Guyana's Indigenous Peoples 2014 Survey

Final Report

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Country Department Caribbean Group

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Abstract

In 2014 a survey of 11 indigenous villages and 337 households was conducted to understand the economic conditions and document perceptions and opinions of leaders and households on various matters of import. This report presents the results of the survey. The main findings are that Indigenous villages face serious underdevelopment challenges due to deficient infrastructure, limited human capital, high dependency ratios, and lack of access to capital for investment.

JEL Codes. R1, R2, O18

Keywords: developing countries, household analysis, indigenous peoples, regional economics, rural economies

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Introduction

According to the 2012 population census, the indigenous peoples of Guyana number 78,492, or 10.51 percent of the total population. They reside primarily in the rural interior or hinterland of the country, which comprises 92.5 percent of the country's land mass. Approximately 81 percent of indigenous people live outside of Region 4, Guyana's most urbanized administrative district, which includes the capital city, Georgetown. They live mainly in Regions 1 (Barima-Waini), 7 (Cuyuni-Mazaruni, 8 (Potaro-Siparuni), and 9 (UpperTakutu-Upper Essequibo). The two largest concentrations of native peoples are in the Rupununi savannahs (Region 9), located in the far southwest corner of the country bordering Brazil (20,808 people), and in Region 1, the northwest region bordering Venezuela and the Atlantic Ocean (17,846).

Prior to 2015, indigenous peoples were called Amerindians[1] in official publications and general literature. They are members of nine tribes: Waraus, Wapishanas, Arawaks (Lokono), Caribs (Karinya), Patamona, Makusi, Wai- Wais, Arecunas, Akawaios (***Kapoh)***. The oldest ethnic group or tribe that settled in present-day Guyana, according to archaeological evidence from shell mounds, is believed to be the Wauraus, who have occupied the Northwest and the Pomeroon regions for 7,000 years. The indigenous group that most recently settled in present-day Guyana is the Wapishanas, who migrated to the Rupununi savannahs from the Rio Negro basin of Brazil at the start of the 18th century.[2] Currently, indigenous peoples own 13.6 percent of the national territory but claim a larger area. One of their perennial complaints is the states' and non-indigenous people's refusal to recognize their right to use traditional lands.

Despite a rich ancestral knowledge dating back thousands of years and residing in territories with the significant mineral wealth (gold, diamonds, manganese, bauxite, rare earths, uranium, lithium); timber resources; and enormous biodiversity contained in their traditional territories, Guyana's indigenous peoples remain among the poorest segment of Guyanese population (UNDP, 2011). The hinterland area is characterized by few economic opportunities, poor environmental and health conditions, a lack of adequate infrastructure, and access to mostly rudimentary, low-quality social services. The last official poverty statistics date to 2006, when the national poverty rate was calculated to be 36.1 percent. Hinterland poverty was reported higher than the nationwide average and urban poverty was lower than the nationwide average.

More recently, United Nations Infant and Children's Fund (UNICEF) highlighted that indigenous populations are likely to be twice to five times poorer than non-indigenous populations, that one in five of every indigenous teenage (15-19) females has experienced childbirth compared to the national rate of 15 percent, and that the pass rates on National Sixth Grade Assessment are much lower in predominately indigenous rural schools than in coastal schools (UNICEF, 2016).

Indigenous peoples are first inhabitants. To protect their distinct culture and identity, their rights relating to land and resources, self-determination, and prior consultation on decisions that may affect them materially are protected by the Constitution and other legislation, including the Amerindian Act, the Environmental Protection Act, the State Lands Act, the Forests Act, the National Protected Areas Act, and the Mining Act. However, enforcement of these legal

[1] The term "Indio" (Spanish)-Indian (English translation) was a misnomer applied by Christopher Columbus to the native peoples of the Americas because he mistakenly believed that he had reached India. From 1838 to 1917, some 288,000 East Indians arrived in British Guiana, present-day Guyana, and the term Amerindian was used to distinguish East Indians and Indians. Starting in 2015, the official and preferred term has been "indigenous peoples" to correct the historical misnomers. Increasingly, indigenous villages are being renamed in tribal languages.

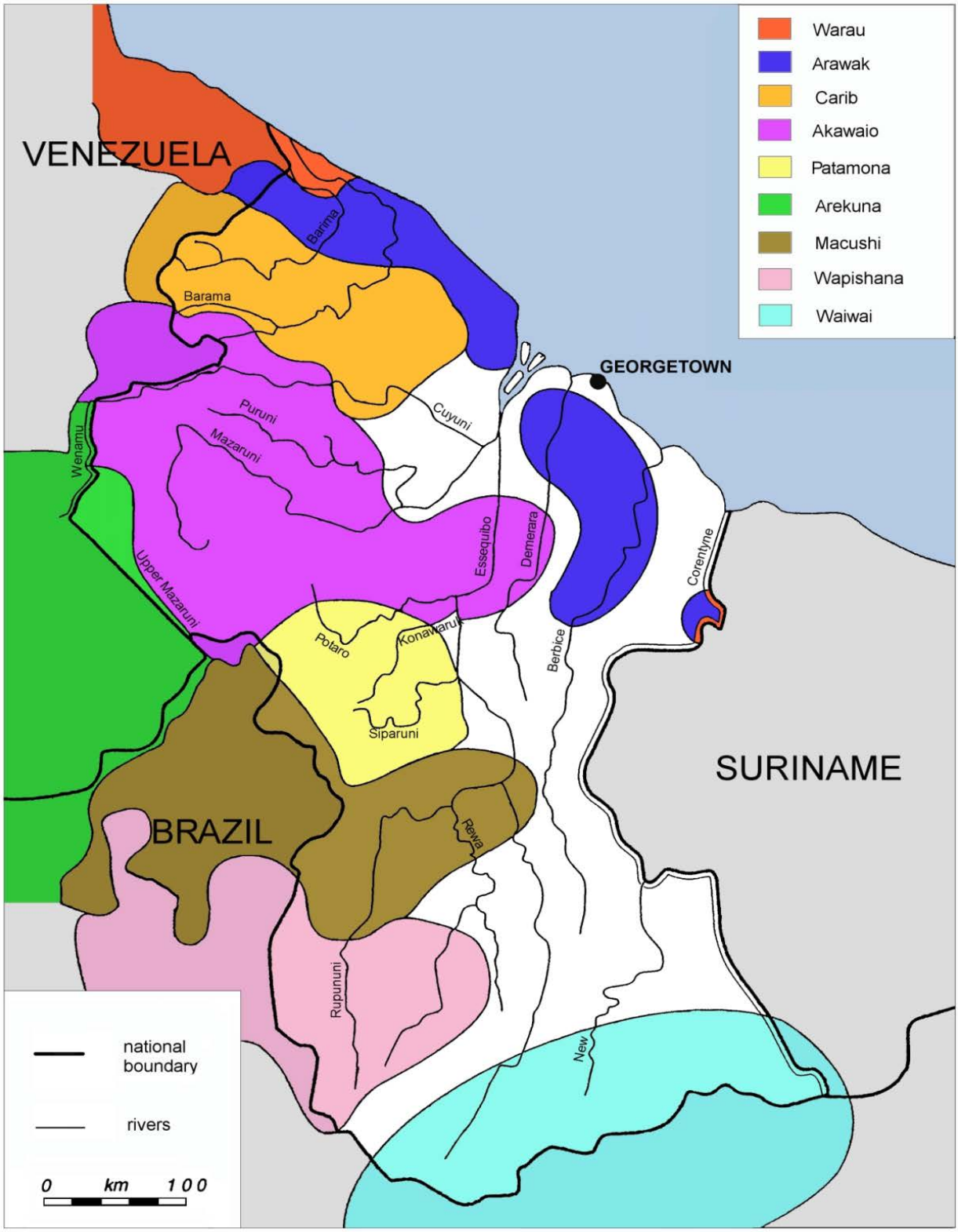
[2] See: http://www.guyana.org/features/guyanastory/chapter3.html

protections is uneven, contributing to continuing social and economic exclusion and political marginalization.

Map 1 shows the geographic concentration of the nine indigenous tribes in Guyana. The Arawaks dominate the coastal belt. The Warau occupy the northwestern tip of the country. The Caribs and the Akawaios mostly reside in the western central belt, while the Patamona, Macushi, and Wapishana range from the Pakaraima mountains to the southern savannahs. The Wai-Wai are the most isolated, located in the far south close to the Brazilian border. The Arekuna are barely represented in Guyana, with most of the tribe residing in Venezuela. The larger tribes in rank order of population size are: Arawak, Macusi Waipishana, Warau, Akawaio, Patamona, Carib, Arekuna, and Waiwai.[3]

[3] See Enthologue.com-Jonathan Renshaw 2007.

Map 1. Geographic Concentration of Indigenous Tribes in Guyana



Source: Technical Note on Indigenous Peoples (2007).

Purpose

This report presents the results of a survey administered to 11 Indigenous Village Leadership Councils and 867 households. The objectives of the survey were to better understand the situation of indigenous peoples in Guyana and to support the work of the Bank and the government of Guyana in designing programs, policies, and interventions leading to improvements in the lives of all of Guyana's citizens, with emphasis on programs targeting indigenous peoples and hinterland regions.

Methodology

The methodology used was a two-staged survey. Of the 169 recognized and predominantly indigenous villages in the country, 11 villages were selected to be surveyed based on three criteria: (i) diversity of main economic livelihood activities; (ii) tribal diversity; and (iii) geographic and agro-ecological diversity. The three main economic activities found in indigenous villages are (i) subsistence agriculture, fishing, and livestock rearing; (ii) logging; and (iii) mining. Logging operations are conducted mostly in the villages located in the heavily forested central, eastern, and southeastern portions of the country (Regions 4, 5, 6, and 10) while mining activities predominate in the west-central region (Mazuni-Cuyuni river basins and the upper northwest area close to the border with Venezuela). The second criterion was tribal affiliation of the nine tribes. The Arawaks, along with Akawaios, Caribs, and a few Waipshanas and Patamonas, were captured in the survey. Finally, the survey sought geographic diversity. Therefore, villages from eight of the ten administrative regions were included, from the border of Suriname, close to the Venezuelan border, in the southern savannahs of the Rupununi, and in more populous coastal administrative districts, reflecting a variety of agro-ecological zones and varying degrees of integration into the monetized national economy.

In each village, the leadership council was interviewed. The leadership council consists of the Toshao, Deputy Toshao, Secretary, Treasurer, and up to eight other counselors. In addition, the village headmaster and clinic nurse were consulted to obtained statistical information on student enrollment, student achievements, school matriculation rates, incidence and patterns of morbidity, and quality of public infrastructure (size and staffing of schools and health clinics). The purpose of the village-level survey was to obtain demographic information on economic activities and employment patterns and information on the quantity and quality of basic infrastructure and housing stock as well as learn about major issues confronting the community, plans, and aspirations of the elected village leaders. Eleven village leadership interviews were conducted (See Appendix 1).

Within each village selected, household surveys were randomly administered, with the number of households selected proportional to the total number of households in the community. The instrument was semi-structured and gathered information on socio-economic status and perceptions of major issues confronting the community (See Appendix 1).

Legal, Institutional, and Policy Framework

Definition and Status of Indigenous Peoples: The Amerindian Act 2006

Indigenous peoples, like other ethnic groups in Guyana, are defined by their historical origin. They are the descendants of the peoples that inhabited the region before the arrival of the Europeans in the late 16th century. The term "Amerindian" is widely used in Guyana; originally intended to distinguish the indigenous population from the Indo-Guyanese, it is not considered offensive.

The new Amerindian Act (Act No. 6 of 2006) regulates many aspects of the lives of the Amerindian peoples of Guyana. The Act defines an Amerindian as:

a. any citizen of Guyana who belongs to any of the native or aboriginal peoples; or

b. a descendant of any person mentioned in paragraph (a).

The stated aim of the Act is "…to provide for the recognition and protection of the collective rights of Amerindian Villages and Communities, the granting of land to Amerindian Villages and Communities and the promotion of good governance within Amerindian Villages and Communities."[4] The Act recognizes the Village Council, comprising a Toshao or Captain and from 6 to 22 Councillors as the local authority in indigenous communities, rather than the Community Development Councils or Neighbourhood Democratic Councils found in other parts of the country. Under the Act, the Toshao is an *ex officio* justice of the peace and is given the powers and immunities of a rural constable, for which he or she receives a small stipend from the Ministry of Amerindian Affairs. Toshaos and Councillors are elected for a three-year term by simple majority, secret ballot.

The Act makes provision for District Councils covering three or more villages from the same geographic area and comprising the Toshaos and one Councillor from each village. District Councils can coordinate with Village Councils to develop district-level programs for environmental protection, health, education, and culture and can also resolve disputes. The 2006 Act establishes a National Toshaos Council, comprising all the Toshaos in Guyana, and an executive committee comprising one Toshao from each region and not more than ten additional Toshaos. The Council is mandated to meet at least once every two years and the executive committee at least twice a year. The functions of the Council include preparing strategies for poverty reduction, health, education, and natural resource management; promoting indigenous languages; promoting good governance; providing observers for Village and District Council elections; investigating allegations of improper conduct by Toshaos; and nominating representatives to the Indigenous Peoples Commission. The Council potentially offers an important forum for discussion of national programs and policies and for coordinating discussions on projects that may affect indigenous peoples.

[4] In the Act "Amerindian Villages" refers to communities that have land titles while "Amerindian Community" is used to refer to groups or communities that do not have formal rights to land.

Land Rights

Lack of land tenure security is a central concern for Amerindian peoples.[5] The lands that have been titled and demarcated are generally restricted to residential lands. Only Amerindian hunting and fishing grounds, vital for secure livelihoods and food security, largely remain without legal title. There are 27 villages with unresolved applications for extension to their lands. The original lands titled and demarcated might have only represented a portion of the total lands claimed or their population has grown since the titles were granted, necessitating an extension or addition to their titled lands. There are also 20 other settlements which do not meet the criteria under the Act for titling, that is, the villages have not been in existence for at least 25 years or their population is less than 150 people.

There is a need to establish effective, fair, and transparent mechanisms for clarifying and securing Amerindian land and territorial rights in a timely and efficient manner. Although the Amerindian Act provides for villages to apply to the Minister of Amerindian Affairs for a grant of communal land title over their traditionally held lands, there are no clear, transparent, and systematic criteria for deciding whether title should be granted or, more importantly, how the precise boundaries of any grant of land should be determined.[6] Some communities have repudiated the process under the Act. For example, six villages in the Upper Mazaruni Region (Region 7) are pursuing a court claim for recognition of Amerindian title, which is currently before the High Court in Georgetown.[7] Upcoming plans to move into the implementation phase of the Low Carbon Development Strategy (LCDS) will increase the urgency of resolving outstanding land claims and boundary disputes because communities may only opt into the LCDS if their lands have been formally titled.[8] In addition, there is uncertainty over the ownership of carbon revenues generated from projects on claimed or disputed lands and whether carbon contained in these areas would even be eligible for REDD+ payments under donor agreements, such as, for example, the Norway-Guyana agreement regarding the Guyana REDD+ Investment Fund (GRIF).

In its Readiness Preparation Proposal (R-PP) for the Forest Carbon Partnership Facility, the government of Guyana has acknowledged the critical importance of facilitating mechanisms for the fair and timely resolution of outstanding Amerindian land claims as part of the national REDD+ Strategy.

[5] At a press conference held on July 29, 2011, in Georgetown, Toshao Devroy Thomas of Arau Village in Region 7 said that the main concern of Amerindians is the non-recognition and respect of their lands and territories that they occupy and use ('Amerindian leaders see Georgetown conference a farce' *Kaieteur News*, July 30, 2011). In March 2010, Toshaos, regional leaders, and indigenous NGOs confirmed that, "Our top-most priority is to secure our traditional lands and territories." (Statement of Workshop Participants on Extractive Industries, Indigenous Peoples' Rights and National Development Policies, March 2010).

[6] Section 62(2) of the Amerindian Act provides only general guidance regarding the decision of the Minister of Amerindian Affairs whether to issue title, and it contains no criteria for demarcation.

[7] The claim, originally filed in 1998, brought on behalf of the Arekuna and Akawaio people of Phillipai, Jawalla, Kako, Paruima, Waramadong, and Kamarang Keng, seeks a court declaration of entitlement to traditional lands under the Constitution of Guyana ('Historic audio/visual case heard in High Court' Kaieteur News, February 15, 2011).

[8] The LCDS was adopted in 2009 to provide a national framework to guide Guyana's response to climate change.

PART I: TOSHAO LEVEL

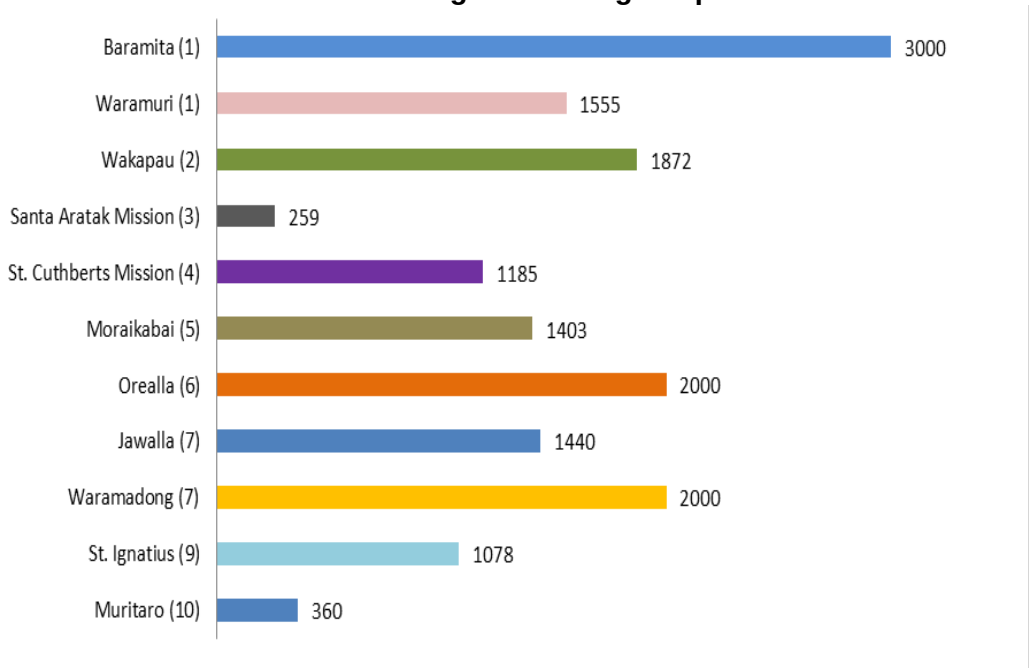
Social Conditions

Demographic and Spatial Characteristics

The Report of the 2012 Census states that there are 78,492 Amerindian, or indigenous, people in Guyana, equivalent to 10.5 percent of the country's total population of 746,955.[9] Figure 1 presents the distribution of the different ethnic groups from the last three censuses. It shows that the number of indigenous people in Guyana has increased, as has their importance as a proportion of the population, rising from 5.3 percent in 1980 to 6.5 percent in 1992, 9.2 percent in 2002, and 10.5 percent in 2012.

As can be seen in Figure 1, the village population size ranged from a low of 259 to a high of 3,000 people, with a mean of 1,286 (Figure 1). Most villages have households averaging 3-5 people. Baramita is an outlier, with many households with few individuals (Figure 2). Baramita is a mining town with many migrant workers, many of whom are non-indigenous. The oldest villages tend to be closest to the coast, and those villages furthest from the coast were only formalized within the last 50 to 100 years. Since European colonialization started on the coastal plain, the process of displacement, missionary-led clustering of rudimentary schooling and health services, and the subsequent formation of demarcated reservations started first in the coastal region.

Figure 1. Village Population



Source: Survey data

Most indigenous peoples live in the sparsely populated hinterland that comprises over 90 percent of Guyana's territory. The rest of the country's population is concentrated along a narrow strip of land that runs along the coast from Corriverton on the Corentyne River in the southeast, on the

[9] Bureau of Statistics 2012 Census (http://www.statisticsguyana.gov.gy/census.html).

border with Suriname, to Charity on the Pomeroon River in the northwest. The hinterland comprises Region 1 in the northwest, and Regions 7, 8, and 9, in the interior. There is also a significant indigenous presence in the interior of Region 2 (see Map 2). In most hinterland regions, indigenous peoples comprise most of the population. The Amerindian peoples are divided into nine main ethnic groups: the Arawak (Lokono), Warau, Carib (Karinya), Akawaio, Patamona, Arekuna, Macushi, Wapishana and Waiwai. The geographic distribution of the indigenous population is summarized in Table 1 and presented in Map 1.

Map 2. Administrative Regions of Guyana

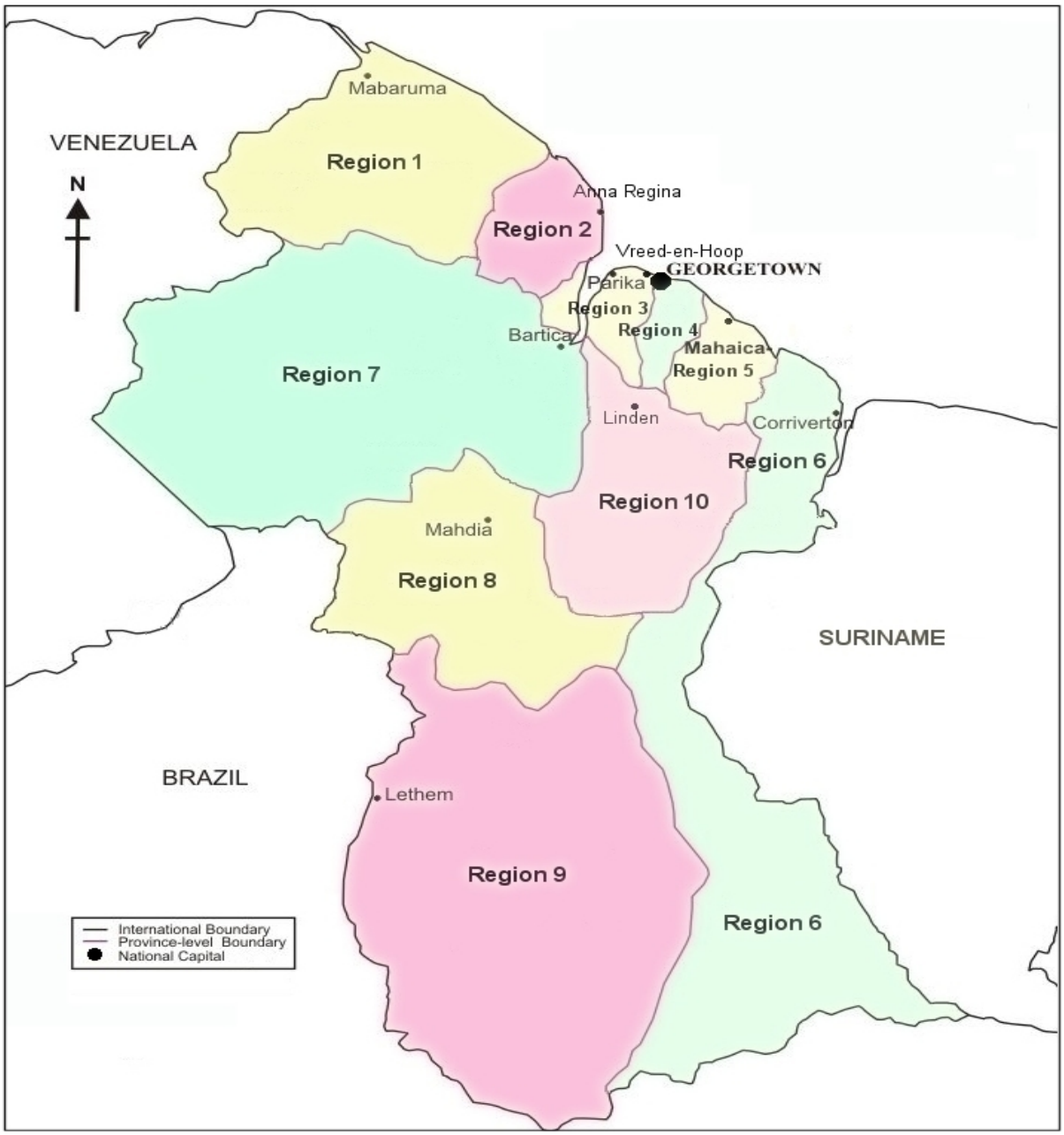


Table 1 lists the villages selected for the survey, excluding Baramita (which has a majority non-indigenous population). Approximately 16.7 percent of the country's indigenous population resides in these villages.

Table 1. Summary of Villages Selected and Key Characteristics

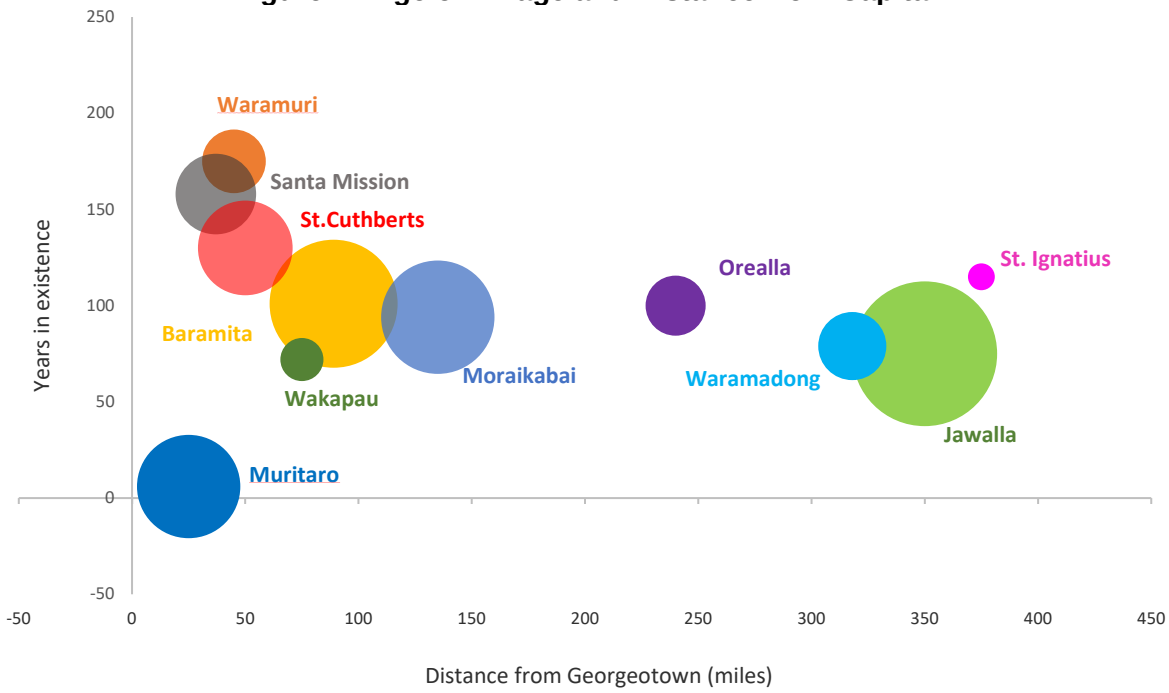
Name of Village	Region	Ethnic Group	Main Economic Activity	Year Settlement Founded	Number of Households	Population
Baramita[10]	Region 1	Carib	Mining	1913	1090	3000
Waramadong	Region 7	Akawaio	Mining	1935	145	2000
Waramuri	Region 1	Arawaks	Logging/ Fishery	1839	234	1500
Jawalla	Region 7	Akawaio	Mining	1939	250	1440
Santa Artak Mission	Region 3	Arawaks	Logging Agriculture/ Handicrafts	1856	58	259
Moraikabai	Region 5	Arawaks	Logging	1920	140	1403
Muritaro	Region 10	Arawaks	Logging	2008	70	360
St. Ignatius	Region 9	Multi-ethnic (Arawaks, Akawaio, Patamona, Machusi, Wapishana)	Agriculture	1899	380	1078
Wakapau	Region 2	Arawaks	Agriculture	Circa 1300	304	1872
Orealla	Region 6	Arawaks	Agriculture/ Fishery	1914	128	2000
St. Cuthbert's Mission	Region 4	Arawak	Logging	1884	250	1185
TOTAL					3,049	16,152

The distance of each Amerindian village from the capital of Georgetown and the number of years in existence are important factors to consider when examining the social and economic conditions of each village. As shown in Figure 2, 7 out of the 11 Amerindian villages are located within 135 miles from Georgetown. Of the remainder, the village of St. Ignatius is situated the furthest away, at approximately 375 miles from the capital. Orealla, Waramadong, and Jawalla are 240, 318,

[10] Note: Baramita is a replacement village. Nappi was the village originally selected, but the Village Toshao was not present when the survey team arrived, and permission was not granted to enter the village to conduct the survey. Baramita is not entirely indigenous since a large part of the population consist of coastlanders who have migrated to the area to engage in mining and trading. The indigenous population has been greatly reduced due to infectious diseases over the last two decades and is smaller than the non-indigenous population. It is a town is transition. Nonetheless, the respondents to the household survey were all indigenous, capturing the views and conditions of a town in transition.

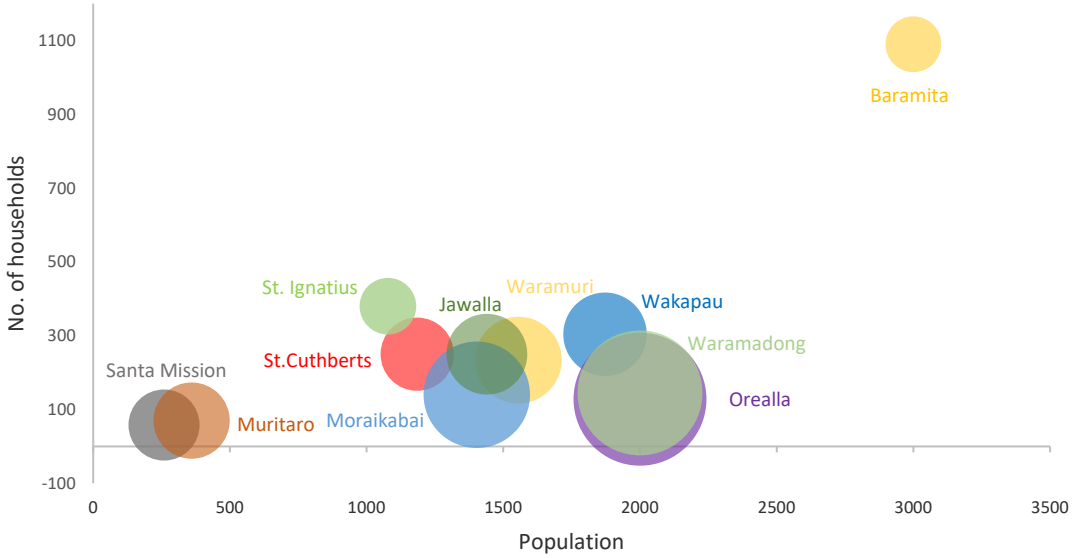
and 350 miles from the capital, respectively. The 11 Amerindian villages combined have been in existence for an average of 100 years. The village of Waramuri, founded 175 years ago, ranks as the oldest village, while Muritaro has been in existence for a mere six years.

Figure 2. Age of Village and Distance from Capital



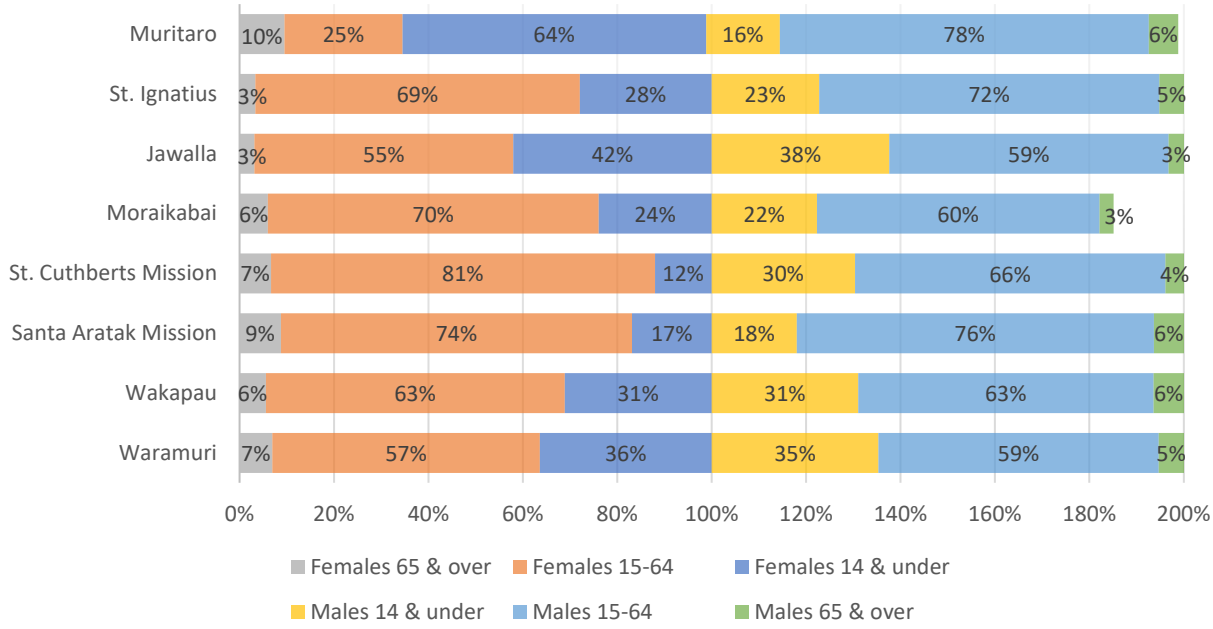
Each village's population density was determined by obtaining the population size, number of households, and average number of people per household (Figure 3). As depicted, Santa Mission has both the fewest households and the smallest overall population, while Baramita has the greatest number of households and the largest population: Baramita's population and household count are approximately 11 times and 18 times that of Santa Mission, respectively. The seemingly large difference between the densities of these two villages shows that villages cannot be examined identically; they have different fundamental characteristics which must be taken into consideration in all analyses. Given these two extremes, the average number of households in the 11 villages is 277, and the average population is 1,468. Excluding these extremes, the averages for the remaining nine villages are 211 and 1,433 people, respectively.

Figure 3. Household Number and Population Relationships



The average size of each household, that is, the average number of people per household, varies from one village to the next. Orealla has the largest, with an average of 15 people per household; Waramadong has the second highest, with 13 people, Moraikobai has 10 people per household, St. Ignatius and Barimita have an average size of 2 people per household, and the remaining 6 villages have an average of 4 to 6 people per household.

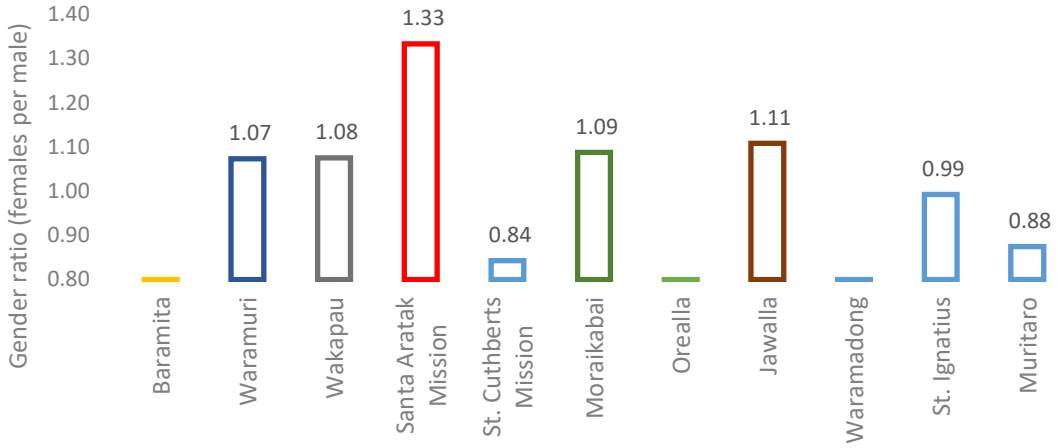
Figure 4. Age and Gender Distribution



The age and gender distribution information obtained for each village depicts both the percentages of different age ranges for both men and women and general male-to-female ratios. The age ranges considered in this study are 14 and under, 15 to 65, and over 65 for both men and women. As shown in Figure 4, for all the villages displayed, except for Muritaro, women aged

15 to 65 encompass the majority of the female population; and in all the villages depicted, the men in this same category encompass the majority of the male population. Muritaro is the only village in this study which faces a special age distribution case where the majority (64 percent) of its female population falls in the 14-and-under age range. This village therefore has a young female population. None of the villages face an aging population, as their over-65 range for both men and women only account for 10 percent and less of the respective gender population.

Figure 5. Gender Ratio



The male-to-female ratios show the number of women in relation to every man. An ideal equal distribution would be 1:1, where there is one woman to every man. For eight villages (see Figure 5) the ratios range from 0.84:1 to 1.33:1. St. Cuthbert's Mission has a ratio of 0.84:1 which means that for every man in the village, there are 0.84 women: the number of men therefore exceeds the number of women. This type of distribution also exists in St. Ignatius and Muritaro. Santa Aratak Mission has a ratio of 1.33:1, which means that for every man in the village there are 1.33 women. In this case, the number of women exceeds the number of men. This type of distribution also exists in Jawalla, Moraikobai, Wakapoa, and Waramuri.

Table 2. Population by Gender

Region	Village	Women	Men	Population
1	Baramita			3,000
2	Waramuri	805	750	1,555
3	Wakapau	970	902	1,872
4	Santa Aratak Mission	148	111	259
5	St. Cuthberts Mission	542	643	1,185
6	Moraikabai	731	672	1,403
7	Orealla			2,000
8	Jawalla	757	683	1,440
9	Waramadong			2,000
10	St. Ignatius	537	541	1,078
11	Muritaro	168	192	360
	Total			**16,152**

Land Issues

In the sample of villages selected, all villages held communal title (Table 3). Eight of ten were demarcated (Table 4), and only two of seven reported land encroachment issues (Table 5). There is a large range in the size of the reservations (Figure 6). The smallest reservation is 18 acres and the largest is 6,986 acres. The larger reservations were in Region 7 (Mazuni-Cuyuni) and Region 9 (Rupununi). They were also the sample points furthest from the coast and the most sparsely populated. St. Ignatius is approximately 343 miles from Georgetown and Jawalla 190 miles. The other sample villages are located closer to the coast, and they are much smaller, satisfying more residential needs rather than accommodating extensive agricultural, hunting/gathering, and mining activities.

Table 3. Land Titled

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	11	100.0	100.0	100.0

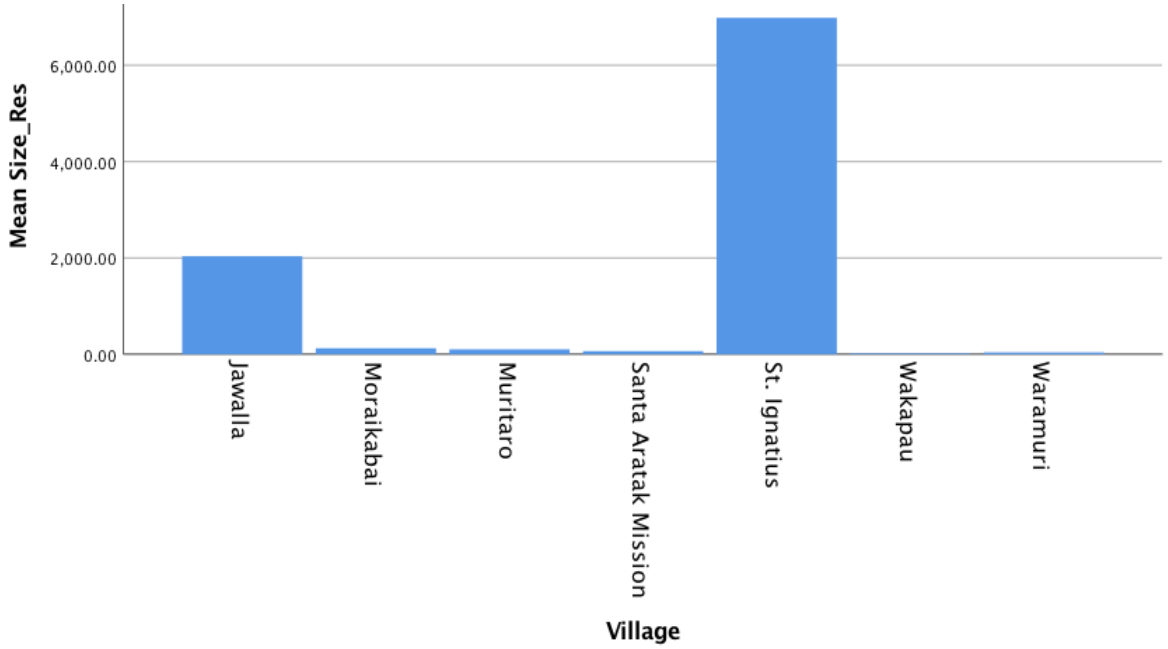
Table 4. Demarcated Lands

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	2	18.2	20.0	20.0
	Yes	8	72.7	80.0	100.0
	Total	10	90.9	100.0	
Missing	System	1	9.1		
Total		11	100.0		

Table 5. Land Encroachment Issues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	5	45.5	71.4	71.4
	yes	2	18.2	28.6	100.0
	Total	7	63.6	100.0	
Missing	System	4	36.4		
Total		11	100.0		

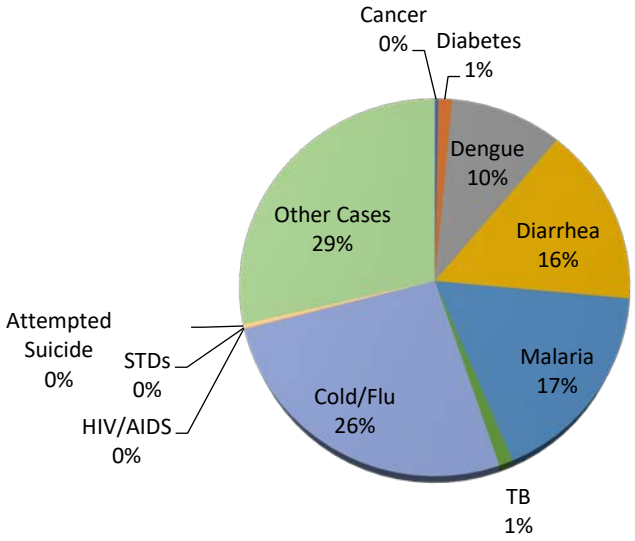
Figure 6. Mean Size of Reservation by Village (acres)



Health and Wellbeing

Figure 7a presents the percentages of illnesses other health issues reported in 2014 by all the Amerindian Villages studied. The most common discernible illness reported is colds/flu, accounting for 26 percent of total reported cases. Examining the cases reported individually by each village (Figure 5), colds/flu account for 19 percent, 28 percent, 29 percent, 57 percent, and 8 percent of cases in Waramuri, Santa Aratak Mission, St. Cuthbert Mission, Moraikobai, and Orealla, respectively. This may not appear significant when viewed in isolation, but these are the most common illnesses when investigating the villages in general. Because of social sensitivity and embarrassment, STDs are suspected to be underreported.

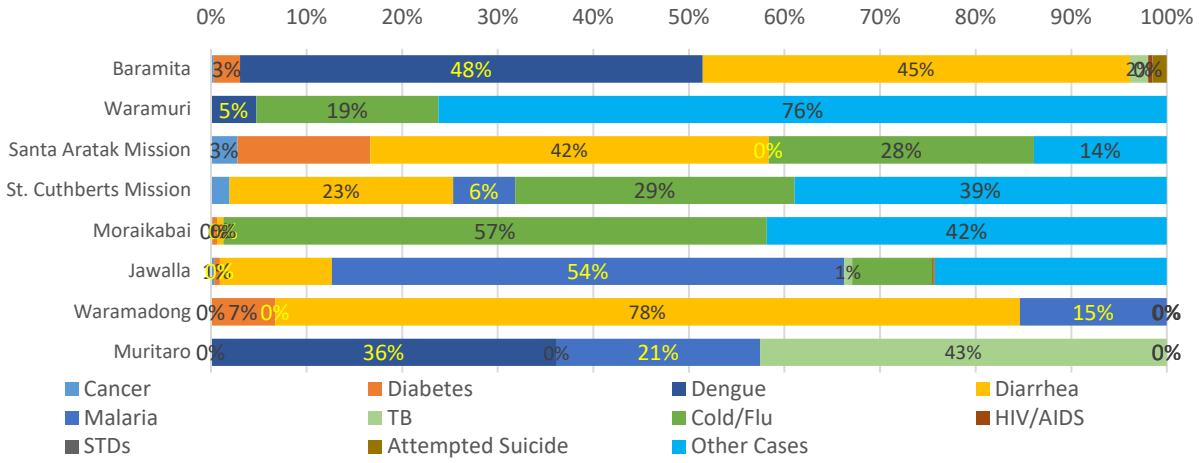
Figure 7a. Cases of Illnesses and Other Health Issues Reported for all Communities (percent)



Communicable diseases such as malaria, dengue, influenza, pneumonia, and tuberculosis, were more frequent than noncommunicable diseases (NCD) such as diabetes and cancer. The nature of illnesses and other health issues reported varies by village (Figure 7b). In Baramita, dengue is the most commonly reported illness, while in Waramuri several different unclassified cases were reported. In Santa Aratak Mission and Waramadong, diarrhea was most frequently reported. In St. Cuthberts Mission, several different unclassified cases were most frequently reported, in Moraikobai, cold/flu was most frequent, in Jawalla, malaria was most frequently reported, and in Muritaro, tuberculosis was the most frequently reported illness. Thus, each village has different needs with respect to health and common diseases.

The number of full-time and part-time medical workers available in each village is an important factor in the health and wellbeing of the residents. The study found that each village had at least one health worker (Figures 7c and 7d). Five of the villages had full-time medics, four had full-time midwives, and one had a full-time nurse while another had a full-time dentist. None of the Amerindian Villages had a full-time doctor. The lack of adequate numbers of full-time medical personnel is an important issue that needs to be addressed to improve the health and wellbeing of the residents of these villages. With respect to part-time medical personnel, 7 of the 11 villages were discovered to have at least one part-time doctor (Figure 7d). Five had part-time dentists, three had part-time medics, three had part-time nurses, and none had part-time midwives or health workers. Baramita, Waramuri, St. Ignatius, and Muritaro had no part-time medical personnel.

Figure 7b. Reported Cases of Illness and Other Health Issues by Village



While all the villages surveyed had health clinics, the vast majority were primarily staffed by full-time health workers and midwife medics, complemented by part-time certified health professionals, such as nurses, doctors, and dentists (Figures 7c and 7d). The part-time health professionals visited the villages on a rotating basis. Only Waramdong had one full-time dentist.

Figure 7c. Number of Full-time Medical Workers

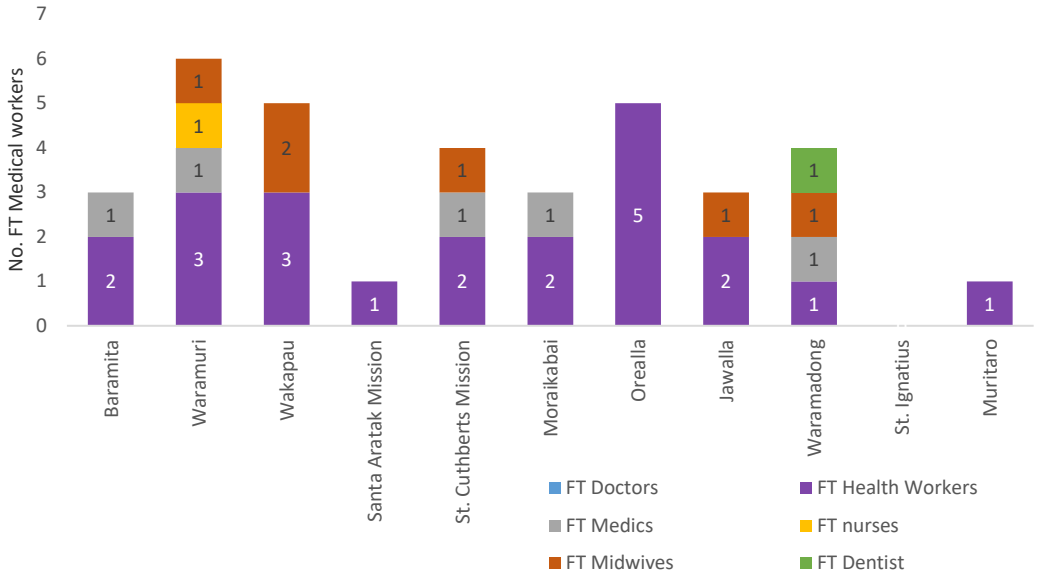
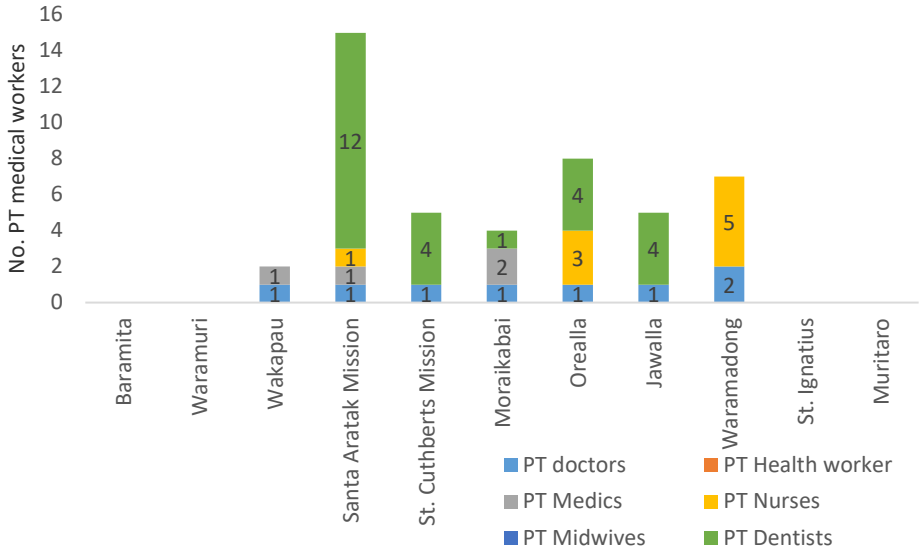


Figure 7d. Number of Part-time Medical Workers



As can be seen in Table 6, given the rarity of full-time highly trained health professionals assigned to the villages, the frequency of visits is highly variable. On average, doctors visit 5.5 times per year, nurses 1.75 times, and dentists 2.5 times. The large variability suggests that access to quality and timely care may be an issue.

Table 6. Number of Healthcare Professional Visits in the Year

	N	Minimum	Maximum	Mean	Std. Deviation
PT_Doc_visits/yr	10	.00	24.00	5.5000	7.35225
PT_Medics_visits/yr	8	.00	12.00	1.7500	4.20034
PT_Nurses_visits/yr	8	.00	24.00	5.0000	8.75051
PT_dentist_visits/yr	10	.00	12.00	2.5000	3.80789
Valid N (listwise)	8				

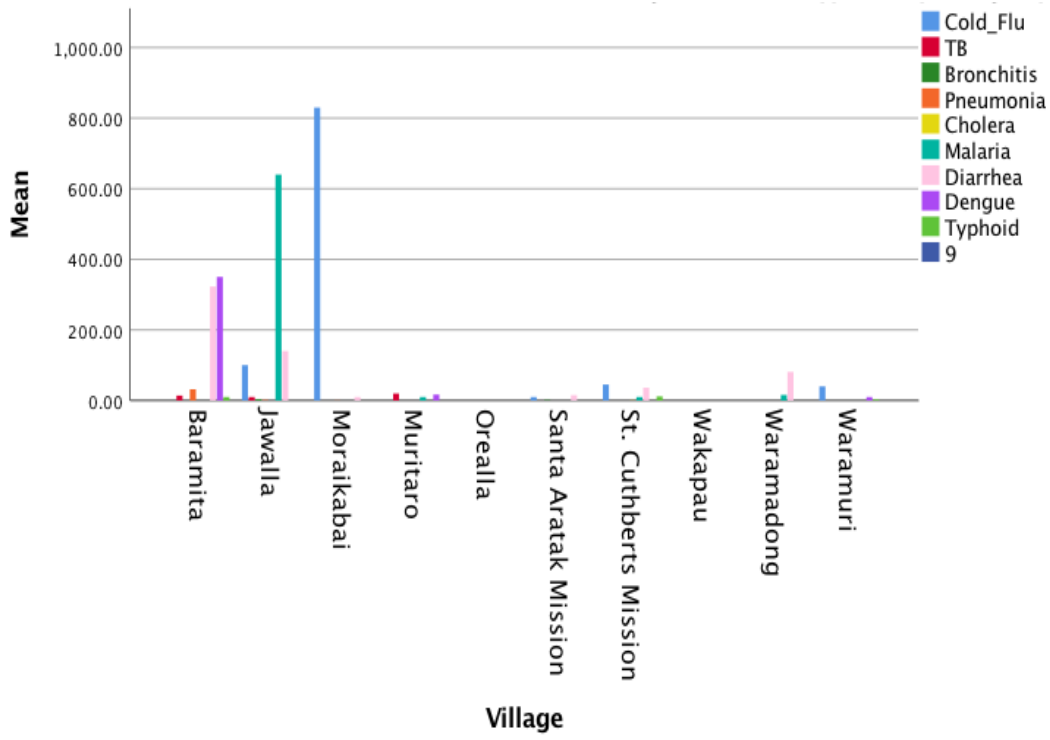
Table 7 presents the average number of various maladies and disorders. The most common ailments, outside the “other” category, are respiratory infections (average number of cases reported to the health clinic in the last year was 102), malaria (67) diarrhea (60.5), and dengue (37.7)—all communicable diseases.

Table 7. Health: Incidence of Morbidity (reported cases in the last year)

	N	Minimum	Maximum	Mean	Std. deviation
Cancer	10	.00	4.00	1.2000	1.47573
Diabetes	10	.00	20.00	4.6000	6.32807
Malaria	10	.00	640.00	67.6000	201.20702
Typhoid	10	.00	12.00	2.5000	4.60072
Stroke	10	.00	4.00	.8000	1.31656
Dengue	10	.00	350.00	37.7000	109.88686
Diarrhea	10	.00	323.00	60.5000	103.01483
Fractures	10	.00	10.00	1.8000	3.29309
Cardiac arrest	10	.00	1.00	.1000	.31623
Cholera	10	.00	1.00	.1000	.31623
Pneumonia	10	.00	32.00	3.5000	10.03605
Bronchitis	10	.00	4.00	.6000	1.34990
TB	10	.00	20.00	4.4000	7.47143
Cold/flu	10	.00	830.00	102.5000	257.67389
HIV/AIDS	10	.00	3.00	.4000	.96609
STDs	10	.00	.00	.0000	.00000
Dementia	10	.00	.00	.0000	.00000
Mental disorder	10	.00	3.00	.3000	.94868
Attempted suicide	10	.00	11.00	1.3000	3.46570
Other	10	.00	611.00	112.6000	199.96066

Communicable diseases, such as malaria, dengue, influenza, pneumonia, and tuberculosis, were more frequent than NCDs such as diabetes, cancer, and cardiovasular disease (cardaic arrest and strokes serving as proxies). However, as Figure 8 shows, the sampled villages in the northwest and Cuyuni-Mazaruni regions (Baramatia, Jawalla) reported a much higher incidence of malaria and dengue. These high-morbidity villages are located in mining regions. Mining operations create stagnant ponds, which provide breeding grounds for mosquitos, the disease vectors for malaria and dengue. Outside of Moraikabai, which suffered from an epidemic, the level of reported NCDs is fairly moderate.

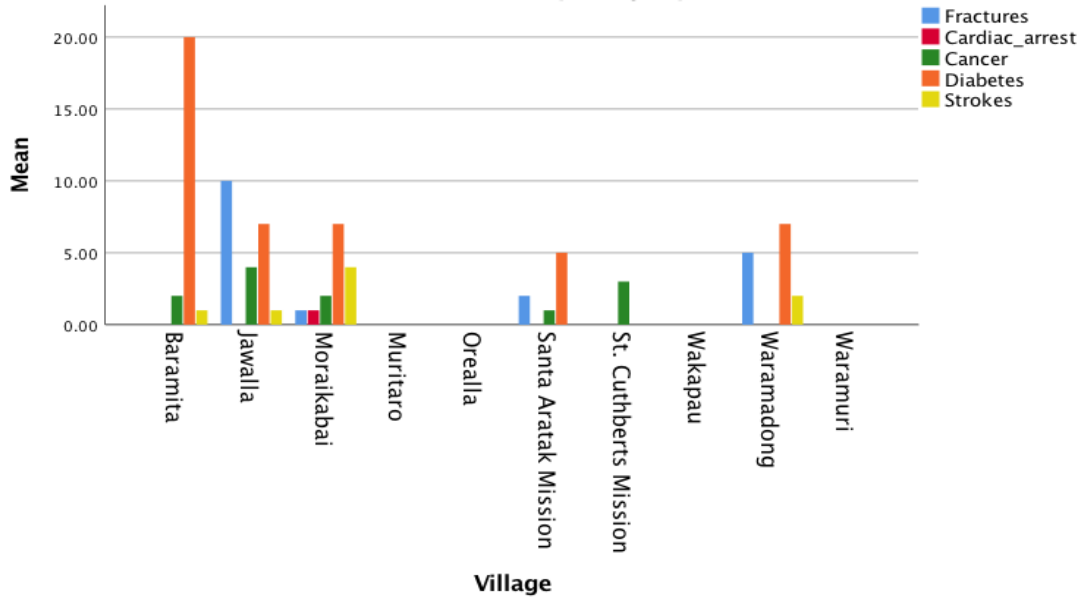
Figure 8: Communicable and Infectious Diseases by Village



As Figure 9 shows, diabetes is the most common NCD reported. The rate was highest in Baramita. Cardiovascular disease as measured by the number of heart attacks and strokes was the second most common NCD for the villages with data. Bone fractures from accidents were reported in four villages.

When the need for health care is critical and acute and surpasses the services available at the village health post, the distance to the nearest hospital, the cost of transportation, and travel time become relevant.

Figure 9. Noncommunicable Diseases by Village



As can be seen in Figure 10a, of the seven responding villages, four are less than 40 miles from the nearest hospital and three are further than 60 miles. Average travel time was not reliably computed because of a number of complicating factors, including the dispersed settlement patterns of many villages, the varying modes, the time of year, and the weather. However, the average cost for a medical evacuation was GY$39,000 (equivalent to US$187.05), using the official exchange rate of GY$208.50-US$1 as of April 2018). In the more remote sites, a combination of boat and motor vehicle must be used and in the direst of circumstances, aircraft. Given the generally low incomes and the predominance of non-cash-generating subsistence agricultural/gathering/hunting activities in many villages, the expense of a medical evacuation can be a sizeable expenditure relative to the total household budget.

Figure 10a. Distance to Nearest Hospital (miles)

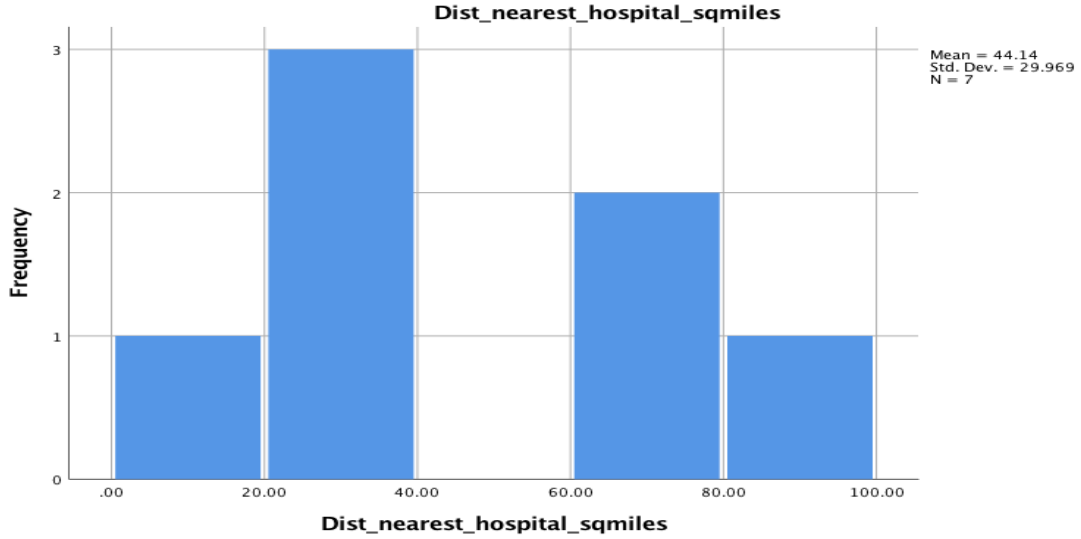
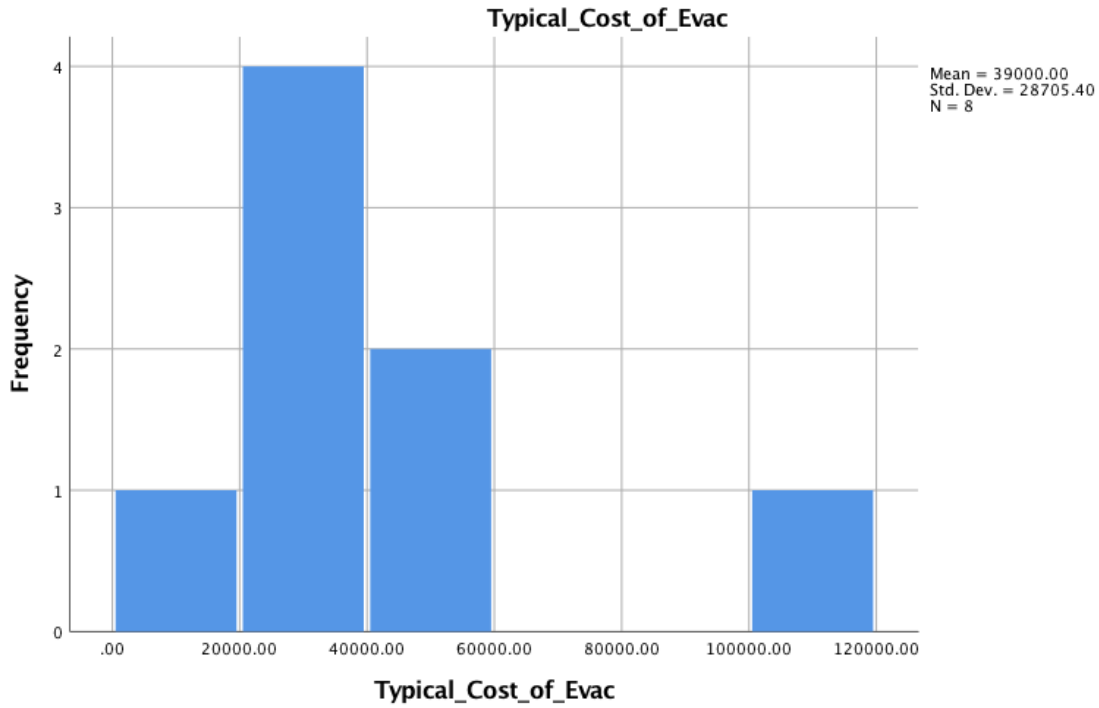


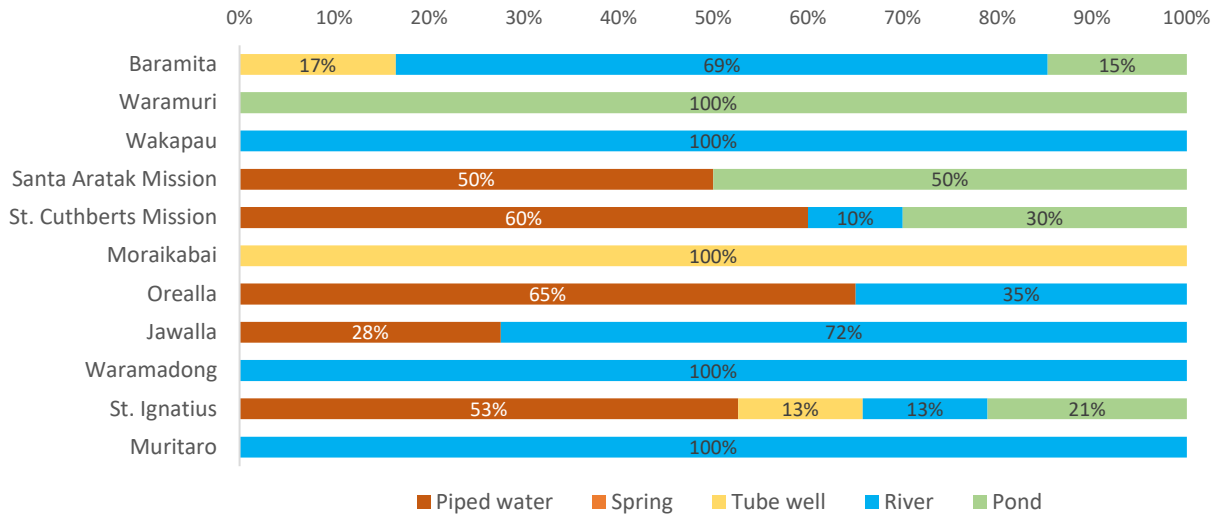
Figure 10b. Typical Cost of Medical Evacuation to Nearest Hospital



Water and Sanitation

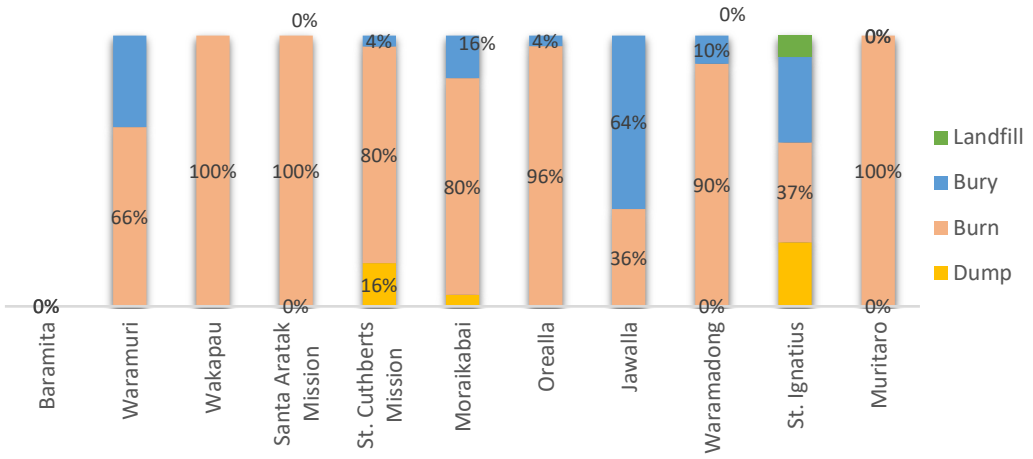
The method of obtaining drinking water in each village was determined based on which of five common sources of drinking water was being predominantly used. As shown in Figure 11, some villages use water from a combination of sources, while some only use one. All households obtain drinking water from the river in Wakapau, Waramadong, and Muritaro; all source from a pond in the village of Waramuri and from tube wells in Moraikabai. The remaining six villages have at least one main source: Baramita and Jawalla use the river, while Santa Aratak Mission, St. Cuthberts Mission, Orealla, and St. Ignatius all mainly use piped water. None of the villages obtain drinking water from springs. With respect to water for human consumption, only 3 of 11 villages depend on piped water for more than 50 percent of household needs. The rest, the majority, depend on untreated natural sources. As expected, the Spearman correlation coefficient is negative between incidence of diarrhea and households with piped water (–.78) whereas diarrhea is positively correlated when the household has other sources of water.

Figure 11. Sources of Water for Human Consumption



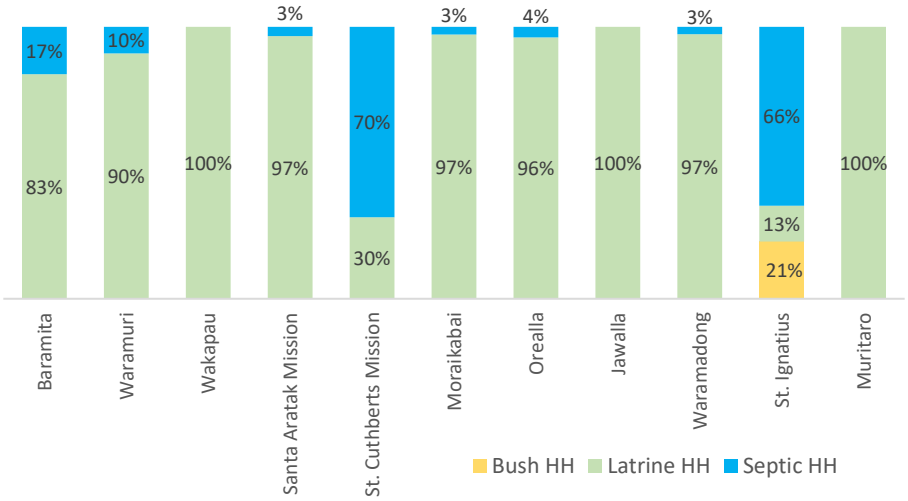
Solid waste disposal and sanitation practices are an indicator of the level of development of any community. The 11 Amerindian villages, as shown in Figure 11, were discovered to predominantly dispose of their solid waste by burning it, except for Jawalla, which buries it. To a lesser extent, six villages dispose of solid waste by burying, three by dumping, and one in landfills. In only one community, St. Ignatius, was a landfill reported present and in use. In four communities, a combination of burning and burying occurred, and in two communities a combination of burning, burying, and dumping was used. Dumping is the least hygienic means of disposal of solid waste and contributes to pollution.

Figure 12. Solid Waste Management Practices



For sanitation, 9 out of the 11 villages surveyed rely on open pit latrines (see Figure 13). St. Cuthberts Mission and St. Ignatius are the only two which have advanced their sanitation practices to the use of septic tanks. Some households in St. Ignatius maintain the practice of using the bush.

Figure 13. Sanitation Practices



Communications

As can be seen in the following table, the level of connectivity and ease of communication are modest. Only 64 percent of the villages have radio and phone services, and only 3 of the 11 villages have internet and newspaper service (Tables 7 and 8).

Table 7. Type of Communications

Type of service	Number of villages with service	Percent of total number of sample villages (11)
Radio Service	7	63.6
Cell Phone Service	7	63.6
Landline Phone Service	4	36.4
Internet Service	3	27.3
TV Signal	9	81.8
Satellite TV Link	6	54.5
Newspapers	3	27.4

Table 8. Access to Media

Village	Landlines	Cell services	TV signal	Internet	Satellite	Radio	Newspapers
Baramita	No	Yes	Yes	No	No	Yes	No
Waramuri	No	No	Yes	No	Yes	Yes	Yes
Wakapau	No	Yes	Yes	No	No	Yes	No
Santa Aratak Mission	Yes	Yes	Yes	No	No	No	No
St. Cuthberts Mission	No	Yes	Yes	No	Yes	No	No
Moraikabai	Yes	No	Yes	No	Yes	Yes	No
Orealla	No	Yes	No	No	No	No	Yes
Jawalla	Yes	No	Yes	Yes	Yes	Yes	No
Waramadong	No	No	No	Yes	Yes	Yes	No
St. Ignatius	No	Yes	Yes	Yes	Yes	Yes	Yes
Muritaro	Yes	Yes	Yes	No	No	No	No

Transport

There are seven different modes of transportation which villages use in varying combinations: bus, private car, motorcycle, ATVs, bicycle, speedboat, and canoe. As Table 9 shows, all the villages except for Baramita use at least one of these modes of transportation. St. Ignatius uses all the modes excep speedboats.

Table 9: Modes of Transportation Available in the Community

Village	Bus	Private car	Motorcycle	ATVs	Bicycle	Speedboat	Canoe
Baramita	0	0	0	0	0	0	0
Waramuri	0	0	0	0	0	46	188
Wakapau	0	0	0	0	0	60	0
Santa Aratak Mission	0	0	5	0	0	17	3
St. Cuthberts Mission	4	30	9	0	60	6	0
Moraikabai	0	2	3	0	35	23	10
Orealla	0	0	0	0	0	73	50
Jawalla	1	0	3	3	4	20	85
Waramadong	0	0	0	2	1	50	4
St. Ignatius	4	10	20	0	300	0	6
Muritaro	0	1	2	1	5	0	0

Electricity

With the exception of St. Ignatius, the villages sampled were not on the electrical grid. Individual households relied on diesel generators and solar panels and, in three cases, on community-operated diesel generators, paying a fee for service to the village council that was responsible for maintaining and distributing the electricity on microgrid. Due to the high cost of fuel, electric service was provided for only a few hours a day.

Table 10. Village and Source of Energy

Village		Yes/No	Number of households served
Baramita	Energy_GPL	0	
	Energy_community_generator	1	1090.0
	Energy_Solar	1	1.0
	Energy_Biogas	0	
	Energy_individual_generator	1	1.0
	Energy_individual_solar	1	1.0
Jawalla	Energy_GPL	0	
	Energy_commmunity_generator	0	
	Energy_Solar	1	250.0
	Energy_Biogas	0	
	Energy_individual_generator	1	15.0
	Energy_individual_solar	1	1.0
Moraikabai	Energy_GPL	0	
	Energy_community_generator	1	140.0
	Energy_Solar	0	
	Energy_Biogas	0	
	Energy_individual_generator	1	25.0
	Energy_individual_solar	1	140.0
Muritaro	Energy_GPL	0	
	Energy_community_general	0	
	Energy_Solar	1	70.0
	Energy_Biogas	0	
	Energy_individual_generator	0	
	Energy_individual_solar	0	
Orealla	Energy_GPL	0	
	Energy_community_generator	1	123.0
	Energy_Solar	1	123.0
	Energy_Biogas	0	
	Energy_individual_generator	0	

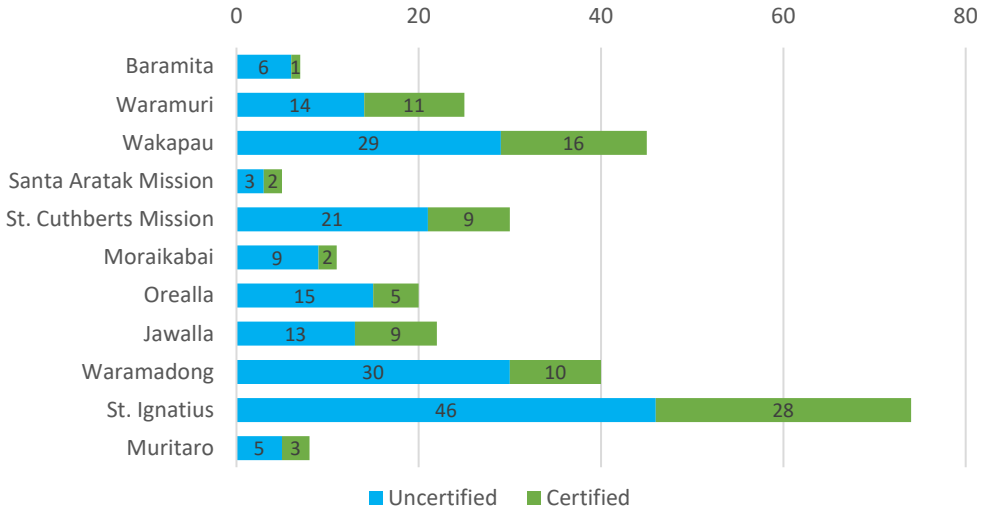
	Energy_individual_solar	0	
Santa Aratak Mission	Energy_GPL	0	
	Energy_com_generator	0	
	Energy_Solar	0	
	Energy_Biogas	0	
	Energy_individual_generator	1	12.0
	Energy_individual_solar	1	57.0
St. Cuthberts Mission	Energy_GPL	0	
	Energy_com_generator	1	250.0
	Energy_Solar	0	
	Energy_Biogas	0	
	Energy_individual_generator	1	60.0
	Energy_individual_solar	1	43.0
St. Ignatius	Energy_GPL	1	0
	Energy_community_generator	1	380.0
	Energy_Solar	1	70.0
	Energy_Biogas	1	
	Energy_individual_generator	1	70.0
	Energy_individual_solar	1	80.0
Wakapau	Energy_GPL	0	
	Energy_com_generator	0	
	Energy_Solar	1	300.0
	Energy_Biogas	0	
	Energy_individual_generator	1	50.0
	Energy_individual_solar	0	
Waramadong	Energy_GPL	0	
	Energy_com_generator	0	
	Energy_Solar	0	
	Energy_Biogas	0	
	Energy_individual generator	1	100.0
	Energy_indiviual_solar	1	90.0
Waramuri	Energy_GPL	0	
	Energy_com_Gen	0	
	Energy_Solar	1	211.0
	Energy_Biogas	0	
	Energy_individual_generator	1	59.0
	Energy_individual_solar	0	

Educational Services

Quality

The number of teachers, the number of students enrolled, and, by extension, the student-teacher ratios are important inputs to an analysis of the quality of education in an area. Education levels include nursery, primary, community high school, and secondary levels. All villages had both nursery and primary education facilities, while only two had a community high school, and four had secondary education facilities. The proportion of trained and uncertified teachers directly correlates to the quality of education received in the Amerindian villages. According to the study conducted, most of the teachers in the 11 villages are uncertified, as can be seen in Figure 14. The number of students enrolled, as shown in Figure 15, varied for each village. The village with the highest enrollment is St. Ignatius, which enrolled 1079 students in 2013, 71 percent of whom were enrolled in secondary school. Santa Aratak Mission was discovered to have the lowest number of students enrolled—only 42 in 2013. The student-teacher ratio is generally favorable compared to other regions of the world for 2011-12 at the primary school level. For example, the Sub-Saharan African average is 43.82; the South Asian average is 36.82, in the Middle East and North Africa it is 24.57, and in the European Union it is 13.6.[11]

Figure 14. Number of Certified and Uncertified Teachers



The student-teacher ratio presents the number of students enrolled for every full-time teacher employed in an educational facility. It is used as a measure of teacher workloads, resource allocations in schools, and the amount of individual attention a child is likely to receive from teachers. According to the glossary of education reform, “an ‘ideal’ student-teacher ratio will depend on a wide variety of complex factors, including the age and academic needs of the students or the experience, skills and effectiveness of the teachers".[12]

[11] "Countries Compared by Education > Pupil-teacher ratio, primary. International Statistics at NationMaster.com." UNESCO Institute for Statistics. Aggregates compiled by NationMaster. Retrieved from http://www.nationmaster.com/country-info/stats/Education/Pupil--teacher-ratio,-primary

[12] The Glossary of Education Reform. Retrieved from https://www.edglossary.org/student-teacher-ratio/

Figure 15. Number of Students Enrolled in 2013

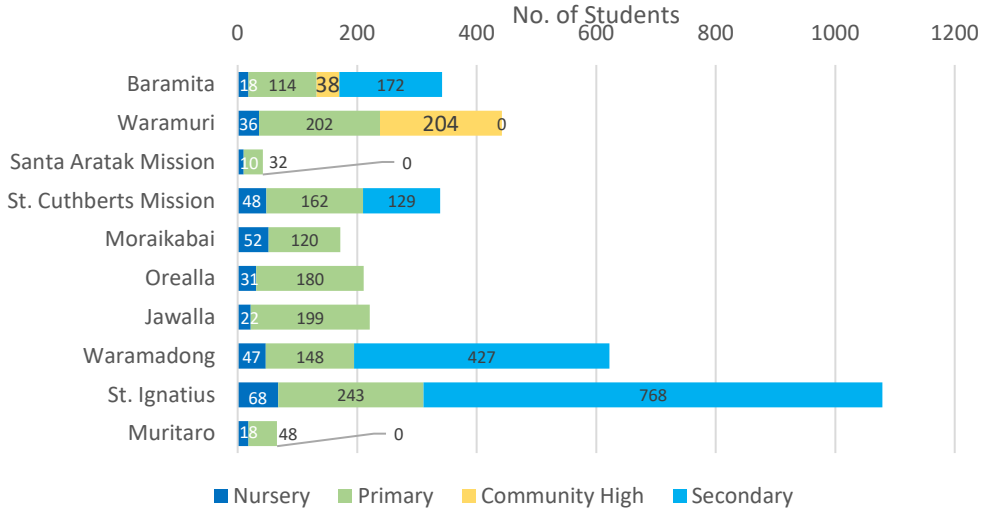
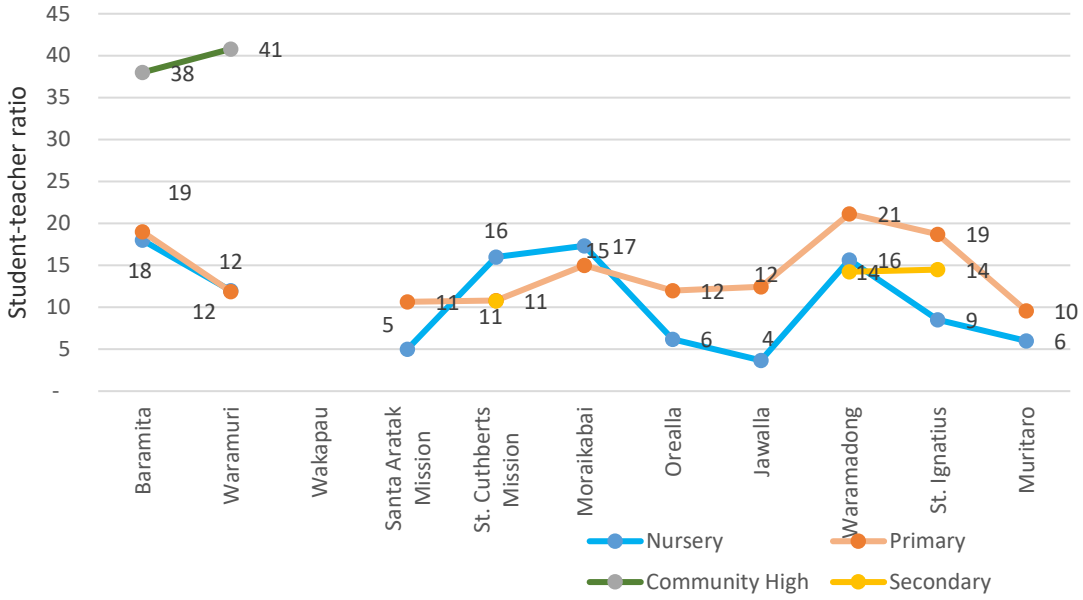


Figure 15 shows the student-teacher ratios for the villages. For nursery schools, the ratio fluctuates from 4:1 to 18:1, with Jawalla as the former and Baramita the latter. For primary schools it fluctuates from 10:1 (Muritaro) to 21:1 (Waramadong), for community high schools, it stands at 38:1 and 41:1 for Baramita and Waramuri respectively, and for secondary schools, it fluctuates from 11:1 (St. Cuthberts Mission) to 16:1 (Waramadong). Generally, teachers in these villages cater to students at all levels, except for Santa Aratak Mission, Orealla, Jawalla, and Muritaro, where each teacher caters to fewer than 7 students at the nursery level.

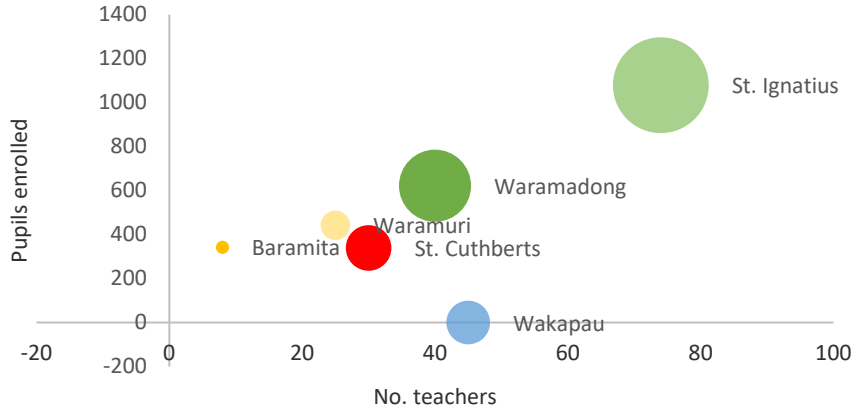
Figure 16. Student-teacher Ratio (students per teacher)



Another way of measuring the quality of the education system in the Amerindian villages is by examining the number of graduates relative to the number of students enrolled and the number of teachers employed (Figure 17). St. Ignatius, which had the largest number of students and

teachers, also had the largest absolute number of graduates (53). This represented 100 percent of the students enrolled in St. Ignatius' secondary school. Waramadong, St. Cuthberts Mission, and Wakapau had 30, 12, and 11 graduates, respectively, which represented 100 percent of the students enrolled in their secondary schools. Waramuri attained five graduates and a 100 percent pass rate of the students enrolled in its community high school. Baramita, on the other hand, had only one graduate, from the community high school level, which also represented a 100 percent pass. Santa Aratak Mission, Moraikabai, Orealla, Jawalla, and Murtaro all had no graduates, and this was consistent with the fact that they had no students enrolled at the community high or secondary school level.

Figure 17. Graduates Relative to Enrollment and Number of Teachers



Note: Bubble size: graduates.

The appurtenances within the school often were limited, reducing the breadth and rigor of educational learning opportunities that can be offered. For example, only 4 out of 11 or 36 percent of villages had libraries at the nursery level, 54 percent had libraries at the primary school level, and only 2 of the 4 secondary schools in the sample had libraries. In the sample, there were only two science levels and one computer lab.

Table 11. School Appurtenances

	Library			Laboratory			Computer		
Village	**Nursery school**	**Primary school**	**Secondary school**	**Nursery school**	**Primary school**	**Secondary school**	**Nursery school**	**Primary school**	**Secondary school**
Baramita	0	1	0	0	0	0	0	0	0
Waramuri	1	0	0	0	0	0	0	0	0
Wakapau	0	0	0	0	0	0	0	0	0
Santa Aratak Mission	0	1	0	0	0	0	0	0	0
St. Cuthberts Mission	1	1	0	0	0	0	0	0	0
Moraikabai	0	1	0	0	1	0	0	0	0
Orealla	0	0	0	0	0	0	0	0	0
Waramadong	1	1	1	0	0	0	0	0	0
Jawalla	1	1	0	0	0	0	0	0	0
St. Ignatius	0	0	1	0	0	1	0	0	1
Muritaro	0	1	0	0	0	0	0	0	0
Percent	36.3636	54.5455	18.1818	0	9.091	9.091	0	0	9.0909091

PART II: HOUSEHOLD LEVEL

In addition to a survey instrument administered at the level of the village councils, 337 households covering 867 people were surveyed within the same 11 villages to obtain information on the size, structure of families, socio-economic status, areas of employment, and estimated household incomes and to gather information on perceptions of major challenges confronting the households. The number of surveys were proportionate to the villages' population, and the respondents were either adult male or female head of households.

Socio-economic Status of Respondents in Village Level Surveys

Table 12. Civil Status

Village	Region	Married	%	Common law	%	Divorced	%	Single	%	Widow(er)	%	Total
Baramita	1	15	88	2	12	0	0	0		0	0	17
St. Cuthbert's Mission	4	27	87	2	6	0	0	2	6	0	0	31
St. Ignatius	9	20	50	14	35	1	3	2	5	3	8	40
Jawalla	7	40	87	4	7	0	0	2	4	0	0	46
Moraikabai	5	29	74	6	15	0	0	3	7	1	3	39
Muritaro	10	6	67	1	11	0	0	0	0	2	22	9
Orealla	6	33	75	6	14	0	0	4	9	1	2	44
Santa Aratak Mission	3	2	50	2	50	0	0	0		0	0	4
Waramondong	2	29	94	2	6	0	0	2	6	0	0	33
Wakapau	2	50	86	4	7	0	0	1	2	3	5	58
Waramuri	1	4	67	2	33	0	0	0	0	0	0	6
TOTAL Sample		255	78	45	14	1	0.3	16	5	10	3	327

As can be seen in Table 12, most respondents are either lawfully married (78 percent) or in a common law union (14 percent). Divorce is very rare, registering at 0.3 percent, and other statuses (single and widower/widow) are less than 7 percent. The dominance of marriage across all 11 villages was consistently above 50 percent.

Gender

Table 13. Gender Distribution

Village	Male	Percent	Female	Percent	Total Household respondents
Baramita	15	39.5	23	60.5	38
Jawalla	55	47.4	61	52.6	116
Moraikabai	39	50.0	39	50	78
Muritaro	8	50	8	50	16
Orealla	42	51.9	39	48.1	81
Santa Aratak Mission	6	40	9	60	15
St. Cuthbert's Mission	30	47.6	33	52.4	63
St. Ignatius	58	48.7	61	51.3	119
Wakapao	85	53.1	75	46.9	160
Waramadong	70	53.4	61	46.6	131
Waramuri	22	53.7	19	46.3	41
Total	430	50.1	428	49.9	858

As can be seen in Table 13, the gender distribution of household members surveyed was balanced, with men constituting 50.1 percent of the total and women 49.9 percent. The differences within villages was within a narrow range.

Demographic Structure

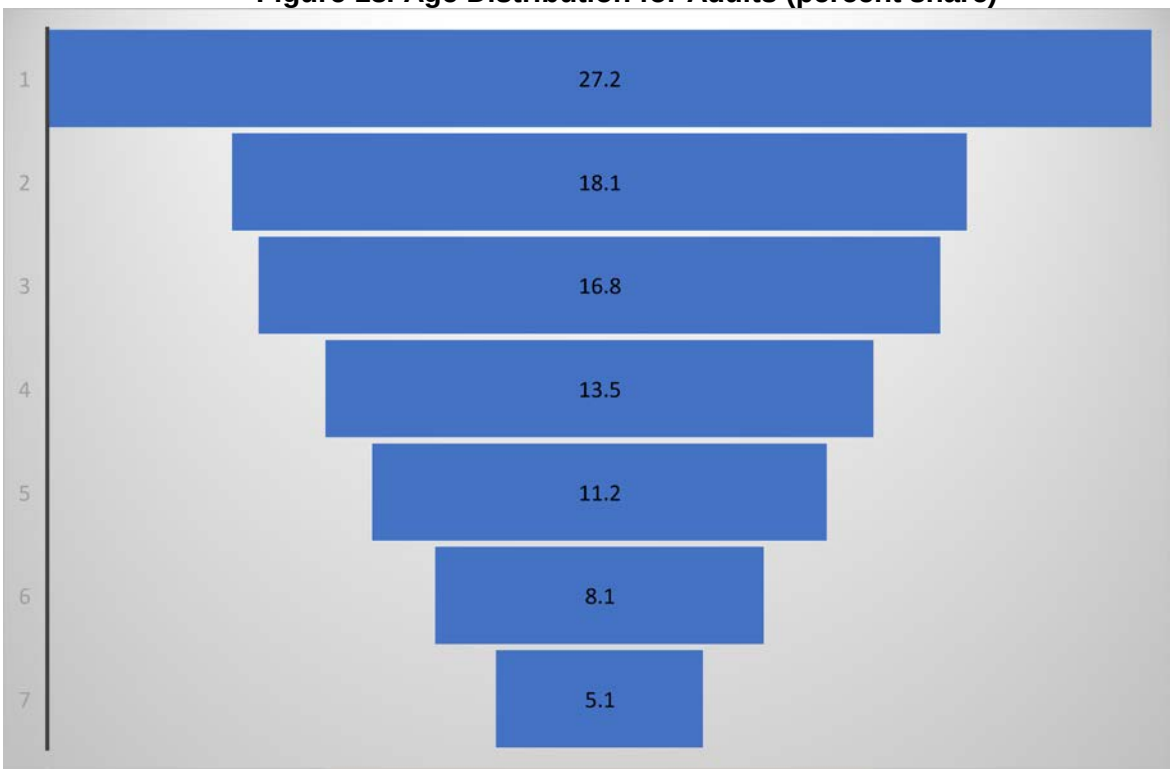
First, the adult working population will be presented, then the dependent population, those under 18 and those about 65.

As can be seen in Table 14, the adult population surveyed is predominately young. The largest share of respondents (27 percent) falls in the 18-25 age bracket, and the second-largest share (18.1 percent) is the 20-33 age bracket. Graphing the age of the population yields an inverted pyramid. When the individual villages are analyzed, however, there is some variation. While nine of the eleven villages exhibited the pyramid distribution, with younger adults being the largest groups, those age 65 and above exceeded the number of younger adults in the samples in Muritaro and Santa Aratak Mission.

Table 14. Age Distribution

Village		Age							
		18-25	26-33	34-41	42-49	50-57	57-65	66>	Total
Baramita	Count	13	7	10	3	4	0	1	38
	% within Village	34.2	18.4	26.3	7.9	10.5	0.0	2.6	100.0
Jawalla	Count	35	14	28	13	11	9	3	113
	% within Village	31.0	12.4	24.8	11.5	9.7	8.0	2.7	100.0
Moraikabai	Count	22	20	14	15	5	0	2	78
	% within Village	28.2	25.6	17.9	19.2	6.4	0.0	2.6	100.0
Muritaro	Count	1	3	3	3	1	1	4	16
	% within Village	6.3	18.8	18.8	18.8	6.3	6.3	25.0	100.0
Orealla	Count	18	12	13	16	12	9	2	82
	% within Village	22.0	14.6	15.9	19.5	14.6	11.0	2.4	100.0
Santa Aratak Mission	Count	2	4	1	3	2	0	3	15
	% within Village	13.3	26.7	6.7	20.0	13.3	0.0	20.0	100.0
St. Cuthberts Mission	Count	19	14	8	6	13	6	1	67
	% within Village	28.4	20.9	11.9	9.0	19.4	9.0	1.5	100.0
St. Ignatius	Count	25	16	24	22	9	13	10	119
	% within Village	21.0	13.4	20.2	18.5	7.6	10.9	8.4	100.0
Wakapao	Count	47	33	25	13	16	15	11	160
	% within Village	29.4	20.6	15.6	8.1	10.0	9.4	6.9	100.0
Waramadong	Count	41	21	13	21	16	13	3	128
	% within Village	32.0	16.4	10.2	16.4	12.5	10.2	2.3	100.0
Waramuri	Count	10	11	5	1	7	3	4	41
	% within Village	24.4	26.8	12.2	2.4	17.1	7.3	9.8	100.0
Total	Count	233	155	144	116	96	69	44	857
	% within Village	27.2	18.1	16.8	13.5	11.2	8.1	5.1	100.0

Figure 18. Age Distribution for Adults (percent share)



Age Brackets:

1= Age 18-25	3=Age 34-41	5=Age 50-57	7=Age 66+
2=Age 26-33	4=Age 42-49	6= Age 57-65	

Dependents

The ratio of dependents (those aged <17 and 65>) to working-age adults (aged 11-65) is 530/867, or 61 percent. This ratio suggests either a demographic shift whereby the population is becoming younger, or emigration of a significant portion of adults.

Table 15. Number of Dependents by Village

Village		# Dependents under 3 years old 0	1	2	Total
Baramita	Count	19	4	0	23
	% within Village	82.6	17.4	0.0	100.0
Jawalla	Count	56	18	1	75
	% within Village	74.7	24.0	1.3	100.0
Moraikabai	Count	37	17	2	56
	% within Village	66.1	30.4	3.6	100.0
Muritaro	Count	13	0	0	13
	% within Village	100.0	0.0	0.0	100.0
Orealla	Count	50	6	0	56
	% within Village	89.3	10.7	0.0	100.0
Santa Aratak Mission	Count	9	2	0	11
	% within Village	81.8	18.2	0.0	100.0
St. Cuthberts Mission	Count	35	4	0	39
	% within Village	89.7	10.3	0.0	100.0
St. Ignatius	Count	77	6	2	85
	% within Village	90.6	7.1	2.4	100.0
Wakapao	Count	73	5	6	84
	% within Village	86.9	6.0	7.1	100.0
Waramadong	Count	58	12	0	70
	% within Village	82.9	17.1	0.0	100.0
Waramuri	Count	16	2	0	18
	% within Village	88.9	11.1	0.0	100.0
Total	Count	443	76	11	530
	% within Village	83.6	14.3	2.1	100.0

Table 16. Village * Number of Dependents Ages 6 - 11 (cross-tabulation)

Village		# Dependents ages 6 - 11					Total
		0	1	2	3	4	
Baramita	Count	9	7	2	3	2	23
	% within Village	39.1	30.4	8.7	13.0	8.7	100.0
Jawalla	Count	33	24	18	0	0	75
	% within Village	44.0	32.0	24.0	0.0	0.0	100.0
Moraikabai	Count	36	14	4	2	0	56
	% within Village	64.3	25.0	7.1	3.6	0.0	100.0
Muritaro	Count	11	2	0	0	0	13
	% within Village	84.6	15.4	0.0	0.0	0.0	100.0
Orealla	Count	44	10	0	0	0	54
	% within Village	81.5	18.5	0.0	0.0	0.0	100.0
Santa Aratak Mission	Count	9	0	0	0	2	11
	% within Village	81.8	0.0	0.0	0.0	18.2	100.0
St. Cuthberts Mission	Count	24	13	2	0	0	39
	% within Village	61.5	33.3	5.1	0.0	0.0	100.0
St. Ignatius	Count	65	14	6	0	0	85
	% within Village	76.5	16.5	7.1	0.0	0.0	100.0
Wakapao	Count	56	6	16	4	2	84
	% within Village	66.7	7.1	19.0	4.8	2.4	100.0
Waramadong	Count	46	14	4	6	0	70
	% within Village	65.7	20.0	5.7	8.6	0.0	100.0
Waramuri	Count	8	6	2	0	2	18
	% within Village	44.4	33.3	11.1	0.0	11.1	100.0
Total	Count	341	110	54	15	8	528
	% within Village	64.6	20.8	10.2	2.8	1.5	100.0

Table 17. Village * Number of Dependents Ages 12 - 17 (cross-tabulation)

Village		# Dependents ages 12 - 17					
		0	1	2	3	4	5
Baramita	Count	10	1	8	2	0	2
	% within Village	43.5	4.3	34.8	8.7	0.0	8.7
Jawalla	Count	36	18	17	2	0	2
	% within Village	48.0	24.0	22.7	2.7	0.0	2.7
Moraikabai	Count	40	8	4	4	0	0
	% within Village	71.4	14.3	7.1	7.1	0.0	0.0
Muritaro	Count	12	1	0	0	0	0
	% within Village	92.3	7.7	0.0	0.0	0.0	0.0
Orealla	Count	34	14	6	2	0	0
	% within Village	60.7	25.0	10.7	3.6	0.0	0.0
Santa Aratak	Count	11	0	0	0	0	0
Mission	% within Village	100.0	0.0	0.0	0.0	0.0	0.0
St. Cuthberts	Count	31	6	2	0	0	0
Mission	% within Village	79.5	15.4	5.1	0.0	0.0	0.0
St. Ignatius	Count	48	28	9	0	0	0
	% within Village	56.5	32.9	10.6	0.0	0.0	0.0
Wakapao	Count	53	21	8	2	0	0
	% within Village	63.1	25.0	9.5	2.4	0.0	0.0
Waramadong	Count	32	24	8	4	2	0
	% within Village	45.7	34.3	11.4	5.7	2.9	0.0
Waramuri	Count	4	6	6	2	0	0
	% within Village	22.2	33.3	33.3	11.1	0.0	0.0
Total	Count	311	127	68	18	2	4
	% within Village	58.7	24.0	12.8	3.4	0.4	0.8

Table 18. Village * Number of Dependents over 65 (cross-tabulation)

Village		# Dependents over 65			Total
		0	1	2	
Baramita	Count	21	2	0	23
	% within Village	91.3	8.7	0.0	100.0
Jawalla	Count	74	1	0	75
	% within Village	98.7	1.3	0.0	100.0
Moraikabai	Count	56	0	0	56
	% within Village	100.0	0.0	0.0	100.0
Muritaro	Count	13	0	0	13
	% within Village	100.0	0.0	0.0	100.0
Orealla	Count	56	0	0	56
	% within Village	100.0	0.0	0.0	100.0
Santa Aratak Mission	Count	11	0	0	11
	% within Village	100.0	0.0	0.0	100.0
St. Cuthberts Mission	Count	39	0	0	39
	% within Village	100.0	0.0	0.0	100.0
St. Ignatius	Count	81	4	0	85
	% within Village	95.3	4.7	0.0	100.0
Wakapao	Count	78	2	4	84
	% within Village	92.9	2.4	4.8	100.0
Waramadong	Count	68	2	0	70
	% within Village	97.1	2.9	0.0	100.0
Waramuri	Count	14	2	2	18
	% within Village	77.8	11.1	11.1	100.0
Total	Count	511	13	6	530
	within Village	96.4	2.5	1.1	100.0

Employment

The two most common livelihoods for the indigenous population surveyed were self-employment and government. Fewer than 20 respondents worked for a private company. The most common self-employment activities were farming, mining (including punters, or informal miners who work the tailings of larger miners), logging, and service provision.

Figure 19. Type of Employment[13]

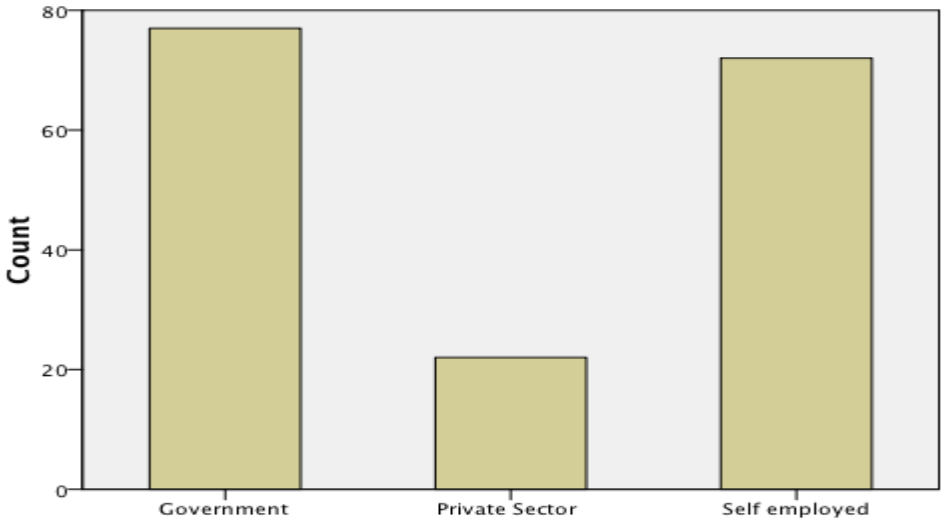
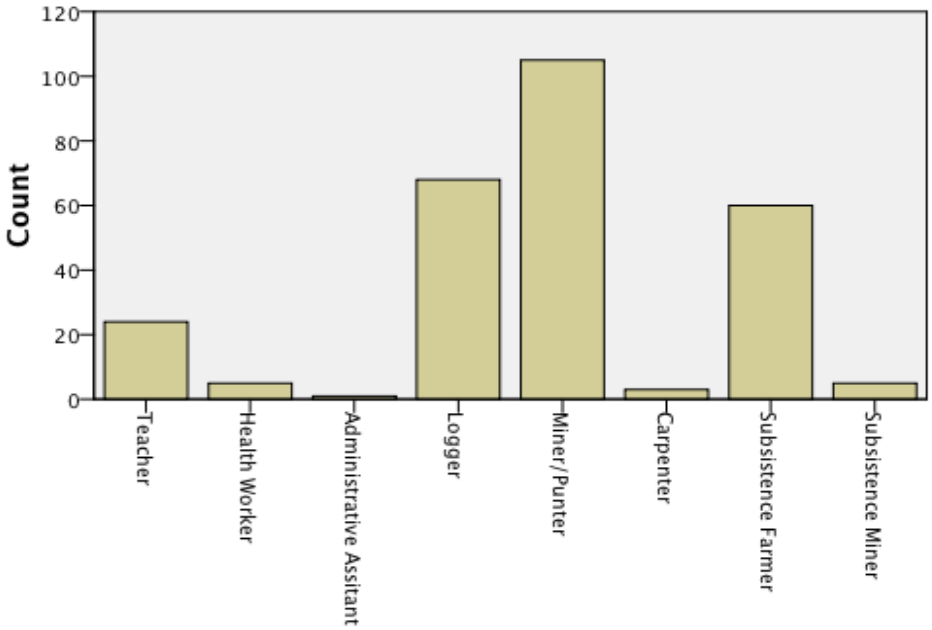
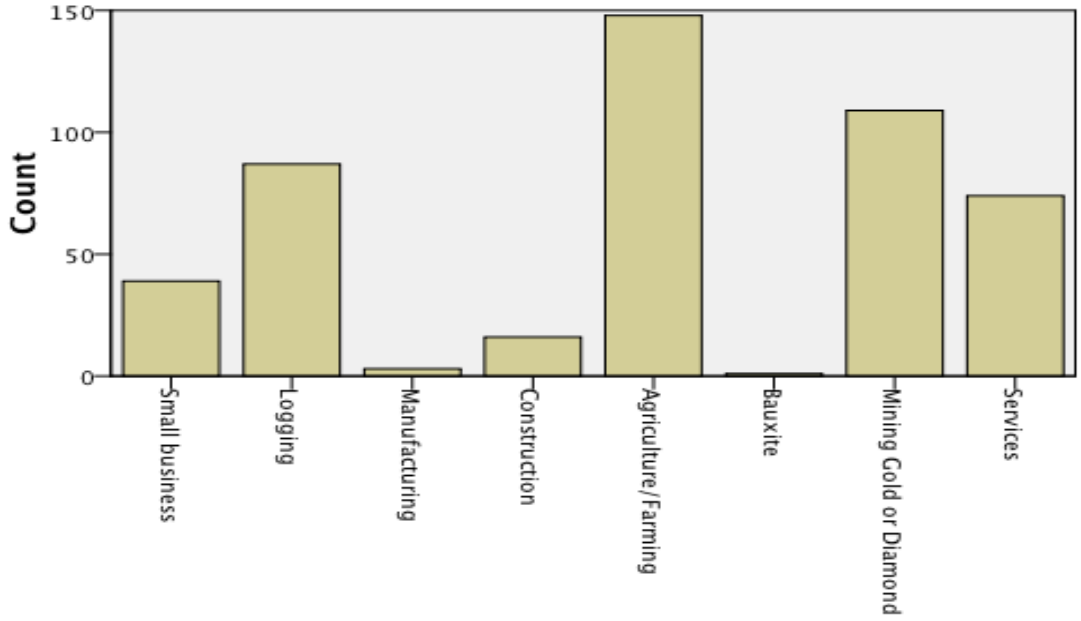


Figure 20. Occupation



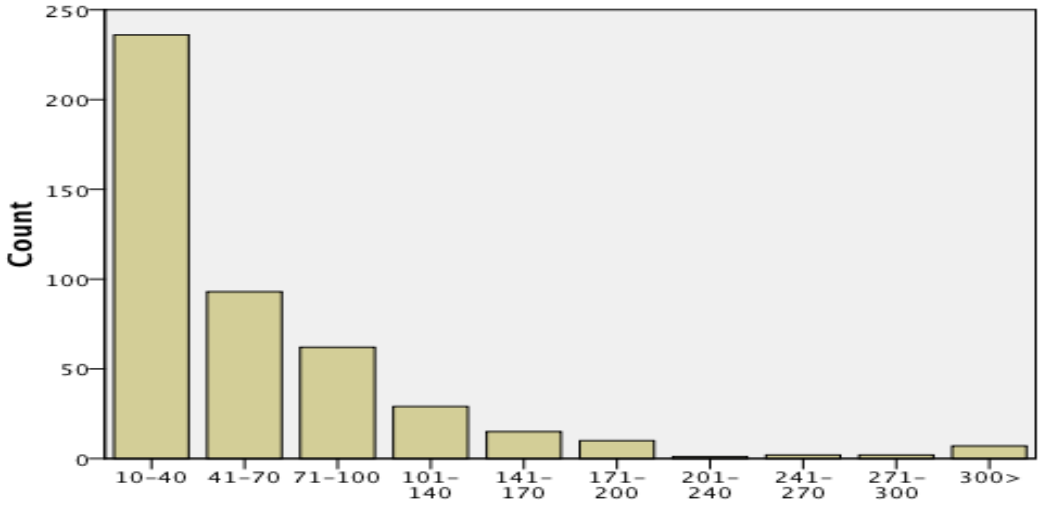
[13] Count on the y axis represents the number of respondents for all graphs.

Figure 21. Sector of Employment



The average income per monthly household is modest. The largest percentage earned, between GY$10,000 and $40,000 per month, is equivalent to US$47.90 to US$191.84. The second-largest segment earned, between GY$41,000 to GY$71,000, is equivalent to between US$196 and US$340). The official minimum salary for the public sector is GY$60,000 per month (US$287.76) as of 2017. The minimum salary for the private sector is GY44,000 (US$211.03) as of 2017. Between 2010 and 2016, the minimum wage for private sector workers was GY35,000 (US$176.86), 24 percent lower than current rates (Marshall, 2016). Given these points of reference, the typical salary for indigenous households is low.

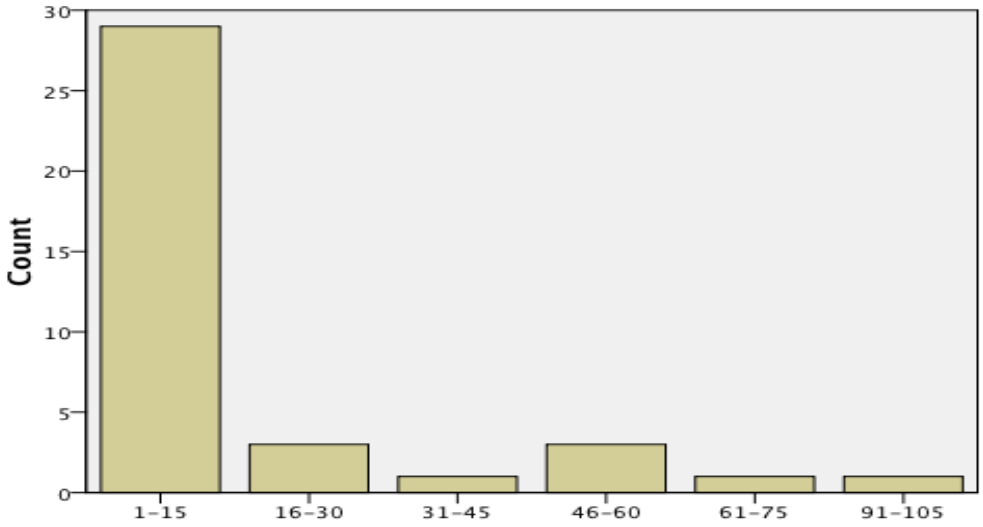
Figure 22. Income from Employment



Several families reported additional income from other sources, but the amount was not large. The typical additional source of income is remittances or transfers from household members who have either migrated seasonally or for the full year to another part of the country. Most respondent

households that receive other revenue receive less that GY$15,000 per month (equivalent to US$71.94), and the least respondents received between GY$91,000 and GY$105,000.

Figure 23. Revenue from Other Sources



Paying jobs are perceived to be relatively scarce, and the lack of jobs was reported to be a major problem. Unemployment and underemployment especially seem to affect young adults (aged 18-25). When asked what the main causes of unemployment were, the majority cited lack of opportunity. The other reasons cited were illness, childrearing responsibilities, and being discouraged.

Figure 24. Availability of Employment

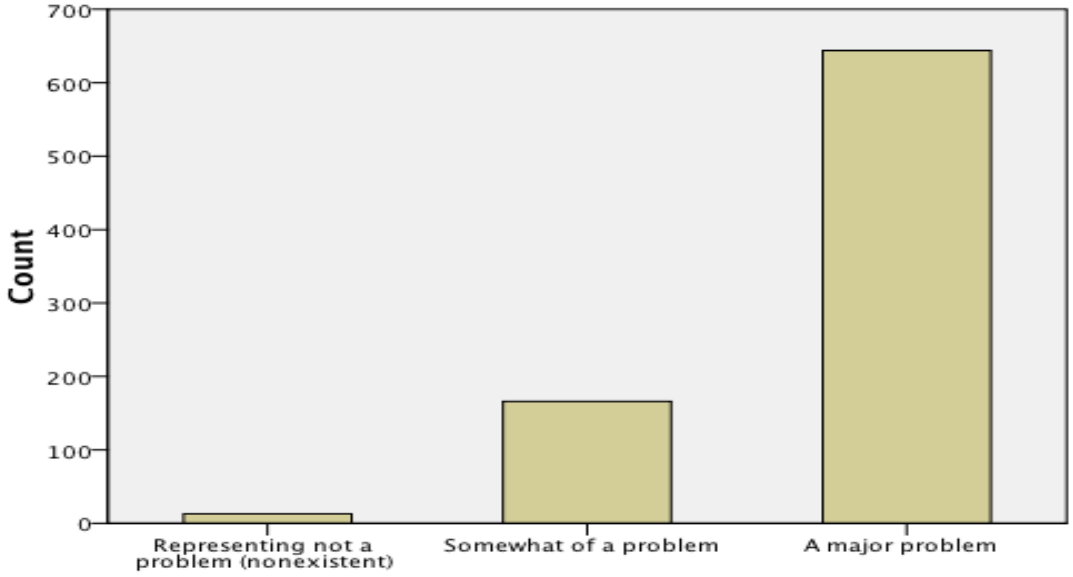
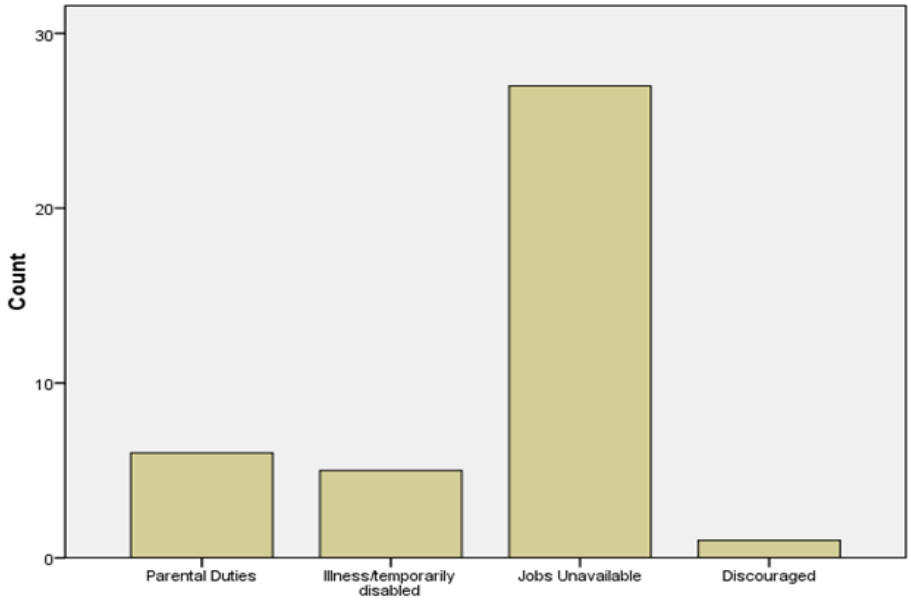


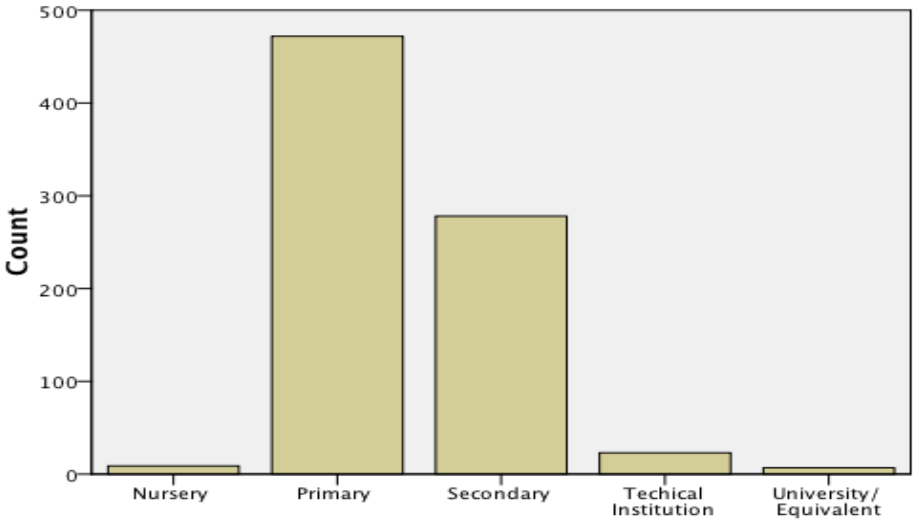
Figure 25. Cause of Unemployment



Education

The most common level of educational attainment was primary school. The second most common was secondary school. A few respondents reported technical/vocational or university education.

Figure 26. Highest Level of Educational Attainment



When asked a series of questions about how education is perceived, most reported that were no problems in receiving quality primary schooling, but a large percentage reported that obtaining a quality secondary, tertiary, and vocational education was difficulty. More tellingly, a clear majority believed that the formal education system is failing to impart useful and practical skills that would help their children succeed beyond basic literacy.

Figure 27. Difficulty in Obtaining Quality Primary Education

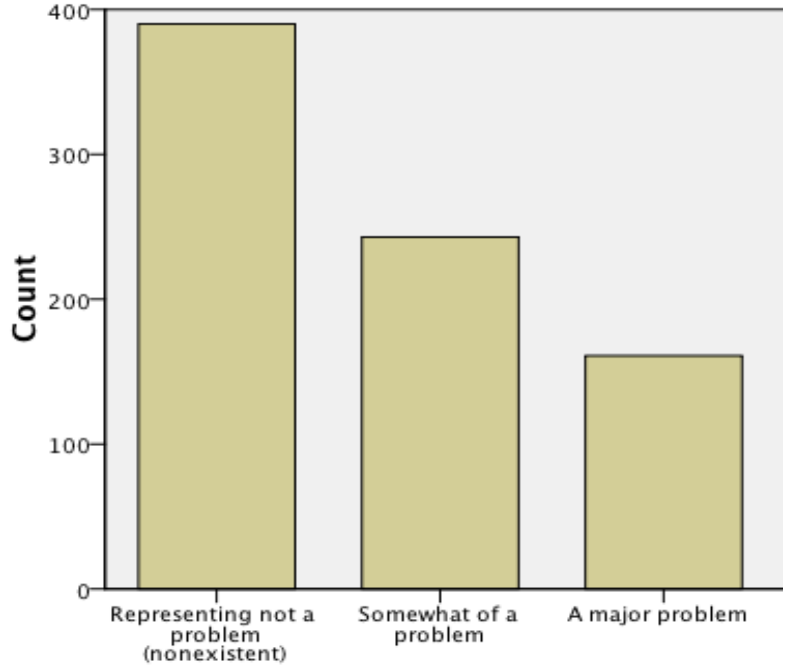


Figure 28. Difficulty in Obtaining Quality Secondary Education

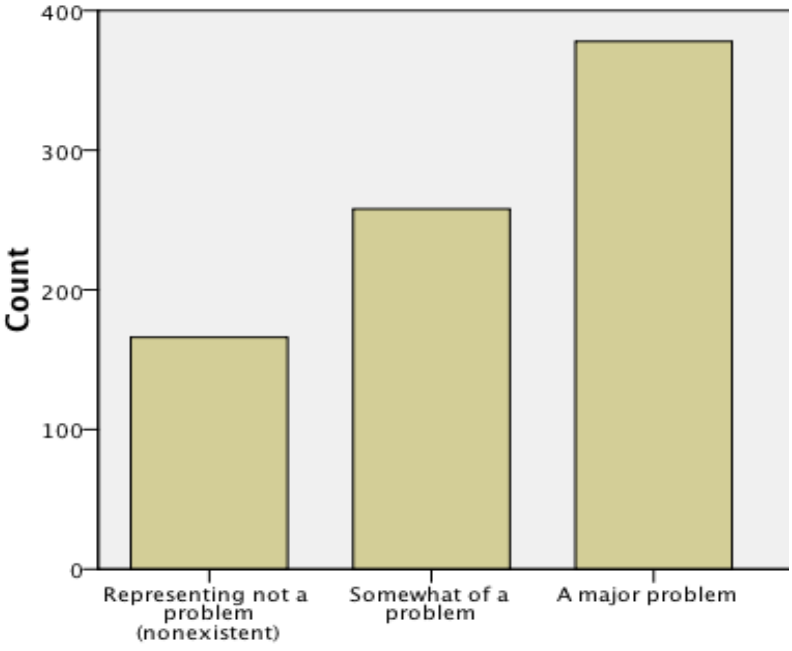


Figure 29. Difficulty in Obtaining Quality Tertiary Education

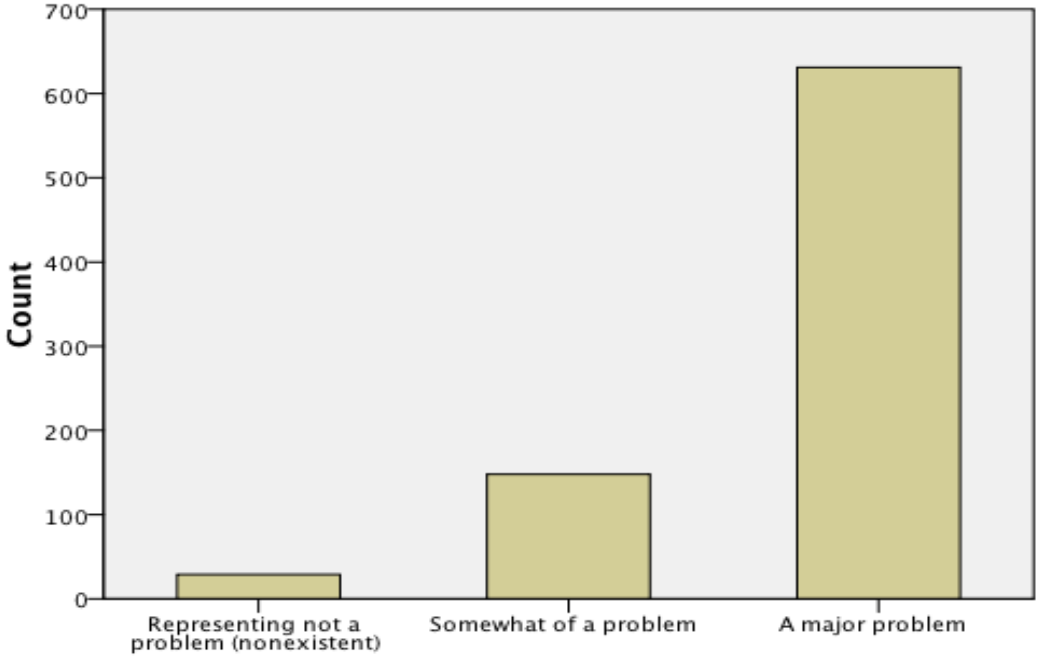


Figure 30. Difficulty in Obtaining Quality Vocational Education

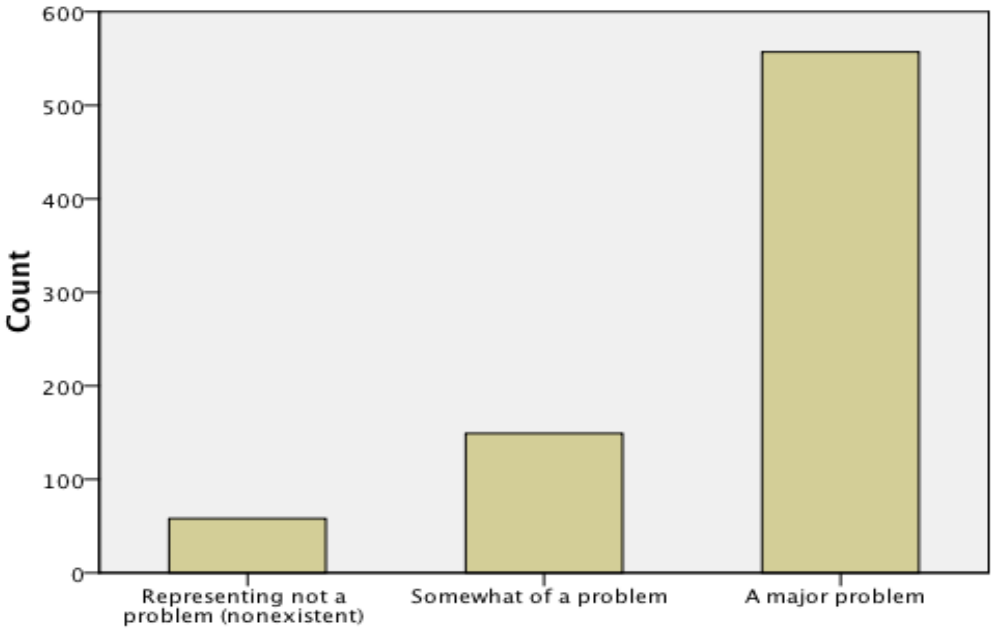
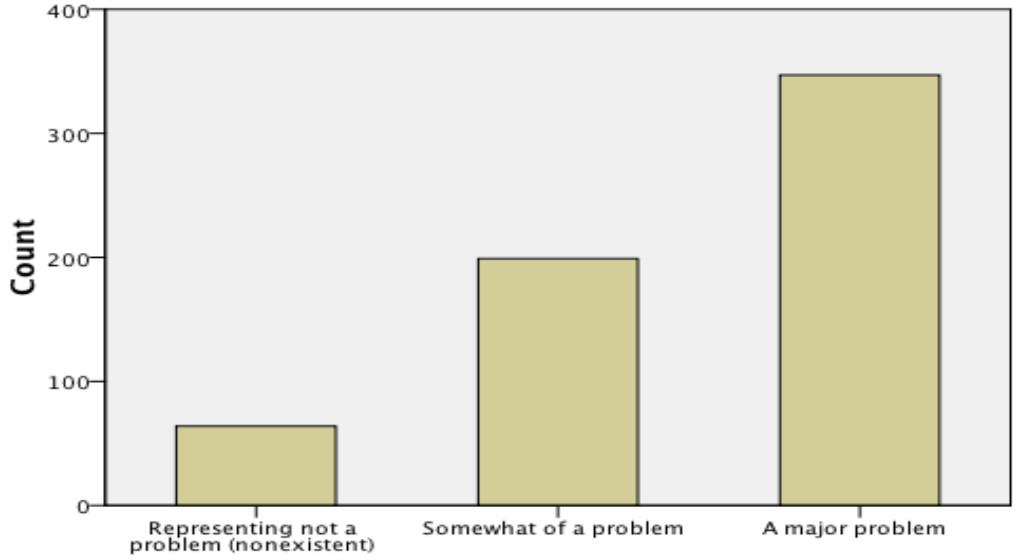


Figure 31. Formal Education System Fails to Impart Useful Skills to our Children

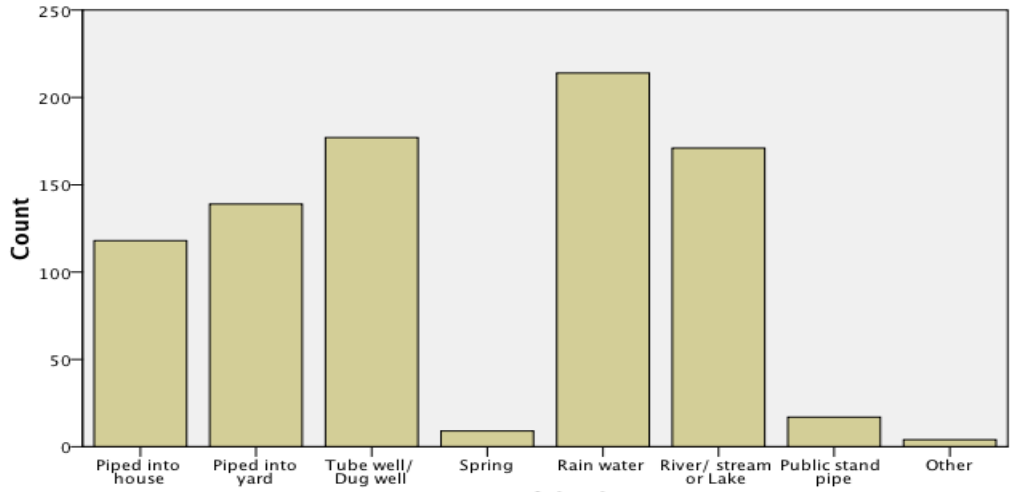


Access to and Perceptions of Basic Services

Water

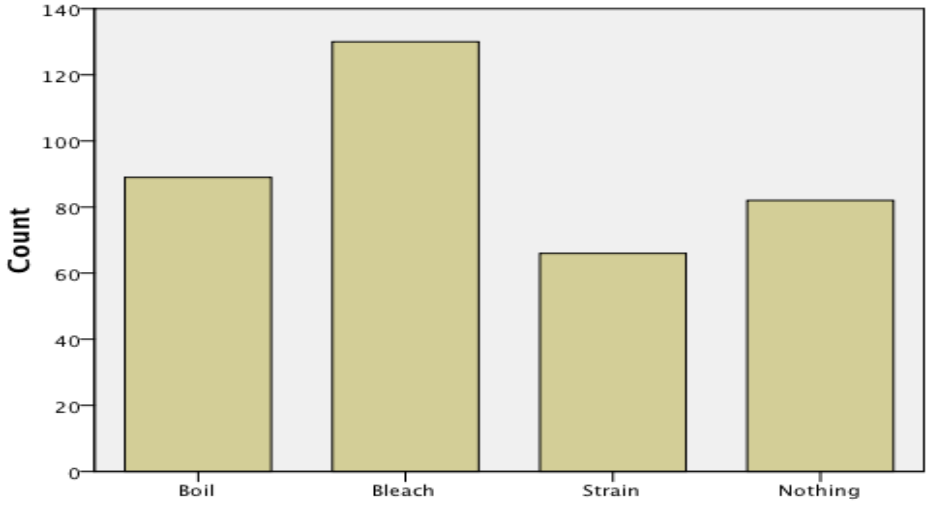
The main source of drinking water for the households surveyed were, in rank order of source, rain water, tube wells, and natural bodies of water (river, lake, stream), piped water into yard, and piped water into the house. The least common were public stands and springs.

Figure 32. Main Source of Drinking Water



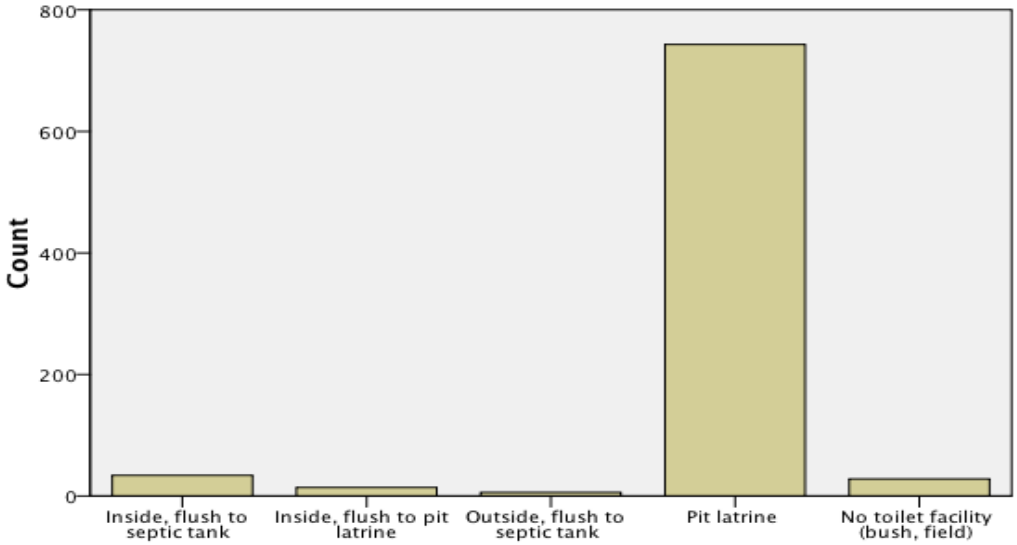
Since most of the water is untreated by a public or communal authority, individual households sometimes took steps to reduce the spread of waterborne diseases by treating the water themselves. The most common treatments were adding chlorine bleach and boiling. However, approximately 80 households reported that they did not treat their drinking water.

Figure 33. Treatment of Drinking Water



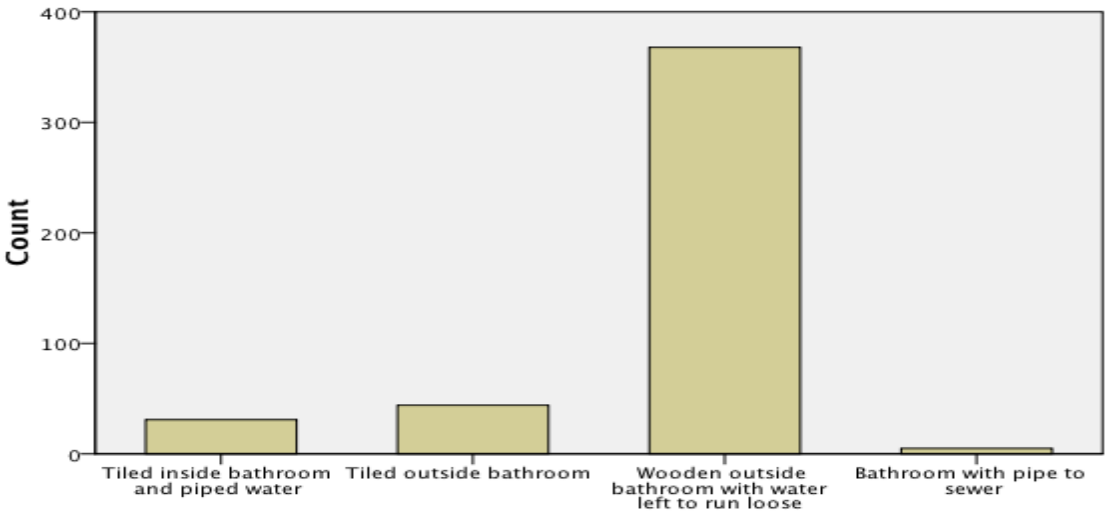
In terms of sanitation, the clear majority relied on pit latrines. A minuscule number of households used septic tanks or had indoor toilet facilities. A small number used the outdoors.

Figure 34. Toilet Facility Type



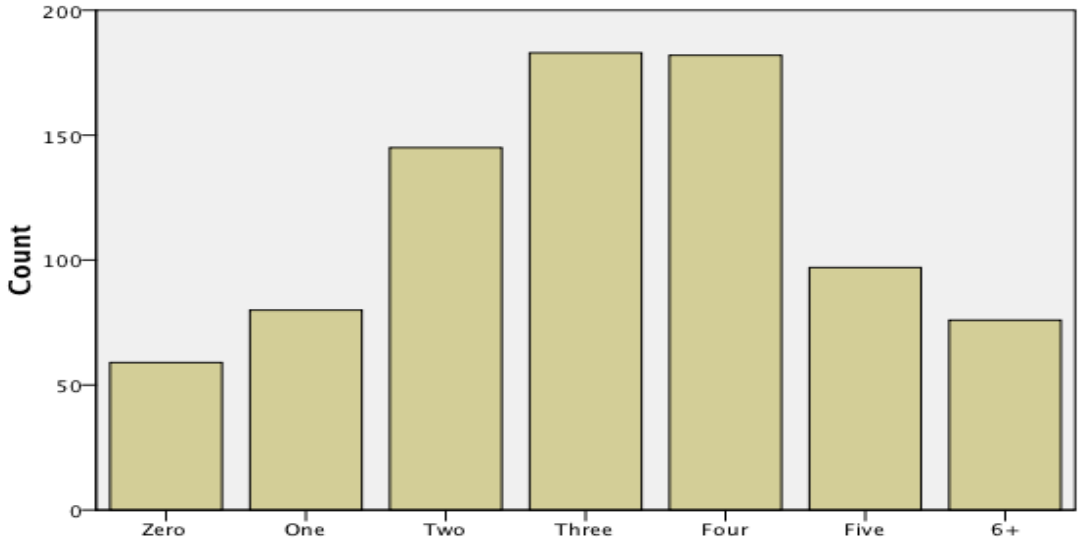
For bathing purposes, the majority relied on wooden, outside shower facilities. Very few reported using ceramic-tiled bathrooms.

Figure 35. Bathroom Facility



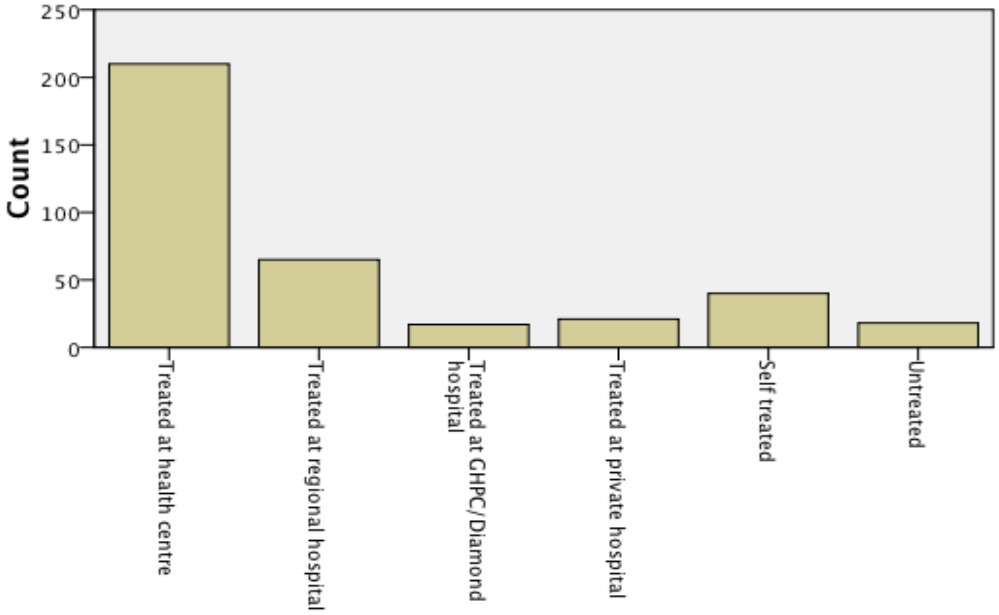
Mosquito nets are proven to be effective against the transmission of malaria and other mosquito-borne diseases such as dengue, chikunganya, and zika. Most families had one or more nets, with the mode being 3 to 4 per household. The number of households reporting no nets were slightly more than 50.

Figure 36. Access to Mosquito Nets



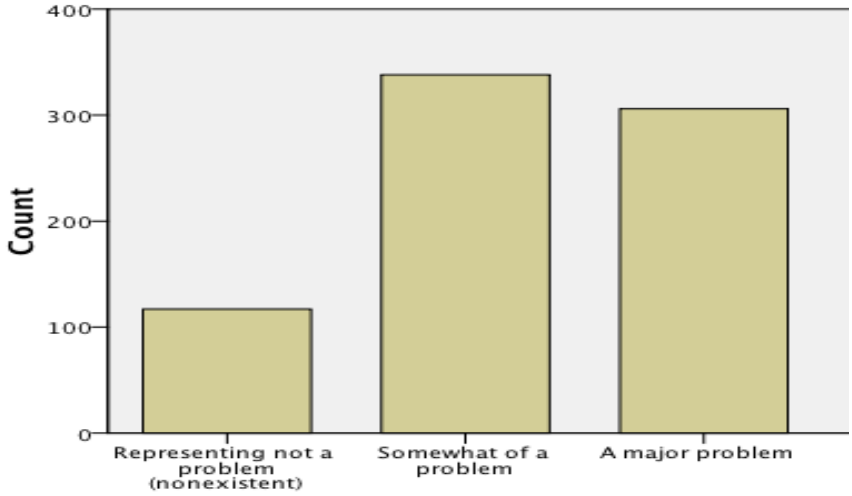
When medical attention was needed, the most common response was to visit the local health clinic. For more serious cases, trips were made to regional hospitals and the Georgetown Referral Hospital. A fair number reported self-treatment at home.

Figure 37. Place of Medical Treatment



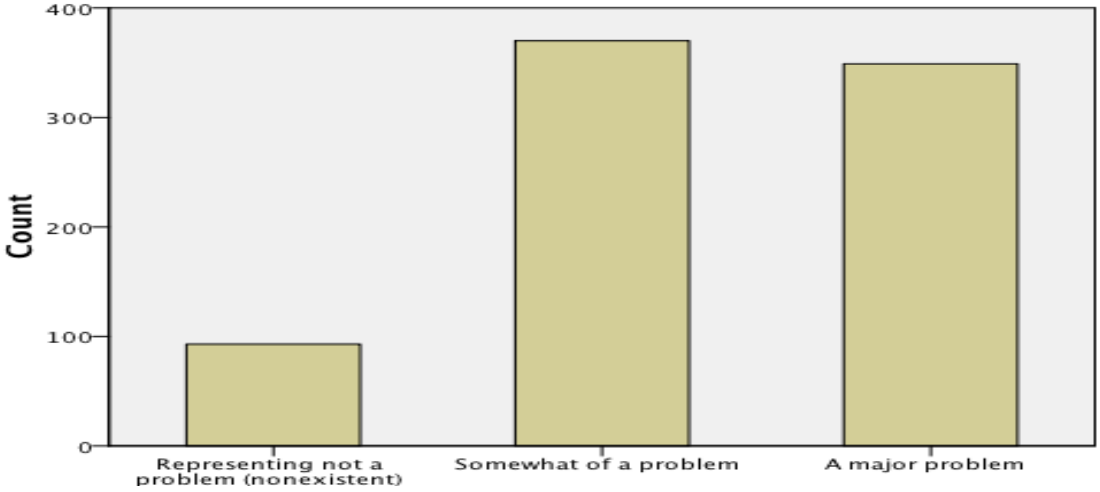
The most common and observable diseases (see Toshao-level survey results) are communicable. Most respondents felt that the high incidence of communicable diseases is somewhat of a problem but not a major problem.

Figure 38. Perception of Incidence of Communicable and Infectious Diseases



When asked about the perceived quality of health care, a majority responded that poor health care was either somewhat of a problem or a major problem.

Figure 39. Lack of Adequate Health Care



Type and Quality of Shelter

To gather information on living standards, a series of questions were asked about home ownership, quality of housing, type of fuel used for cooking, and access to electricity. The most common type of shelter reported was a wood-sided structure with a zinc roof and wood flooring. The most common type of cooking fuels used are firewood and propane gas. Kerosene was the third most frequent cooking fuel reported.

Figure 40. Home Ownership

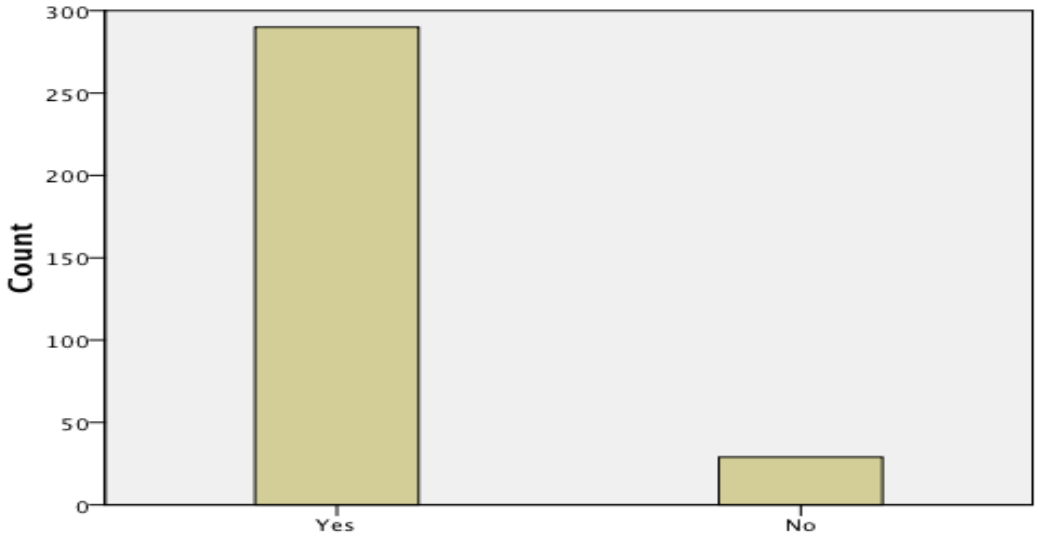


Figure 41. Exterior Wall Material

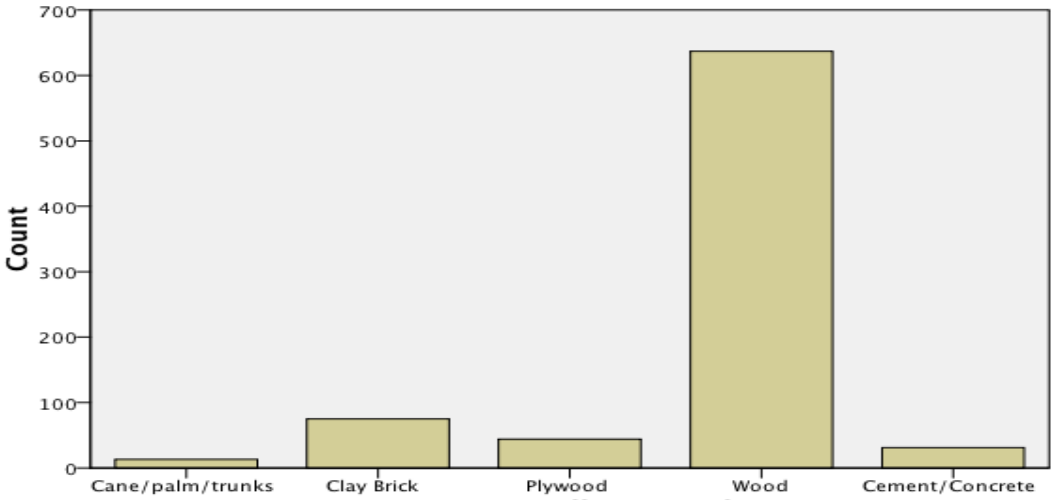
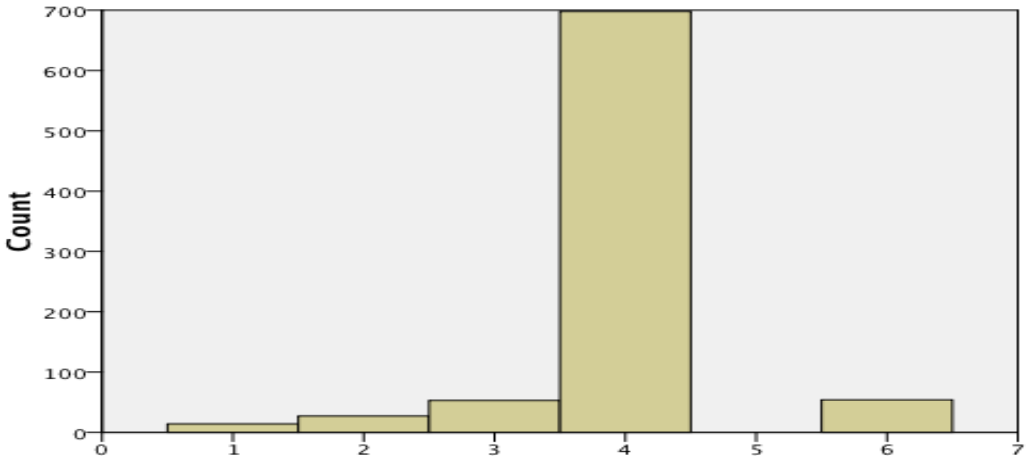


Figure 42. Dwelling Floor Material



Legend: 1=dirt; 2=sand; 3=clay tile; 4= wood; 5=ceramic tile; 6=concrete

Figure 43. Roof Material

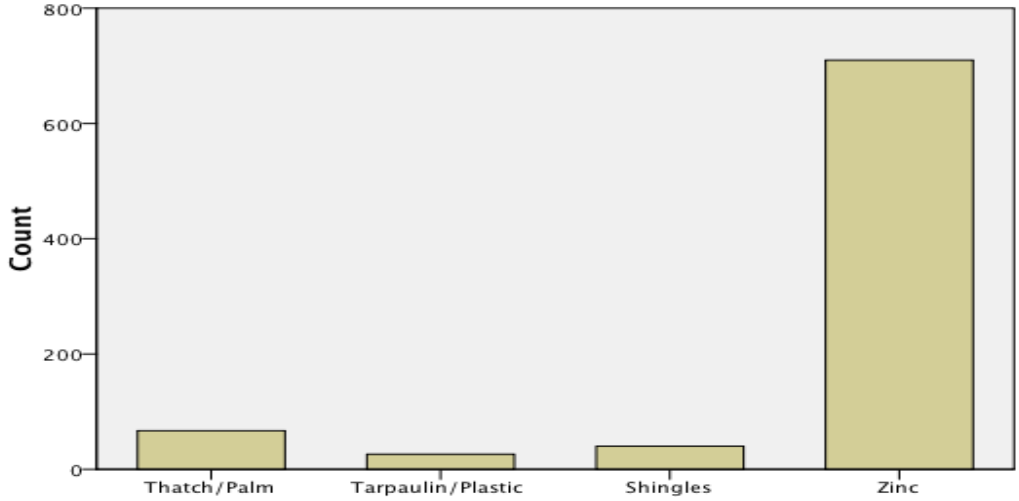
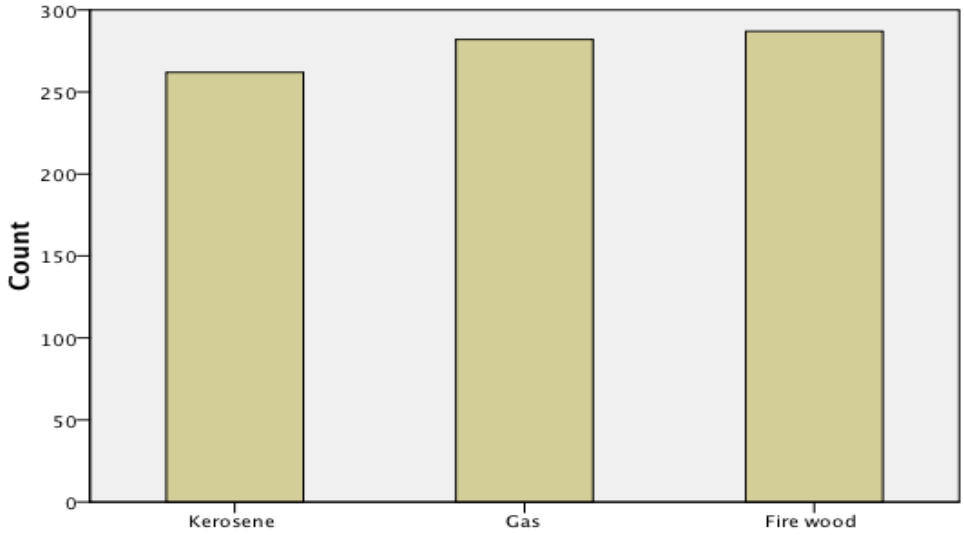
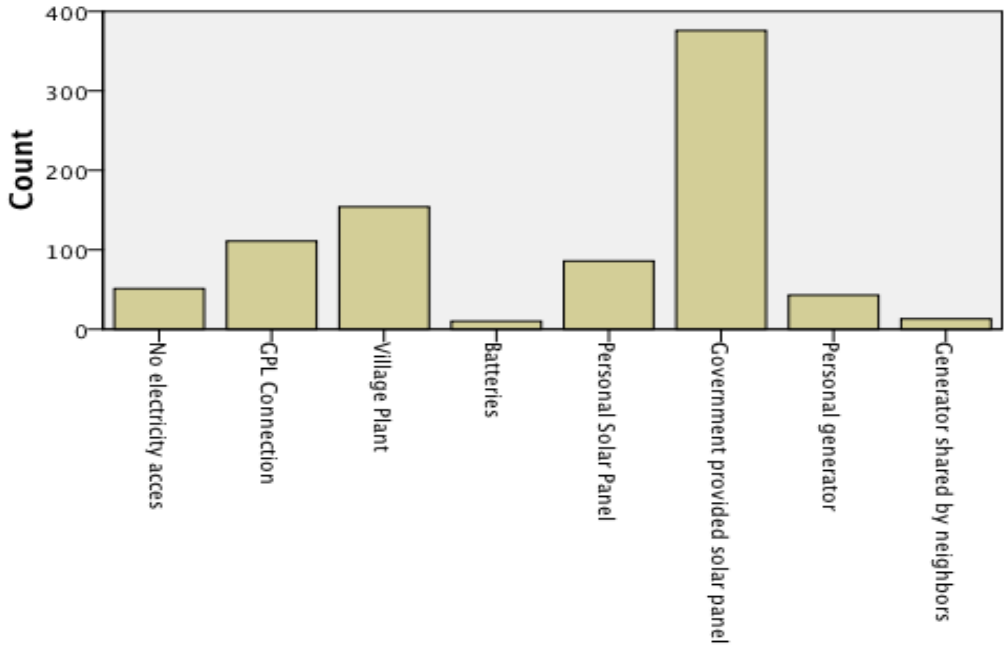


Figure 44. Type of Cooking Fuel



The most common source of electricity was a government-donated 65kW photovoltaic panel, and the second most common was a village-operated diesel generator. A few households reported having personal generators and privately purchased photovoltaic panels. In most villages, electric service is intermittent, provided for only four to six hours per day. The only village with GPL continuous electric service is St. Ignatius, which receives electricity from the Lethem grid.

Figure 45. Access to and Source of Electricity



Access to Financial Services

Most respondents do not seem to have access to formal financial services. A majority reported not having a bank account (deposit, checking), no access to credit, and claimed that obtaining access to capital to finance the start of a business was difficult. Those who did have a bank account tended to be government workers (teachers and healthcare workers).

Figure 46. Ownership of Bank Account

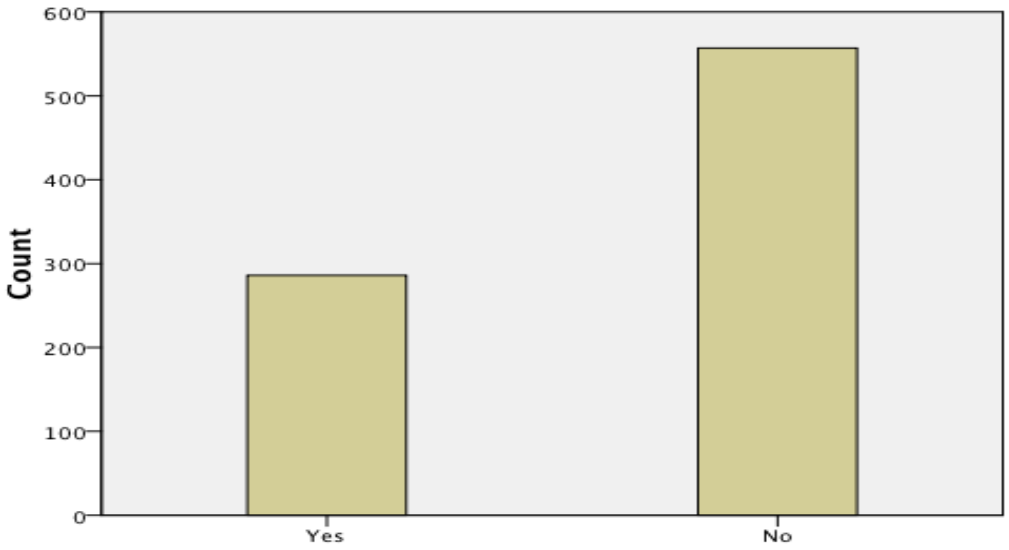


Figure 47. Access to Credit

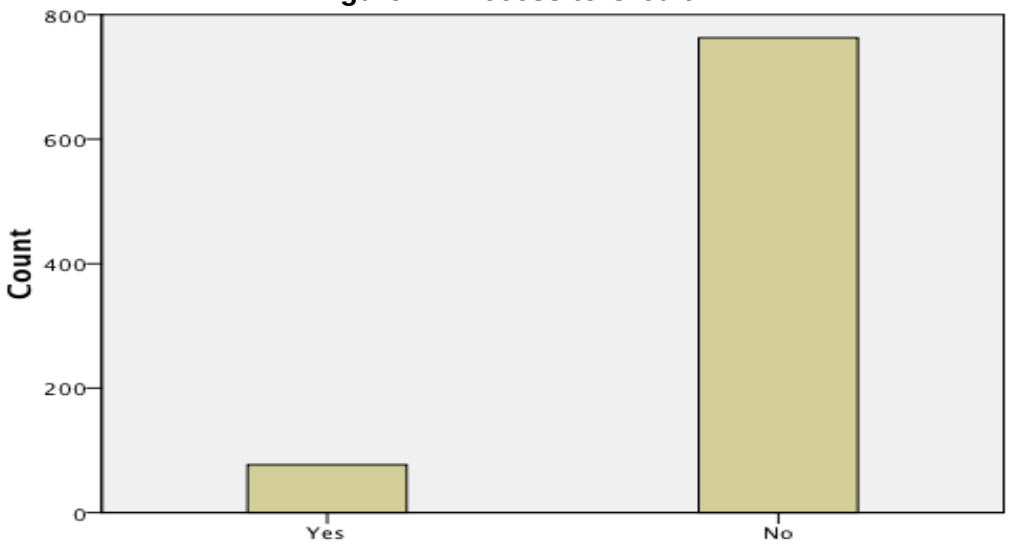
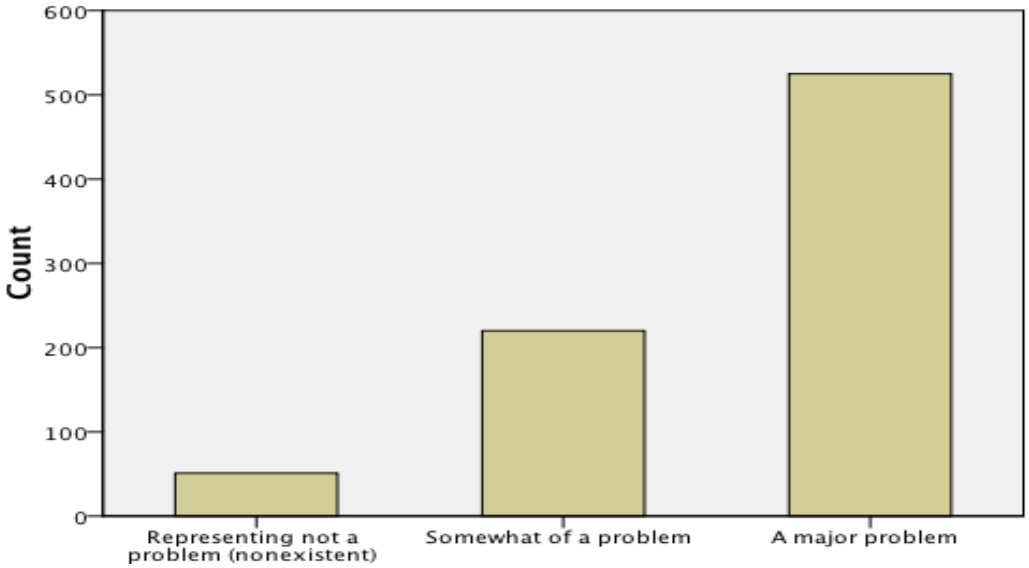


Figure 48. Difficulty to Start/Finance a Small Business



Infrastructure

None of the villages surveyed has access to the nearest provincial town or capital by a paved all-weather road. Some of the villages depend on fluvial transport. Poor transportation increases the time needed and the cost of moving goods and people, which reduces the economic competitiveness of the villages. Most of the respondents cited poor transportation links as a major problem.

Figure 49. Poor Transportation Links

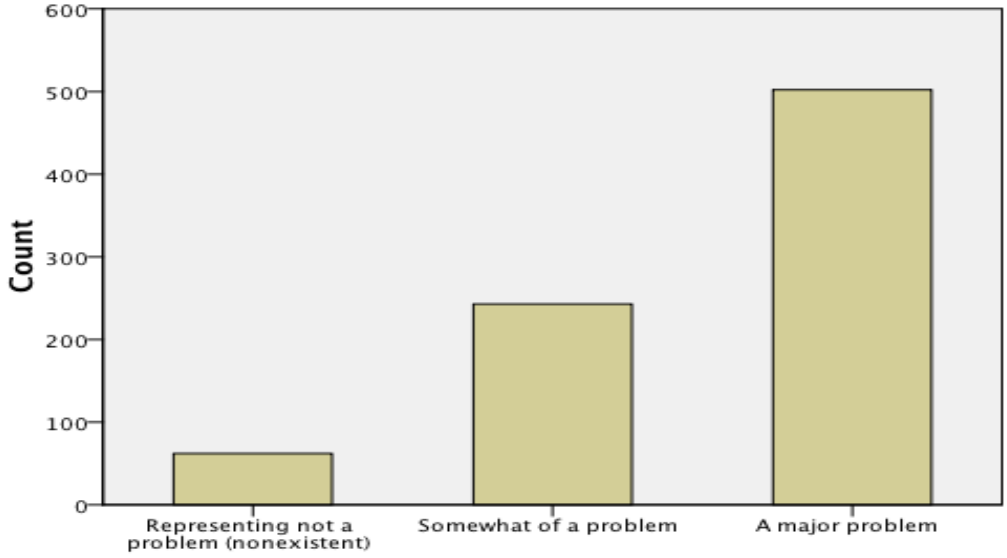
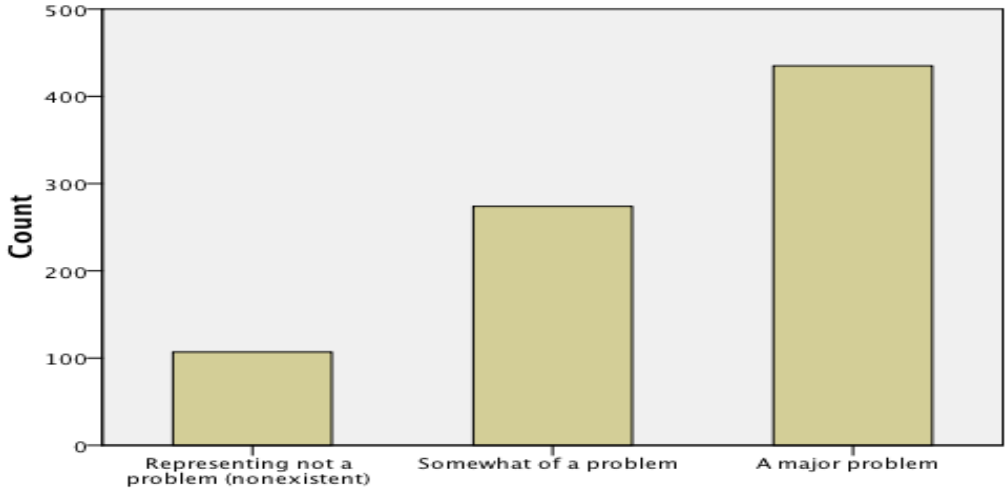
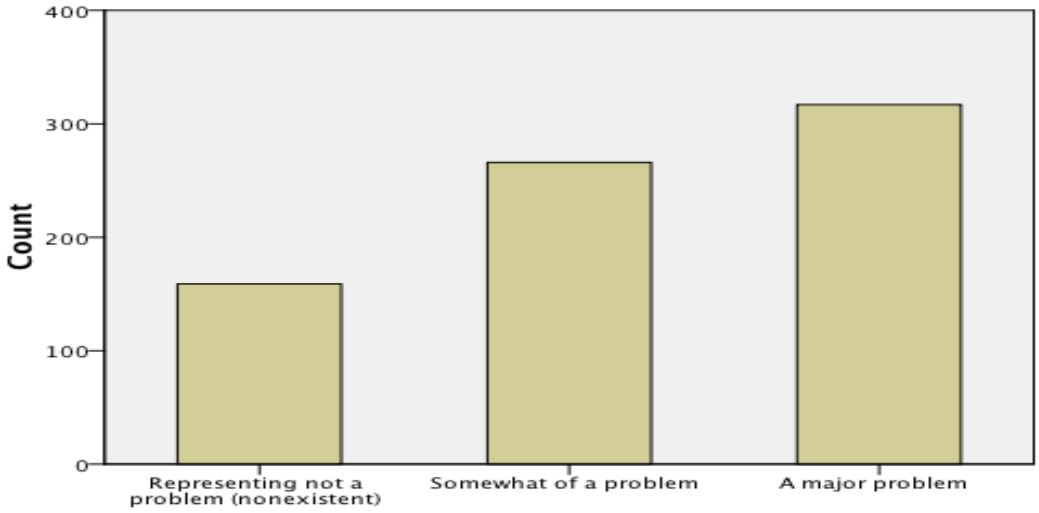


Figure 50. Access to Daily Newspapers



Most respondents also reported difficulties in accessing newspapers and libraries and consider it a major problem. They also reported limited telephone phone and internet connectivity as a problem (see Toshao Survey).

Figure 51. Limited Access to Library and Bookstore



Crime and Insecurity

Crime and insecurity do not appear to be major issues in the villages surveyed. Most respondents reported that they have not been victims of a crime. However, attempts to commit a crime are reported to be high. When crimes do occur, they tend to be robbery and theft of possessions. Crimes, however, tend not to be reported. One constraint is the scant police presence in the interior. If a crime is reported, the majority reported dissatisfaction with the judicial process. Respondents did not blame outsiders for insecurity and in general felt very safe. Nonetheless, domestic violence is perceived to be a common problem.

Figure 52. Victims of Crime

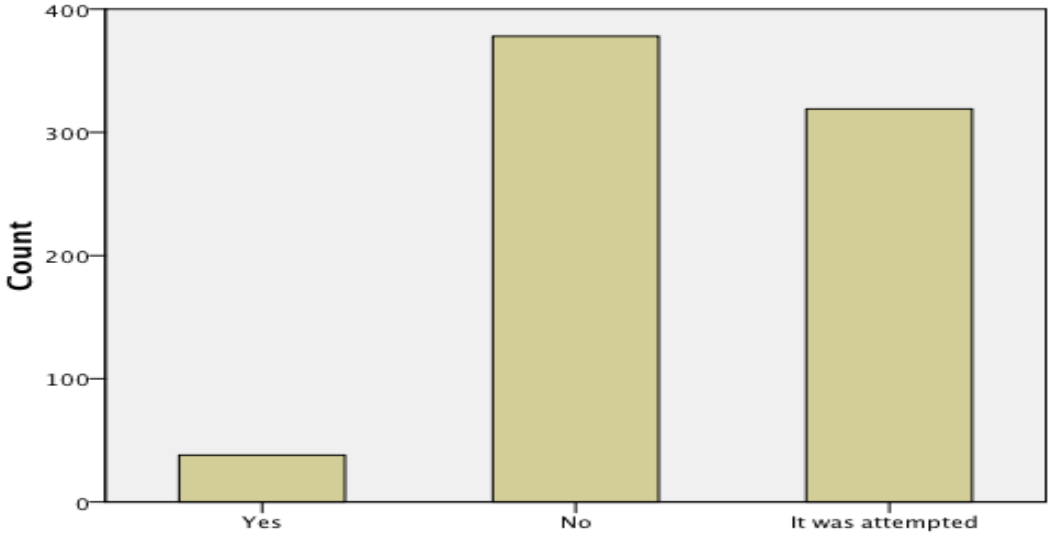


Figure 53. Nature of Crime

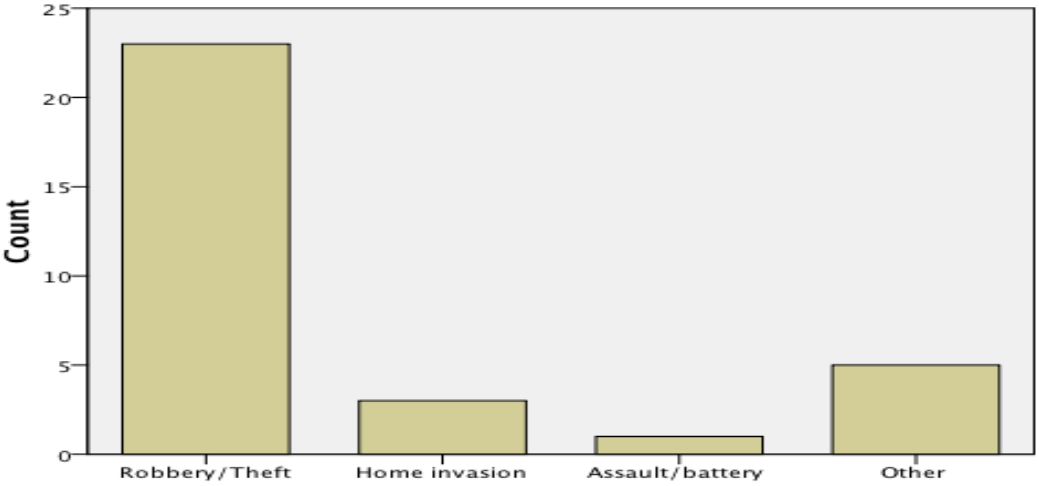


Figure 54. Report of Crime

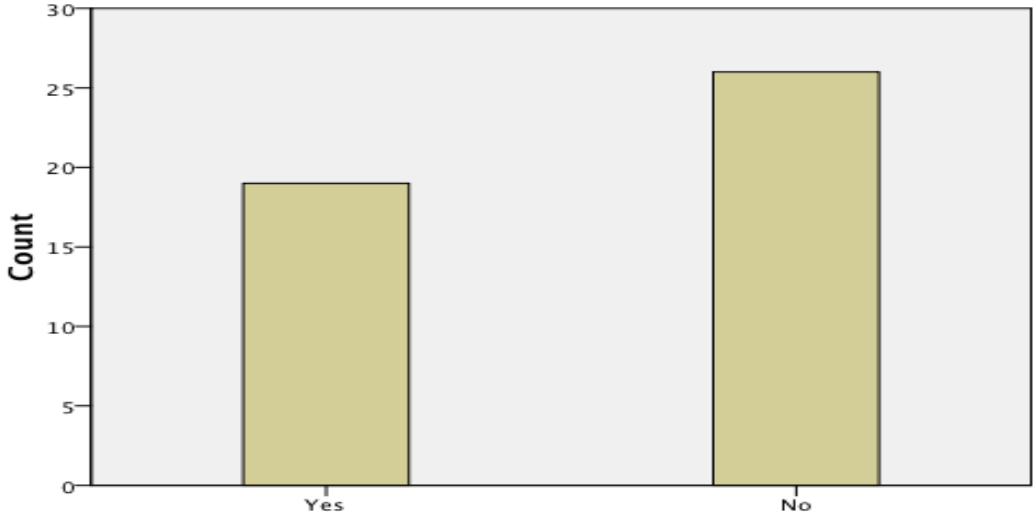


Figure 55. Judicial Satisfaction after Reporting

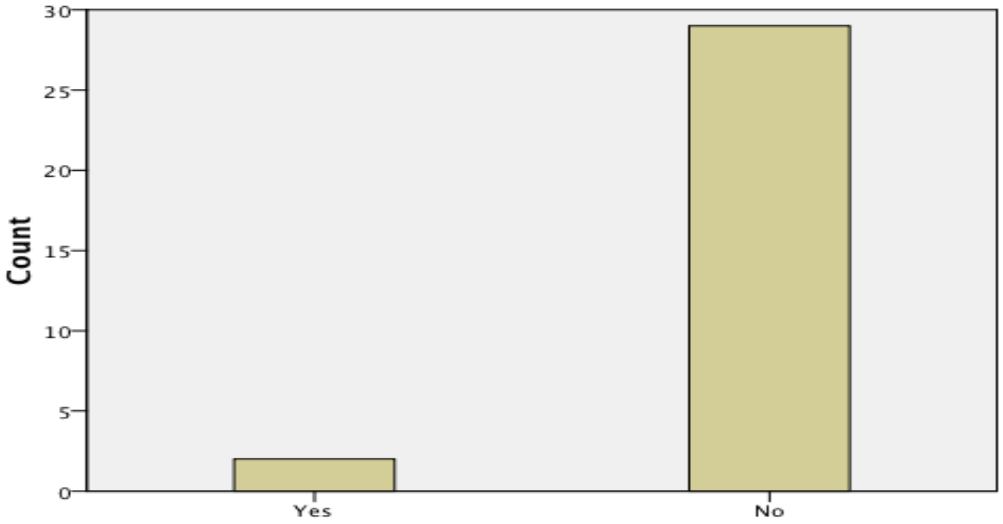


Figure 56. Insecurity due to Outsiders, Miners, and Loggers

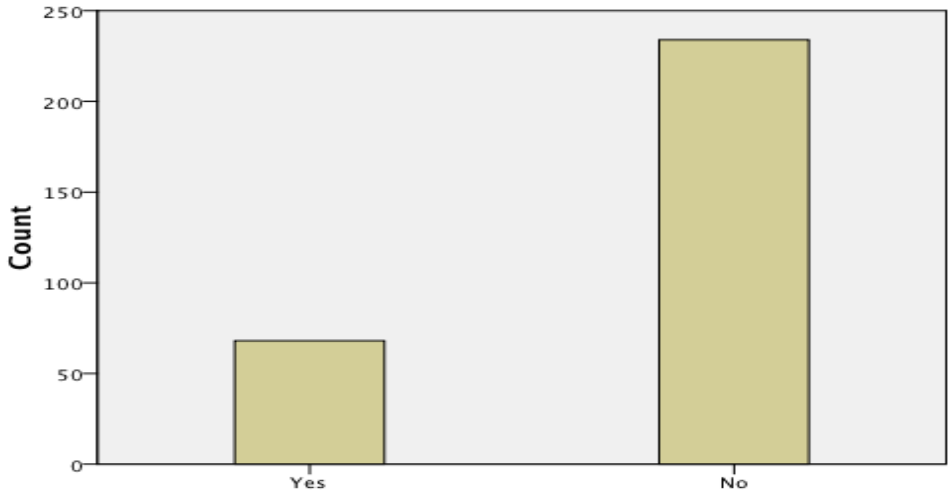


Figure 57. Safety in Home

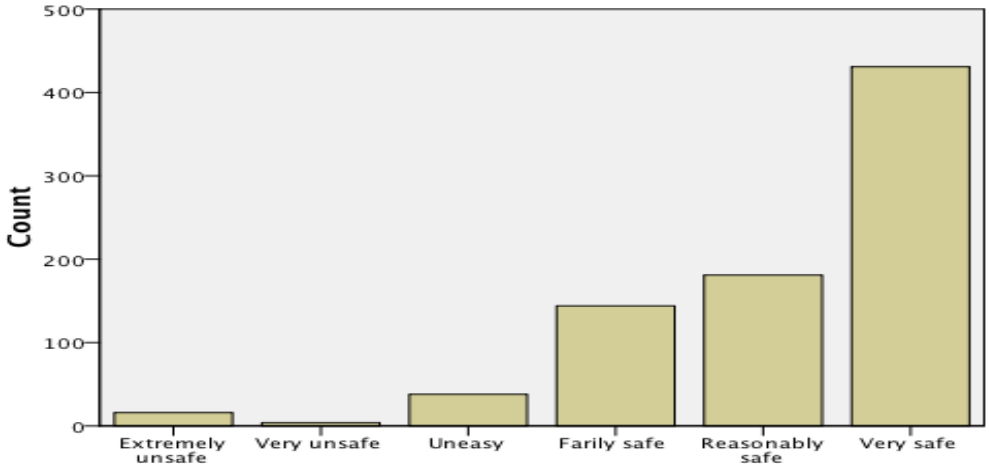
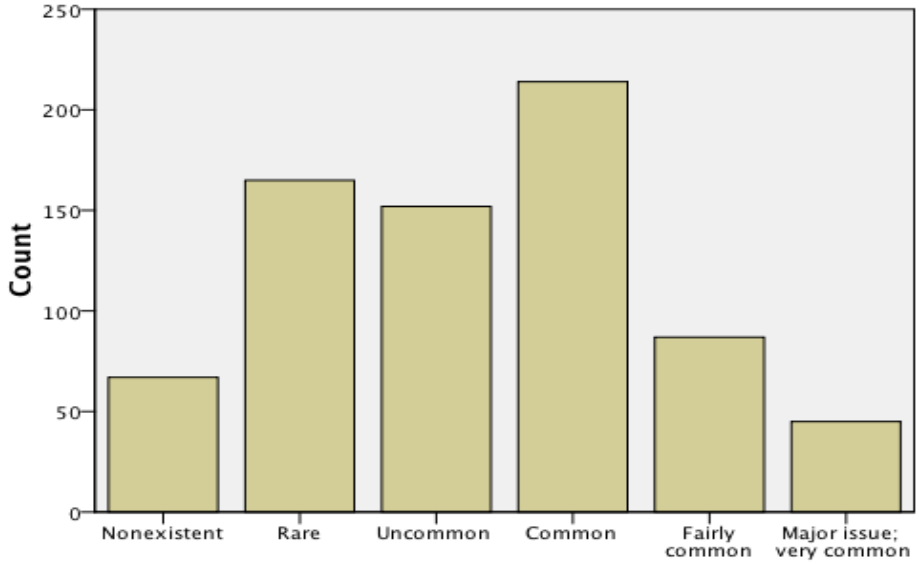


Figure 58. Prevalence of Domestic Violence



Land Issues

A majority of household respondents do not believe that there are land encroachment issues, land titling issues, nor that outsiders are failing to pay royalties for mining and logging operations.

Figure 59. Land Encroachment is a Significant Issue

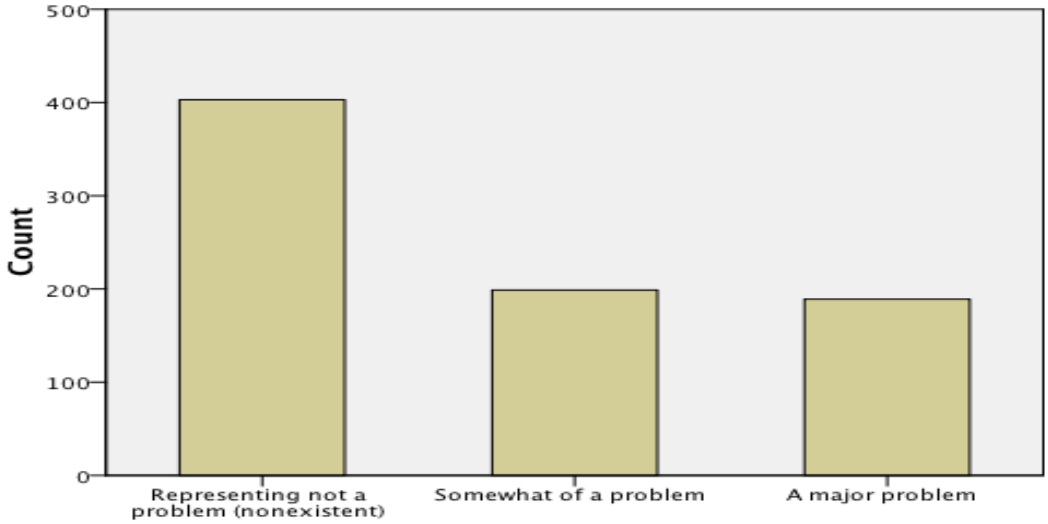


Figure 60: Indigenous Land not Clearly Titled and Demarcated

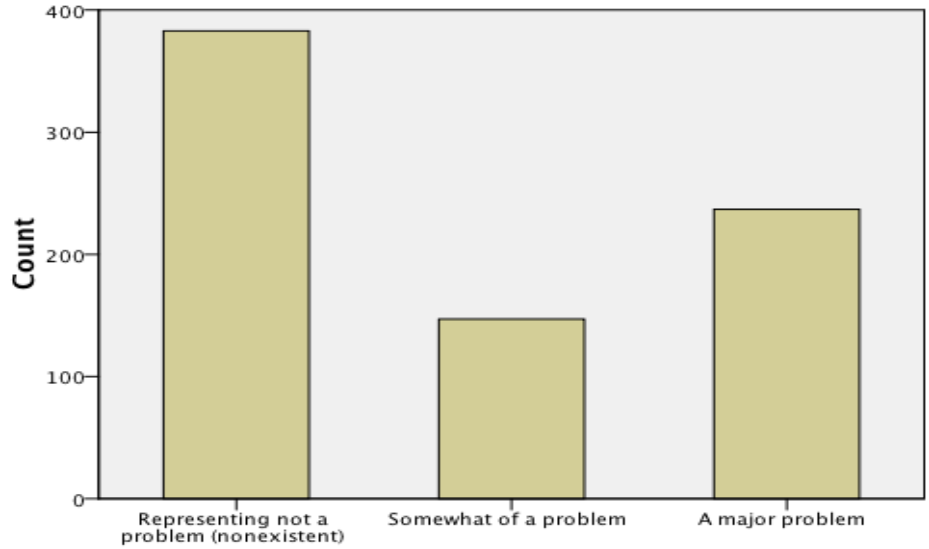
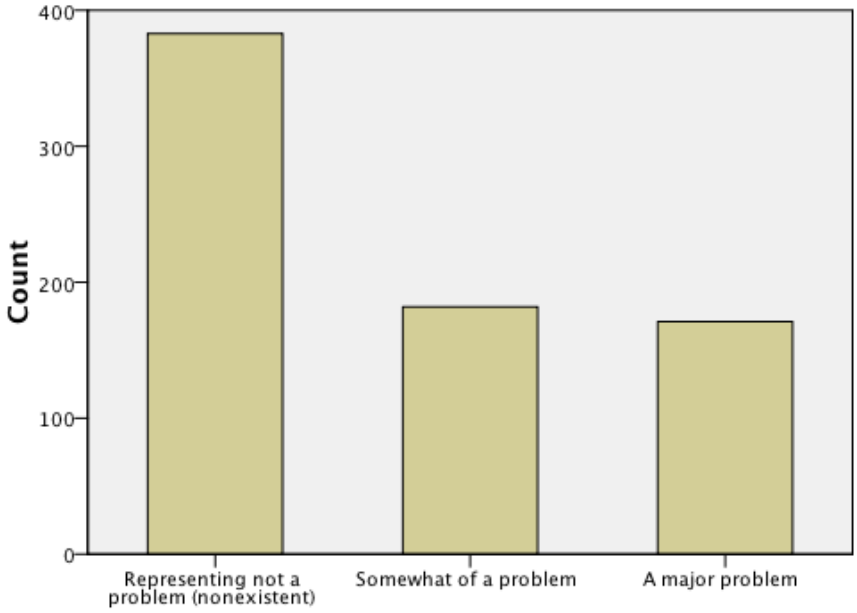


Figure 61. Outsiders are Not Paying Proper Royalties for Mining and/or Logging Concession



Perceived General Problems

Respondents stated that they often encountered difficulties in obtaining and paying for prescription drugs. In a largely cashless society that revolves around farming, hunting, and reciprocal exchanges, especially in villages far from the coast, it is understandable that in the event of illness, household members may be hard pressed to pay for medicines in cash. No problems associated with malnutrition, trafficking, or suicide were reported. However, an overwhelming majority reported that alcoholism is a major issue.

Figure 62: Difficulties in Obtaining and Paying for Prescription Drugs

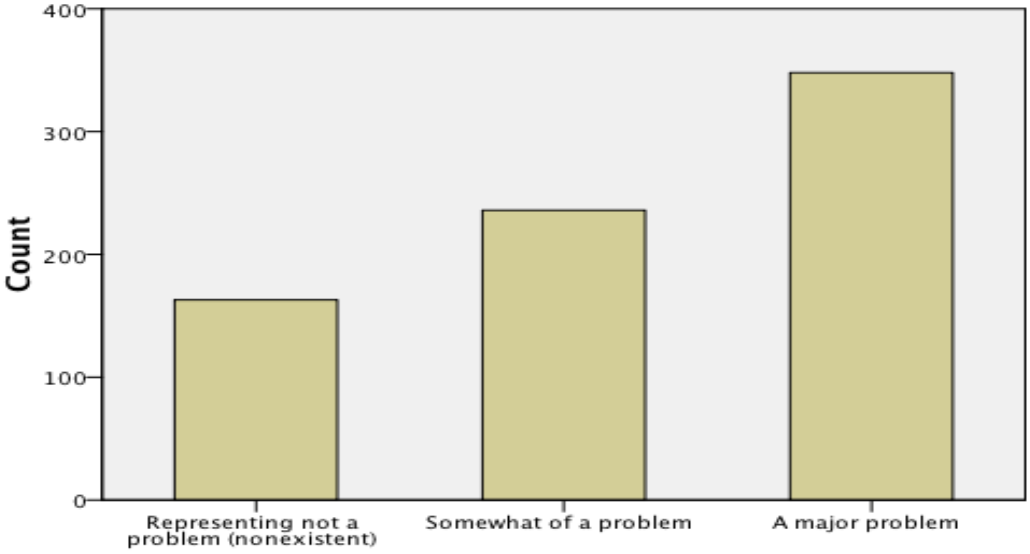


Figure 63. Perception that Malnutrition is a Problem

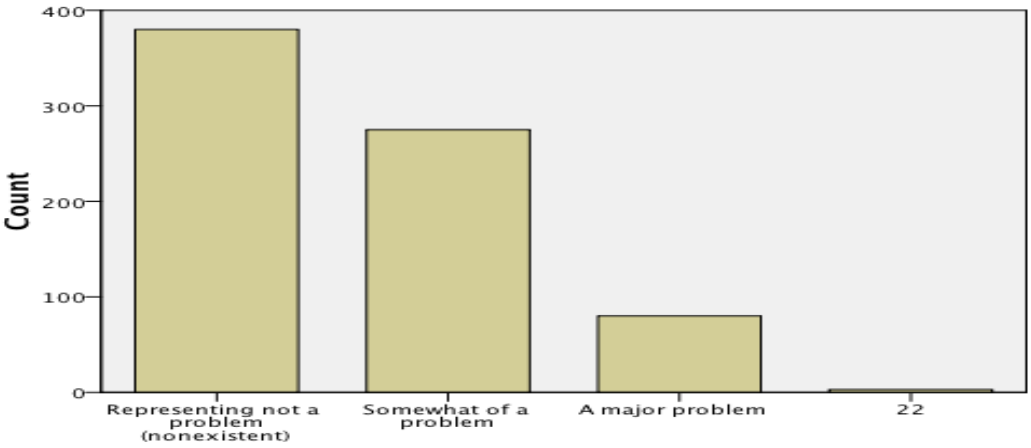


Figure 64. Problem that Alcoholism is a Problem

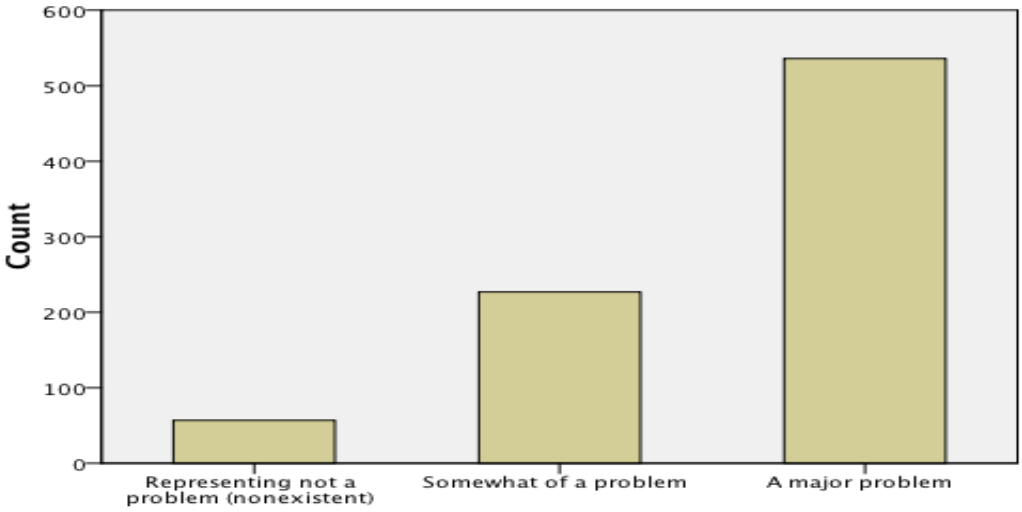


Figure 65. Perception that Suicide is a Problem

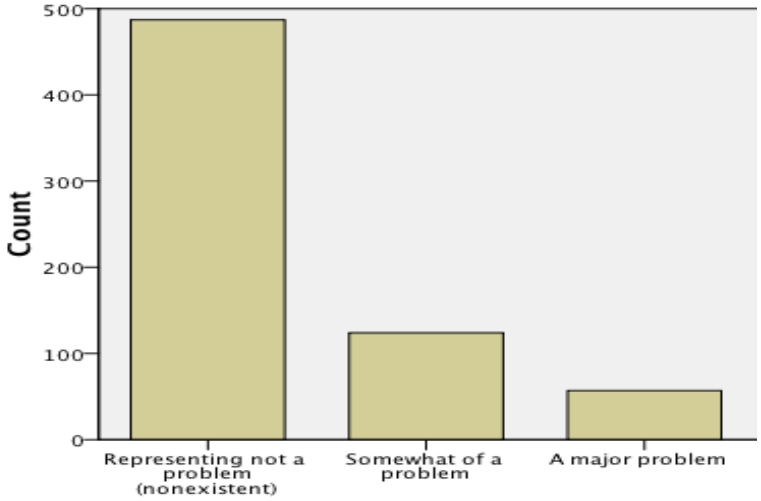


Figure 66. Perception that Trafficking in Persons, Especially Girls, is Occurring and Becoming a Problem

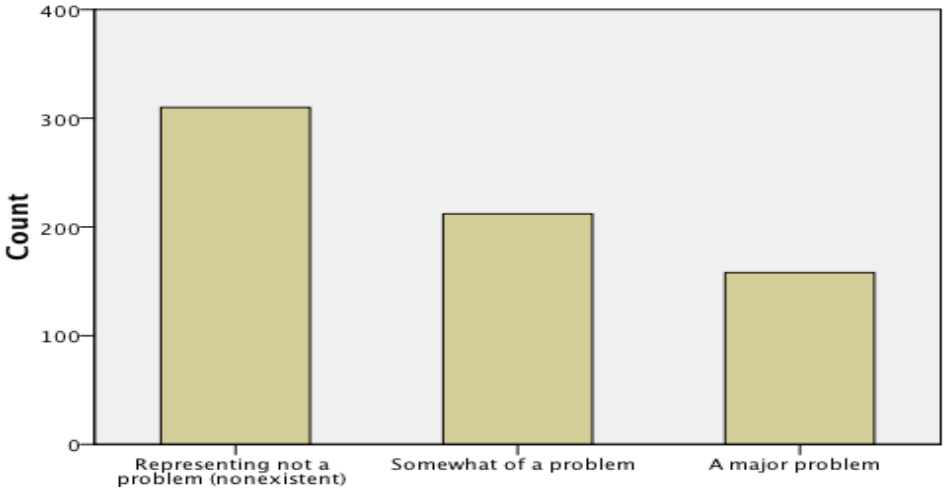


Figure 67. Problems with Proper Care and Treatment for People with Mental Illness

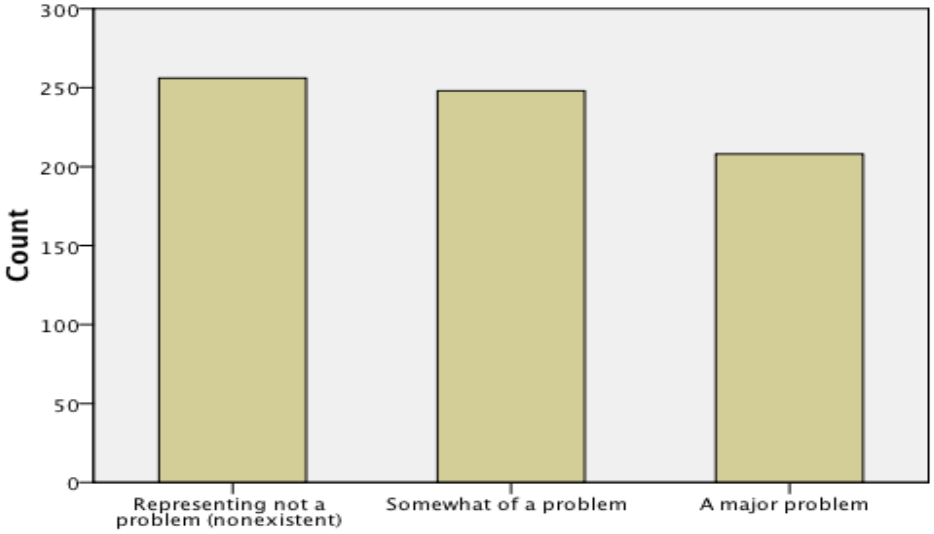
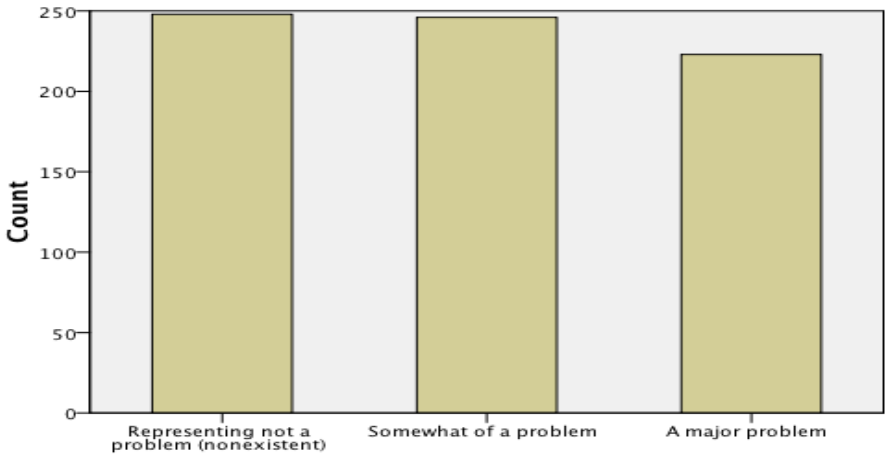


Figure 68. Problems with Proper Care and Treatment for People with Developmental Disabilities



Environmental Degradation

Most respondents do not report observing loss of hunting grounds due to mining activity, run-off of chemicals from farming, or mercury contamination. Opinion was divided on whether changing weather patterns are affecting economic activities such as farming and fishing. A slight majority claimed that deforestation was somewhat of a problem.

Figure 69. Experiencing Loss of Hunting Grounds due to Increased Number of Miners and Loggers in our Vicinity

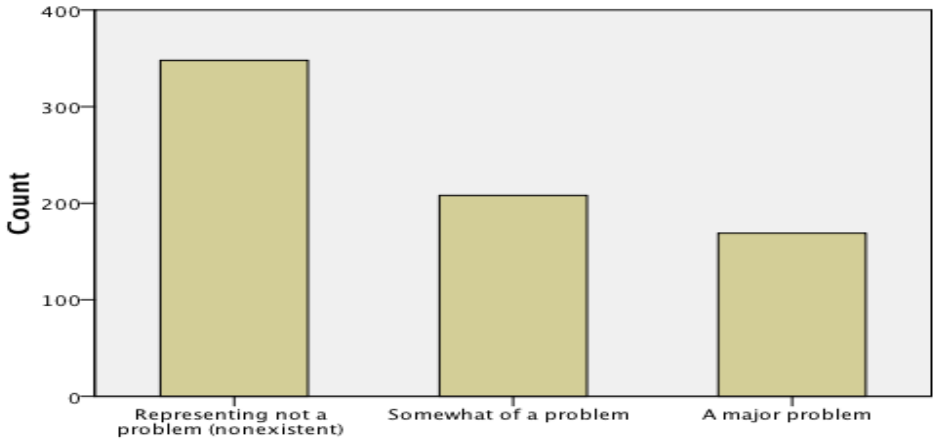


Figure 70. Weather Patterns are Becoming More Unpredictable and Irregular and Affect Economic Activities such as Farming and Fishing

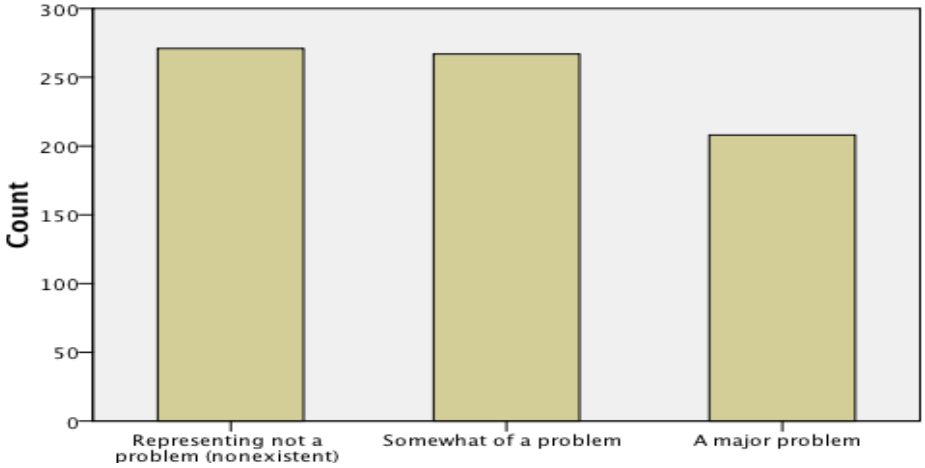


Figure 71. Mercury Contamination is Emerging as a Problem in our Vicinity

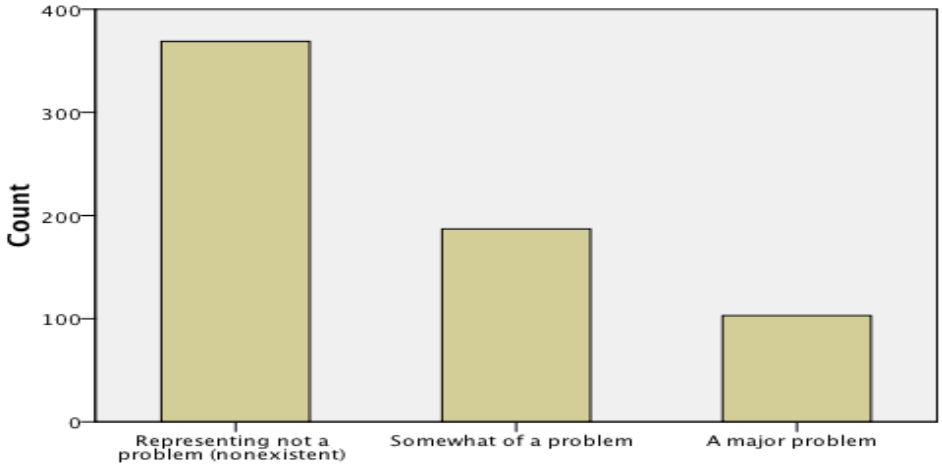


Figure 72. Deforestation due to Mining, Logging, and/or Ranching is an Issue in our Vicinity

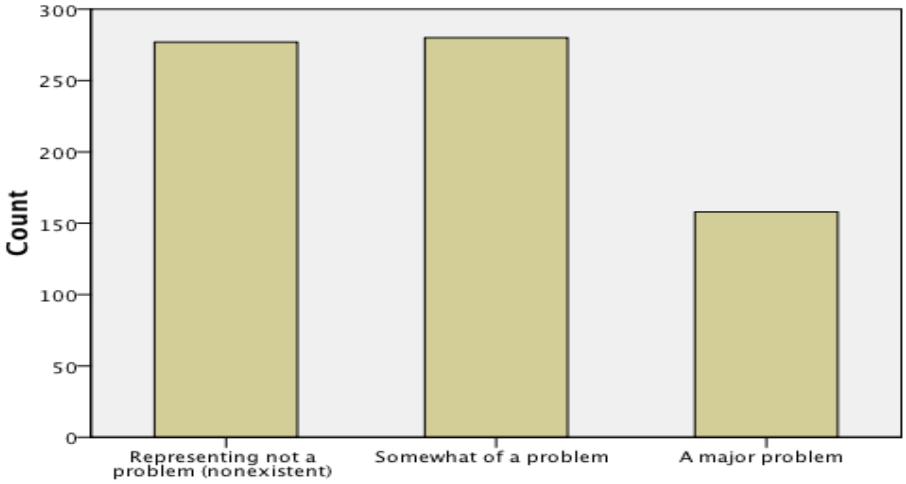
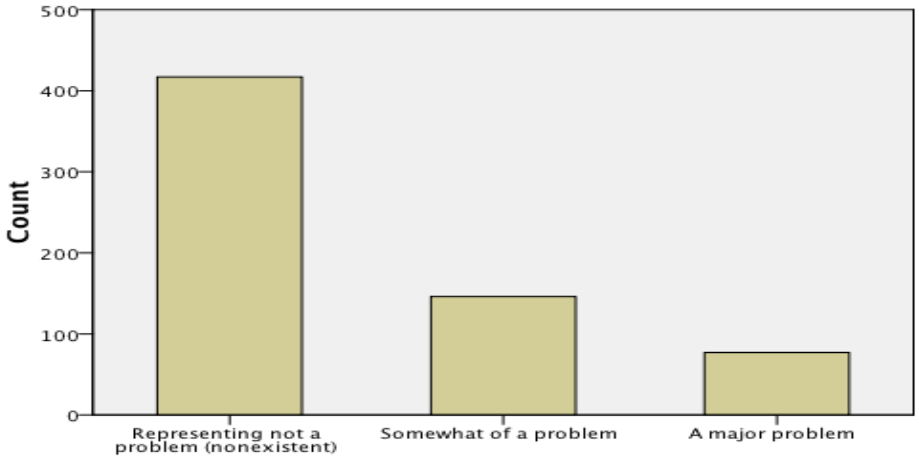


Figure 73. Chemical Runoff from Farms Seems to be Contaminating our Streams, Rivers, and Wells



Cultural Identity and Governance

When asked about the degree of identity retention and community integration, a large majority of respondents feel that loss of fluency in indigenous languages, practice of traditional folkways, and knowledge of customs is a major problem.

Figure 74. Loss of Indigenous Language

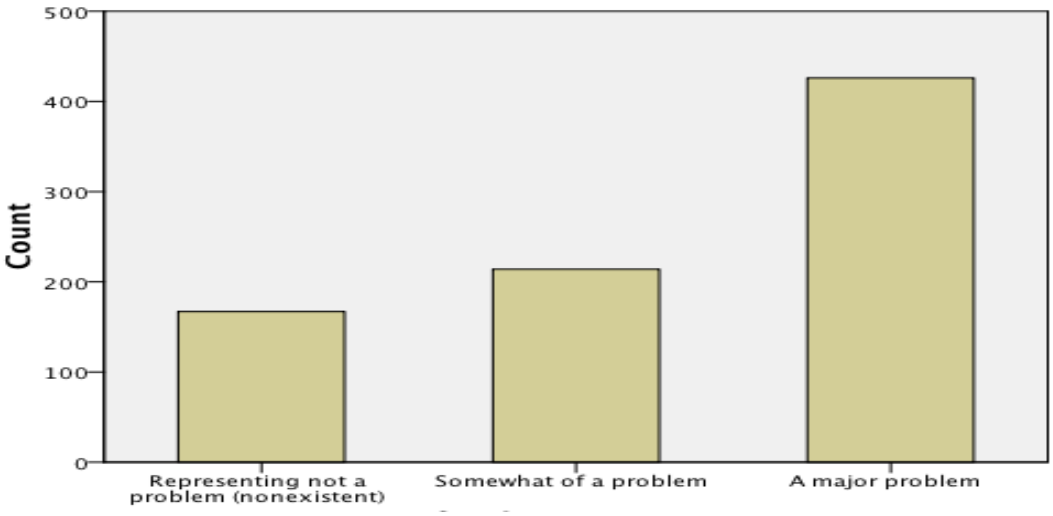
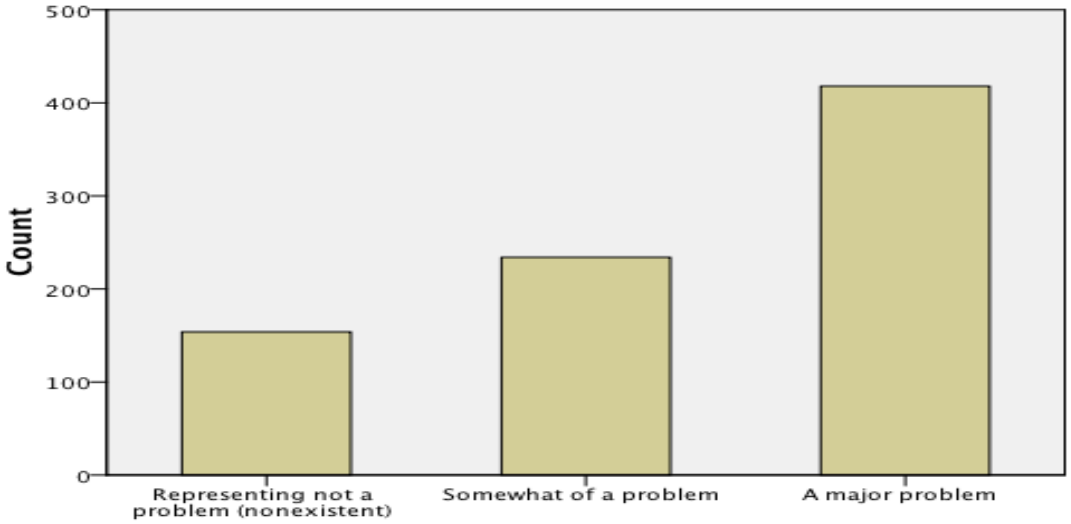


Figure 75. Loss of Traditional Folkways/Culture



As can be seen in the following cross-tabulations, the number of fluent or near-fluent speakers in eight of nine languages is less than 2 percent for all languages, except in Akawaio, where 20 percent of the respondents reported fluency. In the case of Patamona, none of those surveyed reported being proficient in the language.

Table 19. Arawak Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	616	71.0	71.0	71.0
	Very little	92	10.6	10.6	81.7
	Little	44	5.1	5.1	86.7
	Fairly well	50	5.8	5.8	92.5
	Very well	49	5.7	5.7	98.2
	Fluent	16	1.8	1.8	100.0
	Total	867	100.0	100.0	

Table 20. Carib Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	845	97.5	97.5	97.5
	Very little	1	.1	.1	97.6
	Fairly well	6	.7	.7	98.3
	Very well	3	.3	.3	98.6
	Fluent	12	1.4	1.4	100.0
	Total	867	100.0	100.0	

Table 21. Akawio Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	634	73.1	73.1	73.1
	Very little	5	.6	.6	73.7
	Little	2	.2	.2	73.9
	Fairly well	14	1.6	1.6	75.5
	Very well	41	4.7	4.7	80.3
	Fluent	171	19.7	19.7	100.0
	Total	867	100.0	100.0	

Table 22. Warrau Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	845	97.5	97.5	97.5
	Very little	2	.2	.2	97.7
	Little	2	.2	.2	97.9
	Fairly well	7	.8	.8	98.7
	Very well	3	.3	.3	99.1
	Fluent	8	.9	.9	100.0
	Total	867	100.0	100.0	

Table 23. Macushi Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	814	93.9	94.0	94.0
	Very little	11	1.3	1.3	95.3
	Little	16	1.8	1.8	97.1
	Fairly well	11	1.3	1.3	98.4
	Very well	12	1.4	1.4	99.8
	Fluent	2	.2	.2	100.0
	Total	866	99.9	100.0	
Missing		1	.1		
Total		867	100.0		

Table 24. Wapishana Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	829	95.6	95.6	95.6
	Very little	14	1.6	1.6	97.2
	Little	12	1.4	1.4	98.6
	Fairly well	3	.3	.3	99.0
	Very well	9	1.0	1.0	100.0
	Total	867	100.0	100.0	

Table 25. Arekuna Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	866	99.9	99.9	99.9
	Fluent	1	.1	.1	100.0
	Total	867	100.0	100.0	

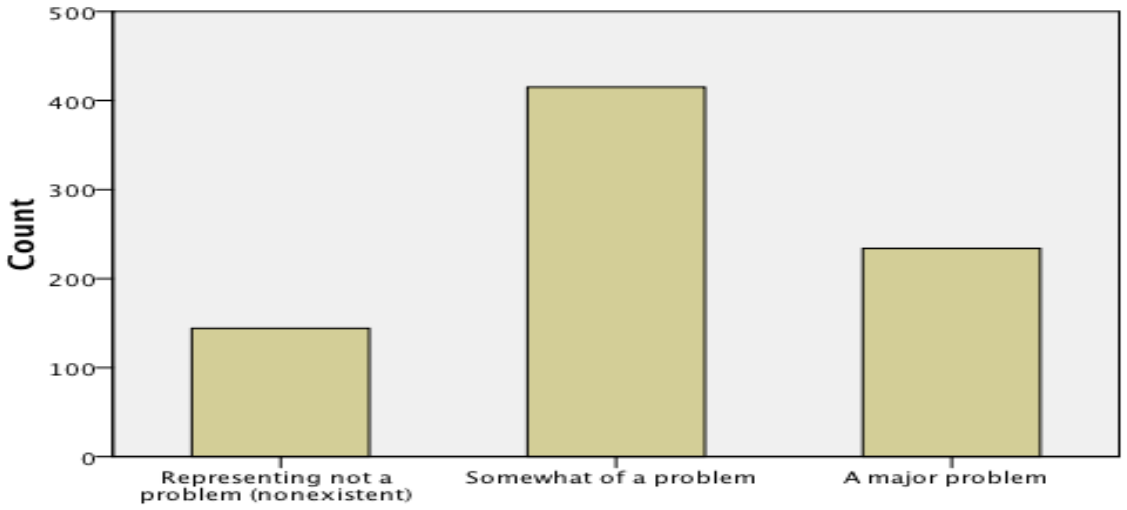
Table 26. Patamona Language Proficiency

		Frequency	Percent	Valid percent	Cumulative percent
Valid	None	867	100.0	100.0	100.0

Governance

Regarding broad-based consultations and discussions on major projects, most respondents find that the prior, informed, consultation, and consent (PICC) is somewhat of a problem. For example, feasibility studies are not distributed or clearly analyzed and explained. Consultations on major government projects do occur, but they are not necessarily thorough.

Figure 76. Community is Properly and Effectively Consulted on Projects affecting our Vicinity



Summary Major Issues and Findings

Land Rights and Land Use

Control of land and subsurface minerals and above-ground natural resources are perennial issues in indigenous communities. Securing traditional lands and territories is a top priority. As of 2013, 97 Amerindian communities (out of a total of 169) had received grants of land title under the Amerindian Act of 2006, and 77 of these villages had their lands surveyed and demarcated, while 6 villages are defined by natural boundaries and do not need to be demarcated.[14] Indigenous hunting and fishing grounds, vital for maintaining livelihoods and assuring food security, largely remain without legal title. Twenty-seven communities have unresolved applications for extension to their lands. Although the Amerindian Act permits the Ministry of Indigenous Affairs to grant communal land title, there are no clear, transparent, and systematic criteria for deciding whether title should be granted or, more importantly, how the precise boundaries of any grant of land should be determined.[15] Between 2013 and 2016, an Amerindian Titling program valued at US$10.7 million was supposed to cover 68 villages. By project end, titles had been granted in only a quarter of the target villages (17). The two main reasons for delays were encumbrances due to overlapping land use grants and concessions made by state entities, namely the Guyana Forest Commission and Guyana Geological and Mining Commission, and the time-consuming nature of adhering to the free, prior, and informed consent (FPIC) principle (*Stabroek News,* 2016).

In March 2017, the Granger administration established a Commission of Inquiry on Land under the Commission of Inquiry Act to examine and make recommendations to resolve all issues and uncertainties surrounding the claims of Amerindian land titling, the individual, joint, or communal ownership of lands acquired by freed Africans, and any matters relating to land titling in Guyana

[14] Ministry of Amerindian Affairs, 2011. www.amerindian.gov.gy/

[15] Section 62(2) of the Amerindian Act provides only general guidance regarding the decision of the Minister of Amerindian Affairs whether to issue title and contains no criteria for demarcation.

with a report deadline of November 1, 2017.[16] A preliminary report was submitted in October 2017 along with a request for more time. No final report had been submitted as of this writing. Without security of land tenure, economic development and land improvement investments are undermined.

In the sample of villages in this study, all the villages were titled (100 percent), most of them demarcated (72 percent), and only 18.2 percent reported land encroachment issues. However, the absence of land using planning could still be a relevant concern for the reservations in the study. Soil maps, environmental inventories, and determinations of the most appropriate uses of the land have not been developed, making rational development planning and sustainable resource use complicated. The need for this type of investment is more acute for the smaller reservations.

Lack of Economic Dynamism

The most significant issue confronting the villages in the sample is the lack of economic vitality. Deficient infrastructure (e.g., poor roads, long travel times, lack of availability and affordability of electricity, poor roads, limited connectivity); limited numbers of highly trained and experienced human capital; access to only rudimentary basic services in health and education; and lack of access to credit and capital combine to constrain economic growth prospects and create a situation of stagnant local economies, limited human capital, limited job creation, and low-incomes. The need to mobilize financial and human capital and devise viable and well-accepted investment strategies and development programs remains. The problems of youth unemployment, youth alienation, alcoholism, and other anti-social behaviors stem from lack of economic opportunities. The sampled villages have potential for agricultural development and the more robust adoption of sustainable management practices in mining and logging, but the required technology, marketing, technical knowledge, and financial capital are missing.

Loss of Culture

Indigenous leaders and elders observed that assimilation, migratory work, and intermixing with non-indigenous peoples are shrinking the bonds of common identity and cosmology. The variable used to proxy the degree of cultural integrity and close identification is fluency in a native indigenous language. As can be seen in Table 27, approximately 20 percent of the sampled population at the household level are fluent in their native tongue. One striking pattern in the data is that the villages farthest away from the capital—Jawalla, Waramondong, Waramuri, and Wakapau—have the highest levels of fluency. Geographic isolation helps with cultural retention but at the same time makes economic integration and development more difficult, translating into less economic dynamism and lower standards of material living.

[16] See Department of Public Information. http://dpi.gov.gy/land-coi-will-deal-with-indigenous-ancestral-lands-separately-minister-harmon/

Table 27. Native Language Retention: Perception of Toshaos

Village	Estimated number of fluent speakers of indigenous language	Total estimated population	Percent share
Baramita	-	3,000	-
Jawalla	1,440	1,440	100
Moraikabai	45	1,403	3.2
Muritaro	0	360	0
Orella	0	2,000	0
Santa Aratak	1	259	.3
St. Cuthert's Mission	-	1,185	-
St. Ignatius	-	1,078	-
Wakapau	200	1,872	10.6
Waramondong	1,200	2,000	60
Waramuri	388	1,500	25.8
Total	3,274	16,097	20.5

Since only 20 percent of the household sample report being fluent in their native language, the policy implication would be that measures are needed to promote and revive instruction in native languages and sharing of traditional knowledge and customs. The revitalization can occur both in the school setting via a bicultural, bilingual education curriculum and outside the school system through after-school youth programs. The cost of implementing a bilingual educational curriculum would be high, implying the recruitment and training of teachers, new textbooks and supportive media, and possibly extended hours of instruction.

References

Amerindian Act (Act No. 6 of 2006). Retrieved at: http://parliament.gov.gy/documents/acts/4680-act_no_6_of_2006.pdf

Amerindian Land Titling Project Far Behind Schedule. 2016. *Stabroek News*. August 4. Retrieved at: https://www.stabroeknews.com/2016/news/stories/08/04/amerindian-land-titling-project-far-behind-schedule/

Amerindian leaders see Georgetown Conference a Farce. 2011. *Kaieteur News*. July 30. 2011. Retrieved at: https://www.kaieteurnewsonline.com/2011/07/30/amerindian-leaders-see-georgetown-conference-a-farce/

Bureau of Statistics Guyana 2012 Population Census Final Report. Retrieved at: www.statisticsguyana.gov.gy/download.php?file=91

Countries Compared by Education > Pupil-teacher ratio, primary. International Statistics at NationMaster.com, UNESCO Institute for Statistics. Aggregates compiled by NationMaster. Retrieved from http://www.nationmaster.com/country-info/stats/Education/Pupil--teacher-ratio,-primary

Department of Public Information. Undated. Retrieved at: http://dpi.gov.gy/land-coi-will-deal-with-indigenous-ancestral-lands-separately-minister-harmon/

Hidden Curriculum. (undated). The Glossary of Education Reform. Retrieved from: http://edglossary.org/hidden-curriculum.

Historic Audio/visual Case Heard in High Court. 2011. *Kaieteur News*. February 15, 2011. Retrieved at: https://www.kaieteurnewsonline.com/2011/02/15/historic-audiovisual-case-heard-in-high-court/

Inter-American Development Bank. 2007. Guyana: Technical Note on Indigenous Peoples. Retrieved at: https://publications.iadb.org/en/publication/11874/guyana-technical-note-indigenous-peoples

Main Amerindian Groups up to the Nineteenth Century. Retrieved at: http://www.guyana.org/features/guyanastory/chapter3.html

Marshall, S. 2016. New Minimum Wage Order. *Guyana Chronicle.* November 24, 2016. http://guyanachronicle.com/2016/11/24/new-minimum-wage-order

Statement of Workshop Participants on Extractive Industries, Indigenous Peoples' Rights and National Development Policies, March 2010. Retrieved at: http://www.forestpeoples.org/en/topics/rights-land-natural-resources/publication/2010/public-statement-participants-workshop-indigen

UNDP. 2011. GUYANA Common Country Analysis 2011. Retrieved at: http://www.gy.undp.org/content/dam/guyana/img/legalframework/Guyana_CCA_2011.pdf

UNICEF. 2016. Guyana Situation Analysis of Children and Women. Retrieved at https://www.unicef.org/guyana/UNICEF_Situation_Analysis_2016.pdf

Appendix 1. Indigenous Communities in Guyana[17]

Achawib
Aishalton
Akawini
Annai Central
Apoteri
Aranaputa
Arau
Arukamai
Assakata
Awarewaunau
Baramita
Barima/Koriabo
Bethany
Bumbury Hill
Campbelltown
Capoey
Chenapou
Chinese Landing
Chinoweng
Crash Water
Fair View
Great Falls
Hiawa
Hobodia
Hotoquai
Hururu
Isseneru
Itabac
Jawalla
Kabakuri
Kaburi
Kaibarupai
Kaicumbay
Kaikan
Kako
Kamana
Kamarang
Kamwatta
Kanapang
Karasabai
Karaudarnau
Karrau
Kato
Katoka
Katoonarib
Kokerite
Kopinang
Kurukabaru
Kurutuku
Kwaimatta
Kwatamang
Kwebanna
Mainstay/Whyak
Malali
Manawarin
Maruranau
Masakenari
Mashabo
Massara
Meriwau
Micobie
Moco Moco
Moraikobai
Muritaro
Nappi
Orealla
Parabara
Paramakatoi
Parikwaranau
Paruima
Phillipai
Potarinau
RedHill
Rewa
Rukumuta
Rupanau
Rupertee
Sand Creek
Santa Cruz
Santa Rosa
Santa/Aratack
Sawariwau
Sebai
Shea
Shiriri
Shulinab
St. Cuthbert's Mission
St. Ignatius
St. Monica
Surama
Tapakuma/St. Denny's
Taruka
Taushida
Three Brothers (Waini)
Tiger Pond
Tiperu
Tobago/Wauna
Toka
Waikrebi
Waipa
Wakapoa
Waramadong
Waramuri
Warapoka
White Water
Wikki/Calcuni
Wiruni
Wowetta
Yakarinta
Yarakita
Yupukari
Yurong Paru

[17] Villages colored in blue represent the 11 villages where leadership interviews were conducted.

Appendix 2. Summary of Interventions by Entity in Indigenous Communities

International Donors/ Governments/ NGO activity Circa July 2014					
Areas of intervention	**Village affected**	**International donors**	**Government**	**NGO support**	**Description, objectives, funding, dates of execution**
Household Income Generation (Handicrafts, Cottage industries etc.)	Orealla - Yes	Caribbean Development Bank			2014: Training, on craft making, forest management, heavy duty equipment. Basic needs trust fund
Formal or wage employment	Santa Aratak Mission - Yes			Arrowpoint Timberhead	Eco-tourism resort hires locals
Cultural/Language Preservation	St. Ignatius - Yes				Churches teach Machusi language at Sunday School; Individual women do craft
	Orealla - Yes			Local NGO Orealla Women's Group	Craft making. Basic needs Fund
Education	Waramadong - Yes				Computers
	Jawalla - Yes	CIDA			Primary school: GYD 45 Million
	Muritaro - Yes		Ministry of Indigenous Affairs		2012: Sanitary block
	Wakapau - Yes	Peace Corps			2001: Volunteer Services
	Orealla - Yes		Ministry of Education		2008: Dorms for Orealla Secondary students (food and accommodation)
	Santa Aratak Mission - Yes	US Peace Corps			
Nutrition					
Health services	Wakapau - Yes	Peace Corps			2001: Volunteer Services
	Orealla - Yes		Ministry of Health		2013: Rehabilitated Health Centre
Housing					
Electrification	Waramadong - Yes		Ministry of Indigenous Affairs		2010: Solar panels (low wattage)
	Jawalla - Yes		Ministry of Indigenous Affairs		250 Solar panels (11 watts)
	Moraikabai - Yes		Amerindian affairs		2009: 650 Solar panels; Hinterland electrification programme

	Muritaro - Yes	IDB PM office			
	Wakapau - Yes		Amerindian affairs		Solar panels
	Santa Aratak Mission - Yes				
	Orealla - Yes		PM Office		2009: 120 houses were connected to the village generator. The Village Council monitors this with their own money. Orealla local personnel maintained, $150 per unit to sustain. People outstanding (50% not able to pay)
Logging					
Mining					
Agriculture	Waramuri - Yes		Ministry of Indigenous Affairs		Seeds
	Wakapau - Yes	IICA			1990s: Coffee project
	Santa Aratak Mission - Yes		Extension once per month		
Tourism/ Ecotourism	Moraikabai - Yes				2000: Guest house
	Santa Aratak Mission - Yes		UNDP Amerindian Development Fund		2013: Build and furnished guest house GYD 5 Million (incomplete)
	St. Cuthberts Mission - Yes		Ministry of Indigenous Affairs & UNDP & Amerindian Development Fund		2013: established lodge for GYD 3.7 Million, established guest house, residential grant GYD 821,000
Small Business Development	Orealla - Yes		2013: Amerindian Development Fund		Building equipment training, make furniture, value added from loss to furniture. Use skills in jobs already existing
Infrastructure	Waramadong - Yes		Ministry of Indigenous Affairs		2006 - 2007: Donated minibus
	Waramuri - Yes		Ministry of Indigenous Affairs		Road upgrade, playfield upgrade, two buildings (cassava mill and computer hubs)
	Jawalla - Yes		Ministry of Indigenous Affairs		Water well
	Moraikabai - Yes		Ministry of Indigenous Affairs		2007: Building constructed - GYD 2 Million; 2013: fixed building - GYD 5 Million; Gov. funded a well
	St. Ignatius - Yes		Ministry of Indigenous Affairs		Moco Moco Bridge

	Wakapau - Yes			Builders Beyond Borders	2013: Roads were funded
	Santa Aratak Mission - Yes	Caribbean Development Bank			2013 - 2014: Water Improvement Project GYD 50 Million, Stand pipe from well
	Orealla - Yes		Ministry of Indigenous Affairs		2012: Pipes to every yard from underground well (GYD 5 Million, project has been ongoing). Technical advice from GWI and employ local labor.
	St. Cuthberts Mission - Yes				Presidential grant of GYD 2.5 Million for a Bobcat, constructed benab (NGO GYD 1.1 Million), two bridges (GYD 1 Million)
Migrant rights, forced labor, human trafficking	St. Cuthberts Mission - Yes		Region 4 Local Government	SIMAP	
Gender and women's rights					
Land Titling/ Boundary demarcation/ Protection against land encroachment	Waramadong - Yes		Ministry of Indigenous Affairs		2014: Government grant, 2006: ATV and tractor
	St. Ignatius - Yes		Ministry of Indigenous Affairs		
	Orealla - Yes				Instrument used to demarcate at that time was the compass, now in recent times GPS was used which allowed for more land to be demarcated. However, this was not queried.