





# SOLOMON ISLANDS PRE-IMPLEMENTATION SURVEY REPORT

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



11<sup>th</sup> November 2019 to 20<sup>th</sup> February 2020

# Acronyms and Abbreviations

GE Green Economy

GGGI Global Green Growth Institute

GPPOL Guadalcanal Plains Palm Oil Limited

KOICA Korean International Cooperation Agency

M&E Monitoring and Evaluation

O&M Operation and Maintenance

PICs Pacific Island Countries

PIDF Pacific Islands development Forum

PSC Project Steering Committee

RE Renewable Energy

SDGs Sustainable Development Goals

SIDS Small Island Developing States

SREP Scaling Up Renewable Energy Programme

TVET Technical and Vocational Education and Training

# **Contents**

Chapter	1 Introduction and Background	3
1.1	Pre-Implementation Survey Objectives	3
1.2	Survey Team	4
Chapter	2 Approved National Project Sites	4
2.1	Prerequisite for Pre-implementation Survey	5
2.2	Survey site locations	6
Chapter	3 Communities Surveyed	7
3.1	Selwyn College	8
3.2	Visale	g
3.3	Kakabona	10
3.4	Barana	11
3.5	Guadalcanal Plains Plantation Limited (GPPOL)	12
3.6	Tulaghi	13
3.7	Bishop Koete School	14
3.8	Siota	15
Chapter	4 Defining of Target Groups	16
4.1	Provincial Government Officials	16
4.2	Community and Traditional Leaders	16
4.3	Women, Youth and Vulnerable Groups	16
4.4	Local Business Leaders and Technicians	16
Chapter	5 Pre-implementation Survey Result	17
5.1	Interview Composition	17
5.2	Employment Composition and Business	18
5.3	Knowledge and levels of Topic	19
5.3.	1 Green Economy	19
5.3.	2 Renewable Energy	19
5.3.	3 Energy Efficiency	20
5.3.	4 Financial Management	20
5.4	Training Needs	21
Chapter	6 Confirmation of Project KPI's	23
Chapter	7 Conclusion	30
Chapter	8 Appendices	31
Appen	dix A: Pictures of surveyed sites	31
Appen	dix B: Pre-implementation Survey Questionnaire Template	32
Appen	dix C: List of people interviewed	42

## **Chapter 1 Introduction and Background**

The Global Green Growth Institute (GGGI) in partnership with the Pacific Island Development Forum (PIDF), and funding from the Korean International Corporation Agency (KOICA) focused on strengthening informed and inclusive decision-making by resource owners and local government officials for integration of green economy (GE) and renewable energy (RE) into local level planning and to strengthen implementation of renewable energy (RE) infrastructure for rural electrification. This has led to the development of a project titled *Capacity Building to Strengthen Sustainable Implementation of Renewable Energy Technologies for Rural Energy Access Project*.

The project is being implemented in four target countries – Fiji, Papua New Guinea, Solomon Islands and Vanuatu. Whereas GGGI leads the management and implementation of the overall project, and will lead implementation of the project in Fiji, Vanuatu, and PNG, PIDF is taking the lead for its implementation in Solomon Islands.

Initially, PIDF and GGGI jointly conducted visits to the diplomatic missions of participating countries prior to country missions conducted in all the participating countries including Solomon Islands in February 2019. During this mission the team met with a number of potential project partners including the Ministry responsible for Energy, the Ministry responsible for Environment and Climate Change, the Ministry of Foreign Affairs, the Solomon Islands National University and others. The mission ensured the full support of the Ministry of Energy, including with hosting of the National Project Coordinator.

The Project's Regional Inception and Planning Workshop took place at the Holiday Inn in Suva, Fiji on the 9 and 10 April 2019. This workshop managed to meet its objectives and managed to effectively communicate the objectives of the project, agree on a preliminary list of project sites for all project countries, the learning modules to be developed by the project, the target groups and the kind of content needed on the Pacific Green Education Portal to be developed by the project.

The National Project Workshop in Solomon Islands took place on 29 October 2019. This was a full day workshop that included participation from government officials and representatives of the private sector from, or operating at, the sites identified in the Regional Inception and Planning Workshop. Participants were asked to review and confirm the project implementation sites within the two provinces of Guadalcanal and Central, the type of training modules relevant for the locally targeted groups, and to identify potential individuals, organizations and agencies to assist in delivering the training at the national and provincial levels.

This report chronicles the Solomon Islands component of the pre-implementation survey which was conducted from the 11<sup>th</sup> to the 16<sup>th</sup> of November 2019, and was carried out in 5 of the preselected 14 sites of Guadacanal Province and Central Islands, based on accessibility and population.

#### 1.1 Pre-Implementation Survey Objectives

Provide objectives for the survey here.

- To visit sample target site locations of this project in order to interview approximately 10% of the project beneficiaries
- Confirm community and target groups who will be direct beneficiaries of this project
- Confirm baseline data for this project

## 1.2 Survey Team

The survey team consisted of representatives from sample communities and was led by the Solomon Islands project coordinator, Hamptan Pitu. Douglas Laukiki, a local technician from Central Islands was engaged to carryout survey for the central province. For Guadalcanal Plains Palm Oil Limited (GPPOL) Area, Martin Clement, an assistant Sustainability officer for GPPOL Company was hired to do the survey and with his vast experience and knowledge in his community setup has assisted to gather much needed information required for the project. Melinda Tobakelu, an attendee of the National Workshop was assigned to carry out the survey for Barana Community. With her wealth of experience in guiding her community to be more climate resilient through conservation, she was instrumental in conducting the survey.

Communities of Selwyn, Visale and Kakabona was surveyed by the project coordinator, Hamptan, with the assistance of Volunteers from the community. All the surveys were carried out after a careful and thorough briefing of the survey forms to the volunteers and surveyors to ensure that the data collected are accurate.

**Table 1: Pre-Implementation Survey Schedule** 

No	Date	Sites	Team
1	18/12/2019	Selwyn College	Hamptan Pitu
2	19/12/2019	Visale	Hamptan Pitu
3	20/12/2019	Kakabona	Hamptan P
4	14/01/2020	Barana	Melinda Tobakelu
5	14/01/2020	GPPOL	Clement Tavoria
6	18/02/2020	Tulaghi	Douglas Laukiki
7	19/02/2020	Bishop Koete	Douglas Laukiki
8	20/02/2020	Siota	Douglas Laukiki

# **Chapter 2** Approved National Project Sites

A total of fourteen (14) selected sites had been discussed in the National stakeholder workshop held in October 2019 and had been approved by the Ministry of Mines, Energy and Rural Electrification (MMERE) for this capacity building project in Solomon Islands as listed below. However, only eight (8) sites was selected for this pre-implementation survey exercise due to accessibility and adverse weather conditions, as highlighted in green below:

- 1. Kakabona
- 2. Palm oil plantations Guadalcanal Plain Palm Oil Ltd (GGPOL)
- 3. Visale
- 4. Lambi
- 5. Selwyn College
- 6. Bishop Koete Rural Training Centre

- 7. Barana
- 8. Siota
- 9. Yandina
- 10. Kopiu Community High School
- 11. Fox Bay
- 12. Palagati
- 13. Tulagi sites
- 14. Kaoka

## 2.1 Prerequisite for Pre-implementation Survey

The main prerequisite for the sites to be surveyed in this exercise was selecting the sites with accessibility. Due to the remote location of some of the other sites and adverse weather condition, a cyclone was hitting Solomon Islands just before and during the survey period, and with the security and safety of the survey personnel, these areas were prioritized.

Table 2: Detailed List of Solomon Islands selected sites for Project implementation

No	Name of Community	No. of Housholds	Population	Island location	Province	RE Related Projects
1	Kakabona	146	1406	Guadalcanal	Guadalcanal	Solar / Grid extension
2	Palm oil plantations – Guadalcanal Plain Palm Oil Ltd (GGPOL)	97	604	Guadalcanal	Guadalcanal	Solar / mini grids
3	Visale	144	886	Guadalcanal	Guadalcanal	Solpower solar hybrid mini grid
4	Lambi			Guadalcanal	Guadalcanal	Solar
5	Selwyn College	122	729	Guadalcanal	Guadalcanal	Solar hybrid
6	Bishop Koete Rural Training Centre	77	133	Nggela Islands	Central	Solar / wind hybrid (NZ funded)
7	Barana	61	392	Guadalcanal	Guadalcanal	Solar (SPREP EBA project)
8	Siota	117	546	Nggela Islands	Central	Solar hybrid (Government project)
9	Yandina	145	824	Mbanika, Russel Islands	Central	Solar (serving the school)
10	Kopiu Community High School	34	167	Guadalcanal	Guadalcanal	Pico-hydro
11	Fox Bay	69	371	Weather Coast Guadalcanal	Guadalcanal	Pico-hydro
12	Palagati	59	368	Weather Coast Guadalcanal	Guadalcanal	Pico-hydro

13	Tulagi sites	163	1271	Nggela Islands	Central	Pico-hydro
14	Kaoka	65	337	Guadalcanal	Guadalcanal	Pico-hydro

#### 2.2 Survey site locations

The sites surveyed were mainly on Guadalcanal that are accessible by vehicle. The reason for selecting the site survey on these sites include easy access and mainly because they have a bigger population that accommodates services such as school, investors and also the National Park. These communities also have a strong governance structure of the chiefly structure and embedded with church structure where they have their other sub governance. Visale for instance, housed a Catholic Mission Center and has a strong link with the chiefly governance structure where they also have a paramount chief in the community.

In terms of linkages to the National and Provincial government these communities also have different personals working for the government. Kakabona for example shared the boundary of the main capital and one of their major business is house rental where people working in the government and other sector rent their homes. This is the same for Selwyn College where most of the staff are directly employed by the government. This is very important because it can provide a direct linkage to the National and Provincial government of the day.

These sites are also accessible via communication through the country's Telecommunication systems and therefore contacts via mobile can be made easily. The other sample sites that were surveyed with the assistant surveyor, were Bishop Koete School, Siota and Tulaghi in the Central Province.

Please refer to the satellite image below for the sites that are surveyed

#### **GUADALCANAL SURVEYED SITES**



CENTRAL PROVINCE SITES



# **Chapter 3 Communities Surveyed**

Out of the pre-selected communities for the Solomon Islands five (Selwyn, Visale, Kakabona, Barana and GPPOL) were surveyed. Of these communities one outstanding similarities is they operated essential services such as school, clinic and church except for Barana which is a National Conservation Park operated by the community supported by different aid donors and partners. They are also accessible by land transport and are cooperative to the initiative. These communities also have the commonalities of using solar as a means of Energy to light their homes and also household use.

With regards to involvement in any environmental related or RE Policies almost all the respondents have not involve in such however they are actively participating in other activities carried out by either the government or NGO partners and are also encouraging the participation of women to be part of the committee and also to provide decision making.

In terms of understanding of GE and RE most communities, as can be judged according to their response from medium to low and are also not having access to such training. Accessing renewable energy is not a real problem to the community since they can access solar products from any local suppliers or have access to the national grid. However, information on the maintenance and the basic housekeeping and general operating and maintenance of the solar system and panels is something that is lacking in these communities.

## 3.1 Selwyn College

Table 3.0 - Selwy College

GPS Location	9°17'14.62"S, 159°37'31.51"E
Population	729
Male	384
Female	345
Point of Contact	School Principal

Selwyn College is situated in the western Guadalcanal is a functional and large school campus built in the 1980s, catering for nearly 700 boarding students who come from all over the Solomon Islands. Operated by the Anglican Church of Melanesian the school is subjected to the Solomon Islands Education System executed by the Ministry of Education and Human Resource Development. The college is accessible by road of about one and half hour drive from Honiara.

Selwyn for so long is a flood prone area which usually affected by flood during pro-long heavy rain and it can be a challenge accessing the site via vehicle because the road will also be flooded.

The College is the first school in the country to have benefited from PV Solar project funded by the European Union which is implemented by the Solomon Islands Government which aims to improve teaching and learning services of students and also extended the availability of internet services. Likewise, the project will help reduce greenhouse gas emission, provide clean energy and mitigate climate change.

AERIAL VIEW OF SELWYN COLLEGE



#### 3.2 Visale

Table 4.0 - Vasale

GPS Location	9°15'9.18"S, 159°41'38.78"E
Population	866
Male	462
Female	404
Point of Contact	Raymond Kabini 7105034

Visale is around 39 km from Honiara and is situated along the Coast of West Guadalcanal Island. It is one of the main Center of the Roman Catholic Mission in the Solomon Islands with a total population of 886 of which it also houses the Nanny school for Catholic Mission. Visale also has some attractive beach, clean sea and a lookout hill that attracts tourist. There are different hamlets that actually live around the area and thus form a Visale large community.

Visale also have existing and active women's group, youth group and Church group that are supportive to decision making at the community level. Women around this community can be seen marketing their vegetables along the road and it help provides and supply foods for the traveling vehicle both to and from Honiara. In terms of other small businesses, the community operated small business such as canteen and even a mini printing service run by a single family servicing the center. In the interview the most notable business they planned to venture into is small scale fishery and also poultry with the hope to get connected to the hybrid system thus they can freeze the fish and chicken for retailing.

Though in the process of connecting to the Solar Hybrid system from Solomon Power the community have their small solar home kit which they depend on for their energy sources. Interviewees also laments that they are eager to learn more about the operation and maintenance of renewable energy so as to reduce the expense from maintenance of the system if there is a need. Likewise, they are eager to know of the different types of quality solar products that can last long.

#### **AERIAL VIEW OF VISALE**



#### 3.3 Kakabona

Table 5: Kakabona

GPS Location	<u>9°25'36.94"S, 159°54'28.05"E</u>
Population	1406
Male	791
Female	615
Point of Contact	Hugh Benneth

Kakabona is a peri-urban suburb on the fringe of Honiara and is located 4 kilometers west of the main center and west of White River on the Tandai Highway. Kakabona borders the Honiara City Council ward of Nggosi. Kakabona like many other settlements in the Solomon Islands have different hamlets or cluster that make up the large Kakabona community that stretches from Kauvare to Poha River. Kakabona is a Catholic dominant community and around 1400 plus population.

Due to its closeness to town residents around the area are employee working either on the government or private sector and are renting houses in the area. The main National Grid has already run lines for electricity connection but only few houses manage to be connected. Still most of the families around the area depend on solar as a source of energy to their homes.

The main industry for Kakabona is Floricultural and in Honiara consists of two major groups of floricultural value chains. One is associated with growers from Kakabona where more potted plants are grown for sale. The growers generally take their products to the Honiara Municipal Market on Saturdays, the only day operating each week for the flower section. The other industry is tourism and the main Kakabona Beach is frequented by residents of Honiara and the landowner charges a nominal admission fee.

#### AERIAL VIEW OF KAKABONA



In terms of schools Kakabona have a school run by the Catholic Mission and they also have access to Schools, clinics and other services in the city due their closeness to the main city. They also have strong women's group, Youth groups which are actively participating in the community either it be through church or communal activities.

#### 3.4 Barana

Table 6 : Barana

GPS Location	9°28'4.09"S, 159°58'16.72"E
Population	392
Male	142
Female	250
Point of Contact	Melida Kii

Barana community is located on upland area northeast of Guadalcanal Island. The community have just recently initiated a National Park aiming to conserve their forest of about a total of 1392.8 hectares of forest areas with the help of SPREP. The project is about promoting ecosystem-based adaptation to climate to re-enforce the role of nature to strengthen community resilience. For the people of Barana it's simply about their daily lives, the ecosystem service, resources from the forests, provision of water and food in rivers for their 61 household and a population of 392. Barana community see their land, gardens, forests, rivers and streams, mountains and valleys, and history as their source of life and therefore conservation is their right option for their livelihood and it will also help conserve the deteriorating environment of the country.

Participation of women in interview here is also interesting, as they have the understanding of resource conservation, and would like to expand their knowledge in Renewable energy. The establishment of the environment and resilient center will allow the community to dialogue, exchange of ideas, resolve issues and creating a positive spirit for the long-term sustainability of the nature park by implementing their action plan. Majority of the people interviewed here have gone through training on Green Economy but is more on reforestation and how to maintain the park.

**AERIAL VIEW OF BARANA** 



## 3.5 Guadalcanal Plains Plantation Limited (GPPOL)

Table 7: Guadalcanal Plains Plantation Limited

GPS Location	<u>9°28'10.58"S, 160°13'47.13"E</u>
Population	604
Male	308
Female	296
Point of Contact	Clement Tavoria

Guadalcanal Plains Plantation Limited is a British owned company operating in the Central Guadalcanal. Surrounded with over hundreds of communities on the upstream and downstream of Ngalibiu, Metapona, Berande and Balisuna River GPPOL has contributed a lot in the livelihood of the people and the country over the years. As central to the operation Mbinu area is selected for the survey with the idea of having community with bigger population. Mbinu have a population of 604 with a total of 90 household. The community depends entirely on solar energy for their source of energy; however, they are hoping to be connected to the main grid that is currently in the progress of connecting communities around the plantation site.

The site is a land well-known for agricultural production and this is one of the main economic activity that the people depend on for their livelihood providing for the greater income. Piggery and poultry also form part of the economic activity they have. However, running this kind of small business require a dedicated energy that will help them preserve their products.

AERIAL VIEW OF GPPOL



## 3.6 Tulaghi

Table 8: Tulaghi

GPS Location	<u>9° 6'6.95"S, 160° 8'48.18"E</u>
Population	1271
Male	697
Female	384
Point of Contact	Douglas Laukiki

Tulaghi Island is a former Solomon Island Capital town during the British Solomon Islands Protectorate in the 1896 to 1942. Shifting the town from Tulaghi to Honiara after 1942, Tulaghi remains the central administration of Central Island Province. Tulaghi has a Mini-hospital operated under the Ministry of Health and Medical Services through the Solomon Island Government and also a main market for surrounding vendors to sell their produce.

Tulaghi in terms of electricity is connected using the Solomon Power grid system that supply the whole Island. Since it houses the provincial center most of the businesses operated in the Islands is owned by local or joint venture for hotel accommodation and Ship Yard. Tulaghi have church denomination from Seventh-day Adventist and Anglican Church of Melanesia as dominant of more than 80% while other denominations make up the rest. The main business for populace in Tulaghi is small scale fisheries which they usually sell for their income on a daily basis.

#### **AERIAL VIEW OF TULAGHI**



## 3.7 Bishop Koete School

Table 9: Bishop Koete School

GPS Location	<u>9° 8'19.95"S, 160°14'30.58"E</u>
Population	133
Male	75
Female	58
Point of Contact	School Principal

Bishop Koete Vocational Training Center was established in 2010. It is an Anglican Vocational Training School that aims to provide second chance to school dropouts from the main education system.

Bishop Koete has a total population of 133 of which 14 are staff members and the remaining 119 are students and staff family members. The survey in this place saw the 18 of the staff interviewed and it was clear that the school is eager about the training and would like to have the training blended into their curriculum.

Bishop Koete is accessible by boat either from Honiara or Tulaghi. Communication is also available and the school can be contacted via mobile or Telekom network. The main economic activity in the school is that they sell their agricultural produce and also furniture which are produced by the students as part of putting theory into practice.

#### **AERIAL VIEW OF BISHOP KOETE**



#### 3.8 Siota

Table 9: Siota

GPS Location	9° 4'14.89"S, 160°19'28.34"E
Population	546
Male	292
Female	254
Point of Contact	School Principal

Siota is one of the major School Institutions of the Central Islands Province that operates class streams from form 1 - 6. Siota is located on the Southern tip of Gela and is both an exit and entry point to passenger boats travelling to and from Malaita Province. Operating one of the provincial secondary schools, Siota Provincial Secondary school enrolls students from most communities around Central Province.

As common in many school institutions Siota operates on the school administration with the Principal as the head of school, Deputy Principal as the Administrator and the Registrar looks after the academic aspects of the school. The school also has Departmental heads that look after core subjects taught in the school and also student leaders that support the welfare of the staff-student relationship.

In terms of energy sources, Siota PSS has its own generator that provides light to the school and also powers office equipment. Siota's closest urban center is Tulaghi which is the provincial capital where they can access other basic services such as fuel for school and also rations for the school.

#### **AERIAL VIEW OF SIOTA**



## **Chapter 4 Defining of Target Groups**

It is understood that a target of 3,000 beneficiaries make up of local government officials, traditional leaders, local technicians, women, vulnerable groups and small business leaders in the four (4) Melanesian countries in the region (targeting at least 750 individuals trained per country) will be an outcome of this project. The training will cover green economy (GE), renewable energy (RE), and energy efficiency (EE).

To define the target groups in Solomon Islands context;

#### 4.1 Provincial Government Officials

Provincial government officials here refers to the officers directly employed by the provincial government and are based at the provincial administrative center. It also includes the seconded staff from the National government that are based at the provincial sub-stations especially the Agriculture, Fisheries officers and Nurses. In terms of the officers that are directly employed by the provinces the project interviewed teachers and provincial ward committee officers that are representing their provincial wards.

## **4.2** Community and Traditional Leaders

This group includes traditional Chiefs, Big Man, Community Elders, Local Land Owners, church pastors, Committee Chairman for different Committees, Youth leaders, Women's Group Leaders. Some of these leaders are not culturally elected, however they earn respect and trust from the people and therefore can hold on to different positions in a community.

#### 4.3 Women, Youth and Vulnerable Groups

Like other countries women in the Solomon Islands are females however it does not restrict only to women who are married, rather it is based on the common interest that they have. For example, single girls that are not married but has the interest to involve in the women savings group can be called women based on the setting and objective of the group concerned.

Youths was also not clarified in the Solomon Islands Census report and therefore the actual age cannot be determined. However, youth in this context range from 15-25 years old. Youth in the Solomon Islands are a critical group that once over-looked can create problem and therefore they are usually encourage to participate and involve in decision making representing their groups at village committee level.

Vulnerable group here does not only focus on the disable people, however it also includes women and girls who are vulnerable and can easily be intermediated and also the elderly people who are more dependent to the able ones.

#### 4.4 Local Business Leaders and Technicians

These are the type of local businesses that the rural community are doing to generate income. In the Solomon Islands the most common ones are family or community canteens, beetle-nut, poultry, home-stays, recreational beaches, cash crops, taxi/truck hire, house renting and small-scale

fisheries. These businesses are either owned by individuals where a single person is the owner and he/she manage his own business or community whereby committees are setup to over-see the operation of the business. As for the implementation of the project it will help to reach out to at least most of these business operators at each project sites.

Local technician in this case refers to people who are in the know how to do small maintenance to the energy sources when they are breaking down. Technicians here are not strictly those that formally went through formal education; however, it can include those that are interested in doing maintenance and sustainability of the equipment from their interest.

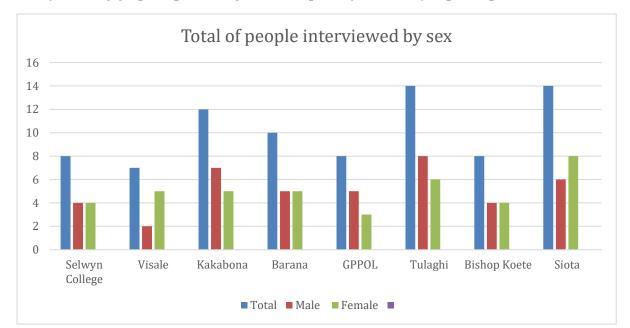
## **Chapter 5** Pre-implementation Survey Result

#### **5.1 Interview Composition**

There were 81 people altogether that were surveyed from the chosen sample community and it was a fair inclusiveness in terms of gender. Of the total 41 were males and 40 are females most of whom are leaders of their own community setting. Most of those interviewed are rural people who are local farmers and fishermen while few have formal employment either it be directly from the provincial or national government and private sector.

Generally, from the survey it is evident that there is not much difference from one community to another in terms of their knowledge and understanding on GE, RE and EE which is from non to very low. Likewise, there is also a notable difference in age groups and their responsibilities in their respective communities. However, a notable aspect as per the interview is the range of sex interviewed which almost on an equal number of men and woman.

As can also be seen in the graphs illustrated in figure 5.1 there is not much difference in participation. This portrays that inclusion in this project is very encouraging. In Selwyn, Barana, Tulaghi and Bishop Koete it is 50/50 % response from both women and men. However, this might not reflect the youth's participation because there is no segregation/specification of data.



The following graph depicts the gender diaspora of the surveyed participants

#### **5.2** Employment Composition and Business

In terms of employment 72% of those interviewed are self-employed and 28% are having formal employment. As in the rural setting communities are struggling to engage with small business to keep them going and therefore, they resort to small business-like canteen, side road beetle-nut stalls, side road vegetable stall and BBQ business.

Those that are directly employed are nurses, fisheries officers, teachers and even pastors that are paid through the church organization. Public officers also make up the 28% since they are located at the provincial capital (Tulaghi) and also near to town like Kakabona and Barana.

In terms of types of business, the survey entails that people in the community have their different perspective in business. As per the interview the respondents provide businesses ranging from small scale agriculture, canteens, bettle-nut stalls and to some extent operating of Motel Accommodation like in Tulaghi which is a semi-scale operation. Please refer to the table on figure 5.2 for the types of businesses that are present in the community that the survey was carried out in.

Fig 5.2: Table showing the	types of b	usiness that are	operated in the comn	านnities

CURRENT BUSINESS TYPE	TYPE OF BUSINESS PLANNED
House Renting	Poultry
Taxi Transport	Piggery
Canteen	Mini-fishery
Side-road BBQ	Printing and Internet Services

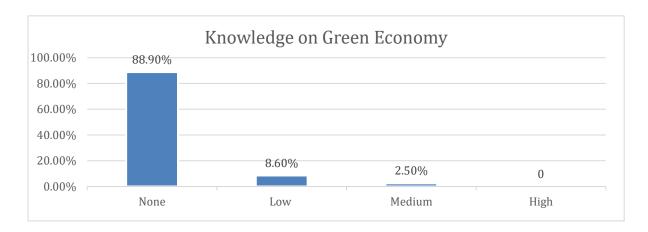
Bettle-nut market	Transportation
Vegetable	
Hotel	

#### 5.3 Knowledge and levels of Topic

#### **5.3.1** Green Economy

In terms of the interviewee understanding on Green economy, the respondents seem new to the term. This can be seen on the graph below where 88.9% do not have any knowledge on what green economy is. 8.6% have low knowledge and 2.5% have a fair idea of what Green Economy is. It is obvious that there is a huge gap in the levels of understanding which can mean that there is a big need of training of GE to be delivered to the communities.

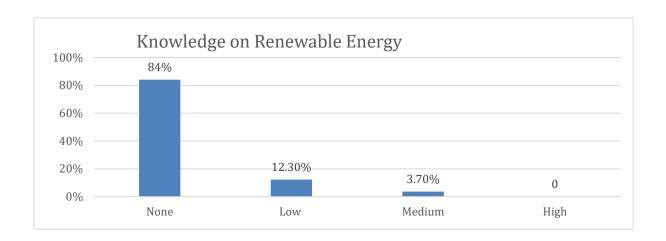
Fig 5.3.1: Graph showing respondents understanding of GE



#### **5.3.2** Renewable Energy

Renewable Energy is also quiet a new term to the rural community that was surveyed. 84% of respondents have no idea of what RE is while 12.3% on low understanding and 3.7% on medium. As obvious in the chart below there is 0% on respondents with high level of understanding on RE. Apparently there is a huge gap between the levels of understanding from what the chart depicted.

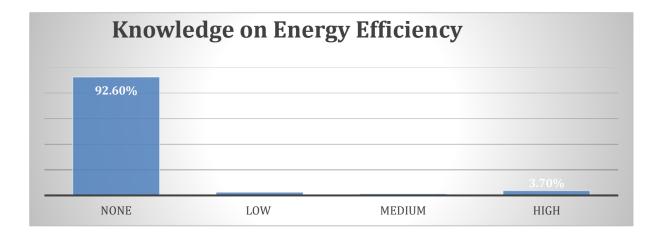
Fig 5.3.2: Graph showing respondents understanding of RE



#### 5.3.3 Energy Efficiency

Energy efficiency is also a new term to majority of the respondent is new to the term and this can be reflected in the graph below. As can be seen in the graph below 92.6% of the total 81 person interviewed do not have knowledge of energy efficiency and are keen to know what it is. 2.5% can be judged to have low understanding of the term while 1.2% have medium understanding and knowledge and 3.7% have sufficient knowledge and are also practicing Energy efficiency at their home.

Fig 5.3.3: Graph showing respondents understanding of EE



#### **5.3.4 Financial Management**

As per the given graph below it is evident that majority (59.3%) of the respondents do not have knowledge and understanding on Financial Management while 27.1% can be judged to at least have very low knowledge in the sense that what they knew about the term is about earning and saving money. Those that are with medium knowledge are those that have engaged mostly with NGOs that are providing training at the community level on basic book keeping and also attend training on how to save money. The 3.7% are actually going through formal training through part-

time or fulltime study mode from institution like Solomon Islands National University and other training providers.

Knowledge on Financial Management 70.00% 59.30% 60.00% 50.00% 40.00% 27.10% 30.00% 20.00% 9.90% 10.00% 3.70% 0.00% None Low Medium High

Fig 5.3.4 Graph showing respondents level of understanding of Financial Management

# **5.4 Training Needs**

Training needs on the other hand also shows an interesting trend. Solar home system training is preferred by the majority which is 69.1%. This is because people in the community are moving into solar and would like to know more about the Operation and Maintenance (O&M) of the system. 9.9% of the interviewee prefer to have training on Pico-hydro and the remaining 21% choose to be trained on both systems. Please refer to the graph below for the analysis

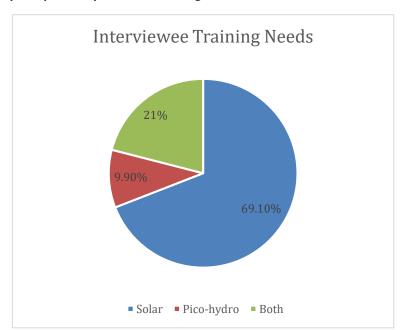


Fig 5.4: Graph depicts respondents training needs.

Fig 5.4.1 Table of available facilities to conduct training and suitable timing

C	Available	G
Community	Training Facility	Comments
		Training can be done during school break with prior arrangement so as to aware which student reps to attend the training. Training
Selwyn College	School Hall	can be done up to one week
Visale	Community/Church Hall	Training can be done depending entirely on the project schedule time and number of days. However there should be consideration on the church programs
Kakabona	Community Hall	Training can be done depending entirely on the project schedule time and number of days
Barana	National Park Hall	Training can be done depending entirely on the project schedule time and number of days
GPPOL	Community Hall	Training can be done depending entirely on the project schedule time and number of days
Tulaghi	Provincial Conference Room	Training can be done depending entirely on the project schedule time and number of days
Bishop Koete	School Hall	Training can be done during school break with prior arrangement so as to aware which student reps to attend the training. Training can be done up to one week
Siota	School Hall	Training can be done during school break with prior arrangement so as to aware which student reps to attend the training. Training can be done up to one week

## **Chapter 6** Confirmation of Project KPI's

Each community surveyed have different setting in terms of groups and leaders. Women's Group and Youth Groups are common in every community surveyed. These two groups are also active and are used in any community program or project which means that there is an equal participation of youth and women in any development that is happening at the community level.

As for the vulnerable groups people with disability is not really well captured in exact numbers since disability is different from people's perception. However, when it comes to the vulnerable groups as can be seen in chapter 4 graphs and chats it is clear that women interviewed and shows interest in training is really overwhelming. This trend would mean that we are on target as per the percentage of women however this is not the same for the most vulnerable groups such as PWDS

In most of the community women are also active in planning and decision making as well as the youths. Though most community lacks local technician they have influential traditional leaders like chief and community leaders like chairman and have a very well-established structure. Visale for example have their traditional setting of community leadership with the chief as head and they also have sub groups for church Sunday school that are blended together with the main community governance structure.

## **Table of population and Target groups Surveyed**

1.Selwyn Colleg	ge				
Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: Selwyn College	Community/ traditional leaders	Chaplin	1	1/0	Responsible for the school religious activities
Population:		Women group leaders	4	0/4	Women staff savings group
Gender M/F: 394/335  Vulnerable: 5		School Scripture Union Leader	2	1/1	School religious groups formed by students from different
		Other prospects	22	15/7	Other community members interested in this target groups training
	Local Government Officials	Teachers	20	11/9	Teachers are directly paid by the SIG
	Local Technicians		1	1/0	School handy man
	Small Businesses		1	1/0	School canteen
Total			51	30/21	

Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: Visale	Community/	Pastor/Catechist	1	1/0	Church Catechist
Population:	traditional leaders	Women group leaders	4	0/4	Active church women's group
866 Gender M/F: 449/417	Community leaders/Chief	8	2/6	1 paramount chief including committee chairman for community projects	
Vulnerable:		Youth group leaders	4	2/2	Church youth Groups
v umerable.		Other prospects	35	19/16	Other community members interested in this target groups training
	Local Government Officials		1	0/1	Clinic nurse
	Local Technicians				
	Small Businesses		8	5/3	Small business including canteens and side road markets
Total			61	29/32	

3. Guadalo	canal Plain Palı	n Oil Ltd (GPPOL)			
Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: GPPOL	Community/	Chief	4	4/0	Paramount Chief
Population: 604	traditional leaders	Women group leaders	5	0/5	Women Saving Club
1		Community leaders	6	4/2	Community Chairman
Gender M/F:		Youth group leaders	5	3/2	Youth social clubs
		Other prospects	29	19/10	Other community
308/296					members interested in
Vulnerable: 8					this target groups training
	Local Government Officials				
	Local Technicians		3	3/0	Company's Technicians
	Small Businesses		8	8/0	Includes Canteens, poultry and side- road stalls
Total			60	41/19	

4. Kakabona	a				
Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: Kakabona	Community/ traditional leaders	Pastor	3	3/0	SDA, SSEC and Catholic
Population: 1406		Women group leaders	4	0/4	Zone women's group
Gender M/F:		Community leaders	4	4/0	Community zone leaders
789/617		Youth group leaders	8	4/4	2 leaders per each zone
Vulnerable:		Other prospects	40	28/12	Other community members interested in this target groups training
	Local Government Officials				training
	Local Technicians				
	Small Businesses				
Total			59	39/20	

Community	Target group	Sub-group	Sub-group Population	Gender M/F	Details
Name: Tulaghi	Church community	Pastor/Priest	10	10/0	SDA Anglican
Township	groups	Mothers Union Leader	1	0/1	Anglican Church
Population 1,271		Docas Women's group	1	0/1	SDA Chu
Gender M/F		Youth group Leaders	4	2/2	Church
451/820 Vulnerable		Provincial women council	1	0/1	CIP Divis
Lo Go Of Sn Bu		Other Prospects	28	19/9	Other surroundi communi outside township who are a interested this tar group courses
	Local Government Officials	Tourism Officer Environment Officer	2	1/1	Senior Tourism Senior Environm
	Small Business Enterprise		4	3/1	Tulagi be Front (Taporo). Tulagi
					Island Lodge.
					Women's Resource Centre.
					Palm Lod
	Local Technician		1	1/0	Solomon Power
TOTAL			52	36/16	

6. Siota					
Community	Target group	Sub-group	Sub-group Population	Gender	Details
	8. o. u.b		1 op within on	M/F	
Name:	Church	Pastor/Priest	3	3/0	SDA
Siota	community				
	groups	Mothers	1	0/1	Anglican
Population		Union Leader			Church

546		Youth group Leaders	4	2/2	Church
Gender M/F 324/122 Vulnerable		Other Prospects	42	22/20	Other surrounding communities outside the school who are also interested in this target group courses
	Local Government Officials	Tourism Officer Environment Officer	2	1/1	Fisheries Officer Project Community Helper
	Small Business Enterprise		1	1/0	School Canteen
	Local Technician		1	1/0	School Electrician
Total			54	30/24	

#### **Bishop Koete Rural Training Centre** Community Sub-group Gender Details Target group Sub-group Population M/F Name: RTC Teachers 13 10/3 School administration Bishop Administration Koete Rural Women 0/1 1 Taroniara church organization Training group Centre Leaders Community Population Leaders 133 1/0 Taroniara youth from the Youth group Leaders Presbyterian church Gender M/F Other 30 17/13 Koloti Household, the Anglican 101/32 Prospects religious group also interested in this target group Local Government Officials Local 1 1/0 An electrician of Koete RTC Technician Small 1 1/0 Taroniara Trading store Business Total 47 30/17

8. Baran	a				
Community	Target Group	Sub-group	Sub-group Population	Gender M/F	Details
Name: Barana	Community/	Chief	2	2/0	Paramount Chief
Population:	traditional leaders	Women group leaders	1	0/1	Women Saving Club
392		Community leaders	4	2/2	Nature Park Conservation
		Youth group leaders	1	1/0	Community Youth Leader
Gender M/F: 193/199		Other prospects	49	26/23	Other community members interested in this target groups training
Vulnerable:	Local Government Officials				
	Local Technicians				
	Small Businesses				
Total			57	31/26	

# **Baseline of Key Performance Indicator**

Description	Indicator	Baseline
Training materials customized for Women and Vulnerable groups and ready for training	*KPI: No. of women & persons from vulnerable groups providing inputs / participating in decision-making meetings, committees, etc.	90% of the respondents agreed and encourage women participation in decision making.
delivery (KOICA version: Training materials suitable for women and	Other: No. of local development policies/RE project making reference to gender and inclusion	0
Vulnerable groups)	KPI: No of suitable training materials and processes prepared and translated targeting women and vulnerable group	0
Trained women and vulnerable groups in GE	Number of persons in women and vulnerable groups trained	0
and RE	No. vulnerable persons trained  No. of women trained	0
Training materials for GE and RE	KPI: Proportion of participants in training who agree that their knowledge of GE and RE has increased after attending the training	0
	*Overall KPI 2* Number of suitable training materials and processes prepared and translated	0
Trained traditional/community leaders, small businesses, local government officials on GE and RE concepts	Number of trained traditional/community leaders, small businesses, local government official	0
O&M and financial management training materials and training completed	*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.	0
	*KPI: Number of suitable training materials and processes prepared and translated for O&M and financial management	0
Communities trained on financial management of RE systems	- Number of persons trained on financial management of RE systems	0
Training of local technicians on O&M of RE systems	Number of local technicians trained on O&M of RE installations	0

Grand Total – Potential Workshop Participants by Gender (M/F)	M 266	F 175	•	441 participants in total for the 8 sites surveyed are expected to be trained
Extrapolate the eight (8) sites into fourteen (14) sites:	771		•	Expected total number of participants to be trained for this project

# **Chapter 7 Conclusion**

In conclusion, 81 people have participated in the survey and it shows that there is a greater training and awareness needed at the community level. During interview most respondent have very low understanding of RE and GE but are enthusiastic in attending trainings. Women's participation in the interview is also overwhelming and it shows that they are will to form the avenue that will certainly help the project in achieving its KPIs as per the above graphs and table analysis. Population wise the sample surveyed sites has a good number of populations with different groups and community structures and it also covers the required percentage that the survey requires.

# **Chapter 8 Appendices**

# **Appendix A: Pictures of surveyed sites**



One of Tulaghi Tourism site that plans to connect to the Solomon Power Grid. Photo: D.Laukiki



Students of Bishop Koete do minor maintenance on their Mini Solar that supply to the School. Photo: D.Laukiki



Selwyn College Solar Farm. Photo: H. Pitu



A typical daily business for Kakabona Women selling of BBQ. Photo: H. Pitu

## **Appendix B: Pre-implementation Survey Questionnaire Template**

# 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?  Surveyor to translate into local language	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.	y"?	u understand by the term "Green Econom		Open
	Surveyor to translat	e GE into local language		
		judge level of knowledge of Green Econo	None	Select
	my from abo	ove answer.	Low	
			Medium	
			High	
		rested to know more about Green Econo	Not interested	Select
	my?		Interested	
			Very interested	
15.	A. What do yo	u understand by "Renewable Energy"?		Open
	Surveyor to translat	e into local language		
	B. Surveyor to ergy.	judge level of knowledge of Renewable En		Open
		rested to know more about Renewable En	None	Select
	ergy?		Low	
			Medium	
			High	

	D. What are the challenges, if any, in accessing or using R enewable Energy?	Not interested Interested Very interested	Select
16.	Have you received any training on GE, RE and EE before?		Open
	If yes, state what you liked about the following:		
	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
	Surveyor to translate into local language		
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?	Solar Home System Pico/Micro Hydro	Select all that apply and explain why?
	And why?		

26.	What do you know about being "Energy Efficient"?		Open
	Surveyor to translate into local language		
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	Select all that apply

31.	What do you use the energy source for?	Kerosene lamp Candles Charcoal Wood Other (specify)	Open
32.	How important (necessary) is the energy source for your business?	<ul> <li>Very, without the energy source we can't do business</li> <li>Somewhat, we can continue with other activities</li> <li>Not so much, we can continue with business activities without the energy source</li> </ul>	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 organisation delivered the training? And what kind of training did you receive?		Open

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?	Open
	If Yes, what do you use to access the internet?	

#### **Part 2: Local Technicians**

	Question	Answer	Question Type
41.	Have you received any formal training on O&M of RE	Yes	Select
	Systems?	No	
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

**Appendix C: List of people interviewed** 

COMMUNITY	NAMES
	Aden Alick
	Gabriel Tome
	Francis Wane
Selwyn College	Reuben Mae
Serwyn Conege	Cyrene Keni
	Lorie Danny
	Stella Iowane
	Betty Kabu
	Celestino Mamani
	Manuela Lafaru
	Raymond Kapini
Visale	Maretha Kapini
	Sophie Bechana
	Emmie Kwaisulia
	Michael Tahiseu
	Hugh Benneth
	Paul Paura
Kakabona	Kenly Tiripa
IXARAUUIIA	John Billy
	Steward Leoset
	Samson Sako

	Justin Thomas
	Mariana Ngangai
	Constantine Maria
	Lyneth Taghoa
	Debra John
	Inesha Luta
	Melinda Kii
	Maria Joseph
	Melwyna Narasia
	Cathy Kini
_	Florence Sai
Barana	Mathin Chris
	Willie Besi
	Peter Besi
	Timothy Sai
	Amos Lionel
	Clement Tavoria
	Timothy Meke
	Jack Leua
GPPOL	Ben Meke
	Kilua Toben
	Ngelea Tiva
	Laurel Lenti

	Dorothy Talaura
	David Iro
	Joshua Luvusia
	James Kuali
	Charles Navulsi
	Mostyn Guari
	Francis Lioha
Tulaghi	Langany Billy
Tulagiii	Henry Nabali
	Judith Meli
	Florence Billy
	Lilyrose Jason
	Hayna Sara
	Petrina Douglas
	Lorina Rukale
	Deriol Rose
	Hencely Bilous
	Lenard Garimane
Bishop Koete	Ben Lugha
Bishop Rocte	Linta Sonia
	Kotina Jeffson
	Jayrina Lulu
	Iuleen Lemek

Siota	Ralf Lugha Hopkin Ita Brian Kopuria Lionel Peter Jayrick Lepe Mathin Selo Mary Salo Unity Billy Leilani Tugea Veronica Lensky May Paulson Benadith Hugo