Water, Sanitation and Hygiene: A Socio-Cultural Survey of Communities on Guadalcanal and Savo, Solomon Islands

SECTION 1: NARRATIVE REPORT

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Supporting Community Planning: Reducing Vulnerabilities of Communities Exposed to Natural Disasters by Implementing DRR and WASH Mitigation Measures (SCP-3 Program)

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DISCLAIMER

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ACRONYMNS

BNPL	Basic Needs Poverty Line
CHAST	Children Hygiene and Sanitation Training
CLTS	Community-Led Total Sanitation
DALYs	Disability-adjusted Life Years (The sum of years lost to ill-health, disability or early death).
DHS	Demographic and Health Survey
DRR	Disaster Risk Reduction
EHD	Environmental Health Division of MHMS
FRC	French Red Cross
GFS	Gravity-Fed [water] Systems
HIES	Household Income and Expenditure Survey
KAP	Knowledge, Attitudes and Practices Survey
MDGs	Millennium Development Goals
MHMS	Ministry of Health and Medical Services
MP	Member of Parliament
NDMO	National Disaster Management Office
NGOs	Non-governmental organisations
ODF	Open-Defecation Free
RAMSI	Regional Assistance Mission to Solomon Islands (Australian Government)
PVC	Polyvinyl Chloride plastic piping
RWASH	National Rural Water, Sanitation and Health Program, implemented by the S.I. Ministry of Health and Medical Services
RWHS	Rain-water Harvesting System (i.e. water tanks)
SBD	Solomon Island currency
SCP	Supporting Community Planning Project (1,2,3 referring to project phases)
S.I.	Solomon Islands
SIRC	Solomon Islands Red Cross
TBR	Together Becoming Resilient Project (1,2,3,4 referring to project phases)
UNDEF	United Nations Democracy Fund
UNICEF	United Nations Children's Fund
VCA	Vulnerability and Capacity Assessment
VDRC	Village Disaster Response Committee
VRRAP	Village Risk Reduction Action Plans
WASH	Water, Sanitation and Hygiene
WHO	World Health Organisation

REPORT SUMMARY

This study was commissioned by French Red Cross and Solomon Islands Red Cross and funded by USAID/OFDA to better understand the communities they are working in, specifically how to improve participation in the FRC/SIRC program by people in these communities and foster their sense of ownership. The study covers a range of issues relating more generally to WASH activities and rural community development in Solomon Islands.

This report is accompanied by two other documents: Section II: Village Profiles, Community Mapping and Results of the Quality of Life Survey; and Guide to Increasing Community Ownership and Participation.

All project interventions carry risks of various types. Potential risks to the SCP-3 project are that (a) policy and planning activities could raise community expectations that, unfulfilled, could reduce local motivation to change; (b) no effective ownership of new WASH facilities could reduce their proper use and maintenance; (c) inappropriate interventions could be counter-productive; and (d) operating at a very small scale could waste time and resources. The Quality of Life Survey found a great desire in the communities for improved living conditions, along with resignation and frustration about achieving any change. People felt they could only wait for aid agencies to somehow select them to be helped. Very few people knew of anywhere that they could seek help, or even considered this to be an appropriate action. The findings of this survey echoed those of the 2013 People's Survey, that most rural people in Solomon Islands feel helpless and neglected.

Some readiness to invest in a better, 'up-to-date' standard of living is evident in that when attractive and somewhat affordable products—mobile phones, solar lights—have become available on the local market, rural people have rapidly invested in them.

The greatest expressed need was for improved water systems. People were well aware of the difference between safe and unsafe sources of water, but because carrying water is a major chore for women, there was reluctance to put more work into treating water (by boiling) and casual dismissal of the risk of water-borne disease.

Every discussion group in the survey readily said that open defecation was no longer acceptable, that they needed and wanted toilets, but that the only type of toilet available to them—because of water supply problems and lack of other information—was an open dry pit toilet. These were considered disgusting, unclean and unsafe.

People expressed concern about natural disaster preparedness in regard to the building materials of their houses. Many people said they could only afford traditional materials, but these materials provided no cyclone protection, and were becoming harder to source. There was an expressed desire for 'permanent' houses but for many, these materials are unaffordable. Rural people are exposed to many forms of disaster besides natural disasters, ranging from personal misfortunes such as the death or disability of a household income earner, to global economic changes that depress local commodity prices and raise food and fuel prices.

The MHMS RWASH Program intends to roll-out the Community-Led Total Sanitation (CLTS) program across all rural communities in Solomon Islands, to persuade people to stop open defecation. This will be preceded by a pilot project in some areas. It is not productive to predict the outcome of this pilot; the FRC/SIRC program should wait for its full results before embarking on CLTS activities of its own.

Given the expressed need for improved sanitation by project communities, and to prevent delay in its project implementation, FRC/SIRC should focus on the next element of the National WASH Strategy in regard to sanitation, namely promoting knowledge about and access to a wider choice of affordable toilet technology. Solomon Island communities have specific cultural requirements. Whether they remain in force or adapt to new situations is yet to be seen, but culture is not an invincible barrier to social change.

In regard to improving water supply systems, the National WASH Strategy offers valuable new opportunities to organisations such as FRC/SIRC. The lifting of the old requirement that construction work be restricted to the small facility within provincial governments removes a major bottleneck, opening both work and funding to other entities, including NGOs and local businesses. Besides its current

commitments to project communities, FRC/SIRC can provide technical assistance and advice to many more settlements, possibly including professional advice on quotations received by villages from private businesses.

Much hygiene education remains at the normative level, where people are told what they should do. This has gone on for decades and yet the need remains high. Computerised education is being introduced to schools and provides new experiential learning opportunities in CHAST programs. Introduction of the innovative cardboard microscope and community theatre provide other behaviour change opportunities in both schools and communities.

Fostering ownership and genuine participation are not elements that can readily be retrofitted into a project but are fundamental to project design. The common mode in Solomon Islands is to "identify" communities, "select" or "prioritise" them, casting people as clients, not actors, in their own development. For true ownership and participation, this situation must be turned around. More than twenty organisations involved in WASH activities regularly meet in Honiara. Yet very few people in the study communities knew of a single office where they themselves could go for technical advice or financial assistance.

In regard to overall assistance by FRC/SIRC to the WASH sector in Solomon Islands, note should be taken of the position of Transparency Solomon Islands, in response to public demand, that funds dispersed under the Constituency Development Fund be publicly accounted for. The CDF represents a large investment of the Government's budget for rural development. Under good governance principles, as well as usual aid coordination requirements, both government and aid donor expenditure should be openly accounted for. As an organisation of international repute, and as a donor to rural development in Solomon Islands, Red Cross should support the full recognition of these principles here.

1. INTRODUCTION

1.1 The purpose and scope of this study

The "Supporting Community Planning" (SCP) Program, now in its third phase (SCP-3) is being implemented in Solomon Islands by the French Red Cross (FRC) in partnership with the Solomon Islands Red Cross (SIRC), with funding from USAID/OFDA. This socio-cultural study of the nine communities that currently participate in the SCP-3 is a key deliverable of the program.

The objective of this study is to produce an inventory of social and community dynamics linked to Disaster Risk Reduction (DRR) and Water, Sanitation and Hygiene (WASH) activities, in order to:

1. Improve the quality of the deliverables of the SCP-3 project;

2. Provide information for the development of methodologies, such as Community-Led Total Sanitation (CLTS) and Child Hygiene and Sanitation Training (CHAST), to be shared with other agencies working on WASH and DRR issues; and

3. Anticipate "killing" factors of SCP-3 program.

In the earlier phases of the program, SCP-1 and SCP-2, a major challenge in implementing program activities was the variation in the community engagement. The interest and commitment of the communities varied a lot. This was a key factor in the success of the program at all levels, including the achievement of goals, the sustainability of interventions, and the motivation of SIRSC staff. As SCP-3 intended to introduce new participatory methods with communities (CLTS and CHAST), it was seen as necessary to have a better understanding of the sources of motivation and potential difficulties in the implementation of these methodologies.

This study was commissioned to assist SIRC/FRC to better understand the communities they were working in and, in particular, to better understand what encourages people in these communities to be more involved in the program.

The study covers a wide range of issues relating generally to Solomon Island communities or to WASH issues in Solomon Islands, or specifically to the communities participating in the project. The detailed requirements under each sub-objective are as follows:

1. Improve the quality of the deliverables of the SCP-3 project;
* Ownership
* Participation
* Appropriateness
* Links between program and community beliefs and customs
* Appropriate technical solutions
* Adapted community-based DRR/M processes
* Perceptions about different sources of water versus the different possible uses.

2. Provide information for the development of methodologies:
* Household profiles
* Position of women, disadvantaged etc.
* Taboos, customs
* Views about human excreta & current practices
* Shame & disgust?
* Current water usages
* How do people find out about new ideas?
* Community cohesion?
* Motivators for community work?

3. 'Killing' factors for the SCP-3 project:
* Constraints? Barriers? Access to facilities?
* Possible negative perceptions about the program
* Negative influence or conflict the program could introduce in community

In order to organise this material in a useful manner, this report is presented in two sections:

Section I: Narrative Report (this section); and

Section II: Village Profiles, Community Mapping and results of the Quality of Life Survey, which includes specific information collected about each of the nine project communities.

1.2 The Red Cross Water, Sanitation and Hygiene (WASH) and Disaster Management (DRR) Programs

The Solomon Islands Red Cross (SIRC) has long been an important source of assistance in Solomon Islands to people experiencing some form of disaster or hardship. Since 2010, the French Red Cross (FRC) has been working in Solomon Islands to build the capacity of the Solomon Islands Red Cross Society (SIRC) to fulfil its mandate and strategy. The two organizations have jointly implemented two programmes, both supported with funding from USAID/OFDA:

1 **The "Together Becoming Resilient" (TBR) Program** encourages disaster preparedness and management at both the community and national level. Activities are focused on the island of Savo (Central Province) and several schools in Honiara (Guadalcanal). This program is now in its fourth phase (TBR-4).

2 **The "Supporting Community Planning" (SCP) Program** complements the TBR intervention by facilitating the implementation of Village Risk Reduction Action Plans (VRRAP).

A lot was achieved during the two earlier phases of the program, SCP-1 and SCP-2. FRC and SIRC gained much knowledge and expertise. SCP-3 builds on this experience. In its current phase, SCP-3 works closely with the TBR program on disaster risk reduction (DRR) activities, has a more integrated water, sanitation and hygiene (WASH) approach, and simultaneously targets environmental health, water supply, sanitation and hygiene. A central task of SCP-3 is to support communities to implement their VRRAP, in which the communities have identified WASH actions as priority mitigation actions.

While continuing to work with TBR-4 in three communities on Savo, SCP-3 also works with six communities on Guadalcanal that were heavily affected by flash floods in 2014.

SCP-3 is also working with TBR-4 in four schools in Honiara. During the 2014 floods, these schools served for an extended period as evacuation centres, assisting people from Honiara and nearby settlements. It was evident at the time that the schools were poorly equipped for this purpose, especially due to their insufficient water and sanitation facilities. SCP-3 is supporting the schools and their management institutions to make them more resilient to disasters and better prepared as evacuation centres.

SCP-3 is also working to support and build the long-term capacity of DRR and WASH sectors and institutions. The goal is to strengthen collaboration and coordination between the relevant institutions, including SIRC, the Rural WASH Program under the Ministry of Health (RWASH) and the National Disaster Management Office (NDMO), at both national and provincial levels and during times of both "peace" and disaster.

The program's principal objective is to strengthen vulnerable communities' capacities to cope with natural disasters by implementing DRR and WASH mitigation measures. Key deliverables are:

1. **Policy and planning**: Assist participating communities and schools to formulate and implement vulnerability assessments; hazard risk reduction plans and policies; disaster preparedness and contingency plans; and Village Risk Reduction Action Plans;
2. **Building community awareness and mobilization**: Involve community members in disaster management training activities;
3. **Improving water supply infrastructure in participating communities**: Ensure that all participating schools and at least 70 per cent of residents of participating communities benefit from access to an improved water source for drinking and cooking;
4. **Improving sanitation infrastructure in participating communities**: Ensure that all participating schools and at least 70 per cent of residents of participating communities benefit from access to improved sanitation. This includes the development of adapted CLTS and sanitation marketing methodologies and construction of sanitation infrastructure in participating communities and schools;
5. **Promoting hygiene**: Conduct mass media campaigns to promote hygiene, including hand-washing, cleanliness of water containers, development of an adapted Child Hygiene and Sanitation Training (CHAST) approach in schools, and running programs in communities and schools; and
6. **Improving environmental health**: Assist communities to improve their solid waste management, drainage, and vector control.

1.3 Solomon Islands: a Least Developed Country

The Solomon Islands is one of 48 countries designated by the United Nations as Least Developed Countries.[1] The countries on this list meet three criteria: low average household income (based on the country's gross national income); a low level of "human assets" (health, nutrition, average level of school achieved, and adult literacy); and poor economic health, including high vulnerability.

Within the Pacific island region, Solomon Islands scores amongst the lowest on basic development indicators: infant mortality, life expectancy, adult literacy, and GDP per capita. Underlying these statistics are familiar characteristics of under-development: high vulnerability to disasters, fast population growth, poor infrastructure and the complicating effects of being a relatively remote country of many scattered islands. Solomon Islands have made good progress on some development indicators, including some of the millennium development goals (MDGs), principally primary education, and child and maternal mortality.

[1] United Nations Conference on Trade and Development, 2014. Another three countries in the Pacific island region are Kiribati, Tuvalu and Vanuatu.

Progress with water and sanitation has been much slower. In 2005, national water coverage was estimated to be 70 per cent, a figure barely changed since 1990.[2] Over these fifteen years, sanitation coverage also barely changed, rising from 29 per cent in 1990 to 32 per cent in 2005. These are average figures; they are expected to be higher in urban areas and much lower in rural areas.

Access to safe water and sanitation is critical to many aspects of human development. The government with its development partners, together with a number of NGOs now have large resources allocated to redressing this situation. The great majority of rural people in Solomon Islands practice open defecation, and the thrust of national sanitation policies and programs is to eliminate this unsafe practice.

Table 1 WASH-related health statistics

Infant mortality (infant deaths per 1000 births)	36
WASH-related DALYs (per cent of all DALYs)[3]	9%
Total WASH-related DALYs (years)	7,826
Total WASH-related deaths each year	197
WASH-related proportion of deaths (per cent)	8%

Source: WHO and World Bank

HIGH VULNERABILITY TO DISASTER

The four Melanesian countries—Solomon Islands, Vanuatu, Papua New Guinea and Fiji—are among the 20 countries in the world that have the highest probability of experiencing a disaster.[4] In the Disaster Risk Index, Vanuatu is ranked first and Solomon Islands fourth. The Solomon Islands is highly exposed to a range of natural hazards, including earthquakes, tropical cyclones, landslides, floods and droughts.[5]

Compared to the size of its population, the country has a fairly high level of fresh water resources, but the availability of water varies a great deal across the country. The northern coast of Guadalcanal, where this study is based, is both dry and relatively crowded, making water supply a big problem. There is concern that the quantity and quality of freshwater resources is declining.[6]

A review of the water and sanitation sector, commissioned by AusAID in 2009 noted:

- All sections of the government responsible for aspects of the WASH sector face challenges in fulfilling their duties due to a lack of resources and poor coordination;
- Installed systems suffer from a lack of maintenance and require repair and rehabilitation, and this was a key area of need;
- Because changes in land use have accelerated the decline in quality and quantity of freshwater resources, access to piped water does not always translate to a 'safe' water supply;
- Groundwater resources—when accessed by shallow wells—are vulnerable to contamination, both human and climate induced.[7]

There are early signs of the impacts of global climate change, in higher tides, other evidence of sea-level rise, and a more extreme weather pattern. At both the national and community level, Solomon Islands lacks the resources, capacity and resilience to cope with this exposure to disasters. A number of development partners are assisting the government and communities within Solomon Islands to address their vulnerability. Among them, the Solomon Islands Red Cross is focused on strengthening the resilience particularly of people living in the many small rural communities.

[2] WHO-UNESCO Joint Monitoring Program, cited in WASH Sector Brief.

[3] DALYS: Disability-adjusted life years, a measure of years lost to disability, ill-health or early death.

[4] Feeny et al., 2013, citing United Nations University, 2012

[5] United Nations' University, 2012.

[6] SOPAC, 2007.

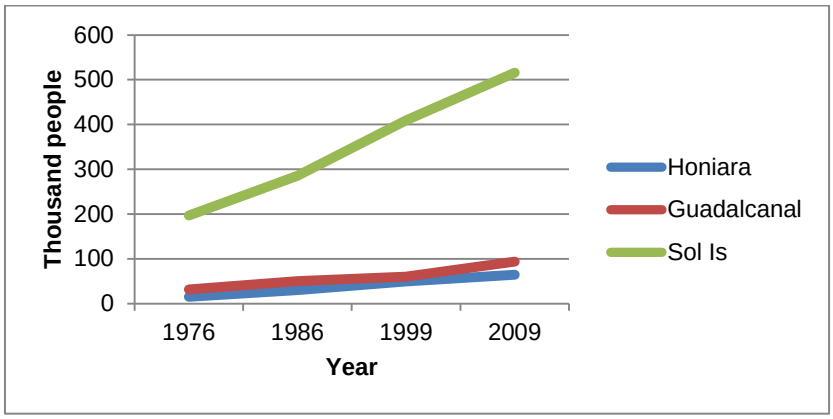
[7] ISF-UTS, 2011.

FAST POPULATION GROWTH

Solomon Islands has a fast growing population. In the decade between the 1999 and 2009 population censuses, the national population grew at an average rate of 3 per cent each year. By current international standards, this is a high rate of growth. If it continues at this pace, the national population will double within 23 years.

This growth has been unevenly spread across the country, being concentrated around the towns, including Honiara, and on the Guadalcanal Plains. In the thirty years, 1976 to 2009, the population of Honiara quadrupled, the population of Guadalcanal tripled, and the population of Solomon Islands grew by two and a half times (Figure 1). Close to Honiara and near to the study communities, both the movement of people into the area and a high birth rate fuel this growth.[8]

Figure 1 Population growth in Honiara, Guadalcanal and Solomon Islands, 1976 - 2009



Source: Government of Solomon Islands, 2009 Population and Housing Census

This high rate of population growth has many implications for water and sanitation. Honiara and the Guadalcanal Plains lie on the drier, northern coast of the island of Guadalcanal. Most of the rain brought by the prevailing winds falls on the island's south coast. As well, there is a pronounced dry season when smaller watercourses dry up. A fast-growing population now lives in a region with limited fresh water resources.

Population growth has exacerbated difficulties of water supply, especially in rural districts and higher inland areas where there are limited continual sources of water. Systems that may once have catered for village needs are now very stretched, if indeed they still operate--and many do not. In rural areas, as many as 50 per cent of installed systems operate at less than their design capacity or are totally inoperative.[9] Traditional practices, particularly open defecation and poor solid waste management, now have very greater impact on community health and the general environment.

RURAL POVERTY

Poverty is normally defined in terms of a money indicator (consumption, income, etc.) Measured this way, 23 per cent of the population was living below the poverty line in 2006.[10] In the Solomon Islands, however, poverty is not characterized by hunger or severe deprivation. It is more usefully defined in wider

[8] Solomon Islands Government. 2009.

[9] AusAID, 2010.

[10] The Basic Needs Poverty Line (BNPL), which includes an allowance for essential non-food expenditure was estimated at SBD998.32 per week for a Honiara household; SBD465.41 SBD465.41 for provincial urban households, and SBD225.02 for rural households. Poverty is hard to measure over time or area in Solomon Islands because of limited data. Beyond the inherent difficulty of quantifying incomes and expenditures in a subsistence society with a strong traditional system of wealth redistribution, the 2006 HIES cannot be linked to those conducted in 1991. Abbott and Pollard (2004) noted that data on education, health, water, gender, were insufficiently disaggregated to allow for provincial level analysis.

terms of disadvantage, namely lack of access to basic services and income opportunities, or the lack of opportunity to live in a way that is considered most basically acceptable by local standards.

Eighty-four percent of Solomon Islanders live in rural areas, with limited access to education, health or other social services, serviced by poor or non-existent transport, electricity and telecommunications infrastructure, and with few economic opportunities other than subsistence farming.[11]

The 2011 People's Survey—a national survey designed to assess how people responded to the RAMSI interventions-found that most rural people felt helpless and neglected. This survey also found a strong sense of dissatisfaction among people about the way they had to live, with few real opportunities for change.

1.4 The study methodology

This study was intended to be a small-scale qualitative study focussed on the nine communities participating in the FRC/SIRC SCP-3 Project. Red Cross staff and volunteers, all Solomon Island nationals, assisted the principal researcher. The survey took place over six weeks in August and September 2015. Most interviews and discussions were conducted in Solomon Island *pijin.*

1. COMMUNITY MAPPING

Following an introductory meeting, community mapping was the first step in each community. All of the communities had participated in two previous FRC/SIFC project surveys in 2015, both using quite extensive questionnaires. Community mapping was used to confirm some of the previous data on community population and household size and composition, and to map out the distribution of community assets, including water supply, washing places, and toilets.

Recent images of each village, downloaded from Google Earth, were provided by the National Disaster Office, and used to draw sketch maps of each community. These maps showed and numbered all buildings, watercourses, roads, garden and plantation areas, and other significant features of the environment.

The first meetings in each community were with the Village Disaster Response Committee (VDRC), people who quite confidently could identify buildings as residences and name their owner, copra dryers, tank sheds, churches, etc., mark where other buildings existed but were hidden by trees, and mark where other houses had been built since the image was taken. As a group, consulting between one another, they were able to give information about the sex and age group of the residents of each residence. The location of rainwater tanks, water taps, washing areas, and so on was then added to the map, details that were confirmed in discussions with other people in the community.

The maps were used as an entry point to talking about the community more generally, about things that were good about the community, problems that existed, and how those problems could be addressed.

[11] ANU Enterprise, 2012. The People's Survey, an annual survey of Solomon Islanders' opinions on issues facing their country, was conducted annually between 2006 and 2012, during the years of the RAMSI intervention, and commissioned by the Australian Government.

2. QUALITY OF LIFE SURVEY

Quality of Life Surveys are a well-established method to build a holistic understanding about community expectations and attitudes. It was used here to develop an understanding of how issues relating to water, sanitation and hygiene fitted into peoples' overall satisfaction with their standard of living.

The lack of opportunity to live in ways that are considered acceptable by local standards is a genuine form of poverty, a poverty of opportunity rather than poverty defined solely by income.

People's attitudes about acceptable standards of living change over time, and focus group interviews were conducted to gauge this. Although the Population and Housing Censuses, Demographic and Health Surveys (DHS) and Household Income and Expenditure Surveys (HIES) collect data about housing characteristics in Solomon Islands, they say nothing about which characteristics mark acceptable living conditions by local standards. The use of these census questions in this study allowed survey results to be linked to the much larger regional and national situation--albeit that larger picture dated in 2009, but the period since being short enough for few major changes to have occurred.

In each study community, the categories of housing conditions used in the 2009 census were presented to focus groups of adult men and adult women. These categories included housing type, building materials, water sources, toilets, waste disposal, lighting, and some household items. Peoples were asked to discuss which characteristics of these marked acceptable or unacceptable standards of living for people in Solomon Islands in this day and age, that is, not necessarily how people may have lived in past times, but nowadays.

This exercise led into more general discussions about the degree to which people were satisfied with their living conditions and quality of life, the extent to which they wished for change, and who they believed the agents of change could be.

3. IN-DEPTH INTERVIEWS WITH INFORMED PEOPLE

Some of the questions this study addressed were more productively asked in conversations with informed people, mostly adults who lived in the community. These interviews took the form of casual conversations but were structured around questions about defecation and hygiene practices, water use, experience of illness, related cultural and traditional practices, community organisation, and patterns of disadvantage. These interviews were also used to confirm or clarify points raised in the community discussions.

4. MEETINGS WITH OTHER ORGANISATIONS INVOLVED IN WASH, DISASTER MANAGEMENT OR RELATED ACTIVITIES IN SOLOMON ISLANDS

Meetings were held with other organisations or agencies working in Solomon Islands and involved in similar issues, to find out about their programs and the extent to which they were working with the same or similar communities, and to learn about other relevant studies, reports and data.

A full outline of the methods and detailed findings are presented in Section 2 of this report: Village Profiles, Community Mapping and the Quality of Life Survey Results.

1.5 Old ideas and new ways in Solomon Islands

A lot of the discussion about changing water use and sanitation focuses on the practice of open defecation, and how to encourage people to instead use toilets. A new method, Community-Led Total Sanitation (CLTS), about to be introduced by RWASH throughout Solomon Islands, plans to confront old cultural values which sustain the traditional practice of open defecation through an abrupt experience of public shame, to "shock" people into changing their ways.

Projects that aim to change people's behaviour must assume something about how this can occur. A common view is that culture acts as a brake on change, and "it's our culture" is often a reason that people give to explain why they themselves do not expect to change. The use of KAP studies, which are a sound research method, tend to reinforce this focus on what people think and believe, and the assumption that this is what most directs behaviour change.

There is another way of looking at this, that people's behaviour changes when the way they must live changes. In the field of demography, for example, in the 1980s and 1990s there were libraries full of reports as to why the desire for sons in Asian societies would keep fertility rates there high for a long time. Then in the 1990s, after fertility rates had precipitously dropped throughout Asia, it was evident that these ideas about culture had been wrong. People were instead limiting their fertility in response to different demands of modern life, with more opportunities for women to work outside of the household, fast rising costs of living and equally fast rising aspirations for new lifestyles. A change in cultural attitudes and traditional values happened very quickly in the face of wider, 'institutional' change.

To return to the first idea, that culture is a ready brake on change, there is often an assumption that because people in a small community are of the same "culture", they will all change at the same time, motivated by the same "behaviour change" interventions. Yet it is a common misunderstanding that rural communities in Solomon Islands are homogenous groups of people all with similar aspirations and interests, no they are not[12].

Rural villages in the Solomon Islands—and many other places, for that matter—are diverse in levels of wealth, wellbeing, and access to opportunities. Even though people themselves may feel they cannot change, that their old values will retain their power, in fact many people are in the process of change, and desire change. The question then is what sorts of new circumstances or incentives will actually bring about these changes?

Significant findings of this study are:

1. There is a strong desire among people in these rural communities for changes in their living conditions, together with frustration and disappointment with their government's seemingly lack of action and assistance.
2. People use their limited water as best they can. Most understand that different sources of water are safer or less safe for drinking. Good water is conserved for drinking wherever possible.
3. Still, unsafe water often is not boiled and there was a casual dismissal of the risk of water-borne disease.
4. There was almost unanimous agreement that open defecation in the bushes was unacceptable in this day and age. (Defecation in the sea was slightly better, according to some people living on the coast, because the tide washed the waste away.) The ambivalence expressed by some people was that they had to go to the toilet somewhere, and the bush was better than a smelly, even dangerous, pit toilet—a toilet a small child could fall into, or where mosquitoes and flies would lurk.
5. Unimproved, open pit toilets were unanimously described as unacceptable. They stank and bred flies and mosquitos, risking malaria.
6. The only other types of toilets people said they were familiar with were flush toilets and pour-flush toilets – both out of their reach because of their lack of water supply, but they knew of no other possibilities.

[12] P. Schoeffel, 1996.

2. THE STUDY COMMUNITIES

2.1 The Project Communities

This study is of the nine communities that participate in the SCP-3 disaster preparedness and water and sanitation projects. According to their location, the villages form three groups:

1. East Guadalcanal: Zion, Totomba and Bubulu;
2. West Guadalcanal: Bubumala, Duidui, and Takaboru;
3. Savo: Kuila, Bonala, and Reko

Full descriptions and maps of these communities are presented in Section 2 of this report: Village Profiles, Community Mapping and Quality of Life Survey Results.

Figure 2 Location of the project communities

FRC/SIRC has been working in the East Guadalcanal communities for some years. Project activities began in West Guadalcanal and Savo in early 2015. A Baseline Survey and a Vulnerability and Capacity Assessment were conducted in the Savo villages in February 2015 and a KAP Survey was conducted in July 2015. Some information collected in these surveys is incorporated. Village Disaster Response Committees (VDRC) have been formed by SIRC, approved by NDMO, and are active in all of the project villages.

The project communities are a diverse group, but no more obviously disadvantaged than other communities in their area. They were chosen by FRC/SIRC on several criteria: their accessibility from Honiara, and their range of situations (resettled communities, isolated communities, older communities). The settlements in East Guadalcanal were included because they had been involved in earlier phases of the SCP and some project work needed to be completed there. The communities on Savo were selected to help put in in place the village action plans developed by the TBR project. The three communities of West Guadalcanal were selected in consultation with RWASH and NDMO, according to their higher level of vulnerability.

The total population of the nine communities in 2015 is approximately 2026 people, 935 on Guadalcanal and 1091 on Savo. These numbers represent 2 per cent of the population of Guadalcanal Province and 8 per cent of Central Province.

The communities in East Guadalcanal include two traditional villages, Totomba and Bubulu, located on the periphery of the oil-palm plantations but separate from them. The third community, Zion, is a small, quite new settlement, of people who moved into the area from the eastern end of Guadalcanal to claim inherited land and locate themselves near the end of the sealed road to Honiara. All three communities support themselves through small-scale commercial farming, selling their products in Honiara's Central Market. People in Zion and Bubulu now have difficulty farming because of the incursion of the very damaging Giant African Snail. Totomba farmers are so far free of this pest, the high use of herbicides and other chemicals in the oil palm plantation possibly stopping the snails from reaching their land.

The villages in West Guadalcanal are all relocated communities. People from Duidui on the Weather Coast were relocated by Government to their current place after a damaging earthquake in 1977. People from Bubumala moved from the Weather Coast and Malaita to their present location in the early 1990s, to occupy inherited land and be closer to social services and other opportunities on the north coast. Four or five years after the settlement was established, the years of Tension began. The settlers abandoned their new homes and went to live elsewhere, many moving to Malaita. They returned after peace was restored and rebuilt their village. The third village, Takaboru, was relocated from a short distance away by the Government, following damaging floods in 2008.

Savo, a small island lying close off the northwest coast of Guadalcanal, is part of Central Province. People on the island live in villages or in scattered family hamlets around the narrow coastal fringe of the island. The interior of the island is steep and dominated by volcanic cones. The last eruption occurred in 1840 and most people were safely evacuated from the island. Current seismic activity includes hot water pools that now provide a tourist attraction. Because settlement is mostly restricted to the narrow coastal zone, residents of Savo are vulnerable to storm surges brought by tropical cyclones and to the expected effects of sea-level rise.

Figure 3 Aerial view of Reko, showing kin gathering

2.2 Village organisation

KINSHIP AND THE SETTLEMENT PATTERN

Villages are formed around kinship. The aerial photo above of Reko (and other photos and maps in Section 2) show the dispersed settlement pattern that is common in Solomon Islands, with the settlement mostly comprised of small family hamlets, linked together by family ties to form the larger settlement. This settlement pattern is relevant to water and sanitation systems. For example, if the flow in a water system is unable to reach all sections of these dispersed "settlements", there will be dissatisfaction and possibly community disharmony, depending to some extent on the status of the people thereby disadvantaged.

Within a village community, there is an important distinction between members of the landowning group and other people living there. Landownership is based on genealogical descent, which may or may not be recorded in writing. Some of these people will live in the project area. Others may have gone to live elsewhere but can be vocal when 'compensation' issues are discussed. Other people in the community, especially women who have married in but belong to other landowning groups, would be excluded if project benefits went only to landowners.

As communities are defined by family ties, the motivation for community work therefore is fulfilling family obligations. There would be some shame in not contributing. Also there is expectation, with one's family belonging to the community, of being a direct or indirect beneficiary of whatever project or work is being conducted.

The ideal way to live, according to residents of these communities, is for each family to have their own house, their own kitchen and their own food garden, to be self-sufficient and independent, with "their own life". For all the appearance of community cooperation and collective ownership, within the village there is a culture of strong individual and family rights. This underlies the steep wealth differentials even within villages.

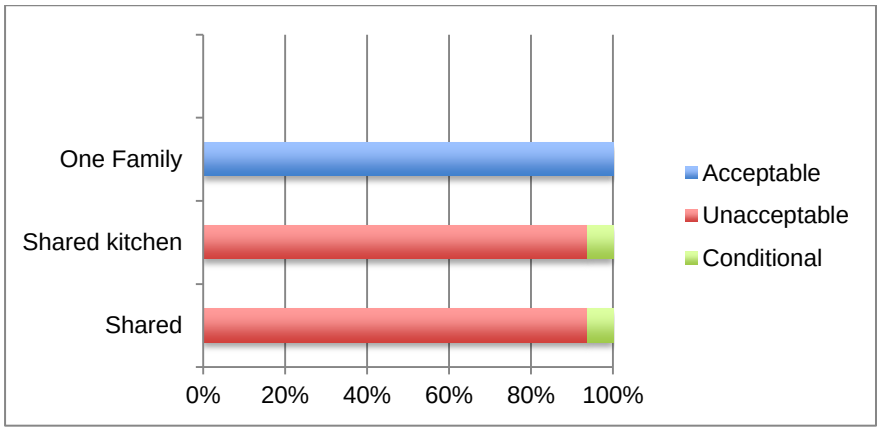
Sharing a house with another family, or even sharing a kitchen was considered unacceptable, "against *kastom*". Each nuclear family is seen as requiring their own privacy and being under the control of the household head—predominantly a man. If sharing ever was acceptable, it could be for brief visits only. The 'conditional' response in the figure below reflects this view, that a young couple sharing their parents' house would be all right for a short while, until they got themselves properly set up.

Reasons given for not sharing houses were, first, that other people could get involved in a family's arguments, or families could quarrel with one another. Second, cultural restrictions forbid adult (post-puberty) brothers and sisters from sleeping in the same house. The sharing of a kitchen would cause one family to disrupt the cooking and eating schedule of the other. Quarrels would break out about the use of water, firewood and food.

Sharing does however happen, often when a young married couple moves in with their parents. It is seen as a bad way to live because of crowding, of having too many small children in one house, and for the potential for quarrels. The dependence of young married families was described as being more common now, unlike "in the [more orderly] past."

In these fast growing communities, the sharing of houses mostly reflected the difficulty of providing enough houses, and in turn, the cost of house building and possibly a shortage of traditional building materials. In Takaboru, where almost all of the donor-funded houses remained unfinished, most families shared houses, even partially completed ones.

Figure 4 Acceptable and unacceptable living arrangements



Source: Quality of Life Survey

The preference for each family to live in its own house is borne out in 2009 Census data. In Guadalcanal Province (2009) less than 1 per cent (0.04) per cent of households lived in shared houses. In Central Province, only 0.005 per cent of households lived in shared houses. The higher figure for Guadalcanal possibly reflects higher in-migration and population pressure in this province.

CONFLICT AVOIDANCE

The difficulty of sharing resources, including rainwater tanks and toilets, came up often in the survey. Conflict avoidance is an important cultural concern. In these small communities where most people are close kinfolk, there is a strong sense of community and an emphasis on maintaining peaceful relationships, even though—or perhaps because—community cohesion is fragile. Sharing houses, kitchens, water sources, anything, is disliked because it opens up opportunities for disagreements that everyone would prefer to avoid.

CROSS-SIBLING AVOIDANCE

There is a traditional avoidance of interactions between adult male and female siblings. After the age of puberty—and to some extent even before—brothers and sisters must observe many restrictions on their interactions, including avoiding physical contact, not using each other's names, nor entering one another's house without minor rituals. This avoidance also extends to other people, often between sons-in-law and mothers-in-law, but also between women and their brothers-in-law. This avoidance is difficult to do in these small communities, but compensation can be demanded for transgressions.

Drawing any attention to sexuality in any form is prohibited between brothers and sisters, and between some in-laws. Sharing toilets is considered impossible, quite "against our culture." Women said that even to be seen by their brother carrying water to a pour flush toilet would be horribly shameful. Men and women therefore quietly slip off to the toilet in the bush or sea, along gender-prescribed paths to areas designated for women or men only.

COMMUNITY LEADERSHIP AND THE 'BIG MAN' CULTURE

Community leaders are predominantly men. The highest authority in the village is the chief, the head of the landowning unit. Day to day activities in the community are directed by the Community Chairman. Other leaders in the community are those of the church, local government officials such as teachers and health workers, and leaders of other committees and associations, such as the church committee, women's committee and committees drawn up for special events. The CDRC established by the FRC/SIRC projects fit well into this culture of committees.

Under this layer of authority and order, there often are tensions. Social cohesion is always fragile; communities are often on the verge of disintegration.[13] Common is some degree of conflict and competition between younger and older men for power and control. Groups move away to establish new settlements and identities.

A Big Man refers to a highly influential individual in a tribe, almost always a man. He may not have formal tribal authority, but is influential and provides his followers with protection and economic assistance, in return receiving support, which he uses to increase his status. In relation to aid projects, the 'big man' culture often shows itself in the presumption that project goods can become personal property. This attitude and the pattern of advantage is evident in some of the village maps, in, for example, the concentration of assets like water tanks and wells near to the chief's house. Favouritism based on kinship and the 'big-man' culture creates situations where an influential person can readily distort the system.

Many development projects rest on community action and community cooperation, but this is far from certain to work. As an experienced development practitioner, Schoeffel (1996) noted that whatever their purpose, community-based projects often become a source of conflict, with people arguing over who gets to control the assets of the project, and who is responsible for maintaining or replenishing them. "Community-based projects seldom offer group members with much individual reward, yet they may arouse unrealistic expectations within the group. When the anticipated returns fail to materialize, members may accuse one another and interest in the project wanes."

LAND TENURE

Although most land tenure systems on Guadalcanal and Savo are matrilineal, men have always had most say over decisions about resource use—and even more so today. In the past, although women were recognised by the community as equal partners in the inheritance of land, their leadership role was not acknowledged publicly, but recognised implicitly.

The modern emphasis on logging, commercial agriculture, and other commercial activities has largely marginalized women, reducing their status and authority.[14] Almost always a man, a person is appointed by the landowning group to be their spokesman on land issues. When a decision has to be made concerning land use, it is usually done through a consultative group of chiefs and elders. Being able "to speak about land" is an important distinction, and refers almost entirely to men. In Guadalcanal, a common view is that women "no save tok" —cannot and must not talk— about land and they must "stand behind" men when they talk about land in the public arena. This is some change from the past, when women did have a role in making decisions about land, they could and did speak about land, and their knowledge about genealogies was respected. Women today may influence decisions to some extent through conversations in the household, but often they find out about decisions only after they are made. [15] The state legal system requires that landholding groups be represented by a small number of individuals. In practice, this has concentrated control over lands in the hands of a small group of male leaders who have the customary authority to discuss land matters inside a public arena. The interaction of *kastom* and the state legal system has therefore enabled the transformation of customary "rights to speak" into effective ownership, mostly excluding women. [16]

Women are thereby usually relegated to the periphery by men who negotiate the deals, motivated by monetary gain, without regard to traditional matrilineal inheritance systems. Almost all agencies—government, NGOs, foreign business operators—view male chiefs or their spokesmen as the relevant custodians to approach in regard to development programs or land use.[17]

Women in Guadalcanal are recognised in tradition as legitimate—if silent—landowners but this status is not recognised in law, such as in the Land and Titles Act 1969. Government is yet to promote policies that

[13] P. Schoeffel, 1996; Filer, 1990.

[14] E. Huffer, 2008

[15] R. Monson, 2010.

[16] R. Monson, 2011.

[17] Solomon Islands National Policy on Gender Equality and Women's Development, 2010.

would regulate equity in landownership and land use in matrilineal societies.[18] Women receive little economic benefit from the use of land for economic purposes. Even under the matrilineal system, women are often unable to use or hold land independently from their husband.

The traditional land tenure system is coming under pressure with the rising demand for land for commercial development. There are many disputes over land under customary tenure, rarely over rights of access for subsistence, but very often if there is commercial potential or the prospects of some other personal reward. Then individuals quite readily claim against their kin.[19] Even at the national level, land disputes are major governance issues, with sometimes deliberate damage or vandalism being conducted. This problem extends to water resources. Fresh water resources are managed by government but owned by private landowners, and landowners sometimes deliberately disrupt water supplies.

2.3 Patterns of inequality

WEALTH DIFFERENTIALS

Rural society in the Solomon Islands often appears equalitarian, and it is easy to assume that communal living evens out differences in wellbeing. This appearance is deceptive. Even the earliest of the national HIES, in 1991, found steep income differentials within rural communities.

THE UNEQUAL STATUS OF WOMEN

While Solomon Islands is in many ways an unequal society, women are at general disadvantage. The situation of rural women is shaped by customary laws and social sanctions quite opposed to any idea of equality. In rural communities, women play a central role in providing food, health care and cash through fishing, collecting, gathering, gardening, collecting water and firewood, and *kastom* medicine. Families are often large and include many children and some old people. Women are the main caregivers. Women and girls traditionally had primary responsibility for family food production, but in many places this responsibility now extends to small-scale commercial food production. Although there are dynamic individuals, women face a general level of discrimination and are mostly absent from power and decision-making. [20]

Women's positions appear to be stronger when after marriage they remain on their mother's land, or move only temporarily to their husband's place. This allows them more influence and also more independence from their husband.[21]

The payment of a bride price is still a widespread practice in Solomon Islands, although not everywhere, and is a way to cement social relationships between clans. The significance of the bride price is the value of the daughter to her family, and is a common reason for early marriage. Now that cash has become so important, a bride can become more a commodity than a symbol of positive social relations. [56]

The 2007 national Demographic and Health Survey (DHS) showed that more than half (56.1 per cent) of women who were employed were not paid either in cash or in kind for their work. Women generally are disadvantaged by a lack of income generating opportunities, markets and access to credit facilities.

Access to reproductive choice and services is limited both in the availability of services and restricted autonomy. In the 2007 DHS, just over one quarter (28 per cent) of married women said they made their own health care decisions independently; 17 per cent said their husbands made those decisions for them.[22]

The low status of women is particularly evident in the prevalence of violence against them, most often by an intimate partner. The 2009 Solomon Islands Family Health and Safety Study found that two-thirds (64 per cent) of women aged 15-49 years had experienced physical or sexual violence, or both, from an intimate partner. The same study found that three quarters (73 per cent) of women believed a man was

[18] R. Maetala, 2008.

[19] G. Baines, 2006

[20] Ministry of Women, 2014

[21] E. Huffer, 2008.

[22] Department of Statistics, 2007.

justified in beating his wife for neglecting the children, infidelity or disobedience, suggesting that they generally accept their subordinate status within a relationship. [23]

THE SPECIAL HARDSHIPS OF DISABLED PEOPLE

The 2005 National Disability Survey, conducted by the government and the European Union, found that around 3.5 per cent of the population lived with disabilities. [24] This is a low percentage by international standards, which would reflect the definitions used for disability, the relatively low life expectancy in Solomon Islands, and possibly a higher mortality rate generally for disabled people.

The great majority—96 per cent—of disabled people lived in rural areas. Many of these people have particularly difficult lives, at least in regard to access to water and sanitation, often having to make their own way or be carried by caregivers to bathe or go to the toilet. There are only a very few services for disabled people in rural areas, namely some community-based rehabilitation workers. The National Disability Survey found negative attitudes were common, together with a lack of public understanding about the needs of people with disabilities. This survey found few old or disabled people in the community. "These people don't last long here," an informant said. "They die."

THE VULNERABILITY OF YOUNG CHILDREN

Infant and child mortality rates in Solomon Islands are high by Pacific island regional standards. The infant mortality rate in Solomon Islands (i.e. the number of infants dying before reaching one year of age, per 1,000 live births in a given year) was measured at 25.10 in 2013, according to the World Bank. The child mortality rate (deaths to children under the age of five years) fell by almost one-third between 1990 and 2010, dropping from 38.2 to 26.7, but a rate that is still high. Malaria is a major risk to infants and children, although malaria treatment is fairly good throughout the country. Many infant and child deaths are caused by diarrhea and acute respiratory infections, conditions that both reflect poor hygiene and sanitary situations.

It was not possible to estimate infant or child mortality rates in the study communities, but it is likely that they would be similar to the national rate.

2.4 Problems acknowledged by the communities

In both the Vulnerability and Capacity Assessments so far undertaken by the project, and in the fieldwork for this study, people in the project communities identified their main problems to be:

- Lack of water, the biggest problem in all communities;
- No toilets, yet many people recognize the risk of open defecation, suggesting there is a large unmet need for better sanitation;
- Fast population growth, which brings many types of social, environmental and economic pressures;
- Fast rising costs of living and small cash incomes, making it difficult to maintain a basic standard of living;
- Environmental changes that increase the vulnerability of the communities and reduce their economic opportunities;
- Pressure on housing, with changing demands yet rising costs and less availability of traditional materials;
- Pressure on food gardens, in regard to available space, new hazards and risks, and the diversion of more food production to cash sales;
- Lack of access to assistance, where people want to change but feel unable to access assistance and therefore helpless and frustrated.

[23] Ministry of Women, 2014.

[24] Department of Statistics, 2005

- Lack of information, preventing people from having a full range of opportunities and choices.

These problems are not unique to these communities. Nor were these communities chosen to participate in the project because they faced special hardship. As discussed further below, these communities represent a small part of big problems.

2.5 Fast population growth

The population of all the project villages is growing quickly, together with the districts they are located in. While several population counts were made in 2015 for these communities, these numbers are too small to produce accurate population growth rates. [25]Table 2 uses census ward-level data to calculate more stable rates, but even these are drawn from very small denominators.

Table 2 Census wards in study area, by size of population, 1986-2009

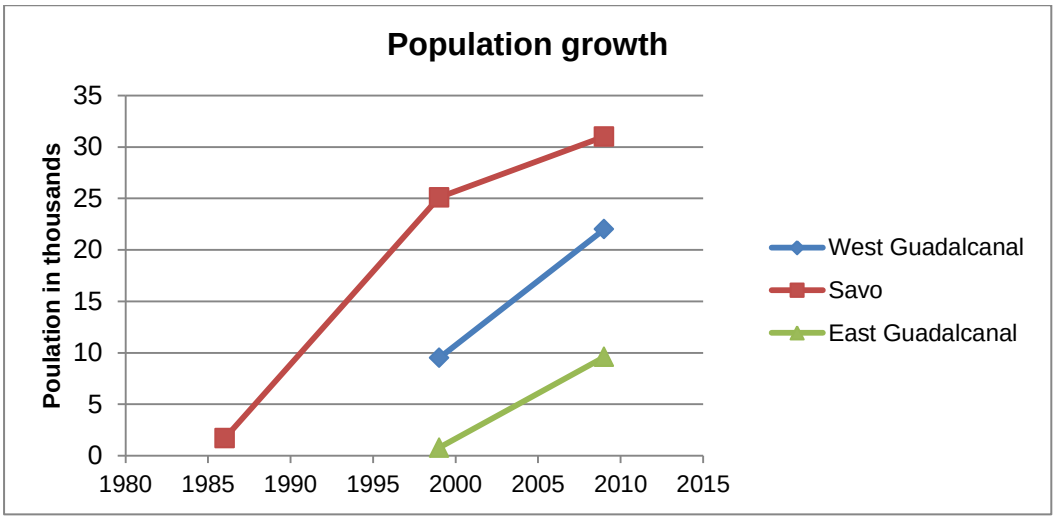
Area	Census wards	1986		1999		2009		Est. average annual population growth, 1999-2009
		Pop	H/H	Pop	H/H	Pop	H/H	
East Guadalcanal	East & West Ghaobata	n.a.	n.a	474	83	9477	1783	9.5%
West Guadalcanal	Saghalu & Tandai	n.a.	n.a.	9279	1562	21424	3507	5.7%
Savo	North & South Savo	1806	287	2549	412	3137	566	1.9%

Sources: Government of Solomon Islands, Population & Housing Censuses, 1986, 1999, 2009.

Note: 1986 population and household numbers are not available for East and West Guadalcanal because of changes to ward names and boundaries between the 1986 and 1999 censuses.

[25] Measuring small populations is more difficult than it might seem. People in Solomon Islands are very mobile. The presence or absence of even a very few people makes a large difference to demographic measurements in a tiny population. The difference between a de facto population (the number of people staying in a community on a particular date) and a de jure population (the number of people who 'usually' or 'should' live there) can be a difficult distinction for village informants to fully appreciate. Where there are scattered houses around the community, another issue could be decisions as to whether a household belongs to this or another community. Any small counting error is amplified.

Figure 5 Population growth in the three areas: Savo, East Guadalcanal and West Guadalcanal



Sources: Census reports, 1986, 1999 and 2009

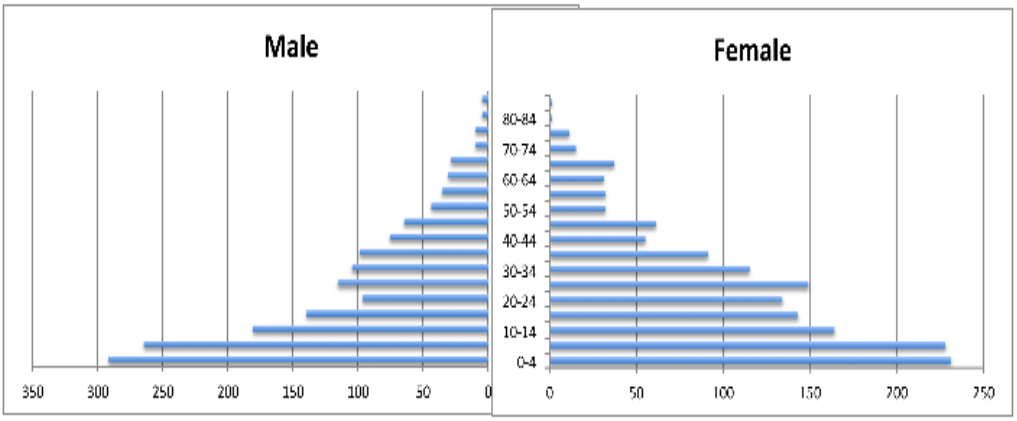
These three curves show populations growth in West Guadalcanal (Saghalu and Tandai Wards), Savo (North Savo and South Savo wards) and East Guadalcanal (East Ghaobata and West Ghaobata Wards), from 1986 to 2009, drawn from census data.

The very fast growth in East Guadalcanal reflects the rehabilitation of the oil-palm plantations after 2005, with an influx of workers from other provinces. This growth has not had much impact on the study villages, although these too are growing through a high birth rate.

The population on Savo is mostly the result of a high birth rate on the island. The population of the island almost doubled in twenty years from 1986 to 2009, growing from 1806 to 3137 residents. People on the island recognise that their population has grown, but they possibly do not fully realise how very much it has grown, or the likelihood of continued growth, or its implications.

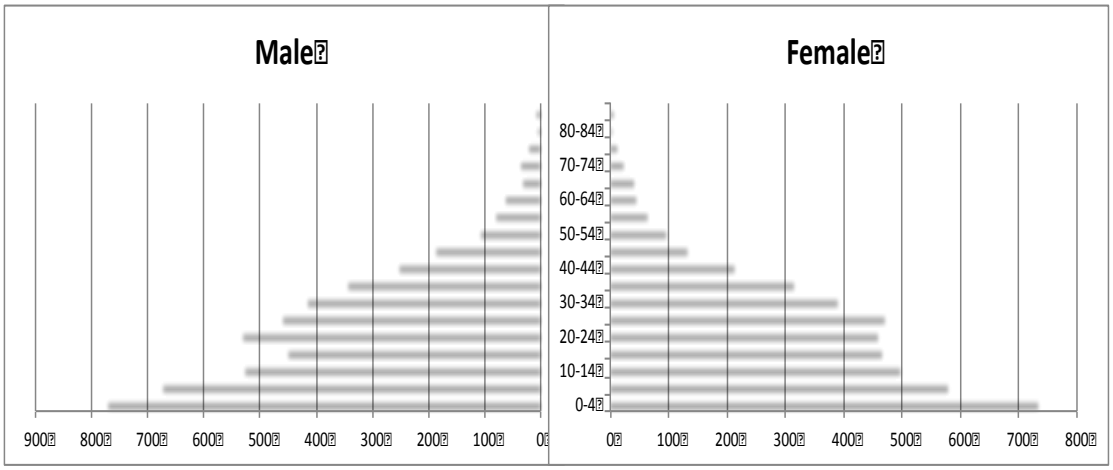
The villages in West Guadalcanal have grown both through high fertility and in-migration, with people still coming in from the Weather Coast as well as from other provinces.

Figure 6 Population structure of Savo, 2009



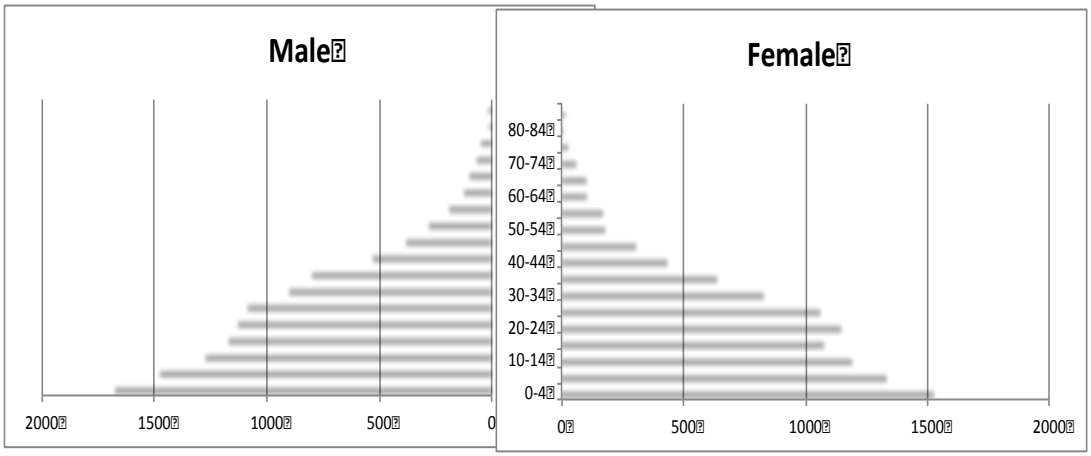
Sources: Government of Solomon Islands, Population Census, 2009.

Figure 7 East Guadalcanal Population Structure (West and East Ghaobata Wards), 2009



Source: Government of Solomon Islands, Population and Housing Census, 2009,

Figure 8 Population Structure of West Guadalcanal (Tandai and Saghalu Wards), 2009



Source: Government of Solomon Islands, Population and Housing Census, 2009.

The broad-based shape of the population 'pyramids' (Figures 6, 7 and 8) is the classic shape of fast-growing populations. They suggest that this growth will continue for some time, with these populations possibly doubling by around 2030.

In the survey, people mentioned some of the effects of a fast-growing population, although they did not necessarily relate them to population growth:

- A shortage of traditional house materials, and therefore the greater cost or difficulty of having enough housing;
- The greater occurrence of families sharing houses – particularly young married couples staying with their parents;
- Regular water shortages;
- The large amount of garbage and sewage disposed in the vicinity of their houses and community;
- The problem of having sufficient livelihoods, with people struggling to meet everyday living costs.

In regard to present sanitation, water use and solid waste disposal practices, the likelihood that the population will double again over the next twenty or so years could mean:

- A doubling of the amount of faeces openly disposed around the community. Besides the health risk to island residents, they are embarrassed when tourists notice faeces on the beaches.
- Much greater water shortages than experienced now, especially with the expected greater frequency of extreme weather (including droughts) from climate change;
- Even greater amounts of inorganic waste (plastics, tins etc.) to be disposed of, for consumption of bought goods is likely to continue rising faster than population growth.

2.6 Limited economic opportunities

Agriculture is the major source of livelihood in all of the project villages. The most common source of money is selling crops (copra, cocoa, vegetables) together with fish, wild food such as gnali nuts, and cooked food, mostly in Honiara's Central Market. Cash incomes are low, and people say it is very difficult to meet daily living expenses.

Traditionally, women and girls in rural areas had primary responsibility for food production for the family by growing crops in home gardens rearing small livestock and producing handicrafts. However, rural women's role in agriculture activities has changed from traditional subsistence gardening to small-time commercial production. The difficult economic situation in Solomon Islands has forced many rural women into the informal work sector, many being involved in informal trade, through which they earn the family's only cash income.

Adult literacy levels are low in Solomon Islands, particularly in rural areas, restricting peoples' access to information and technology. There has not been a recent national survey but a survey of two provinces, Isabel and Renbel, in 2005 found that only 16 per cent of women and 19 per cent of men were functionally literate. This situation is changing as a more educated generation of people move into early adulthood, but the survey demonstrated that literacy is by no means ensured even for people who attended formal schooling. The Government's rural training centers aim to provide rural people with livelihood and employable skills but there are few rural livelihoods other than semi-subsistence gardening and fishing, and few rural-based industries other than logging and mining.

Few rural people can access loans and credit. Rural banking services are very limited, but in any case they will not lend to small farmers or village people who do not have collateral and formal identification.

2.7 Environmental change and vulnerabilities

Some elements of environmental change are evident in the study communities: on Savo, in coastal erosion and population pressure on gardening plots. On Guadalcanal, an immediate threat is the Giant African Snail, an introduced species that devours all types of vegetation. Spread further by the 2014 flash floods, Giant African Snails are found in increasing numbers in areas in North Guadalcanal, threatening both the food security of rural villagers and their source of cash income.

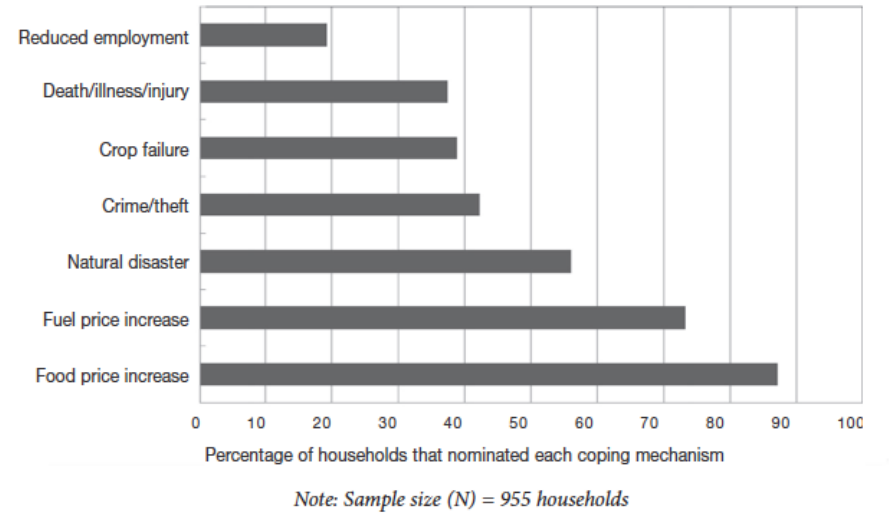
Vulnerability and disasters take many forms. People in these communities are highly exposed to many risks. At a household level, vulnerability is often defined as the likelihood or risk of being poor (however defined) or of falling into poverty in the future.[26] Many types of 'shock' can create this situation, from both local and international sources (Figure 9). Once, the large subsistence sector enabled people to be quite resilient to food insecurity. Now people are increasingly vulnerable to changing international prices for commodities –affecting the local price for copra, for example—and for fuel and food—affecting, for example, local transport costs, the marketability of locally-grown products and the availability of food.

The relevance of this for water, sanitation and hygiene issues is that the responses many people made to this survey—that they badly wanted changes to their living conditions but could see no way to afford them—were no empty excuse. Times are tough for many people in rural Solomon Islands, but not

[26] Feeny et al., 2013.

universally tough. Some villagers commented on the growing gap in material wealth in their community, as a few people did much better than most. "We are no longer all the same."

Figure 9 Shocks most commonly experienced by households, Solomon Islands and Vanuatu



Note: Sample size (N) = 955 households

Source: Feeny et al., 2013.

The "Together Becoming Resilient" (TBR) Program implemented by FRC/SIRC in parallel to SCP-3 focuses on natural disaster preparedness and management at the community and national level. While natural disasters undoubtedly pose a real risk to small rural communities in Solomon Islands, the graph above gives a wider perspective to this risk, from the perspective of households. People in the study communities face regular crises on both smaller and larger scales.

The discussion groups often talked about the problems of too few employment opportunities, of crop failure brought about by seasonal wilt (particularly on Savo) and the uncontrolled spread of the voracious Giant African Snail. Crime rates were rising, particularly among young people and violence was becoming more common, particularly as alcohol consumption became more widespread. In Takaboru especially, women were in despair of their future as a community: "We have lost our tradition, our culture, and now our children." As pressure rises on food gardens and more crops are grown for sale, people are becoming more vulnerable to the rising cost of bought food. At least after a natural disaster, they can expect some relief, however short-lived.

3. LIVING CONDITIONS AND THE SITUATION WITH WATER, SANITATION AND HYGIENE

3.1 The desire for change

Attitudes about acceptable standards of living differ between societies and over time. The lack of opportunity to live in ways that are considered acceptable by local standards is a genuine form of poverty. The Quality of Life Survey asked people about what they thought was "an acceptable way of living in this day and time" for people like them in Solomon Islands.

The questions about living conditions followed those in the 2009 Solomon Islands Population and Housing Census (Tables H1 to H10, and H16) turning these questions from what their households had, to what they considered "people like them" should have. [27]

Sometimes poor living standards are ascribed to tradition, as if past conditions make poor conditions now somehow acceptable.

People in this survey described their situation somewhat differently: wishing they could live in a more 'developed,' 'modern' way, with good water, permanent housing, and clean toilets, but seeing no way that could come about. They found daily life a struggle with all its expenses, and thought the likelihood of any government or donor assistance could only be a random stroke of good luck.

The range of answers to the questions about how satisfied people were with their current way of living ranged from an emphatic "not at all," to a pragmatic "more-or-less," that reflected the difficulty of somehow improving it. Most people said they were not satisfied. Even those who said they were "more-or-less" satisfied said some changes were necessary and overdue. "Our lives are right out of date." "Our ideas keep changing. There are other things we want but we are unable to afford them—water, toilets, electricity."

While there was some expressed optimism and positive views—principally in the new settlements of Zion and Bubumala—many people felt that their lives had not changed much from their parents' time, other than having better education and health services. In other ways, their lives were more difficult, especially the struggle to maintain even a basic standard of living, without any good avenues to cash. "In the past, life was good but now there are high costs for things like food and school fees, there's a shortage of food here, and the population is growing."

Other new problems in some communities—expressed in Reko and Takaboru especially— were the weakening of community cohesion and greater prevalence of violence, crime and alcohol abuse. In Takaboru, a community struggling with high alcohol and marijuana use amongst its teenagers and children, exacerbated by the opening of three bottle shops on the road nearby, one person summed up the concerns of the village women: "We have lost our tradition, our culture and now our kids. We have all this – and then we have problems with our water and sanitation."

Asked whether they themselves could do anything about improving their living conditions, people referred to "lack of funding." People on Savo, where the project had helped villages develop village plans, said the planning process had been useful in getting people to think about practical ways to change. Still, they were unsure how or if this would happen, or where help or money could come from. "We have no choice, we are caught, we know new things are good but we can't afford them. "If we could do these things we would have done it already. But we can't, so we just leave it."

3.2 The urgent need for better water supply

People in the study villages referred to water as their biggest problem, with safe water for drinking particularly in short supply. People often remarked that they had too little water for everything.

[27] Irrelevant categories were discarded; for example, living in a rental apartment, being connected to mains water supply, and other situations that did not apply in these villages

Most rural communities in Solomon Islands depend on surface water for water supply, but many on the dry northern coast of Guadalcanal and on Savo also depend on rainwater harvesting. With more land cleared, particularly for logging, water sources have been disturbed, polluted, or damaged. Ground water in some areas, possibly including areas adjacent to the oil-palm plantations, where there is heavy use of chemicals, may be polluted. Many village water systems are in disrepair.

The main source of drinking and washing water in the wet season is rainwater tanks, most of them provided by NGOs, including Red Cross, for community use, a few bought privately and often shared with neighbour households. People say they keep rainwater solely for drinking, not to use for washing.

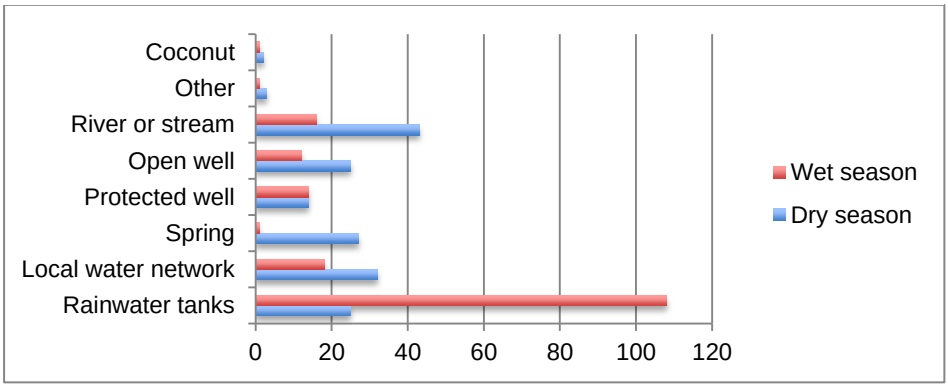
A few villages had a single protected well, also used for drinking water. After these sources were depleted, people find drinking water where they can, in some cases tapping into a freshwater spring or taking water from streams and rivers.

A few communities had gravity-fed water systems (GFS). Even fewer were running correctly. Most taps, their stands and their slabs were broken, pipes leaked, dams were unmaintained, and there was no drainage.

Many rainwater tanks (RWHS) are poorly installed or maintained and some are broken. They had been installed directly on the ground without any basement or foundation and not protected; the slope of gutters was often not appropriate; their surroundings were usually dirty; they had no inlet filter, and accessories such as elbows, junction, brackets and screws were often missing or never installed. In some cases there was no appropriate roofing to collect water, or the guttering was not of appropriate length.

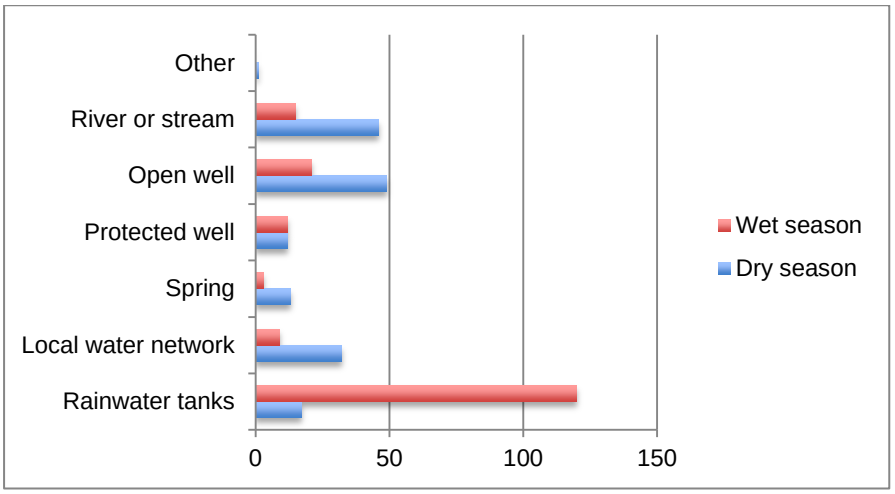
There is little institutional support for water management. Few communities had any form of water management committee. It was difficult for the communities alone to improve their situation. Lacking tools, materials, skilled people or knowledge, they were not well organized to undertake small repairs. There were no systems to collect money from the community to pay for spare parts and maintenance. Gravity fed systems had been compromised by unauthorized water connections that restricted water flow to other households. At provincial and national levels, there was little government investment or resources (human, financial and technical) for infrastructure maintenance.

Figure 10 Sources of drinking water in study communities, wet and dry seasons, 2015



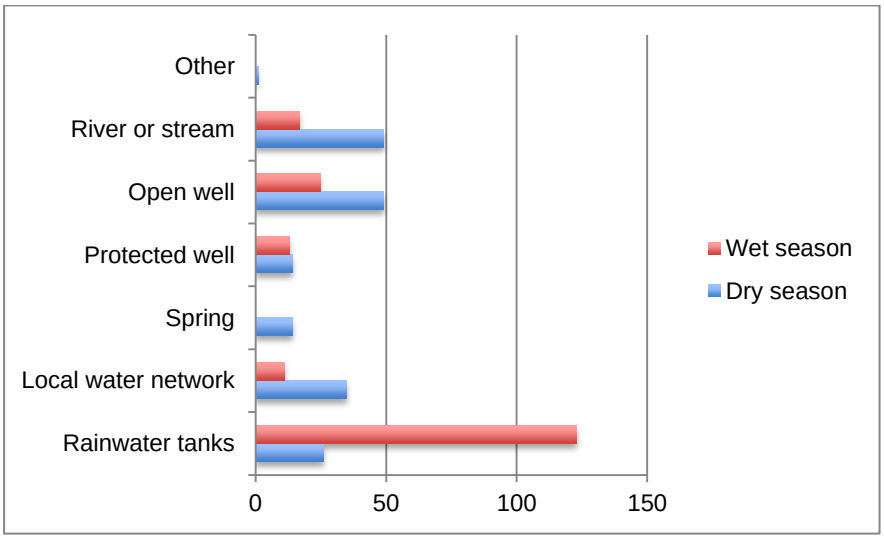
Source: FRC/SIRC KAP Study, July 2015. Figures as number of responses to survey.

Figure 11 Sources of cooking water in study communities, wet and dry seasons, 2015



Source: FRC/SIRC KAP Study, July 2015. Figures as number of responses to survey.

Figure 12 Sources of washing water in study communities, wet and dry seasons, 2015



Source: FRC/SIRC KAP Study, July 2015. Figures as number of responses to survey.

In the survey, the difference between safe and unsafe sources of water appeared to be well understood. Even so, most women said they did not boil drinking water even though they knew they "should", because it was a major chore. They spoke of water being "clean" even if it "looked dirty." As it is, the women do almost all the water carrying, transporting it in bottles, buckets, jerry cans and pots. In the dry season, women from almost one quarter of all the households need to travel more than 500 meters to the water source, often up and down steep banks.[28] For this reason, the heavy task of carrying water, washing water would be reused as often as possible. Beyond that, however, there is no recycling of water.

Having one's own household rainwater tank to store drinking water was considered by far the best source of drinking water (Figure 13). (Mains water supply reached none of the study villages.) Sharing a rainwater tank with other households was a lot less than ideal, for inevitably there would be quarrels over excessive use or wastage and, particularly in the dry season, the tanks would soon be empty.

Collecting water from a river or creek was acceptable, depending on the cleanliness of the source and lack of any upstream activity. Some people said it was acceptable only if it came from a spring. Likewise,

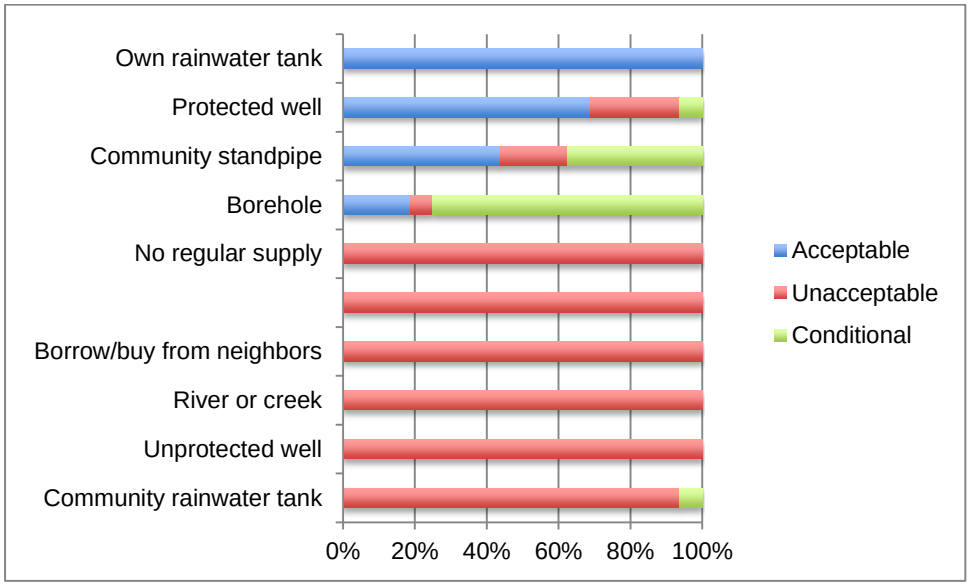
[28] FRC/SIRC KAP Survey, 2015.

drinking water from a standpipe could be all right, depending on its source (being no good in floods), and depending on whether the flow was strong enough.

On Savo, where surface water is naturally contaminated with sulphur, villagers in dry weather seek out less contaminated spring water from further inland, or drank from wells where contamination from sulphur was not 'too bad."

No community had a working borehole; people were not sure whether this would provide safe drinking water or not. Taking water from a well depended on the water level; the water was not good if the level of the well was low. Drinking from an unprotected well was considered unacceptable but people do this when other sources dry up. Bottled water was fine on rare occasion, but otherwise very expensive. Having no regular supply, or having to "borrow" water from neighbours were both quite unacceptable. "This is not good at all, we cannot do it."

Figure 13 Acceptable and unacceptable sources of drinking water



Source: Quality of Life Survey.

Although the study populations expressed a strong preference for having their own household rainwater tank, this is not common. According to 2009 Census data, only 5 per cent of households in Guadalcanal Province and 19 per cent of households in Central Province had their own rainwater tank.

Communal rainwater tanks were the main source of drinking water for 7 per cent and 19 per cent of households in the two provinces, respectively. People in the survey referred to communal tanks as being "unacceptable," for they caused many problems. The photos below are of two communal tanks, one having fallen into disrepair and not fixed, and the other left unused because the tap had broken and it was dirty inside—but the real reason being that it was too difficult to stop children playing with the tap and people leaving the tap open, and rather than quarrel it was seen as better to simply abandon it.

The situation for cooking water is similar to drinking water, with a big use of unprotected sources during dry season and a main use of rainwater tanks in the rainy season.[29]

A river or creek was an acceptable source of washing water in all communities, although carrying washing and carrying water is a time-consuming chore for women. Household or communal rainwater tanks were unacceptable sources of washing water because this water was considered too precious as drinking water to waste on washing.

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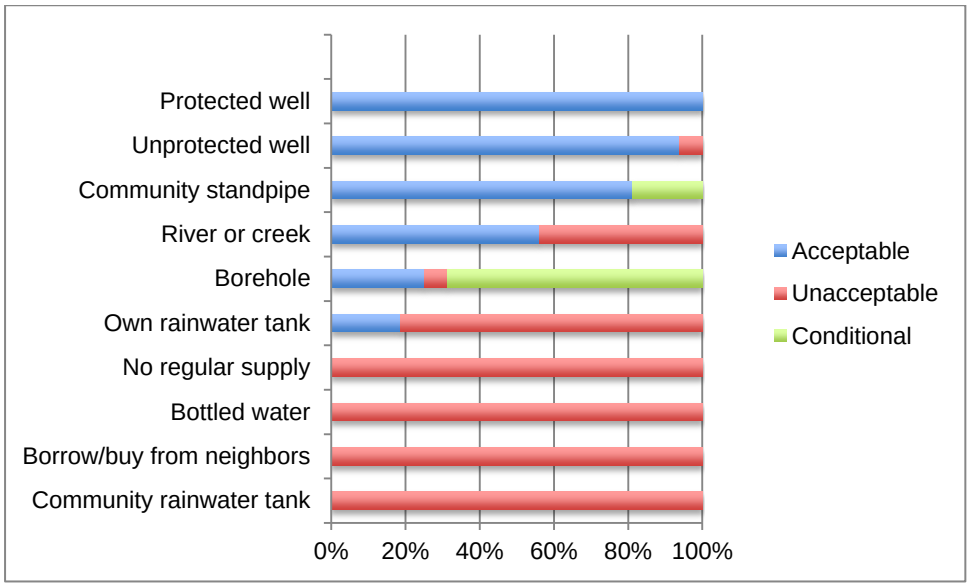
[29] FRC/SIRC, 2015 KAP Survey

Figure 14 Acceptable and unacceptable sources of washing water



Source: Quality of Life Survey.

Figure 15 Tank fallen into disrepair, Bonala

Figure 16 Abandoned communal rainwater tank, Totomba

Figure 17 An unprotected well by the beach, Savo, used for washing

3.3 The expressed need for toilets

Throughout this survey, people said that they needed and wanted toilets. A constraint was their poor water systems, for the only toilets they were familiar with apart from open pits—namely flush and pour flush— required lots of water. Some people could do this sooner than others: "Our people with money should have a toilet in their own home." The villages on Savo near to the resort ranked addressing sanitation as their most urgent matter to address. People spoke of their embarrassment and the unacceptability of having tourists to the island see faeces on the beaches.

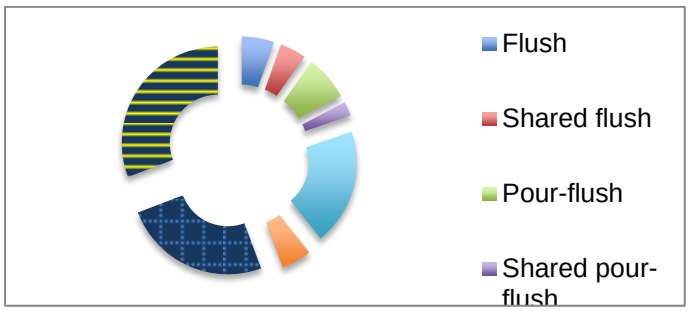
The most common toilet behaviour in Solomon Islands is open defecation, in the bush, on riverbanks or alongside the sea. Figures 17 and 18 show the distribution of types of toilets in Guadalcanal and Central Provinces, from 2009 census data. Although the census distinguished between 'other" and 'none', these categories really mean the same, namely open defecation. In 2009, this accounted for just over half (56 per cent) of all households on Guadalcanal (a figure that reflects the large modern sector on the island), and almost 90 per cent of all households in Central Province.

Rural Solomon Island people, like many traditional farming communities, are often less careful about handling or being around animal and human wastes than are urban people, seeing them as natural and somewhat harmless. In Solomon Islands, human waste is not used in farming as it is in some societies. But while human wastes are generally avoided, they are not viewed with special distaste.

Pit toilets are the most common type of toilet, found in 20 per cent of households in Guadalcanal Province, but in less than 1 per cent of households in Central Province. Shared pits were less common, accounting for 5 per cent of households in Guadalcanal Province and less than 1 per cent in Central Province. Many pit toilets, however, are not used.

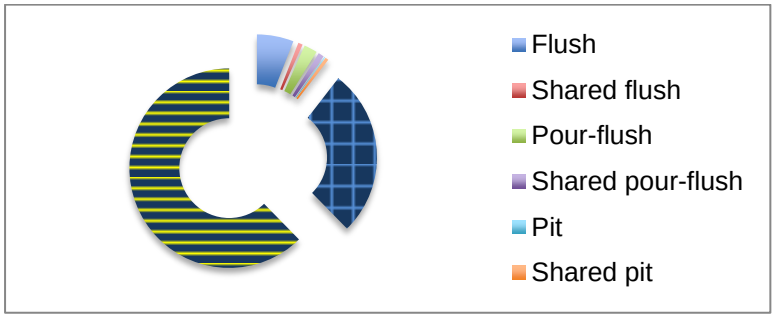
The Project KAP Survey, in July 2015, found that 70 per cent of households in the project villages practiced open defecation, and 73 per cent of households had no toilet at all. Of the households that did have a toilet, all the members of the family used it and occasionally also other people of the community and visitors

Figure 18 Distribution of types of toilets in Guadalcanal (outside of Honiara), 2009



Source: Population and Housing Census, 2009

Figure 19 Distribution of types of toilets in Central Province, 2009



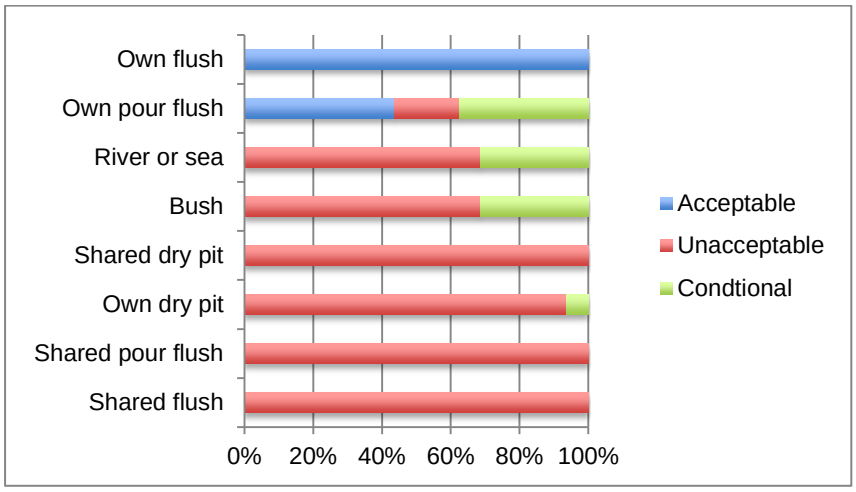
Source: Population and Housing Census, 2009

In the Quality of Life Survey, almost everyone expressed distaste about pit toilets, often grimacing at their mention. They are considered to be unbearably smelly, to breed flies, and house dangerous mosquitos, the carrier of malaria. Even where they have been built, they are rarely used. The main issues that arose in the discussions were (a) the problem of water supply; (b) therefore the unavailability of acceptable toilets and (c) the great dislike of sharing toilets.

Sharing toilets brings up two cultural concerns: conflict avoidance and cross-sibling avoidance. It was considered possibly acceptable for households to share a toilet as long as there were no siblings or in-laws involved. Apart from that unlikely situation, sharing toilets was "impossible," quite "against our culture." Furthermore, one or other family would not care properly for the toilet, leave it dirty or without water, and create expressed or unexpressed conflict between the households.

A toilet built by an NGO several years ago at Pokelo on Savo, for four or five families to share was reportedly never used at all. Informants said it had probably fallen down by now.

Figure 20 Acceptable and unacceptable toilet arrangements



Source: Quality of Life Survey.

The unanimous ideal was a flush toilet for each household, although it was often acknowledged that without a better water system this would be impossible. Given the likelihood that even a new water supply might be limited, flush toilets might not a realistic hope.[30]

The issue with pour-flush toilets was also water supply, and the need to continually carry water to the toilet, both an additional chore to the already common one of carrying water and a possible violation of the sibling avoidance requirement, drawing attention to one's use of the toilet.[31]

The strong dislike of dry pit toilets expressed by everyone who participated in this survey was perhaps a bit extreme, given that many people around the world have used pit toilets for a very long time. Questions about possible issues of personal pollution or danger (as in custom magic), however, were firmly rebuffed. "Not at all, nothing like that," informants said. "We have no devils here."

[30] According to the 2009 Census, it is also quite rare, accounting for only 6 per cent of households in Guadalcanal and Central Provinces, respectively; sharing flush toilets is even more rare, accounting for only 4 per cent and 1 per cent of households in the two provinces.

[31] Although many people in the study communities were not very familiar with pour flush toilets, at the 2009 Census they were in 7 per cent and 2 per cent of households in the respective provinces. Sharing these toilets is also rare, accounting for 2 per cent and 1 per cent of households in each of the two provinces.

Figure 21 Never-used pour flush toilet at Reko, Savo

People did not appear to know about other types of toilets such improved ventilated pit toilets or composting toilets. The common view was that toilets needed water, and modern toilets are prohibitively expensive. A common concern was that they were "difficult to clean" and no one in the village knew how to repair them.

People use the bush or sea because they see this as the remaining best option, quietly slipping off to the toilet in the bush or sea, along gender-prescribed paths to areas designated for women or men only. In the discussion groups, they readily recognised the problems caused by open defecation. Animals such as chickens, pigs and fish (as well as dogs) ate these faeces and humans then ate them. Faeces bred flies and made unpleasant waste areas around the community. For Guadalcanal communities, using a river or stream for their toilet was not acceptable because these waterways were also used for washing, bathing, and in very dry weather also for drinking. On Savo, some people considered using the beach to be more hygienic than using a pit toilet, as the tide washed the waste away.

Open defecation is sometimes ascribed to peoples' ignorance or laziness to build toilets.[32] But this explanation does not take into account local knowledge yet ambivalence about toilets, nor can it explain the quite common situation of toilets having been built but never used. One example is shown in the photo above: a pour-flush toilet built by Australian volunteers in Reko village, Savo, around 2008, intended to be used by visiting church leaders. It was never used at all. The surroundings have fallen down and the toilet is blocked beyond repair.

To a large extent, people's behaviour reflects a trade-off between their limited choices. Pit toilets are considered disgusting and often are not used even where they exist. Other toilets–flush or pour flush—require water, and none of the communities have adequate water systems. Other types of toilet were unknown. Other barriers to constructing toilets are shown in Table 3.

Survey participants nonetheless firmly agreed that open defecation was no longer an acceptable way to live, knew very well the health issues involved, and wished there was some viable alternative to open pit toilets.

A clean, non-smelly toilet, owned and controlled by one household was the ideal, preferably part of a washing area so that an adult could be seen to go there without necessarily signalling that they were going to use the toilet. There could, however, remain the problem of post-puberty siblings being unable to share that toilet.

[32] E.g. Pasifika Communications, 2014.

Table 3 Barriers to constructing toilets, 2015

Community	Lack of money	Lack of materials	Lack of knowledge	Need more toilets
Zion				✔
Totomba	✔	✔	✔	✔
Bubulu	✔			✔
Bubumala	✔			✔
Duidui	✔		✔	✔
Takaboru	✔	✔	✔	✔
Kuila	✔			✔
Bonala				✔
Reko		✔	✔	✔

Source: FRC/SIRC KAP Survey, 2015

3.4 The preference for permanent houses

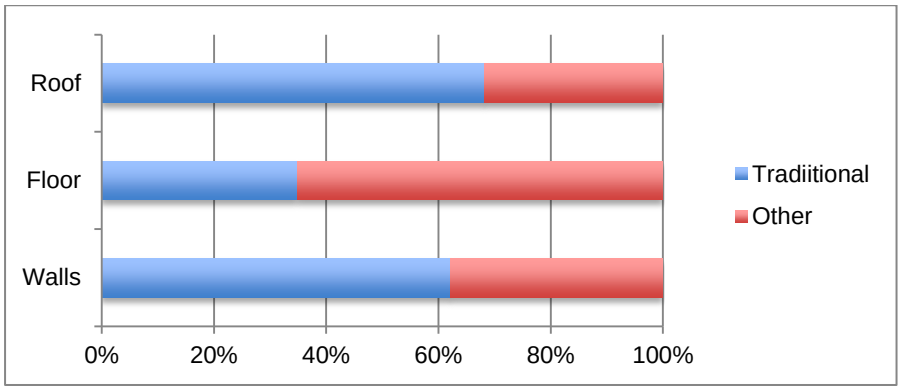
Most rural people in Solomon Islands live in 'leaf-houses', houses built of local 'bush' material (Figure 21). These are considered 'impermanent houses' because these materials only last two to three years before they need to be replaced. The house then is often fully taken apart and moved, either close by or some distance away. A permanent house is one built of modern materials, commonly tin for the roof and timber for the walls and floor. Although cement is aspired to, it is rarely used because of its expense and the difficulty of moving the necessary materials.

People are very aware that their houses cannot stand up to strong winds and cyclones. They know about the expected effects of climate change, that cyclones are likely to become more frequent and severe. This is an element of disaster preparedness that they do not know how they can manage.

Among the project villages, almost all the houses on Savo were built wholly or partly of bush materials, as were most of the houses in the newer communities (Zion and Bubumala) on Guadalcanal. In the other communities, there was a mix of wooden and bush material houses, as well as houses built of both types of material, often with tin roof, wooden floor, and bush-material walls.

Some people quite reluctantly took part in the discussions about house building materials, saying that however much they would prefer to have solid houses of cement or wood, it was unrealistic, for they never could afford it. They hardly wanted to think about it, but that did not mean they were satisfied with the low durability of their houses and their vulnerability to storms and cyclones. "We are thinking of going up but we don't have the money to buy all these materials." "We just live here in bush materials, no choice."

Figure 22 Main material for housing, rural Solomon Islands, 2009



Source: SI Government, 2009.

BUILDING MATERIALS OF WALLS

There is a strong preference for house walls to be built of permanent materials. Census data (2009) shows that 41 per cent of houses in Guadalcanal Province and 33 per cent in Central Province were built of permanent materials, predominantly wood. Just over half (56 per cent) in Guadalcanal Province and two-thirds (65 [per cent) in Central Province were built of traditional materials. Very few were made of makeshift materials: only 1.5 per cent and 2.3 per cent, respectively, in the two provinces.

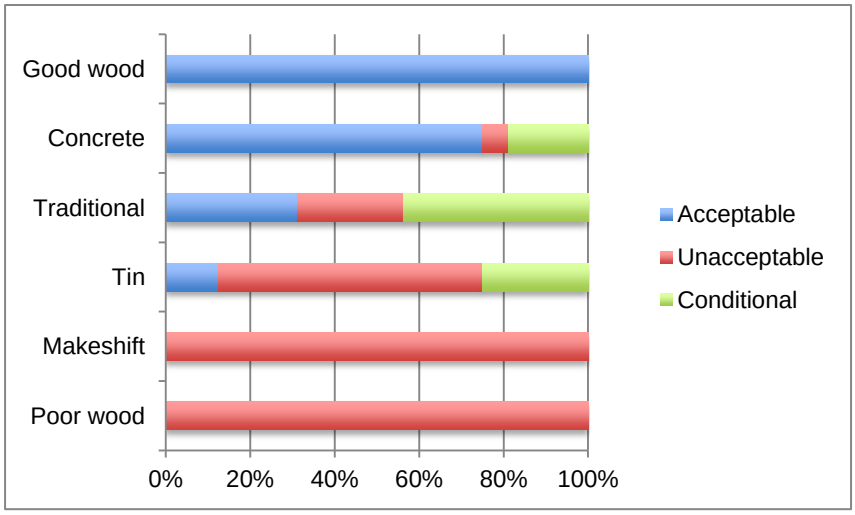
1. Makeshift house

2. Traditional 'leaf-house'

3. Permanent house

In the Quality of Life Survey, concrete or wooden walls were the most preferred types of walls because of their durability and strength (especially during cyclones), but there were many comments about their unaffordability. Traditional bush material walls were also acceptable because of their lower cost and greater availability, and that they could be built by the owners themselves. However, these materials were described as being in short supply in some places, in both Savo and Guadalcanal and people have to go far to get them. They also have short durability and the cost of continual replacement. These houses were vulnerable to fire and strong winds. Tin or corrugated iron sparked debate over its durability versus its heat and high cost. Very few houses have tin walls. People on Savo said it would rust quickly. Wooden walls in poor condition or walls made of makeshift materials were considered unacceptable.

Figure 23 Acceptable and acceptable materials for house walls



Source: Quality of Life Survey.

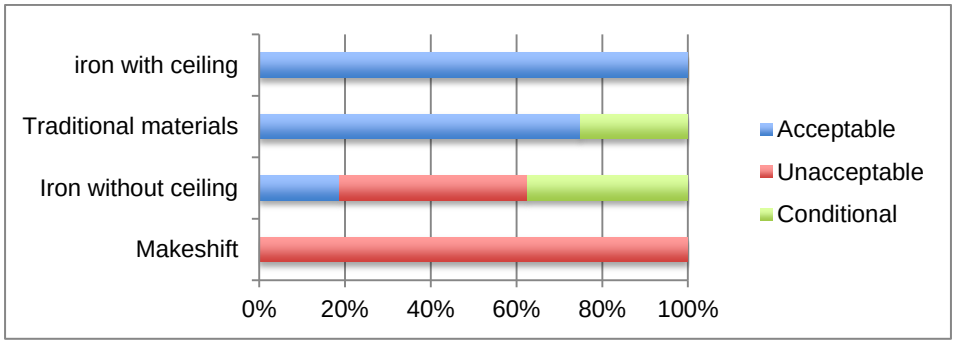
BUILDING MATERIALS OF ROOF

Although the census asked about two types of tin roof, with ceiling and without, it only reported them combined. While tin roofs with ceilings were considered ideal, people were ambivalent about bare tin roofs – they were durable but expensive and very hot.[33]

[33] According to 2009 Census data, only 29 per cent of houses in Guadalcanal Province and 28 per cent of houses in Central Province had a tin roof. The great majority of them would be bare tin. The proportion of

In the survey, by far the most preferred roof was iron with a ceiling. An iron roof without a ceiling was very hot, although this is most common. Traditional materials made a good roof but were not durable or disaster proof. Makeshift materials were not acceptable.

Figure 24 Acceptable and unacceptable materials for house roof

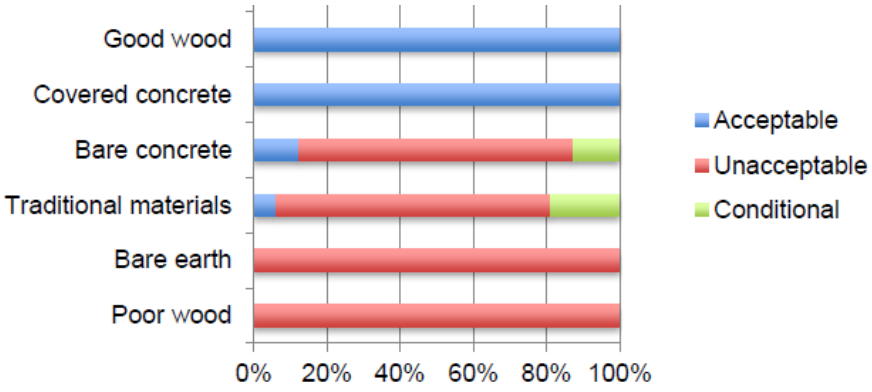


Source: Quality of Life Survey.

BUILDING MATERIALS OF FLOOR

The most preferred types of floor were covered concrete (tiles, carpets or linoleum) or wood in good condition, although covered concrete was considered particularly expensive, a distant dream for many people. [34]Bare concrete was not good because of the difficulty of keeping it clean and free of dust, and it was too cold. Floors of traditional materials (sago palm) were not durable, and were no longer used much at all: "not good for this time." An earth floor was quite definitely unacceptable, even though this had once been commonplace. Wood in bad condition or made of makeshift materials was also considered unacceptable.

Figure 25 Acceptable and unacceptable materials for house floor



Source: Quality of Life Survey.

3.5 Attitudes about hygiene and waste management

Although the people surveyed seemed to be quite familiar with the concept of safe and unsafe water, there was a ready dismissal of the risks of water-borne and fly-borne disease. (People were not so carefree about mosquitos as a vector of disease). Immediately after saying that boiling drinking water was too much bother, someone could identify diarrhoea as a main type of illness in the community.

houses with roofs of traditional materials was similar: 69 per cent 70 per cent in Guadalcanal and Central Provinces, respectively. Very few roofs were of makeshift materials: 0.7 per cent and 0.4 per cent, respectively.

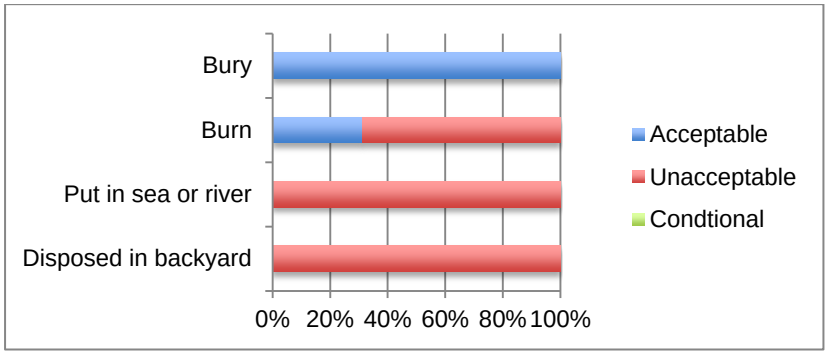
[34] Census data could not be referred to here. There was an error in the Census Report and the categories were not reported correctly.

The KAP Survey found that only 5 per cent of households in the project villages had a toilet with any hand-washing facility and soap, and people said they washed their hands after open defecation about 50 per cent of the time. On Savo, people said soap was not necessary to them, something one might buy and use on Guadalcanal but otherwise they had never bothered with it, apart from washing clothes.

There did not appear to be any traditional beliefs about cleanliness and pollution related to water and sanitation, at least not beliefs that people ascribed to today. If these ideas once existed, the powerful influence of Christianity and decades of British colonialism with its emphasis on public order cleanliness may have erased their effect on peoples' attitudes and behaviour.

In the Quality of Life Survey, it appeared that people readily understood the difference between organic and inorganic waste. Organic waste is usually burnt. Some people burnt inorganic waste, but plastics smelt bad. Everyone preferred to bury it. Putting garbage in one's backyard was unacceptable as children could be injured and it would breed flies and mosquitos. The Red Cross DRR has already assisted people in several communities to dig community waste dumps. Putting trash in the river or sea was considered unacceptable as it would pollute or damage fish stocks.

Figure 26 Acceptable and unacceptable ways to dispose of garbage



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Source: Quality of Life Survey.

In regard to garbage disposal, both the 2009 Census data and the FRC/SIRC KAP Survey suggest peoples' behaviour is quite different from what they said was acceptable (although some of this difference could be attributed to different definitions).

According to the 2009 Census, by far the most common main means of disposal was in backyards, this accounting for three-quarters (73 per cent) of households in Guadalcanal Province and almost half (47 per cent) of households in Central Province. Putting it in the river or sea was the main means of disposal from 5 per cent of households in Guadalcanal Province and almost half (48 per cent) of households in Central Province. Only 7 per cent and 1 per cent of households in the respective provinces buried their garbage, and only 11 per cent and 3 per cent, respectively, burned it.

The FRC/SIRC KAP Survey similarly found that three out of four families threw their rubbish away in the bush, the sea or a river. However, 80 per cent of households also got rid of their rubbish by burying or burning it.

Finding a difference between people knowing the "right answer" and that right answer directing their behaviour is not at all unusual. It happens everywhere. What it suggests, is that normative education, where people are told what they should do, is not really effective. Dismissing dirty water as only looking dirty, for example, is easiest to do when a person does not see what in fact that "dirt" comprises of, namely bacteria. Cleanliness and hygiene campaigns have been run in the Solomon Islands for decades, and continue to run now through schools, health nurses, and the programs of many organisations. If they have not worked—and it is easy to make the case that they have not—then more of the same is unlikely to make a difference. But as people in the survey said, "It's our problem with water"—referring to the difficulty of being careful with hygiene in their circumstances.

3.6 Conclusions: the capacity to change

As the 2011 Peoples Survey confirmed, Solomon Islands is a nation undergoing a period of significant change, making progress in some areas but continuing to face considerable challenges in others.[35]

This socio-cultural survey also found people open to change and desiring change, particularly in regard to their living conditions. People said they were frustrated and disappointed with their situation and with their government. They described assistance to their community as something that happened by lucky chance, something they had no influence over.

Even within the same community, it is unlikely that everyone will change at same rate, for there is considerable diversity within settlements. Many projects propose that community development must include everyone equally, but it is evident that Solomon Islands communities do not behave in this way, of their own choice.

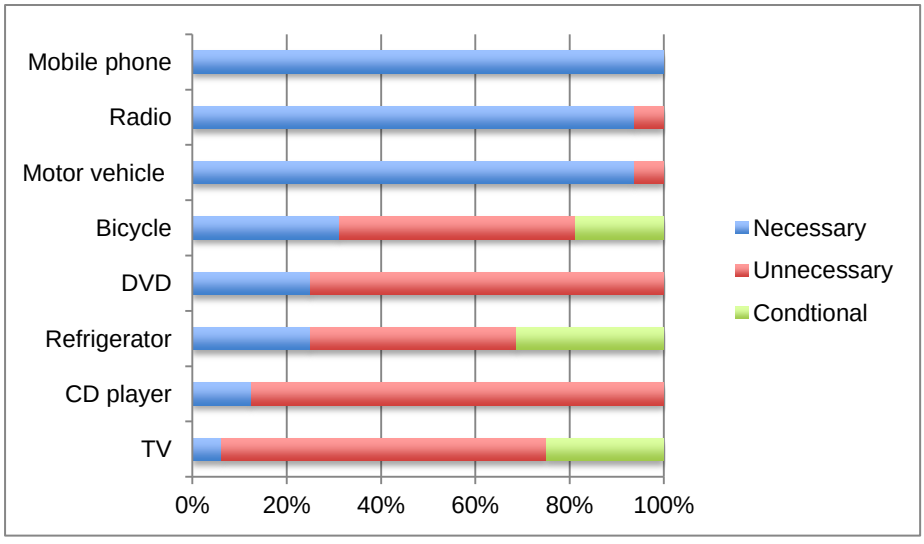
Two recent developments point to the readiness of people to invest in better conditions when useful and appropriate technology becomes available to them: the huge increase in people owning a mobile phone, and the quickly rising number of households who have purchased their own solar light.

The 2009 Census asked how many households owned particular types of household goods, in working order. The Quality of Life survey asked how many people in the discussion groups thought that these goods were now a necessity. Often this question received blank stares, as people contemplated the seemingly absurd suggestion that they might have a vehicle, refrigerator or TV. The one item that was unanimously considered to be a necessity was a mobile phone, and many people said "everyone" had them. They had many purposes and replaced radios as a source of information about many things, including weather and storm alerts.

At the time of the 2009 Census, 19 per cent of households in Guadalcanal Province and 8 per cent of households in Central Province already had a mobile phone. In the 2013 People's Survey, 59 per cent of respondents said they owned a mobile phone. It is likely that this figure will be higher now.

A mobile phone currently costs around SBD 200 on the street in Honiara. Top-up facilities are widely available in retail shops throughout the country, with people regularly paying $5-$20 per top-up, quite an investment in communication given peoples' low cash earnings.

Figure 27 Household items considered 'necessary' in today's life



Source: Quality of Life Survey

Rural electrification has been proceeding in Solomon Islands, but not as fast as people's desire for electric power has risen. Small solar power kits became available in Honiara shops around ten years ago, sold first

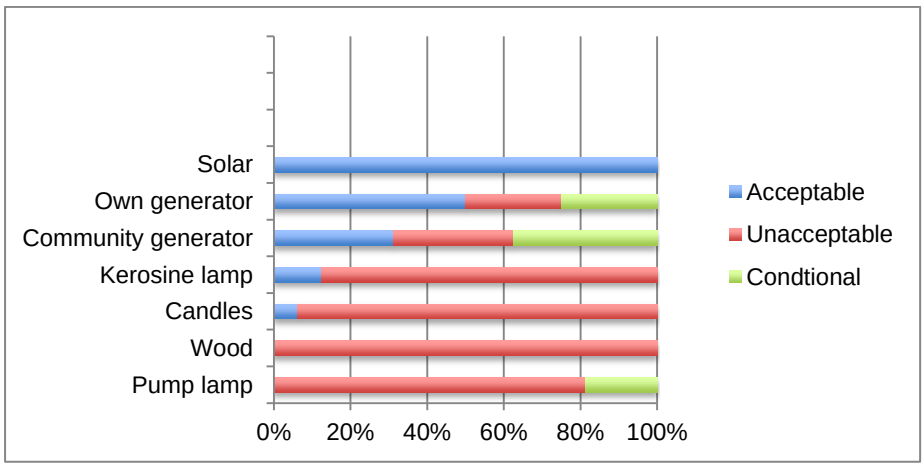
[35] ANU Enterprises, 2011

in Honiara by a local company, Willie's Electronics. As demand quickly rose, cheap kits became available in Chinese-owned retail shops across the country. Many of the households in the study communities now have a solar-powered light, purchased and installed by themselves. Most kits sell for between SBD 600 and SBD 1000, a considerable investment for people with small cash incomes.

Solar power was not recorded in the 2009 Census. Now it is a preferred source of household lighting, according to many of the discussion groups, in part because they do not believe that the electricity grid would meet them any time soon.

Where did people get these ideas? They said from town, and from seeing other people with them. In both cases, what was available on the market matched their desire to have something useful, new and "modern."

Figure 28 Acceptable and unacceptable forms of household lighting



Source: Quality of Life Survey

These cases are relevant to other aspects of living standards, including toilets and water. The only types of toilets people believe are available to them—essentially open pit toilets—are not at all what they want. Flush toilets are an ideal but most people recognise an unobtainable ideal because even improved water systems may not support them. There appears to be nothing that they want that they could get.

This raises potential to introduce a wider range of toilet systems—including composting toilets and improved ventilated pit toilets—so that people know there are wider choices, and to make them available on the local market at prices that people will find to be attractive. The marketers of mobile phones opened their market by providing subsidised (by them) "introductory pricing." A similar model could be trialled for appropriate toilet systems.

4. FACILITATING CHANGE: COMMUNITIES AND AID PROGRAMS

4.1 Community perceptions of available assistance

The community attitudes found in this survey were similar to those recorded by the People's Survey: that rural people felt helpless and neglected.[36] In the project communities, people were positive about the types of assistance they had received and expected from Red Cross. They had little good to say about other forms of assistance because they felt they had been left out.

A large part of development assistance to rural communities is channelled through the Constituency Development Fund, under the direction of the local MP. Seen principally as "slush funds,' The Constituency Development Fund Bill, passed in 2013 in the face of strong public opposition, formalised the management of development funds under the direction of MPs. These funds have existed for years, since around 1990, but less formally, without legal status, and on a much smaller scale. The expenditures have been difficult to trace or audit and have been controversial at local and provincial levels. The great increase in allocations to these discretionary funds provided for in the new Bill, to about SBD 6 million per MP per year, has meant less Government money for other public services.[37]

People were vocal in their criticism of their MP and politicians generally, saying that they only looked after themselves or a chosen few among their political supporters. Even voting an MP out of office was described as a waste of time because the new MP would quickly become just as bad. "Our government doesn't come here. Our provincial MP, as soon as they are there [in office] they forget about the villagers, that's our problem." "Our government [MPs] just look after themselves." A common complaint was that money from the Constituency Development Fund appeared to be unaccounted for; no information reached the people as to how they had been spent. In the 2011 People's Survey, 86 per cent of respondents said they thought records of MP's expenditures should be made public.[38]

In 2015, supported by the UN Democracy Fund (UNDEF), Transparency Solomon Islands launched a new project, to develop a community audit of constituency development funds, to assist Solomon Islanders to build an inclusive and empowered society where citizens can get access to information and participate in community development.[39] This is an important and timely development, for aid is widely seen in Solomon Islands as little more than favouritism, or at best a random piece of luck to be 'selected' or chosen to receive whatever is going. In almost every case, a community is selected for assistance on criteria that are rarely clear, not even to the lucky recipients.

While this 'selection' happens at the discretion of MPs—perhaps to serve their own interests—the 'selection' of communities by development programs is such a familiar way of going about business that few people ever question it or demand any transparency about how and why certain communities get selected. Certainly, there is no process by which communities can somehow select themselves to participate in any development or assistance program—unless through some back door opened by a *wantok* [40]or some similar influence.

In this survey, people were asked whether there was anywhere they go to ask for assistance. Most people said there was no place at all. Others suggested they might get assistance from an organisation only if they had a *wantok* working there.

This client state of recipients reduces any sense of participation in assistance programs and erodes any sense of ownership. This situation helps to developed unrealistic expectations as to what people want and how they will get it. It also encourages the type of situation described earlier in this report, where

[36] ANU Enterprise, commissioned by RAMSI

[37] Hughes, 2013

[38] ANU Enterprise, 2011.

[39] Transparency Solomon Islands, February 10, 2015

[40] Kinsman, either close or distant.

donated toilets and tanks went unused. People are reluctant to refuse a gift, for any gift, however useless, is better than no gift at all. They have no choice as to whether they will be a recipient or not, and rarely any choice in what they will receive.

> Selected for assistance: The way the Rural Water Policy will work
>
> For the last five years, the village Chief has been asking the Provincial government people for help to fix the old water supply. The community fully supported the Chief's efforts and everyone signed a letter asking the Provincial Governor for assistance. Last year, an officer from the provincial Rural WASH Program (RWP) finally informed the Chief that their village had been selected as one of three priority villages for the province who were to receive support.
>
> The RWP appointed one of their new partner agencies (WASHorg) to help the village with technical advice and resources. WASHorg staff visited Saviza [fictitious name] to meet the community and discuss the water, sanitation and hygiene situation and the options for making things better. A WASHorg engineer provided advice about what was feasible and what the costs would be. The village decided the best option was to rehabilitate their old piped system and install five new tap stands to provide good access through the whole village and also at the school and health clinic. They also decided to build simple toilets at the school, health clinic and the two churches. The village agreed to provide all the labor to carry out the work and to contribute local materials, like sand and stones. The Solomon Islands Government provided WASHorg with all the funds needed to supply the other materials and pay for skilled people to work with the community.
>
> Government of Solomon Islands, 2015

4.2. Coordination of activities in the WASH sector

In regard to getting assistance with water and sanitation, it is especially difficult for rural people to know where to seek help, this is a sector with many agencies involved, and they are not coordinated in any way that it is clear to the public.

Coordination is a complicated process between the many agencies and the many sections of several government ministries responsible for various WASH programs. As well, there are many government policies and sub-policies relating to work in this sector.

The National WASH Policy, approved by Cabinet in 2014, aims to achieve the vision of "All Solomon Islanders with access to sufficient quantity and quality of water, appropriate sanitation and living in a safe and hygienic environment" by the year 2024.[41] The need to improve water, sanitation and hygiene in Solomon Islands is well appreciated by the government and its development partners. Large resources have been allocated to addressing these problems. Nonetheless, all sections of the government responsible for aspects of the WASH sector face challenges in fulfilling their duties due to a lack of resources and poor coordination.[42]

Major donors to the Solomon Islands include the World Bank, JICA, EU, Taiwan's International Cooperation and Development Fund (ICDF), Australia DFAD, the New Zealand Government, UN's Global Environment Fund (GEF), and many NGOs, some of them members of the Pacific WASH Coalition, which collaborates on WASH projects and knowledge sharing.

The International Federation of Red Cross and Red Crescent Societies (IFRC) is a member of the Coalition, together with the Foundation of the Peoples of the South Pacific International (FSPI), the Fiji School of Medicine, Live & Learn, WHO, UNICEF, UN-HABITAT and SOPAC, organizations all active in the WASH sector in Solomon Islands. Other NGOs working on WASH issues in Solomon Islands include: the Adventist Development Relief Agency (ADRA) working on community development; Australian People Health Education Development Agency (APHEDA) working with schools and communities;

[41] Solomon Islands Government, 2015.

[42] ---UTS, 2001.

Oxfam International, working with communities and youth; World Vision International, working on community development; Solomon Islands Development Trust (SIDT) working with communities on their organization and environmental issues; Save the Children Fund, working on youth development; and Caritas, working with schools. Other technical assistance to the WASH sector is provided by SOPAC and UNICEF.

In regard to rural issues, the Water Supply, Sanitation and Hygiene Stakeholder Group (WSG) holds tri-annual meetings to facilitate coordination and pool knowledge and experience. WSG members include all relevant line ministries, implementing organizations and funding agencies, as well as NGOs and multi-lateral organizations (principally UN agencies).

A separate Sanitation and Hygiene Campaign Technical Working Group holds quarterly meetings to support the national Sanitation and Hygiene Campaign, share information, and review progress of the National Rural WASH Strategy. Members of this group include relevant line ministries and implementing organizations: various departments of the Ministry of Health and Medical Services; Ministry of Education and Human Resources Development, Ministry of Women, Youth, Children and Family Affairs, Ministry of Mines, Energy and Rural Electrification, Ministry of Rural Development, Solomon Islands Rural Development Program, and Provincial Government; Australian Aid – DFAT, the UNICEF WASH and Child Protection Programs, UNDP, World Vision Solomon Islands, ADRA, Caritas Australia, FRC and SIRC, Live & Learn Solomon Islands, Save the Children Solomon Islands, Water Aid, and others. The size and complexity of these consultative groups reflects the size and complexity of coordination issues in the WASH sector.

In all of this, there is no office door through which people in the survey knew they could go for technical advice or financial assistance. Most people said they could never go anywhere to ask for assistance. "There is no system in Solomon islands like that, people just go for [i.e. help] people they know, they will only go for their *wantok*." "Only if you have *wantok* in that office, otherwise they will just throw any recommendation in the rubbish."

4.3 National programmes to address WASH issues

WATER

Under the National Water Policy, responsibility for providing water services in the Solomon Islands rests with three government ministries: the Ministry of Mines and Energy, the Ministry of Provincial Government and Constituency Development, and the Ministry of Health and Medical Services. For rural areas, the Ministry of Health and Medical Services' (MHMS) Environmental Health Division (EHD) oversees the provision of safe water supply and for monitoring sanitation conditions for rural populations through the Rural Water Supply and Sanitation Program (RWASH).

Meeting the demand for water systems is difficult. There are hundreds of small rural communities throughout Solomon Islands needing assistance.[43] Many systems already installed have been poorly maintained and require repair and rehabilitation. Changes in land use have caused a decline in quality and quantity of freshwater resources, making piped water no longer necessarily a 'safe' water supply. In some areas, ground-water resources are vulnerable to contamination.

The interface between national policies and programs and rural communities has until recently been principally the Water Program of the Provincial Government, a small unit with limited resource and few trained technicians, whose job it is to build water system for rural communities. The policy now is for the Government to take the role of regulating and monitoring the rural WASH sector and to tender out the construction of rural water supplies to other agencies, including churches, communities, civil society, the media and private businesses.

This will release the present bottleneck, where a very small number of provincial government engineers and plumbers are responsible for most installations. It opens up opportunities for organizations such as Red Cross: to be involved in building water systems; providing technical advice to communities who want

[43] According to the 2015 WASH Policy document, there are approximately 1800 rural communities in the Solomon Islands. Of these, 600 are thought to have functioning water supply systems, while 1200 require construction of new systems or rehabilitation of old ones.

water systems, including scrutinizing of commercial bids for the work; or monitoring the quality of water system installations by other organizations or private businesses.

Installing water systems is one thing. Keeping them running is another:

'The usual maintenance arrangement is for the villagers served to form a water management committee, to collect funds for maintenance. The committee identifies a person to be trained as 'village plumber' and directs and pays him to carry out maintenance and repairs. Very often this arrangement breaks down over time, the plumber runs out of equipment, tools and wages, stops work, and people stop paying their fees. Some argue that because the pipes are on their land they should not have to pay, or that it is the responsibility of the government—to whom they pay taxes— to look after the scheme. Some say they did not vote for that government anyway and therefore should not have to pay for what they do. Others might say that the water committee already has enough money but is misspending it. Many people will say they do not have enough money to pay fees, but in fact spend their money on other priorities. Or they say they expected the water to just keep running without needing to pay any more money.'[44]

Managing peoples' expectations and assisting communities to organise themselves to operate and maintain their water system are essential parts of the water system development process.

Because demand is so high and provincial governments' resources are so stretched, when systems break down rural people cannot expect any quick attention. For example, the gravity-fed water system installed at Kuila in 2012 clogged up very soon afterwards, the PVC pipes used in the system reacting with the sulphur-rich water, becoming partially blocked and slowing water flow to a trickle. People in the community had no idea if or when the water supply team would come to fix the problem—a problem related to the system design—but they expected to wait a very long time.

Soon before this survey began, a team from the Rural Development Program drilled a borehole to provide water for Duidui, but did not succeed in striking water. The bore furthermore was downslope from the settlement, which would have required the water to be transported uphill either by a pump or by hand. Even knowledgeable people in the community had no idea when or if another attempt at locating water would be made, or what design arrangements had been made for transporting water from the bore to the houses. It was unclear who in the community had participated in these decisions. For most people, something that should have been an important community asset became instead simply something that had happened; whether it succeeded or failed was quite beyond their control.

When the survey asked people in the communities what they thought they could do for themselves, most people said they lacked the skills, tools and materials to do anything at all. This is mostly true, for designing water systems requires some expertise. But there are no incentives in Solomon Islands for self-help.[45] The incentives appear to point in the opposite direction: be helpless and some agency just might come by and give free assistance. Better choices need to be made available.

SANITATION AND HYGIENE

Over the next five years, the National Sanitation and Hygiene Campaign plans to move across the Solomon Islands, province by province, reaching out to every village and motivating whole communities to end open defecation, build and use toilets and wash their hands with soap.

The Community-Led Total Sanitation (CLTS) program will begin in each community with a half-day event that deliberately uses shame and disgust as ways to 'trigger' behavioral change, confronting people with their open defecation and challenging them to decide to halt this practice. It is expected that this will encourage (i) individuals to cease defecating in the open so that communities become open-defecation free; (ii) all households to build and use simple toilets and hand washing facilities; and (iii) communities themselves to improve sanitation and hand washing facilities in schools, health centers and other public locations. This program is soon to be piloted by the Ministry of Health Rural WASH Program, then rolled out across the country. The aim is for Solomon Islands to become an open defecation free (ODF) country within 10 years.

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[44] Schoeffel, 2006.

[45] Community-based 'self-help' schemes have been effective in some other Pacific island countries. In Fiji, for example, the government provides generous matching funds for community water, sanitation and community development projects.

The two other elements to the national sanitation and hygiene campaign are:

- Hygiene behavior change communication (BCC). This will focus on people washing their hands at critical times (for example, after defecation and before eating) and always using toilets for defecation. Messages will be delivered through schools, mass media channels, churches and other public health programs.
- WASH (Sanitation) marketing. This will build demand for sanitation and hygiene goods and services (such as soap and toilet slabs); and work with the private sector to strengthen the supply chain to meet the increased demand. It will complement the work of raising demand through the CLTS program.[46]

Against any intervention, there is always a possible argument of cultural barriers preventing success, yet, as discussed earlier, sometimes these "barriers" quickly disintegrate. There is already potential shame involved in toilet practices in the project communities, that of transgressing against the cultural imperative of maintaining distance between men and women siblings, including any reference to sex, genitals, and toilet behaviour. The importance and extent of sibling avoidance probably varies by custom area, being strong on Savo and in the communities surveyed in Guadalcanal. Solomon Islands is a culturally diverse country; these findings may not apply to the same degree elsewhere. It is difficult to predict how these attitudes will react to the CLTS program, and finding this out is one of the purposes for the Ministry of Health's pilot program.

Meanwhile, work in the project communities has progressed to the stage where people are already "triggered" to accept toilets, or at least so they say. To delay project work until the Ministry of Health pilot has been completed and assessed could put it far behind the planned schedule. Until the CLTS pilot is completed, FRC/SIRC can move ahead on the next element in the National WASH Strategy, to work on increasing peoples' understanding about and possibly access to other types of toilets.

If the CLTS scheme succeeds on any scale, there will likely be a large increase in demand for toilets. The program foresees people building simple toilets, by which they must mean open dry pits. Given the common distaste for pit toilets and the desire of many people--particularly those with more cash--to have a more acceptable toilet, there is an opportunity to meet this new demand with better information and better products.

People in the survey were familiar with only open pits (unacceptable), pour-flush toilets (only partly acceptable because of the need to carry water) and flush toilets (the common ideal). There was no discussion of ways a pit toilet could be improved, that water could be piped to pour-flush toilets, of compost toilets, of ways cheap septic tanks and waste-water gardens could be constructed, and so on.

One approach to providing more information to people about types of toilet is the Sanitation Park Project in Fiji (see below), an installation of various types of toilets, together with information about their construction, use and costs, that people can walk about and examine without the embarrassment of intruding on, perhaps, a neighbor's new toilet.

The use, care, maintenance and repair of toilets are also issues of public interest. People used to open defecation are rarely used to toilet paper, for example, and are often unaware of what materials they should use with different types of toilet. If people on Savo, for example, feel that soap is an unnecessary expense, what will they think about toilet paper? What alternatives are viable? How should this waste be disposed of? There is a large scope for training in regard to toilet use and maintenance.

[46] Government of Solomon Islands, 2015.

Community theatre

Wan Smolbag Theatre is an NGO based in Vanuatu but operating all over the South Pacific.

Wan Smolbag Theatre is primarily a development theatre group aiming to create awareness and engagement with issues surrounding education, health, governance, the environment, youth and gender, producing and performing plays in local languages to promote, for example, the improved, ventilated pit toilet.

The group regularly tours rural Vanuatu and produces DVDs of some of their productions.

The theatre group is core funded by AustralianAid and the New Zealand Agency for International Development and produces materials such as a television show, DVDs, booklets and posters for education and training in communities, NGOs, schools and government departments throughout the South Pacific and the world.

Making attractive products available on the local market is another opportunity. As with mobile phones and solar lights, it is evident that Solomon Island people will invest in better living conditions when appropriate and attractive goods become available. Kit-sets for some types of toilets could perhaps be trialed on the market. An element of the CLTS program is a rejection of any direct subsidies for toilets. Perhaps hidden subsidies could be more acceptable; the HIV/AIDS program of the Ministry of Health channels cheap condoms through commercial outlets throughout the country, their price made artificially low through a WHO subsidy and thereby attractive to consumers. As discussed earlier in this report, it is an incorrect assumption embedded in some community-level projects that everyone in the community will respond at the same rate and time. Early adopters of new technology sometimes unknowingly benefit from 'introductory pricing,' a strategy of mobile phone marketers, for example, to quickly build their networks and drive up demand.

Fiji: The Sanitation Park Project

A genuinely grassroots undertaking with full community involvement, the Sanitation Park Project is designed to help communities in Fiji to identify and solve their sanitation problems by examining and selecting from a range of appropriate, affordable wastewater treatment options housed at a demonstration park located at the Fiji School of Medicine, Tamavua Campus.

Three rural communities were selected as suitable locations for Project implementation through pre-project surveys. This included hands-on training for the construction of a composting toilet involving district health workers and community members, and three community Workshops under the WHO "Healthy Islands Initiative". The Workshops in the three communities assisted them to develop action plans using the Healthy Islands process, which will be managed by the local health officers in the future.

The Project, although implemented in Fiji, has regional application through adopting technologies that are applicable to other countries within the Pacific and the location of the Sanitation Park at a regional training institute – the Fiji School of Medicine.

The Fiji School of Medicine manages the Sanitation Park and uses it in training programmes both for its students and for other members of communities, schools and other teaching institutions and leaders. The Sanitation Park can also be used for awareness raising and training purposes by other groups promoting appropriate technology in sanitation.

Source: Bower et al., 2005

THE CHAST PROGRAM

One element of the national Sanitation and Hygiene Program is the promotion of good hygiene behavior in schools, through the Children Hygiene and Sanitation Training (CHAST). Improving the knowledge and practices of protective hygiene behaviours among children is a key component of basic health and water and sanitation programs. Because personal hygienic practices are mainly acquired during childhood and because it is much easier to change the behaviours of children than those of adults, it appears extremely relevant to develop a participative hygiene promotion approach targeting the children. Moreover children can play an important role in the community and especially within their household to promote hygiene. They could become key promoters toward others children as well as toward their family.

Although people in the survey spoke knowledgeably about safe and unsafe water, their practices denied this knowledge. For example, dirty water was dismissed as only looking dirty, and soap was dismissed as something one would only buy in Honiara. The FRC/SIRC KAP Survey found that after open defecation people washed their hands only about 50 per cent of the time. These community practices probably teach young children more about acceptable behaviour than do classroom lessons.

Traditional farming communities around the world are often less careful about handling or being around animal and human wastes than are urban people, seeing them as natural and somewhat harmless. (In Solomon Islands, human waste is not used in farming as it is in some Asian societies, for example.) Normative education, where people are taught what they should do, evidently does not much affect what they do.

There are new technologies that can upgrade education to help people see and experience for themselves the elements of dirtiness, such as bacteria. Using the 50-cent cardboard microscope (see link: http://www.industrytap.com/50-cent-cardboard-microscope-will-change-medicine-forever/18540) in class is one way that children can see bacteria for themselves and achieve a deeper understanding of what hygiene is about.

Figure 29 Foldscope – 50 cents microscopes

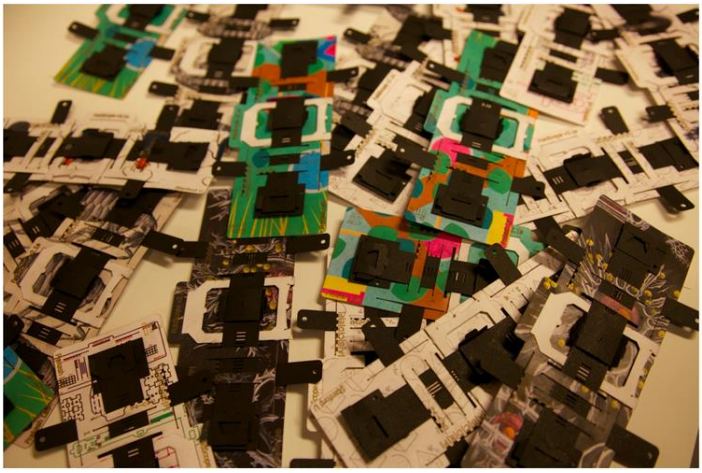

Photo credit Foldscope Team

A program about to start in Honiara schools, a partnership between the University of the South Pacific and the Ministry of Education, and funded by the Asian Development Bank, will bring a quasi-internet experience to school classrooms.[47] Through this program, material relevant to hygiene promotion, including YouTube videos, can be made available to classrooms and even taken to communities for public viewing using laptops with portable projectors. This type of public viewing was widely and effectively used for health education in rural communities decades ago, yet rarely happens today.

[47] Internet connectivity is expensive and slow in Solomon Islands. The program uses downloaded material to mimic the performance of the internet on laptop computers, a cheap and accessible to train children in use of the internet while introducing them to material relevant to their studies.

4.4 Promoting ownership and participation

The client-patron relationship between rural people and development programs has considerably diminished the benefit of much assistance to Solomon Islands communities. This situation has ties to local culture, such as the misuse of power for influence, and to the culture of corruption that has been prevalent in the country. These things will possibly not change quickly. The public mood for change is however evident, as in the public outcry in 2013 against the passing in Parliament of the Constituency Development Fund Bill. People in the community openly express their disappointment, distrust and dislike of their government.

Unintentionally, no doubt, many donor organizations follow this same client-patron approach, whereby intended beneficiaries are passive actors in the selection of recipients and in decisions about the benefits they will be provided. Many failures of projects and attempted assistance can be traced back to the lack of ownership or partnership in activities, the view from the community being that something "just happened;" however good it could have been for them, they had no control over the outcome.

Even a small organization like SIRC can begin to move away from this model. The Ministry of Health Rural WASH Program indeed offers opportunities to do this, both through direct interventions in some communities and indirect actions for a much wider population. These include transparency in directing assistance to some people or communities rather than others, encouragement of even small self-help efforts, and positioning the organization as an open-door provider of technical advice and information.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Culture, water and sanitation

Culture is often seen as a brake on behavior change but this is not necessarily true. People themselves refer to their culture as a reason why they themselves do not expect to change, but a change in attitudes and values can happen very quickly when other aspects of social and economic life change. The strong case was raised in the survey of sharing toilets being a cultural barrier, yet people from the same cultural group readily share toilets in Honiara where they have no other choice.

It is not a realistic assumption that all people in even a small community will all change at the same time, motivated by the same interventions.

Significant findings of this study have been:

1. There is a strong desire among people in these rural communities for changes in their living conditions, together with frustration and disappointment with their government's seemingly lack of action and assistance.
2. People use their limited water as best they can. Most understand that different sources of water are safer or less safe for drinking. Good water is conserved for drinking wherever possible.
3. Still, unsafe water often is not boiled and there was a casual dismissal of the risk of water-borne disease.
4. There was almost unanimous agreement that open defecation in the bushes was unacceptable in this day and age. (Defecation in the sea was slightly better, according to some people living on the coast, because the tide washed the waste away.) The ambivalence expressed by some people was that they had to go to the toilet somewhere, and the bush was better than a smelly, even dangerous, pit toilet.
5. Unimproved, open pit toilets were unanimously described as unacceptable. They stank and bred flies and mosquitos, risking malaria.
6. The only other types of toilets people said they were familiar with were flush toilets and pour-flush toilets – both out of their reach because of their lack of water supply, but they knew of no other possibilities.
7. The willingness for people to invest in better living conditions when appropriate and desirable technology is available on the local market is evident from the fast rise in people owning mobile phones and households with their own solar-powered lights.

5.2 Recommendations

All projects carry risks of various types, of both intended and unintended effects. Potential risks considered for this project are:

- That community plans would set up unrealistic expectations, fail to deliver, and further de-motivate participants;
- That there would be no effective ownership of new WASH facilities;
- That interventions could be seen as culturally inappropriate;
- That there would be too small an impact.

1. All community development plans set up expectations, and people are ready to accept whatever may come their way. To the extent that it has so far proceeded, however, the planning process was described as helping people to think what was important to them. It is very difficult to know what people truly expect, and while project activities focus closely on a few communities, the people there can only expect more will be coming their way. The more information that is shared with them about project plans

and project funds (even the source of those funds) and the more transparency there is over project decisions, the more that expectations can be kept to a realistic level.

2. The distribution of project benefits is of real interest and concern to the communities. There are already concerns (such as in Reko) that plans to improve gravity-fed water systems will be unable to serve the whole settlement. There are questions as to whether all training provided should go only to the VDRC. In previous project cycles there have been questions over the concentration of wells and tanks near the houses of chiefs, as in Zion and Duidui, for example (see maps, Section II), and so on. These communities have internal tensions and divisions. Decisions about distribution of project benefits need to be openly discussed, to reduce the risk of envy and dissatisfaction eroding participation in the project.

3. The establishment of the VDRC fits well with the culture of committees in rural communities in Solomon Islands. Water Committees have a long history too. There are many avenues to provide training, even some appropriate level of certification, to people in the community, but again this needs to be done in a transparent way and also involve both men and women as much as possible.

4. Further developing the VDRC also fits well with the organization of the Red Cross, of having a network of community volunteers.

5. It is possible that some interventions could be seen as culturally inappropriate. The outcome of the CLTS Pilot by the Ministry of Health will be an interesting test of the extent to which culturally required cross-sibling avoidance stands up against this particular technique. The work of the project has advanced beyond the point of 'triggering' a response in the project communities, and waiting for the full outcomes of the CLTS Pilot will delay the project's work program. The project should not proceed with CLTS until the Pilot is complete, but move on to work on other aspects of the national WASH policy, particularly providing information about toilet technology and helping to make more choices available to the communities, and rural people generally.

6. The risk of having too small an impact is a real one, but easily avoided. SIRC is a relatively small organization but a prestigious one, and capable of having a big impact. Backing away from close involvement in a few communities and developing instead ways to foster and reward self-help efforts,

7. The project should aim to bring to project communities and rural communities in Solomon Islands more generally the great experience Red Cross has with community education and planning, to facilitate this bigger impact, even within the requirements of the current project.

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