

SOCIO-ECONOMIC HOUSEHOLD SURVEY IN COMMUNITIES OF EAST RENNELL
FOR
ENHANCING RESILIENT ECOSYSTEMS AND REPRESENTATIVE PROTECTED
AREAS IN SOLOMON ISLANDS (EREPA) PROJECT



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ACRONYMS

CTA	Chief Technical Advisor
EREPA	Enhancing Resilient Ecosystem and Representative Protected Areas in Solomon Islands
GEF	Global Environment Facility
HP	Horse Power
MAL	Ministry of Agriculture and Livestock
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology
MOFR	Ministry of Forestry and Research
SDA	Seventh Day Adventist
SSEC	South Seas Evangelical Church

1. INTRODUCTION

1.1 BASIS OF CONDUCTING THE SOCIO-ECONOMIC HOUSEHOLD SURVEY

The Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) and its partners' executed the GEF6 project, "Enhancing Resilient Ecosystems and Representative Protected Areas in Solomon Islands (EREPA), to establish an effective network of protected areas to achieve healthy, productive and restored landscapes across the provinces of Guadalcanal, Malaita, Temotu and Rennell-Bellona. Based on the projects objectives, a detail socio-economic survey is imperative to establish the baseline data, provide basic information and inform the work of the project in its engagement with communities, development of management plan actions, including monitoring and evaluation of the project at its closure. Evidence-based insights from the socio-economic survey would inform the strategies, interventions and plans to enhance community household livelihood whilst simultaneously supporting communities to engage meaningfully in leading conservation and protected areas through initiatives under designated resource management areas.

1.2 SURVEY OBJECTIVES

The principle aim of the socio-economic survey is to collect necessary baseline data and information to set the 'before' and 'after' scenario and indicators of household standard of living and wellbeing to serve the purpose of monitoring also evaluation of the EREPA Project at its closure. For this survey, its specific objectives are:

- (i) to collect baseline information on natural and socio-economic variables in four communities of Hutuna, Tegano, Niupani and Tevaitahe;
- (ii) to survey the existing situation, usage and management of forestry and agricultural resources and services in the communities, including access to resources for practical ownership and sustainable use of resources;
- (iii) to assess the incomes, expenditures, savings, sanitation, resource use and livelihoods to understand the capacity for improved community wellbeing;
- (iv) to develop meaning indicators for the baseline data and benchmark for monitoring and evaluating the project;
- (v) to strength evidence-based planning and development of communities' protected area management plan, with power holders (tribes), for inclusive engagement in the project.

1.3 BRIEF BACKGROUND ON EAST RENNELL

This socio-economic survey covered East Rennell project site under the EREPA Project. East Rennell has a population of about 800 people and is located on Rennell and Bellona Province. The province marks its Second Appointed Day on 20 July. The provincial centre is located on Tigoa. East Rennell is a world heritage site. This site includes forest and marine environment surrounding and including Lake Tegano. Lake Tegano is the largest freshwater lake in the South Pacific and is home to a variety of migrant sea and water birds and an endemic lake sea krait. The communities of Hutuna, Tegano, Niupani and Tevaitahe live in area surrounding the lake. The communities rely on subsistence farming and fishing in and around the lake.

2. METHODOLOGY

The socio-economic survey employs interviews, participatory observation and expert opinion from community leaders and technical informants. Three main steps in developing the survey include; (i) survey questionnaire development; (ii) reviewing and training on questionnaire; (iii) testing and administration of survey; and (iv) compilation of data and analysis of survey. The section below elaborated on these steps.

2.1 DEVELOPMENT OF SURVEY QUESTIONNAIRE

Secondary information about Rennell-Bellona was used to inform the development of the questionnaire. A meeting was held to review a draft questionnaire. The session was also used to review and expand on the survey instrument. The survey tool was revised and additional sub-questions and codes were drawn up to support the enumerators to administer the questionnaire. It was decided that the questionnaire will be administered physically in a person-to-person interview. This approach was identified as more relevant to engage better with the respondents than using a Tablet or the Kobo Tool. Some of the secondary information provided included:

- Information on the demographics of the communities
- Information of female and male headed households
- Information on communities governance, lake, land and forest use
- Information on agriculture production
- Information on forestry
- The questionnaire was tested with its administration to Hutuna and Tegano before it was revised by including sanitation aspects on the questionnaire

The project's objective defined the scope of the questionnaire. The questionnaire covered variables important to capture the socio-economic status of households in the project site and inform the baseline information for the project. The questions covered eight variables including population, education, occupation, sanitation, social groups, income, resource access and

attitudes, behaviour and perception. Where relevant questions are coded with answer options of 1, 2, 3, etc. For some open questions that is difficult to determine all the alternatives, the option of ‘others’ is used. Questions for cognitive assessment have options such as” I do not know”.

2.2 REVIEW OF SURVEY QUESTIONNAIRE AND TRAINING OF ENUMERATORS

The questionnaire was reviewed before the survey commenced. The enumerators also have the chance to review and provide feedback on the questionnaire. The CTA administered the review by going through the questionnaire and taking questions and suggestions to improve the questionnaire. CTA incorporated suggestions from the review meeting into the questionnaire and additional support materials provided for administration of the survey.

2.3 TESTING OF SURVEY QUESTIONNAIRE

The questionnaire was tested with Hutuna and Tegano communities. Some changes were made to the questionnaire. The revised questionnaire was administered to Niupani and Tevaitahe communities. The main change included the inclusion of sanitation as another important variable in the questionnaire.

2.4 ADMINISTRATION OF THE SURVEY

The survey enumerators who administered the survey consisted of four officers - two females and two males. They are:

1. Ms Cathy Unga – National Project Coordinator, EREPA
2. Ms Nelly Kere – Chief Programme Coordinator, MECDM
3. Mr Paul Hatamane – Director, Reforestation and Plantation Unit, MOFR
4. Mr Patrick Fiasi – Chief Field Officer, MAL Extension

Each interview took not more than 40 minutes. The interviewee starts by seeking consent from the household head. All household heads who agreed to participate in the survey signed a consent form administered by the enumerator. The enumerators used community guides who accompanied and directed them to participating households. In each of the four communities, the survey covered 30% of the total number of households in each community. The sample population of households interviewed were:

Community	Total number of households	30% of total households
Hutuna	35	11
Tegano	35	11
Niupani	30	10
Tevaitahe	30	9

2.5 ANALYSIS OF THE SURVEY DATA

The CTA received all survey forms completed by enumerators at the end of each day in the field, and checked for errors, missing values or outliers before entering the survey data into electronic form. The data is then organised in a suitable format, using Microsoft Excel for analysis. The analysis used statistical measures such as mean, median and mode for numerical variables. Additionally, the analysis also used descriptive statistics such as frequency distributions and percentages for categorical variables, and results represented in bar charts and pie charts.

3. RESULTS

3.1 AGE AND SEX STRUCTURE IN THE SAMPLE POPULATION

The age-sex structure (see Figure 1) showed different population trends in the sample population for the four communities in East Rennell. Hutuna community reflected a declining population of more adults and fewer young people, as the population continues to grow older with a median age range of 21-32 years and modal age group of 51-80 years. Increases in the number of older women and men were apparent compared to the low numbers of pre-schoolers and primary schoolers in the community. Tegano community depicted a stable population with roughly equal distribution of young and old in the population. Niupani and Tevaitahe communities showed a growing population of more young people than adults in the sample population. The median age group for both male and female is in the adolescent age group (13-20 years). In all sample populations in the four communities, life expectancy for both male and female is below 81 years. The general age structure for all communities is shown in Figure 1.

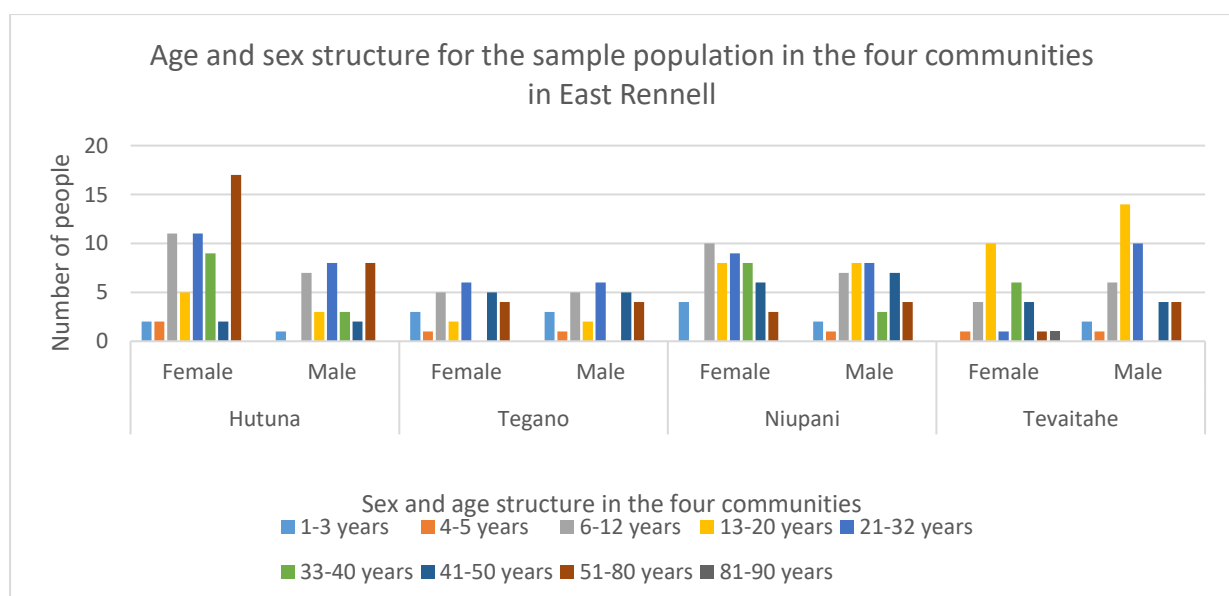


Figure 1: Age and sex structure in the sample population in the four communities in East Rennell

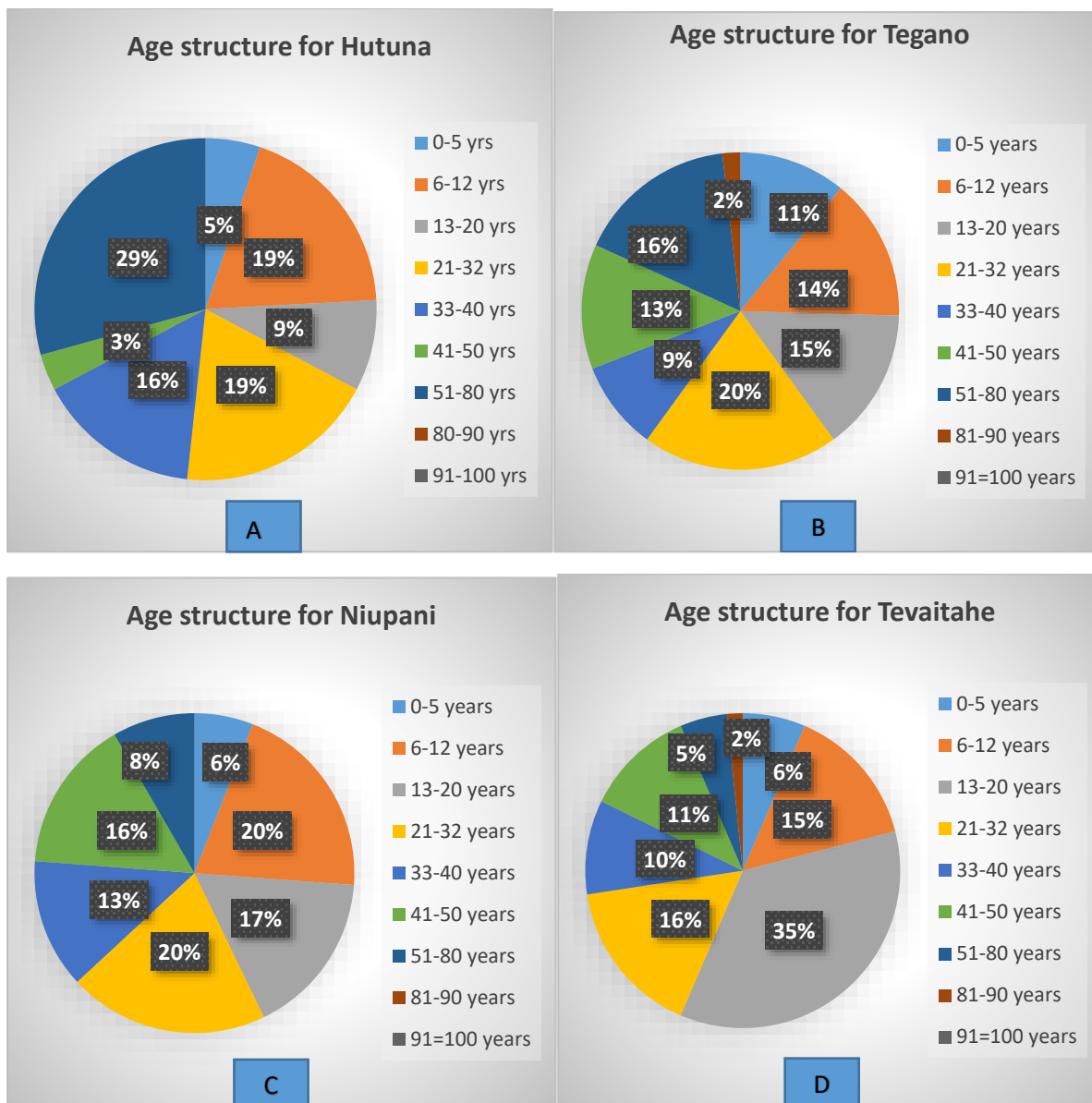


Figure 2: Age structure for Hutuna (A), Tegano (B), Niupani (C) and Tevaitahe (D)

3.2 EDUCATIONAL ATTAINMENT

The survey measured educational attainment by the level of education successfully completed. There are five levels of educational attainment revealed in the survey: (i) primary level; (ii) secondary level; (iii) post-secondary level; (iv) undergraduate level; and (v) postgraduate level. The most frequently identified category of educational attainment, for both male and female, living in the community, is secondary level (see Figure 3). Postgraduate level educational attainment is very low. Women and girls highest level of educational attainment is at the secondary level whilst some male attained undergraduate level education.

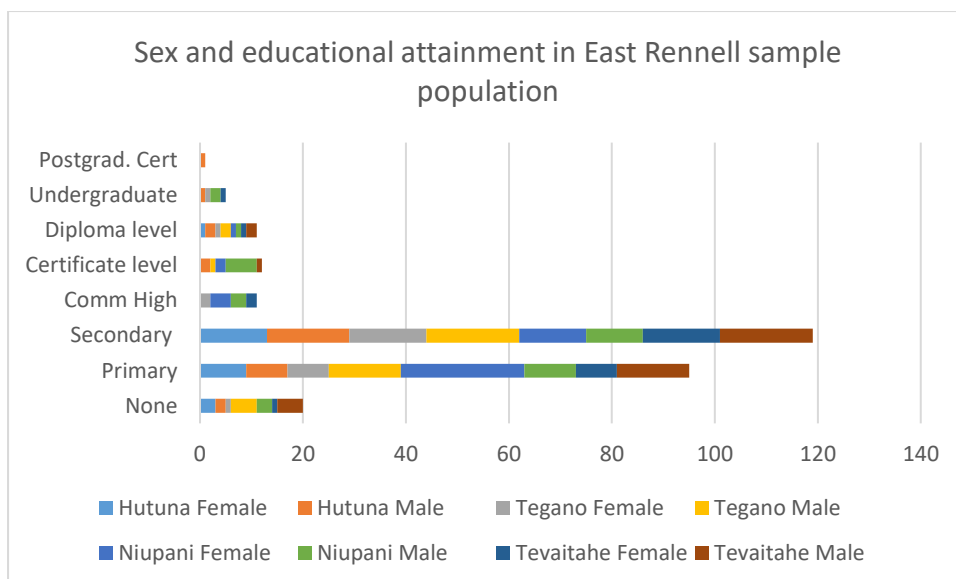


Figure 3: Sex and educational attainment in the sample population in East Rennell communities

3.3 SOCIAL GROUPS

Social groups are an important variable for building social cohesion and social capital in a community. This variable is measured in terms of affiliation or membership in groups. The survey identified five main types of social groups: (i) church or religious groups; (ii) tribal affiliations; (iii) savings groups, (iv) weavers groups; and (v) sports groups. Social groups are popular for both men and women from adolescents up to late adulthood. Hutuna and Tegano are predominantly SDAs whilst Niupani and Tevaitahe communities are SSEC communities. Younger members of the household are Sabbath school and Sunday school programs. Most participants in the sample population spend money in their tithes, church contributions and church offerings. Community members focused on meeting their church obligations. The survey showed that 100% of participants are devoted to paying their tithes, church offering and church contribution on monthly basis. The young men's involvement in social groups is mostly in sports clubs than tribal affairs. Boys and young men in adolescent age group have not actively involved in tribal associations until much older. All of the household heads were able to name the tribe to which they belong. In the sample population, some of the tribes named included; Tekungahenua, Tepisinga, Tea'agima, Hangagoa, Tuhunui, Giumata, xx. For women in the sample population, the most frequently mentioned social group is the women's savings group, followed by weavers groups for adult women (33-40 years old) and sports groups for adolescent girls (13-20 years). Adolescent group of 13-20 years range are not involved in savings groups or weaving and most are not involved in existing social groups in the community.

3.4 OCCUPATION

Occupation is as an activity in which one engages to earn a living. Occupation is measured in terms of its stability for the household by having primary and secondary occupations. The study identified that most of the HH's in the sample population have a single primary occupation where the average number of people in a household ranges from five to eight people per household (Hutuna 5/HH; Tegano 6/HH; Niupani 8/HH; and Tevaitahe 6/HH). Household occupation is limited to the head of household and spouse. Occupations mainly fall in five categories: (i) fishing; (ii) gardening or farming; (iii) weaving; (iv) contract services; and (v) employment. Most young adults living in the community have no occupation. In other words, most young adults do not contribute to their household income. Evidently, this cohort of young men and women, which make up bulk of the household numbers, are marginalised by these circumstances and subsequently their participation is suppressed. Intervention (s) to empower this cohort would be an investment in their long-term future to secure employment and occupation in the community.

3.5 SANITATION

Poor sanitation reduces human wellbeing, social and economic development due to social risks such as anxiety, sexual assault and lost opportunities for education and work. The sanitation variable was not included in the survey for Hutuna and Tegano. The survey added the sanitation variable in the questionnaires administered for Niupani and Tevaitahe communities. However, community leaders who live in the village reported that half of the households in Hutuna and Tegano have access to flush toilets. Another 50% of households in the communities used stone-pit latrines that are located about 50 meters from the village. A community leader recalled that their elders do not allow pit latrines to be any closer to the Lake. However, as summarised in Table 1, the communities of Niupani and Tevaitahe used three types of sanitation systems: (i) own flush toilets, (ii) deep pit latrines, and (iii) stone pit latrines. Most households have own flush toilets. However, some households (20% Niupani, 33% Tevaitahe) still use deep pit and stone-pit latrine (20% Niupani). Support to fully transition the communities from pit latrines to flush toilets is imperative to transform sanitation related problems that undermine socio-economic wellbeing of households.

Table 1: Sanitation system in the sample population in East Rennell communities

Sanitation	Hutuna		Tegano		Niupani		Tevaitahe	
	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%
Deep pit latrine					2	20	3	33
Own flush toilet					6	60	6	67
Shared flush toilet					0	0	0	0

Others (stone-pit latrine)					2	20	0	0
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3.6 NATURAL RESOURCE USE

Resource access can have long-term impact on the wellbeing of household members through employment, sustenance, income, and health benefits. Sustainability of resource utility is core to ensuring quality resource access and flow on benefits to households. This variable is measured by assessing dependency on resource types and frequency of use at the household level.

Five forms of natural resources frequently identified in the sample population, for all four communities, are; (i) trees for timber, (ii) tilapia, (iii) coconut trees, (iv) pandanus trees, and (v) garden crops. Five of the common natural resources identified are land-based resources and only one is aquatic-based resource. This insight suggest that land-based resources will require careful land use planning with communities around land-based resources. Apart from the five common resources, other land-based resources that were identified included garden land, swampy land for taro and fruit trees.

Based on frequency of reporting by HH's, land use for garden crops, coconut trees, pandanus and fruit trees have daily and weekly use compared to trees for timber and swamp taros, which have a longer period between subsequent uses (see Table 3). Similarly, women mostly accessed land-based resources and men aquatic-based resources, indicating a gendered use of resources. Frequency of use of resources varies from (i) daily, (ii) weekly, (iii) monthly; (iv) half-yearly; and (v) annually. The status of resources are (i) very bad; (ii) bad; (iii) fair; (iv) good; and (vi) very good. HH's perceived coconut trees, trees for timber, agriculture crops, agriculture land, coconut crabs, and tilapia to be in a bad state, whilst informants considered pandanus resources to be still in a good state. Hence, the survey indicated the need for management of some resource types over others.

Table 2: Resource use by households in the sample population in East Rennell communities

Natural resource type	Hutuna		Tegano		Niupani		Tevaitahe	
	HH	%	HH	%	HH	%	HH	%
Trees for timber	2	18	1	9	7	70	2	22
Tilapia	8	73	6	67	8	80	8	89
Coconut trees	10	91	4	36	4	40	4	44
Pandanus	8	73	6	67	3	30	5	56
Garden crops	5	45	5	45	4	40	6	67
Garden land	-	-	-	-	4	40	2	22
Mangrove	-	-	-	-	2	20	0	0
Coconut crab	-	-	-	-	2	20	2	22
Swamp taro	-	-	-	-	-	-	2	22

Table 3: Frequency of resource use by households in the sample population in East Rennell communities

Natural resource type	Daily	Weekly	Forthnightly	Monthly	Quarterly	Half-yearly	Annually
Trees for timber						X	X
Tilapia	X						
Coconut trees	X						
Pandanus				X			
Garden crops	X						
Garden land	X						
Mangrove				X			
Coconut crab					X		
Swamp taro				X			

3.7 ATTITUDES AND BEHAVIOUR TO RESOURCE MANAGEMENT

All four communities' household respondents showed similar perception towards ecosystem management, respect for tribal leaders and community leaders, value of the role of conservation and the principle of intergenerational justice in terms of benefit sharing. Most frequent response are: (i) strongly agree, and (ii) agree. The question exploring the willingness of households to contribute financially in terms of small fees to ensure enforcement of community management rules, each of the communities responded differently as follows: (i) Hutuna, strongly agree; (ii) Tegano, disagree; (iii) Niupani, strongly disagree; and (iv) Tevaitahe, agree. This insight showed the level of deep commitment that reflects genuine ownership has room for development and further strengthening for a locally-led and inspired conservation stewardship to emerge in East Rennell, along the same line, whereby people are inspired to support their local church obligations in their communities.

Table 4: Summary of frequency of response to statements on behaviour, attitude, and perception to resource use and conservation

Statement	Hutuna	Tegano	Niupani	Tevaitahe
	HH most frequent response	HH most frequent response	HH most frequent response	HH most frequent response
I am willing to contribute financially to ensure community management rules are effectively enforced by responsible community leaders and rangers	Strongly agree	Disagree	Strongly disagree	Agree
Ecosystems such as rivers, lakes, lagoon, forests, mangroves, and reefs should be better managed to improve household wellbeing and biodiversity	Strongly agree	Strongly agree	Agree	Agree
I have respect for the role of tribal and community leaders who make decisions to improve resource management and standard of living in the community	Strongly agree	Agree	Agree	Agree
Conservation is important to reduce biodiversity loss and safeguard the wellbeing of conservation communities	Strongly agree	Strongly agree	Agree	Agree
I would discourage community and tribal leaders from engaging in logging activities near rivers to avoid ecosystem destruction	Strongly agree	Strongly agree	Agree	Agree
It is important to treat the land and sea resources with respect and care so that our future generations also enjoy the same resources we enjoy today	Strongly agree	Strongly agree	Agree	Agree

3.8 LIVELIHOODS

3.8.1 INCOME STRUCTURES OF INCOME SOURCES AND LEVELS OF INCOME

Based on the sample population, the number of households and proportion of contribution to household income can be categorised into six main sources: (i) agriculture-based, (ii) aquatic-based, (iii) forestry-based, (iv) swamp-based, and (v) service-based sources. Land-based incomes sources come from forestry, agriculture and swamp land. Aquatic-based income sources come from lake. Non-land and non-aquatic based income sources come from service-based incomes such as labour contracts and employment. Percentage of households with land-based incomes accounted for 53%, aquatic-based incomes 7% and service-based income 40%. The three main forms of livelihoods that household heads consistently identified as their three main forms of livelihood were farming, fishing and weaving. Farming accounted for 44%, fishing and weaving accounted for 28% respectively. Most women in the 51-80 years age range engaged in weaving whilst men in fishing. Both men and women involved in farming or food gardens. About 95% of household respondents identified that these forms of livelihoods were

the same in the last 10 years. Only 5% of household respondents changed at least one of their three main livelihood options in the last 10 years.

Table 5: Livelihood activities in the sample population in East Rennell communities

Community/Livelihood	Hutuna	Tegano	Niupani	Tevaitahe
	No. of HHs	No. of HHs	No. of HHs	No. of HHs
Weaving	7	8	3	6
Farming	10	8	7	9
Fishing	7	7	6	5
Catering	1	0	0	0
Sale of cooked food		2	0	0
Labour		1	0	0
Poultry			1	0
Piggery			1	0
Hunting c/crab			2	2
Marketing vendor			2	2
Casual worker			3	
Resthouse			1	
Teaching			1	
Ranger			1	
Timber milling			1	

The income structure for land-based incomes are from farming (also referred to as gardening), coconut plantations, pandanus (weaving of fans, baskets and purses), and timber milling, cooked food (taro, kakae, cabbage, yam, pawpaw, banana), hunting coconut crab, piggery, chicken and honey farming. The income structure from aquatic-based income come mainly from tilapia. The income structure from service-based incomes come from employment, contract work, labour, canteen services, catering, body massage and asset hire. The difference between types of income sources and percentage of income sources are due to household's access to resources and productive assets at the household level.

The most popular and highest income generating source of income is land-based, accounting for 53% of total households in the sample population. The second highest source of income is service-based, accounting for 40% and the third highest is aquatic-based making up for 7% of the income distribution in the sample population. Activities that involved many households but do not generate incomes or significant incomes are weaving and fishing. Apart from this, not many people engage in vegetable farming, which can generate income. The collection of coconuts, fishing, and farming if mainly for household consumption. There is no commodity product from agriculture-based activities or forestry activities or aquatic-based activities. All are raw products for consumption or for sale as raw product. Honey has potential to develop into a commodity product but pests and disease have undermined the potential of honey commoditisation. Most of the household informants identified that the same activities done in the past 10 years are currently practised. Where household heads saw changes, it was with shift from service-based (e.g. formal employment) to agriculture-based or aquatic based income

structures. This suggests that the activities that generate cash consistently in the last 10 years have been from agriculture, forestry, fishing and weaving pandanus leaves into baskets, fans and purses. Incomes from land-based and aquatic based activities were relatively stable over the last 10 years. However, the survey observed minimal on households saving capacity. On a monthly basis, households who depended on natural resources saved between \$50 to \$100 per month.

3.8.2 HOUSEHOLD ASSETS

Most of the productive assets that households acquired over the last 10 years are fishing and agriculture-based that supported farming and fishing endeavours. Common assets included fishing nets, boat engine 15 HP, esky, and deep freezer. Agriculture related assets included hoe, spades, rakes, mattock, knives, and having multiple food gardens. Common durable goods that households owned included touch screen phones, solar panels, solar battery, inverter and gas cooker and aluminium pots and utensils. A key durable asset that most households owned in the last 10 years but no longer owned is a radio.

The sample population of the four communities have a higher land-based capacity than aquatic-based capacity. About 91% have high land-based capacity based on the possession of productive assets relating to agriculture and forestry productivity. Only 9% have low capacity. About 45% have high capacity and 55% have low capacity. In the last 10 years, most households that used to have assets like fishing nets, esky, boat engine 15 HP, fibre glass canoe, currently, do not have those assets. This suggests that households do not have the capacity to maintain the possession of aquatic-based assets as compared to land-based assets. Hence, household's land-based capacity is higher than aquatic-based capacity. The 45% of households with high aquatic-based capacity possess assets such as fishing nets, boat engine 15 HP, fibre glass canoe, esky, and deep freezer.

Table 6: Summary of household assets for households in sample population in East Rennell communities

Capacity/Community	Hutuna		Tegano		Niupani		Tevaitahe	
	HH	%	HH	%	HH	%	HH	%
Land-based capacity								
Low	1	9	0	0	1	10	0	0
High	10	91	11	100	9	90	9	100
Aquatic-based capacity								
Low	6	55	3	27	2	20	7	78
High	5	45	8	73	8	80	2	22

Comparatively, Niupani community have the highest aquatic-based capacity at 80%, followed by Tegano, 73%, whilst Hutuna and Tevaitahe have low aquatic-based capacity at 45% and 22% respectively. For land-based capacity, the sample population in all four communities showed high land-based capacity – Hutuna 91%, Tegano 100%, Niupani 90% and Tevaitahe

100%. This suggest that all four communities have capacity (based on asset possession) to exploit land-based resources through agriculture and forestry. The same is not true for aquatic-based resources. A low number of households in the sample population have high asset-based capacity to exploit both land and aquatic resources simultaneously. The survey showed that Hutuna have only 18% (2), Tegano 36% (4), Niupani 0% (0) and Tevaitahe only 22% (2). In the last 10 years, all households showed an increase in the number of durable assets they acquired, an increase in the range of 4-7 assets. The most common durable assets owned by households are mobile phones, touch screen phones, gas cookers, solar panels, solar battery, inverter and an increase in the number of aluminium pots and utensils. However, sample population of households in Tevaitahe showed a decrease in possession of productive assets mainly because most households who owned aquatic based assets in the last 10 years no longer owned them currently, as they do not have the financial capacity to repair or maintain the assets.

3.8.3 HOUSEHOLD EXPENDITURES

In the last 30 days and extending to the last 6 months, all households in all four communities used cash to purchase rice and other processed food. The same is also true for tithes, church contributions and church offerings. Mobile recharge, social obligations, fuel and transport are also common expenses for households. Households have not spent cash on vegetables, fruits, garden produce, fish, crabs, alcohol, house construction or labour in the last 6 months. Only a few households spent cash on cigarette, betel nut, new clothes, and new household utensils or paid for medical expenses.

Table 7: Household expenditure summary

Expenditure Item	Hutuna No. of HHs	Tegano No. of HHs	Niupani No. of HHs	Tevaitahe No. of HHs
Vegetables	0	0	0	0
Fruits	0	0	0	0
Cassava/potato	0	0	0	0
Fish	0	0	0	0
Crabs,crayfish, shells	0	0	0	0
Rice	11	10	10	9
Other processed food	11	10	10	9
Betel nut	0	6	7	5
Cigarette	2	5	6	5
Alcohol	0	1	4	1
Firewood	0	0	0	1
Mobile recharge	5	7	0	2
Social obligations	5	0	7	1
New clothes	3	2	1	5
Household utensils	3	3	4	3
Fuel	4	5	3	4
Transport fare	2	4	5	1
School fees	0	3	7	5
House repair	0	0	1	1
House construction	0	1	0	0

Asset repair	0	0	0	0
Water tank	0	1	0	0
Tithes	11	7	3	4
Church offerings	8	8	8	8
Church contributions	5	1	6	6
Medical expenses	3	3	4	1
Farming expenses	0	0	0	0
Labour	1	0	0	0

3.8.4 CREDITS, FINANCE MANAGERS OF HOUSEHOLD INCOME

Most households take credit for (i) food, (ii) school fee, (iii) transport (fare). The most frequent use of the credit is food. The three main credit lenders in the communities are (i) canteen owners, (ii) Private, and (iii) family. In Hutuna community 85% was provided by canteen owners and 15% from private sources. In Tegano community, 40% from canteen owners, 33% from family members and 27% from private sources. In Niupani community, 100% of credit was from canteen owners whilst in Tevaitahe community 88% from canteen owners and 12% from family members. In all four communities, canteen owners are the modal credit providers. In the four communities Tegano community taken credit up to 82%, Hutuna 64%, Tevaitahe 44% and Niupani 30% of the sample population.

Table 8: Sample population credit behaviour in East Rennell communities

Credit/Community	Hutuna		Tegano		Niupani		Tevaitahe	
	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%
Have taken credit	7	64	9	82	3	30	5	56
Have not taken credit	4	36	2	18	7	70	4	44

Apparently, credit taken are used for food and basic survival and not for the purpose of investment (school fees, house repair, house construction, procure new productive assets, etc.). The inability to generate sufficient income to meet expenditure and increase savings, regurgitates the poverty cycle of taking credit for survival only and not to get out of the poverty cycle. It is recommended that communities conduct training financial literacy to better understand the concept of money, investments and improving socio-economic status in the community through better financial literacy.

3.8.5 SAVING AND FINANCIAL MANAGEMENT AT HOUSEHOLD LEVEL

The survey showed difference in the responsibility for financial management at the household level. In Hutuna and Tegano communities, women mostly decide on how to spend their household income compared to Niupani and Tevaitahe, whereby men decide on how to spend

their household income. Sharing the responsibility of decision-making in financial management is low for Hutuna and Tegano but is not practised for Niupani and Tevaitahe, in the sample population.

Table 9: Financial management at the household level

Gender/Community	Hutuna		Tegano		Niupani		Tevaitahe	
	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%
Male	4	36	1	9	10	100	6	67
Female	6	55	8	73	0	0	3	33
Both (male and female)	1	9	2	18	0	0	0	0

4. DISCUSSION

With the goal of identifying baseline indicators and socio-economic status of the communities in East Rennell, the study set out to explore eight different variables to determine the socio-economic status of the communities, particularly from the standpoint of resource management and conservation. In this light, the eight variables included:

1. Education
2. Occupation
3. Social groups
4. Sanitation
5. Income (expenditures, savings)
6. Resource access
7. Livelihoods
8. Attitudes, behaviours and perceptions on resource use and conservation

I. Education

Education is a critical variable for measuring SES. Education enhances wealth creation, employment, occupation opportunities and increasing income status. The survey showed educational attainment is very low for both men and women in all four communities. The highest level of education attained for most is secondary level education only. Most households scored low on the education variable.

II. Occupation

Like education, occupation is an important variable for measuring household capacity to earn income for economic empowerment. The study showed that most households have high number of young people in communities who do not have an occupation, therefore, they do not contribute to the SES of the family.

III. Social Groups

Social groups is an important variable in the SES as it measures social cohesion amongst members through their affiliation and membership. The presence of strong membership indicates positive relationships trust and cohesion. This variable measures highly in all households.

IV. Sanitation

Good sanitation enhances human wellbeing and social economic development. The study showed that some level of work has been done and some more work needs to be done to transform sanitation and wellbeing of households.

V. Income

The ability to earn and income is important to the SES of households. This variable is considered along with other factors such as expenditures and ability to save, take credits and possess productive assets and durable goods. The ability to diversify income sources is important as it creates stability in one's income streams. The survey found that most incomes are land and aquatic based. Whilst it is reliable, it did not have the scope to increase production as compared to service-based incomes.

VI. Resource access

Resource access can have long-term impact on the wellbeing of household members through employment, sustenance, income, and health benefits. Sustainability of resource utility is core to ensuring quality resource access and flow on benefits to households. Whilst resource access is important, the state of the resource condition is equally important to maintain. A poor state of resource conditions is not conducive to maintaining quality SES. The study showed that for some key resources, the state of the resources is frequently identified as in a bad condition. The main resources identified as in a bad state are: coconut trees, food gardens, trees for timbers and tilapia. These resources are accessed on a daily basis.

VII. Livelihoods

Households with multiple livelihood assets are generally more resilient, meaning they have the capacity to preserve, maintain or transform their socio economic status when faced with adversity or in adverse events than households with fewer livelihood assets. Livelihoods are set of everyday activities essential for daily life, such as cultivating land for farming, fishing, and cutting of trees for timbers for shelter. The study showed that land-based livelihood

activities are more diverse than aquatic-based activities, which are very limited to fishing. Access to productive assets enables viability of livelihood activities. Whilst some have higher capacity to accrue assets, others have limited capacity to accrue productive assets to support livelihood activities.

VIII. Attitudes, behaviours and perceptions

Households' attitudes, behaviours and perceptions also shape the tendency to over exploit or conserve resources in a manner that benefits biodiversity or nature and people that depend on the environment and resources. Perceptions shape the attitude and behaviour one demonstrates towards environment management and conservation. The ability to care for, protect and seek harmony with nature comes from taking a certain philosophical standing on the relationship between human and nature. This study showed that most household heads predominantly agree on most theoretical concepts on sustainability, conservation and good governance for sustainable resource management. However, some household heads showed disagreement on the concept of financial payment for the operations and upkeep of the environment and resources that sustains their life.

Households' ability to make saving and spent on household investment (e.g. house, school, productive assets, repair of productive assets, health care) are indicators of improved standard of living in a community. The ability to save only for food, social obligations, church obligations, basic utensils is a low standard of living in communities that only cater for bare survival and rituals. The survey have identified some indicators for each of the four classes of socio-economic status (SES).

In the final analysis, the survey analysis showed four classes of socio-economic status for East Rennell communities (see Table 10 and Figure 3). These included: (i) low, (ii) near low (iii) better-off and (iv) well-off. The classification of levels takes into consideration the economic status based on their annual saving capacity and key informants perspective of community context of low, near low, better-off and well-off for households.

Hutuna community has 18% of households in low class; 64% in near low class; 9% in better off class and 9% in well off class. Tegano community has 46% of households in low class; 27% in near low class; 9% in better off class; and 18% in well-off class. Niupani community has 80% of households in low class, 0% in near low class, 20% in better off class; and 0% in well-off class. Tevaitahe community has 89% in low class, 11% in near low class, 0% in better off class and 0% in well-off class. Intervention(s) that could lift households in East Rennell out of the low class and near low class into better off and well off classes is imperative.

Table 10: Income and saving and standard of living

HH socio-economic status	Annual saving value	Hutuna		Tegano		Niupani		Tevaitahe	
		HH	%	HH	%	HH	%	HH	%
Low	From 100 – 900 plus	2	18	5	46	8	80	8	89
Near low	From 1000 – 2000 plus	7	64	3	27	0	0	1	11
Better off	From 3000 – 4000 plus	1	9	1	9	2	20	0	0
Well off	From 5000 and above	1	9	2	18	0	0	0	0

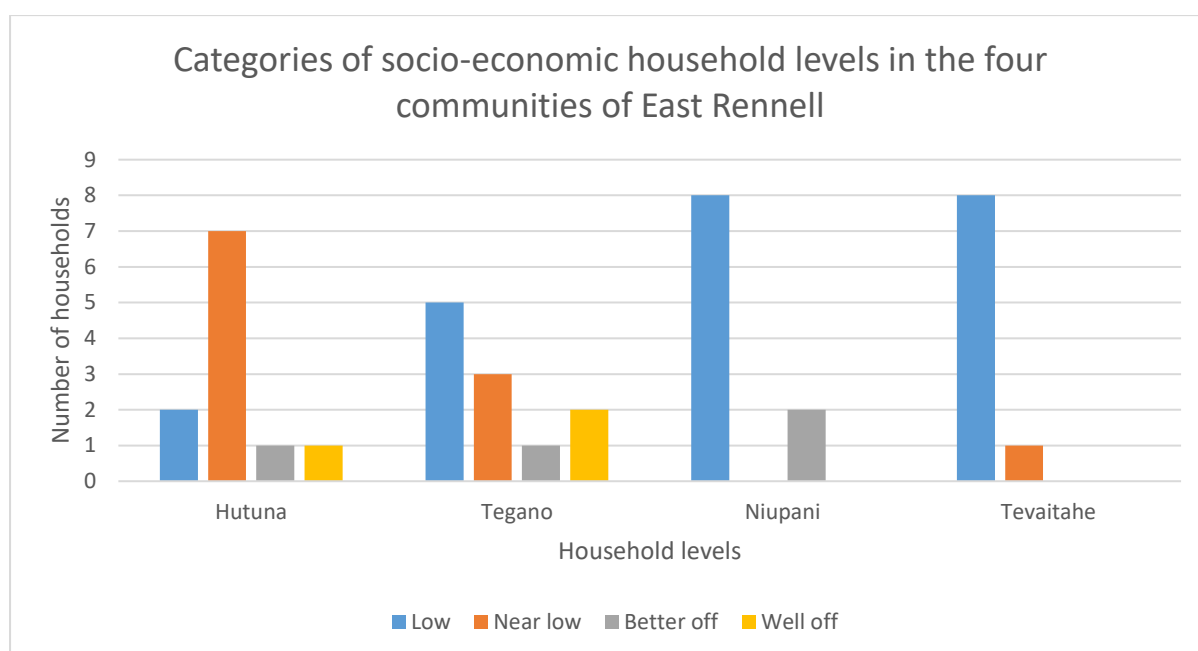


Figure 4: Categories of standard of living in the four communities of East Rennell

Based on the economic status levels, the social indicators for the four classes, deduced for each of the eight variables, are summarised in Table 11 below.

Table11: Summary of the measuring variables and socio-economic status levels

Variables	Household socio-economic status levels			
	Low status indicators	Near low indicators	Better-off indicators	Well-off indicators
Education	No education	Up to primary or secondary	Post-secondary level	Postgraduate level
Occupation	No occupation	Have only one occupation	Have at least two forms of occupation	Have multiple occupations
Social groups	Not a member of a social group Have social restrictions on participation	Have only one group	Multiple social groups and networks	Have investment groups (e.g. savings clubs)
Sanitation	Use pit latrine only	Share flush toilet	Have flush toilet Have some resources to maintain but not secure	Have flush toilet Have resources to repair and maintain flush toilet
Income	Ability to save is very minimal (up to \$10-\$50/month) Inability to invest in long term goals Spend only on basic needs for survival and rituals (e.g rice, processed food). No money to meet rituals and social obligations	Have productive assets but in single or low quantity Ability to save is 50 to 100/month Ability to invest in long term goals is sporadic	Ability to reduce expenses and save minimum of 200/month Increase the ability to invest in productive goods Ability to start small investment in long term goals (e.g. school, health goals, housing etc.)	Able to save a minimum of 300/month Able to invest in productive assets Able to spend on long term goals such as in education Able to take care of medical expenses
Resource access	Access is limited	Access is enhanced	Access is enhanced with resources,	Multiple assets to access resources

			capacity and multiple access	Use labour to access resources
Livelihoods	Minimal ability to keep expand livelihood activities	Able to support two forms of livelihoods	Able to support multiple forms of livelihoods	Able to support multiple forms of livelihoods and surplus
Attitudes, behaviours and perceptions	No respect for leaders, and no sense of stewardship	Limited respect for law and order	Support law and order with some support to learn	Respect, stewardship, trust and collective action

5. RECOMMENDATION AND CONCLUSION

The socio-economic survey concludes with the identification of the different levels of socio-economic status for households in East Rennell. The survey concluded that four levels of socio-economic status classes emerged from the data. These include low, near low, better-off and well-off status. The communities of Hutuna, Tegano, Niupani and Tevaitahe have households that identified with each of these levels. For each of these levels, indicators derived from the survey, were identified and used to classify the different levels with expert local knowledge of hardship. The indicators can be treated as initial dataset and can be further refined and used in monitoring community wellbeing for the purpose of transitioning from low to better-off or well-off, based on eight variables including education, occupation, sanitation, social groups, livelihoods, income, resource access and attitudes, behaviour and perceptions. In light of the insights generated from the survey, the following recommendations are proposed:

- The EREPA Project to validate the emergent four classes of socio-economic status for East Rennell with communities, community leaders and PA management committee members, to form the baseline for the monitoring and evaluation of the PA and its impact in East Rennell communities, at socio-economic household level.
- The EREPA project to validate the indicators that emerge from the survey for each of the four classes in a validation meeting with communities of Hutuna, Tegano, Niupani and Tevaitahe for the purpose of PA management committee monitoring in communities.
- EREPA Project to present the findings of the survey to communities, community leaders, PA management committee, in an effective dissemination approach, using appropriate tools and technical for disseminating information.
- EREPA Project to facilitate financial literacy training for communities to better understand the concept of money, investments and improving socio-economic status in the community through better financial literacy.
- Any sharing of benefits accrued from carbon credit and PA, ideally, should consider the households in the ‘low’ and ‘near low’ levels of the communities to push them out and into ‘better-off’ or ‘well-off’ levels.
- The survey recommended community management rules for certain resources such as trees for timber, tilapia, coconut plantations, garden crops and garden land and coconut crab and that the status of pandanus resources are still in good condition.
- This survey recognised the socio-economic status of East Rennellese could markedly improve by engaging the enormous untapped human resources in its young population,

which appeared suppressed by cultural practice. This report recommends suitable advocacy approaches and discussion with community power holders, using evidence-based approaches to seek better engagement and utilisation of this untapped human resource, for bettering the socio-economic status of East Rennellese.

- This survey recommends that a transformative livelihood diversification is needed for East Rennell that must include a strong service-based income sources to support land-based (forestry and agriculture) income sources for households.
- This survey recognised that attempts to improve socio-economic status of East Rennell communities from low, near low to better-off or well-off status require transformative intervention that moves beyond the traditional livelihood story of resource management for communities, which has limited transformative ability given the broader developmental and geographic complexities in East Rennell. This survey recommends a transformative carbon credit programme, with a high trickle-down effect, to transform livelihood activities for East Rennell, able to make a dent in the socio-economic status and overall wellbeing of East Rennellese.

6. CONCLUSION

In summary, this survey has met its objectives. It has identified four levels of socio-economic status for East Rennell communities and associated indicators as a starting point for defining and further refining the baseline information and data for EREPA Project for purpose of monitoring and potentially evaluation of project impact in East Rennell. Based on insights derived from the survey, the report puts forward nine important recommendations for the consideration of relevant implementing actors or agencies for action.

APPENDIX 1: SURVEY QUESTIONNAIRE

Date of interview:

Enumerator ID:

Questionnaire ID:

1. Household particulars

Province	
Ward	
Village	
Female Headed-Household (FHH) or Male-Headed Household (MHH)	
Age of respondent	
Denomination of HH	
Name of your tribe	

2. Household demographic information

No.	Relations to HH (Code A)	Sex (Code B)	Age (Code C)	Social Group membership (Code D)	Church Group membership (Code E)	Current residence (Code F)	Educational Attainment (Code G)	Main occupation (Code H)	Secondary occupation (Code H)	Access to social media (Code I)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

3. Household livelihoods

3.1 What are the three main livelihood activities for your household?

- a)
- b)
- c)

3.2 Are these forms of livelihoods the same in the last 10 years?

- a) 1 = Yes
- b) 2 = No

3.3 If 'No', list the three main types of livelihood in the past 10 years.

- a)
- b)
- c)

4. Household assets

4.1 What types of productive goods do your household own over the years?

Number	In the last 10 years		Currently	
	We owned:	Quantity	We own:	Quantity
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

4.2 What major durable goods do your household own over the years?

Number	In the last 10 years		Currently	
	We owned:	Quantity	We own:	Quantity
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

5. Household income/wages and savings

5.1 What are the sources of household income in the last 10 years?

Sources of income/wages	Main earner for each source of income (Use Code A)	How often do you earn or receive payment? (Daily, Weekly, Fortnightly, Monthly, Quarterly, Half-Yearly, Annually)	Average earning or wages?

5.2 What are the sources of household income at present?

Sources of income/wages?	Main earner for each source of income (Use Code A)	How often do you earn or receive payment? (Daily, Weekly, Fortnightly, Monthly, Quarterly, Half-Yearly, Annually)	Average earning or wages?

5.3 What are three most important sources of income for your household?

a)

b)

c)

5.4 Who makes the decision on what to do to earn income/wages? (Use Code A)

5.5 Who manages the income for your household and why? (Use Code A)

5.6 Do you have a family saving account? (1= Yes / 2= No)

5.7 If 'Yes' how much do you save in a month? If 'No', why not?

5.8 How do you use your savings?

5.9 Do you receive remittance from your family members? 1=Yes / 2= No

5.10 If 'yes', how often do you receive remittance?

- a) Weekly
- b) Fortnightly
- c) Monthly
- d) Quarterly
- e) Annually
- f) I do not know

5.11 What is the range of remittance you received?

- a) \$100 - \$500
- b) \$600 - \$1,500
- c) \$ 1,600 - \$2,100
- d) \$2,200 - \$2,700
- e) \$2,800 - \$3,300
- f) \$3,400 - \$3,900
- g) \$4,000 and above

6. Household expenditure and credit

6.1 What are your main household expenditures and credits in the last 30 days and last 6 months?

Items	Expenditure in the last 30 days (please tick)		Expenditure in the last 6 months (please tick)	
	Cash purchase	Credit purchase	Cash purchase	Credit purchase
Vegetables				
Fruits				
Cassava/potato				
Fish				
Crabs, crayfish, shells				
Rice				
Other processed food				
Betel-nut				
Cigarette				
Alcohol				
Firewood				
Mobile recharge				
Social obligations				
New clothes				
Household utensils				
Fuel				
Transport (fares)				
School fees				
House repair				
House construction				
Asset repair				
Water tank				
Tithes				
Church offerings				
Church contributions				
Medical expenses				

Farming expenses (chicken/piggery, etc.)				
Others (specify)				

6.2 Who makes the decision on what to spend the money on? (Use Code A)

6.3 Compared to the last 10 years, how do you see your expenditure?

- a) 1= increase
- b) 2 = remain the same
- c) 3 = fluctuate
- d) 4 = decrease
- e) 5 = don't know

6.4 Did your household members take credit in the last 12 months?

- a) 1= Yes
- b) 2 = No

6.5 If 'No', why not? If 'Yes', indicate the credit provider?

6.6 For what purpose do you use your credit?

7. Household sanitation

7.1 What type of sanitation system does your household have?

- a) Deep pit latrine
- b) Own flush toilet
- c) Share flush toilet with other households

8. List the natural resources your household normally access to meet your household needs?

Type of natural resources	Access by whom (Use Code A)	How often do you access the resource (Daily, Weekly, Fortnightly, Monthly, Quarterly, Half- Yearly, Annually)?	For what purpose? (Food, income, gift, special occasions, etc.)	What is the state of the resource? 1= very bad; 2=bad, 3=fair, 4=good, 5=very good

8. Attitudes, behaviours and perception on ecosystems and resource use

Statements	1=Strongly Disagree	2=Disagree	3=Neutral	4=Agree	5=Strongly Agree
I am willing to contribute financially to ensure community management rules are effectively enforced by responsible community leaders and rangers					
Ecosystems such as rivers, lagoons, forests, mangroves, and reefs should be better managed to improve household wellbeing and biodiversity					
I have respect for the role of tribal and community leaders who make decisions to improve resource management and standard of living in the community					
Conservation is important to reduce biodiversity loss and safeguard the wellbeing of conservation communities					
I would discourage community and tribal leaders from engaging in logging activities near rivers to avoid ecosystem destruction					
It is important to treat the land and sea, and resources within with respect and care so that our future generations also enjoy the same resources we enjoy today					
I have a good understanding of the 12 steps in the Protected Areas Toolkit that communities will follow to establish a protected area					
I am fully aware of the work of EREPA Project in the community					
I am aware of the names of the Protected Areas Management Committee members in my community					

THE END.

THANK YOU FOR YOUR PARTICIPATION.