decision- making processes or groups are you involved?	None Household Church Chief Council Youth Group Health Committee Education Provincial Government Others, please specify	Select all that apply
10.	In what capacity are you involved in the above decision- making processes or groups?		Open
11.	How long have you served in this position/role?		Open
12.	Are you involved in any environment related/resource management policy or RE project development in your community?	Yes No	Select one
13.	If Yes for Q12, how does the policy/RE project make reference to inclusion of women or other vulnerable groups in the community? Please explain		Open

B. **Improved knowledge of GE and RE options for local level planning**

	Question	Answer	Question Type
14.	A. What do you understand by the term "Green Economy"?		Open
	B. Surveyor to judge level of knowledge of Green Economy from above answer.	None Low Medium High	Select
	C. Are you interested to know more about Green Economy?	Not interested Interested Very interested	Select
15.	A. What do you understand by "Renewable Energy"?		Open
	B. What are the challenges, if any, in accessing or using Renewable Energy?		Open
	C. Surveyor to judge level of knowledge of Renewable Energy.	None Low Medium High	Select
	D. Are you interested to know more about Renewable Energy?	Not interested Interested Very interested	Select
16.	Have you received any training on GE, RE and EE before? If yes, state what you liked about the following:		Open
	A. Training		Open
	B. Content of training		Open
	C. Method of delivery		Open
	D. Usefulness of exercises		Open

	E. Examples used		Open
17.	Suggest ways how we can make our economy greener or more sustainable.		Open
18.	Give us an example of Renewable Energy Sources.		Open
19.	What sources of energy do you use at home and who pays for it?	National grid Mini Off-grid Hybrid System Wind Diesel generator Solar Energy (single light system) Solar Energy (multiple light system) Solar Energy (SHS with inverter) Biogas LPG Torches Kerosene lamp Candles Charcoal Wood Other (specify)	Select all that apply
20.	What do you mainly use these energy sources for?	Lighting Cooking & water heating Cooling/refrigerating food Cooling the home Charging mobile phone Watching TV Listening to the radio Powering other devices Other (specify)	Select all that apply
21.	If Q19 indicates use of RE, do you know how to operate and maintain your RE system?	Yes No	Select and identify.
22.	If not, then who maintains your RE system? **Note to Surveyor**: *Interview RE System maintainer name here*		Open
23.	Would you be interested in attending training on O&M of RE Systems?	Not interested Interested Very Interested	
24.	Which module of RE would you like to be trained on?	Solar Home System Pico/Micro Hydro	Select all that apply

25.	Of the two RE systems (Solar Home System, Pico/Micro Hydro), which are more suitable for you and your community? And why?	Solar Home System Pico/Micro Hydro	Select all that apply and explain why?
26.	What do you know about being "Energy Efficient"?		Open
27.	How do you practice being "Energy Efficient"?		Open
28.	If you have a business, what type of business do you have? Would you be interested in starting another one? What kind?		Open
29.	If you don't have a business, are you interested in starting one? What kind?		Open
30.	What type of energy source do you use for your business?	National grid Off-grid Hybrid Wind Diesel generator Solar Energy (single light system) Solar Energy (multiple light system) Solar Energy (SHS with inverter) Biogas LPG Torches Kerosene lamp Candles Charcoal Wood Other (specify)	Select all that apply
31.	What do you use the energy source for?		Open
32.	How important (necessary) is the energy source for your business?	- Very, without the energy source we can't do business - Somewhat, we can continue with other activities - Not so much, we can continue with business activities without the energy source	Select
33.	What do you know about financial management?		Open
34.	Have you received trainings on financial Management?	Yes No	Select
35.	When did you receive the training? Which organization delivered the training? And what kind of training did you receive?		Open

	Question	Answer	Question Type
36.	Would you like to be trained or get additional training on financial Management? Why?		Open

C. Improved sustainability of rural RE installations

Part 1: Individuals

	Question	Answer	Question Type
37.	What is your household's main source of income?		Open
38.	Last month, about how much did you spend on the following? • Energy • Other items		Indicate amount
39.	Are there times in the year that you are not able to meet your energy costs?	- Frequently - Sometimes - Never	Select
40.	Do you have access to the internet? If Yes, what do you use to access the internet?		Open

Part 2: Local Technicians

	Question	Answer	Question Type
41.	Have you received any formal training on O&M of RE Systems?	Yes No	Select
42.	If yes to Q41, please state level of qualification and institution.		Open
43.	Would you be interested to attend training on O&M of RE systems?	No Yes, Solar PV Yes, Hydro Yes, both Solar and Hydro	Select

General

| 44. | What are your preferred days and time for attending this training? Are there any fixed exclusions and what are your major weekly, monthly and annual events that need to be avoided? | | Open |

Annex B: KOICA Baselines

#	Level	Description	Means of verification	Indicator	Baseline	Target Year 5 (2022)	Target Year 4 (2021)	Target Year 3 (2020)
1	Impact	To contribute to increased energy access and reduction of CO2 emissions through sustainable use of natural resources and renewable energy technologies in rural areas in Fiji, Vanuatu, Solomon Islands and PNG through increased increase informed decision-making by resource owners and local government officials for integration of green economy (GE) and Renewable Energy (RE) into local level planning and strengthening the implementation of renewable energy projects for rural electrification	Final project report, including on number of people trained, broken down between traditional leaders, community leaders and local government officials and gender and vulnerable groups	- Number of women and vulnerable groups providing inputs in decision-making meetings etc	0	0	1,200	100
1.1	Outcome	Training materials customized for Women and Vulnerable groups and ready for training delivery (KOICA version: Training materials suitable for women and Vulnerable groups)	Minutes of meetings, village committee and local government records, post-implementation interviews	*KPI: No. of women & persons from vulnerable groups providing inputs / participating in decision-making meetings, committees, etc.	26%			
				Other: No. of local development policies/RE project making reference to gender and inclusion	0			
1.1.1	Output	Pre-implementation surveys, needs assessment, and finalization of target groups for women and vulnerable groups	Pre-implementation survey and needs assessment survey reports	KPI: No of suitable training materials and processes prepared and translated targeting women and vulnerable groups	Limited materials and processes and limited translation			
1.1.2	Output	Suitable training materials and processes developed for women and vulnerable groups, including in local language (translation)	Train of trainers workshop report confirming acceptance of training materials	Number of training materials developed	0	0	0	8

1.2	Outcome	Trained women and vulnerable groups in GE and RE	Participants List of training, feedback survey from participants post-training	- Number of persons in women and vulnerable groups trained	0	0	0	0
1.2.1	Output	Training delivered locally in rural locations for vulnerable groups	Participation lists from trainings - GGGI training report (Every training session)	No. vulnerable persons trained	Limited access. TBC by pre-implementation survey		20% of all trainees	20% of all trainees
1.2.2	Output	Training delivered locally in rural locations for women	Participation lists from trainings - GGGI training report (Every training session)	No. of women trained	TBC		40% of all trainees	40% of all trainees
2	Impact	Improved knowledge of green economy and renewable energy options for local level planning	Training workshop/session reports/participants lists (once per year)	*Overall KPI 1* Number of participants who joined training program on GE, RE, O&M and financial management	0	0	1,300	1,600
				(subset of overall KPI 1) Number of women among trainees (target 40%)	0	0	520	640
2.1	Outcome	Training materials for GE and RE	Pre- and post-training survey of project participants (GGGI Training reports) - before and after every training session, and end of project survey	KPI: Proportion of participants in training who agree that their knowledge of GE and RE has increased after attending the training	Limited knowledge of GE and RE principles (to be defined by pre-implementation survey)		70% of all 3000 trainees (2100)	70% of all 3000 trainees (2100)
				Other: Number of local development plans/projects mentioning RE				
				Other: Number of users/downloads of online materials				
				Other: % of training participants who have changed a specific behavior or taken additional actions (or plan to take them) or who apply (or plan to apply) GE and RE principles in decision-making as a result of the training (surveys).				
2.1.1	Output	Review of existing training materials and development of new materials as needed (translation)	Training materials and documents (once per year at end of year)	*Overall KPI 2* Number of suitable training materials and processes prepared and translated	Limited suitable materials and processes and limited translation			Training materials translated as needed

2.2	Outcome	Trained trainers who are based in-country	Participants List of training, feedback survey from participants post-training	At least 8 in-country trainers trained per country	0	0	0	24
2.2.1	Output	Pilot training of trainers event	Presentations and participants list from GGGI pilot training report (measured once in year 1)	Number of pilot train the trainer events held	Zero			1 pilot held and feedback integrated.
2.2.2	Output	Training of trainers to deliver training in local areas and in local language	Train the trainers session participant list and completion certificates (from GGGI train the trainers workshop session reports)	KPI: Number of trained trainers based in each country	Limited number of trainers on GE and RE.		Trainers will continuously provide inputs into the training materials and processes	Trainers will continuously provide inputs into the training materials and processes
2.3	Outcome	Trained traditional/community leaders, small businesses, local government officials on GE and RE concepts	Participants List of training, feedback survey from participants post-training	-Number of trained traditional/community leaders, small businesses, local government official	0	0	0	0
2.3.1	Output	Training of traditional and community leaders and small businesses	Overall target of 2500 trained traditional and community leaders, verified by participant lists from training workshops (from workshop reports)	Number of trained community/traditional leaders and small businesses	Limited access to new information on GE and RE		2500 people trained	1500 people trained
2.3.2	Output	Training of local government officials	Overall target of 500 trained local government officials, verified by participant lists from training workshops	Number of trained local government officials	Limited access to new information GE and RE		500 total	300
2.3.3	Output	End of project sample survey	Survey (once at end of project) of statistically significant sample surveyed, based on total number of participants	Percentage of trainees sampled with changed behaviors/decision as result of the training	No change		50%	
2.4	Outcome	Knowledge platform on GE and RE available to a broad audience around the Pacific and to other SIDS	Publication of finalized website online for public use	- Web based knowledge platform made available online, with all training materials contents	0	0	0	0

				Indicator	Baseline		Target	Target
2.4.1	Output	Carrying out regional workshops for launch, knowledge exchange, and lessons learned	Carry out three regional workshops during the project.	Proportion of training materials prepared suitable for local government and communities available online in suitable format	Limited availability of training materials online on Pacific website on GE and RE		All training materials uploaded and available for download on Pacific websites.	
				Number of regional workshops carried out			One regional workshop held on lessons learned and participant experiences	One regional workshop held on knowledge exchange and presentation of progress
2.4.2	Output	Create and establish an online platform for all training material and knowledge management and information dissemination	Upload all material, workshop reports, and lessons learned. Continuous updates with new materials loaded in a timely manner.	Number of website users	No users			
				Number of website downloads	No downloads of training materials on GE and RE		100 downloads per year	50 downloads
3	Impact	Improved sustainability of RE installations		- Number of persons trained on O&M and financial management of RE systems	0	0	0	0
3.1	Outcome	O&M and financial management training materials and training completed	Training material documents Pre- and post-training surveys	*KPI: Proportion of community committee members and local technicians trained in financial management and O&M for RE who agree that the training will assist in better O&M of their local RE installations.	Limited training on financial management available at the local level		70% of participants in training agree that the training will assist in better O&M of their local RE installations	70% of participants in training agree that the training will assist in better O&M of their local RE installations
3.1.1	Output	Review existing O&M and financial management materials and development of new materials and processes as needed including translation	Training materials/documents	*KPI: Number of suitable training materials and processes prepared and translated for O&M and financial management	Limited suitable materials and processes and limited translation			1 set of final training materials translated per country
3.1.2	Output	Training of trainers (O&M and finance)	Training of trainers completed	Number of trainers on O&M and finance in each country	Limited			16
3.2	Outcome	Communities trained on financial management of RE systems	Participants List of training, feedback survey from participants post-training	- Number of persons trained on financial management of RE systems	0	0	0	0
3.2.1	Output	Training of communities, government and small businesses on financial management of RE systems	Participant lists from training sessions	Number of communities trained on financial management	Limited training available on financial management of RE installations for communities		TBD after pre-implementation survey in each country	TBD after pre-implementation survey in each country

3.3	Outcome	Local technicians trained on O&M of RE installations	Participants List of training, feedback survey from participants post-training	- Number of local technicians trained on O&M of RE installations	0	0	0	0
3.3.1	Output	Training of local technicians on O&M of RE systems	Participant list from training sessions	Number of local technicians trained on O&M of RE installations	Limited training available on O&M of RE installations for local technicians		TBD after pre-implementation surveys in each country	TBD after pre-implementation surveys in each country

Annex C: Confirmation of target Groups

KOICA CAPACITY BUILDING PROJECT

The Global Green Growth Institute and the Pacific Islands Development Forum (PIDF), with funding from the Korea International Cooperation Agency (KOICA), have partnered to implement a project titled "**Capacity Building to Strengthen Sustainable Implementation of Renewable Energy Technologies for Rural Energy Access**". This project involves development of 10 training modules on various Renewable Energy (RE), Energy Efficiency (EE) and Green Economy (GE) topics, before organizing and conducting training sessions in rural areas of Fiji, Solomon Islands, Vanuatu and Papua New Guinea (the Melanesian region). The target groups are local government officials, traditional/community leaders, women and vulnerable groups, youths, and local technicians, with the goal of training 3,000 people across these four countries using the Train-the-Trainers (ToT) approach.

Pre-implementation surveys in all the 4 countries are completed and the project team is currently working on data entry and survey reports. Data from these reports will be used to finalize some critical project baselines as well as confirm if the targeted project key performance indicators (KPI's) related to target groups and trainee numbers are in line with the survey results.

As such, there is a need to clearly define all the target groups in order to classify them correctly before being able to obtain expected trainee numbers from each of these groups and verifying if the project baseline numbers are achievable as well as to make important decisions regarding the type of training materials customizations, translations and any other logistical and preparatory actions that need to be taken prior to commencement of training. Below are definitions of the target groups for the scope of this project.

1. Project Target Groups

1.1 Local government officials

These will include all local government officials who are responsible for administration of civic affairs of the province, prefecture or district that contain the target site locations of this project in each country. These officials, such as district officers, provincial administrators and so forth, usually interact directly with the people of the communities that they represent and are generally in-charge of their specific geographical regions and cannot pass or enforce laws that affect a wider area,
Due to the focus on Renewable Energy and Green Economy of this project, a further clarification is provided here to train local government officials who are involved in decision-making with regards to local resource management, climate change, resilience and mitigation, in order assist them in making more informed decisions that are focused on long term benefits and development and has serious consideration of environment and sustainability at its core.

1.2 Community/Traditional leaders

This group consists of all the various leaders in the remote communities of the projects target site locations. These leaders usually have the most influence on the day to day activities of the community and are directly responsible for the finer functions of that community. This includes the village chiefs, village headmen, religious leaders such as priests, various local group leaders such as leader for women, youth, sports, health, handicraft groups, as well as for local resources and services such as fishing, water, electricity, agriculture, irrigation and other food produce etc. Involving and training these leaders on Renewable Energy, Green Economy and Inclusivity modules not only helps to ensure that there will be greater support and participation of the project, but also ensures that leaders themselves are aware of the environmental and sustainability issues at a level that enables them to better manage their local resources and work with (or pressure) the local governments to follow suit as well.

1.3 Small Businesses

This group includes all the members of the target communities who are or would like to be involved in some form of business, be it in the form of small shops, agriculture/food processing for selling locally or exporting to mainland/overseas as well as individuals or committees who are responsible for revenue collection for water, electricity etc. The benefit of training this group is to allow them to become more sustainable in their day to day business inputs and outputs, as well as provide knowledge and confidence

to startup their own business and provide the tools necessary to improve their businesses with better book keeping and profitability. Especially with renewable energy products and projects, it is very important to have businesses understand the quality aspects to prevent importing and selling of low quality products (such as solar lanterns and home systems, etc), that end up breaking down quickly and providing a bad example of renewable energy products.

1.4 Local Technicians

This group in general represents all the technically gifted minds in the community who are mostly involved in operation and maintenance of systems that require specific technical knowledge. These are the people who are usually called upon when "things stop working" in the community, and can include local electricians, technicians, mechanics, etc. The sustainability and success of any project that are implemented in remote locations, particularly renewable energy, often hinges upon proper servicing and maintenance of such complex systems and the availability of local technicians who have been trained and are well equipped to carry out such procedures is critical to ensure that RE projects do not fail pre-maturely and can benefit the communities as intended for the entire expected life of the project.

2.0 Clarifications regarding Target groups

It is understood that the target groups will consist of people from different genders, ages, social status and other physical and mental conditions, etc. It is hence important to clarify on the scope of the target groups with respect to the project objectives, in order to ensure that inclusions as well as exclusions are clearly expressed from the beginning. Below are clarifications on inclusion of women, vulnerable groups, elderly and the youths.

2.1 Women

This is not a separate target group for this project but has been specifically added as a KPI in order to ensure that the 4 target groups are inclusive of women participation. A KPI of this project in this category is that:

- There must be at least 40% women participation from the total number of trainers (1200 out of 3000 trainees)

It is understood well that women are often excluded from critical decision-making processes in the communities as men are mostly given priority. This KPI ensures that women are also empowered as they are equally affected by the local climate, energy and sustainability issues and hence equally have a lot more to contribute towards the betterment of the community.

2.2 Vulnerable groups

This is not a separate target group for this project but has been specifically added as a KPI in order to ensure that the 4 target groups are inclusive of participation from the vulnerable. A KPI of this project in this category is that:

- There must be at least 20% participation from vulnerable groups from the total number of participants (600 out of 3000 trainees).

The definition of "vulnerable" is not as straight forward, as it consists of many factors. The Australian Government Department of Social Services defines it as:

"a child or children, or an individual aged 18 years and above who is or may be unable to take care of themselves, or is unable to protect themselves against harm or exploitation by reason of age, illness, trauma, disability, or any other reason"

This definition is broad, and hence requires further breakdown in order to understand the different groups involved, before it can be accessed for suitability for inclusion within this projects scope. The vulnerable groups which will be defined here are:

1. Disability – further broken down into vision impairment, hearing impairment, mental health conditions, intellectual disability, acquired brain injury, autism spectrum disorder and physical disability - section 2.2.1
2. Women as vulnerable – section 2.2.2
3. Elderly as vulnerable – section 2.2.3
4. Vulnerability in terms of climate change effects on individuals and entire communities – section 2.2.4

2.2.1 Disability

- o **Vision impairment** - *refers to people who are blind or who have partial vision.*
  After having discussions with the Pacific Disability Forum (PDF), this project will include this group. As per discussions with PDF, the project can use more audible means in local language to explain specific concepts. Braille is very expensive process and many in the pacific remote communities do not know how to read braille, hence will not be used.

- o **Hearing impairments** - *can range from mild to profound. People who are hard of hearing may use a range of strategies and equipment including speech, lip-reading, writing notes, hearing aids or sign language interpreters*. As per discussions with PDF, the project will include this group and can have these trainees sit in front of class, use videos with subtitles to relay bite sized concepts and allowing more time and greater flexibility for training. Sign language can be used but this can be expensive and many in the pacific remote communities do not know sign language, hence will not be used.

- o **Mental health** – *is a general term for a group of illnesses that affect the mind or brain. These illnesses, which include bipolar disorder, depression, schizophrenia, anxiety and personality disorders, which affect the way a person thinks, feels and acts.*
  A person with a mental health condition may have trouble concentrating, which can sometimes be a result of medication. Try to avoid overly stressful situations wherever possible so that their condition is not exacerbated.

  As per discussions with PDF, the project will include this group by providing clear and thorough explanations and instructions, in writing if required, asking the person how they would like to receive information and allowing more time and greater flexibility for training.

- o **Intellectual disability** - *may have significant limitations in the skills needed to live and work in the community, including difficulties with communication, self-care, social skills, safety and self-direction. The most important thing to remember is to treat each person as an individual:*

  - ▪ *a person with an intellectual disability is just like everyone else - treat them as you would like to be treated*
  - ▪ *be considerate of the extra time it might take for a person with an intellectual disability to do or say something*
  - ▪ *be patient and give your undivided attention, especially with someone who speaks slowly or with great effort.*

  As per discussions with PDF, the project will include this group by allowing more time and greater flexibility for training, keeping the pressure of any given situation to a minimum as stress can affect a person's concentration and performance, keep instructions simple and in bite-size pieces, use demonstration and increase complexity as progress is made, be aware that a person with intellectual disability may be less aware of social cues and may have less developed social skills and give verbal and written instructions or try giving examples to illustrate ideas and summarize ideas often.

- o **Acquired brain injury (ABI) -** *refers to any type of brain damage that occurs after birth. The injury may occur because of infection, disease, lack of oxygen or a trauma to the head. The long-term effects are different for each person and can range from mild to profound. It is common for many people with ABI to experience:*
  - ▪ *increased fatigue (mental and physical)*
  - ▪ *some slowing down in the speed with which they process information, plan and solve problems*
  - ▪ *changes to their behaviour and personality, physical and sensory abilities, or thinking and learning*
  - ▪ *may also have difficulty in areas such as memory, concentration and communication.*

> *A person with an Acquired Brain Injury does not have an intellectual disability and does not have a mental illness*

As per discussions with PDF, the project will include this group by allowing more time and greater flexibility for training, providing clear and thorough explanations and instructions, minimizing stress to maximize concentration and performance and give verbal and written instructions or try giving examples to illustrate ideas and summarize ideas.

- o **Autism Spectrum Disorder -** *is an umbrella description which includes Autistic disorder, Asperger's syndrome and atypical autism. Autism affects the way information is taken in and stored in the brain. People with autism typically have difficulties in verbal and non-verbal communication, social interactions and other activities. Impairments usually exist across three main areas of functioning:*
  - *social interaction*
  - *communication, and*
  - *behaviour (restricted interests and repetitive behaviours).*

  Many people with an autism spectrum disorder also have sensory sensitivities, i.e. over or under sensitivity to sight, touch, taste, smell, sound, temperature or pain.

  As per discussions with PDF, the project will not include this group, due to higher level of care needed by this group and the expected low level of gain from this training due to the type of disability.

- o **Physical Disability -** *is defined as having some aspect of a person's physical functioning, usually either their mobility, dexterity, or stamina, is affected. People with physical disability are usually experts in their own needs and will understand the impact of their disability.*
  There are many different kinds of disability and a wide variety of situations people experience. The disability may be permanent or temporary. It may exist from birth or be acquired later in life. People with the same disability are as likely as anyone else to have different abilities.

  As per discussions with PDF, the project will include this group but will be subject to the severity of the disability, as well as comfort and safety considerations of the individual while being transported and for the duration of the training.

2.2.2 Women as vulnerable

While "women" have a separate KPI for inclusion into this project (section 2.1), there is a further need seen to clarify their inclusion under the vulnerable group as well (It is fair to say that men can be vulnerable as well). Under the following circumstances, this project will consider inclusion of women as vulnerable:

- Women with disabilities (already covered by section 2.2.1)
- Ethnic minority women
- Women from rural and remote areas (applies to majority of the trainees of this project)
- Women who suffered from or are at a greater risk at any form of violence (applies to majority of the trainees of this project)
- Single mothers

2.2.3 Elderly as vulnerable

The "elderly" and "old people" are considered vulnerable due to their:

- Limited regenerative abilities
- More susceptible to diseases, syndromes, injuries and sicknesses

There are varying age definitions as to who is considered as elderly. The United Nations has agreed that 65+ years may be usually denoted as old age, and this is the first attempt at an international definition of old age. However, for its study of old age in Africa, the World Health Organization (WHO) set 55 as the beginning of old age. At the same time, the WHO recognized that the

developing world often defines old age, not by years, but by new roles, loss of previous roles, or inability to make active contributions to society. For the scope of this project, Elderly will be defined as:

- Individuals above the age of 55

2.2.4 Vulnerability due to Climate Change effects

The pacific is not new to the threats of climate change and many impacts are already being felt in the rural and most vulnerable areas. As sea levels continue to rise, island peoples and cultures are being threatened. There are small and low populated islands that don't have the money to help protect the island, nor have the resources to move off the island As the projects main target groups are located in remote rural communities, most of whom are located next to the ocean, it calls for recognition of this vulnerability and consequent inclusion of those individuals and communities who are being impacted by or are under threat of being impacted by the negative effects of climate change. Some prominent impacts are:

- Prolonged droughts
- Increased frequency of extreme weather event and its strength
- Increased rainfall that causes flooding and damage to properties, landscape and food sources
- Loss of coastal arable land to degradation as well as salinification, making it difficult to produce subsistence crops, impacting the agricultural sector
- Loss of marine life due to rise in ocean temperatures

As such, this project will consider including those individuals/communities as vulnerable who are being severely being impacted by climate change.

2.3 Definition of Youths

This is not a separate target group for this project but has been specifically added in order to ensure that the youth group is clearly defined as part of the scope of this project. It is understood well that youths will be part of all 4 target groups of this project. The United Nations defines youth as persons between the ages of 15 and 24 with all UN statistics based on this range, the UN states education as a source for these statistics. The UN also recognizes that this varies without prejudice to other age groups listed by member states such as 18–30. In Africa, youths are considered between 18-35 years old while other countries vary in this range. For the scope of this project, youths will be defined as:
- Individuals between the ages of 18 to 35 years