



Increasing access to water, sanitation and hygiene in Suriname's rural interior

An Appreciative Inquiry

Ministry of Natural Resources

Ministry of Regional Development

UNICEF Suriname

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List of Abbreviations

GoS	Government of Suriname
MoNR	Ministry of Natural Resources
MoRD	Ministry of Regional Development
PCV	Peace Corps Volunteer
UNICEF	United Nations Fund for Children
WASH	Water, Sanitation and Hygiene

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Introduction and scope of the review

This review was contracted by the Ministry of Natural Resources of Suriname, in partnership with the Ministry for Regional Development and UNICEF Suriname. The objectives of the review as specified in the Terms of Reference were to assess the effectiveness and impact of the Government of Suriname and UNICEF Water, Sanitation and Hygiene (WASH) programme on improving access to improved water and sanitation facilities and on good hygiene practices and WASH management in the communities in the interior of Suriname; and documentation of the positive outcomes of the programme for children.

The review focused around five key areas of inquiry:

- Community ownership and understanding of responsibilities in target villages
- Functioning water supply systems and sanitation facilities
- Hygiene and behaviour changes strategies and practices
- National ownership and engagement
- Areas of needs in the communities with recommendation for future WASH input

The Appreciative Inquiry methodology

Appreciative Inquiry was used as the primary methodology for the review. Appreciative inquiry is a qualitative assessment technique that combines open-ended investigation with valuing. It is a strengths-based approach, and therefore seeks to draw out the best of what is and what could be.

The principle behind the use of this technique as a method of evaluation is that to achieve our development goals, we must move beyond focusing on challenges and build on our achievements. This requires a conscious mind-shift away from the cyclical repetition of 'problems' and towards the discourse of successes and solutions.

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Appreciative inquiry has been used since the early 1990's as a tool to help private sector organizations reach their goals. In the last decade, it has been gaining recognition as a valuable approach to development. As stated by Willetts et al in their article on using strengths based approaches to assess gender outcomes in WASH programming in the Pacific: "the language of needs and deficits is disempowering... [and] gives a one-sided view of reality, with detrimental effects."¹

¹ Willetts et al. *Working from strengths to assess changes in gender equality*, Development in Practice, Volume 23, Number 8, November 2013

By contrast, appreciative inquiry takes a strengths-based approach, deliberately seeking to draw out successes. Rather than focusing on deficits or gaps, the appreciative inquiry methodology is therefore a useful tool for drawing out achievements, documenting accomplishments, and recording innovative ways to break the cycle of development challenges and work towards sustainable, stakeholder-led development.

As a qualitative technique, the appreciative inquiry method relies on information gathered from interviews with key stakeholders. The technique structures interviews into five key steps, known as the “five D’s.” For the purposes of an evaluation activity, the five D’s are sequenced as follows: **1) Define/dream:** identifying the issue and understanding the vision for change; **2) Design:** what was done to bring about change?; **3) Deliver:** what was the impact?; **4) Discover:** what worked well, and what could have been done better? and **5) Dream:** what is the vision for the future?

The following activities were conducted as a part of the review.

Desk review of relevant documents and background materials and development of the methodology and tools	12-16 May 2014
Visits to selected villages,* meetings and interviews with community members and local WASH facilitators	Upper Suriname: 21-24 May 2014 Eastern Suriname: 28 May 2014
Interviews with Government Representatives, programme staff and former Peace Corps volunteers	
Presentation of preliminary findings and discussions with Ministry of Natural Resources, Ministry of Regional Development and UNICEF Suriname	4 June 2014
Finalisation of report and preparing executive summary	9-13 June 2014

*NB: Due to logistical reasons and time constraints, the initial proposal of visiting all 16 target villages was found not to be feasible.

The list of villages visited and full list of people interviewed can be found in Annex 1.

Increasing access to water, sanitation and hygiene in Suriname's rural interior

An appreciative inquiry for the Government of Suriname and UNICEF Suriname

Define: What was the issue?

Relevance and progress towards the MDGs

The Republic of Suriname is on-track to meet the Millennium Development Goal (MDG) goal for water and sanitation (MDG 7C: *Halve people without safe drinking water and basic sanitation*), and in the past decade, important progress has been achieved. Nonetheless, there remain significant disparities between people living in urban, rural coastal and rural interior areas.

Although 95 per cent of the overall population is obtaining their drinking water from improved sources, large

disparities remain between the urban coastal (98.6 per cent), rural coastal (95.9 per cent) and rural interior populations (70.7 per cent) (MICS 2010). Of great concern is that less than 10 per cent of households using an unimproved drinking water source use an appropriate method of treatment (MICS 2010), meaning that the vast majority of those households are at risk from water-borne diseases.

While 91 per cent of the overall population has access to improved sanitation facilities the disparity between urban, rural coastal and rural interior areas is even more striking. In the urban coastal area, 98 per cent of households have improved facilities, and in rural coastal areas 94 per cent. However in rural interior households, just 42 per cent of households have access to improved sanitation. Open defecation is still the main practice of nearly half of all households (49.1 per cent) in the rural interior (MICS 2010).

This means that in the rural interior, **one third of households do not have access to safe drinking water**, and **fewer than half of all households have access to improved sanitation**. Indeed, according to MICS 2010, only 23 per cent of rural interior households have both, meaning that **three out of every four people are at high risk of contracting diarrhoeal disease or other infections, which are a leading cause of death and disease among children in developing countries**. Addressing

Indicator	National Average	Urban	Rural Coastal Area	Rural Interior
Access to safe drinking water	95%	98.6%	95.9%	70.7%
Access to improved sanitation	91%	98%	94%	42%
Both	79%	87%	81%	23%
Source: MICS 2010				

this disparity is therefore critical to improving child health and reducing child mortality in this region (MDG 4A) where more than 1/10th of Suriname’s population lives.

The cost of lack of access to safe drinking water and improved sanitation is borne by the government in the health sector: data from the Medical Mission shows that in 2011, children less than 5 years old represented 47% of all reported cases of non-malaria diarrhoea (UNICEF 2013). According to MICS 2010, diarrhoea prevalence rates in children under five (measured by asking parents if under five children had diarrhoea in the two weeks preceding the survey) were highest in Sipaliwini (13 per cent), Brokopondo (13 per cent) and Wanica (11 per cent) and lowest in Saramacca (6 per cent). According to the Ministry of Natural Resources (Abidi, 29/03/2014), water sampling data gathered in the rural interior and analysed by the Bureau of Health shows high levels of e-coli bacteria, particularly in river water.

Lack of access to safe drinking water also has an economic cost. In the rural interior, fewer than 15 per cent of households have safe drinking water piped into their households or yards and fewer than half have any improved water source on their premises (MICS 2010). The burden of fetching water is borne mostly by adult women (74 per cent) and by adult men (14 per cent), and nearly one third of households in the rural interior spend up to and over 30 minutes per round trip fetching water (MICS 2010). This represents a significant loss of time that could be spent engaging in other productive activities. According to the global Sanitation and Water for All (SWA) initiative, for every dollar spent on sanitation and water, there is a five-dollar return.

Education is another area that is impacted by the lack of access to improved sanitation and safe drinking water. Children who suffer from frequent diarrhoea are more likely to miss school. In addition, inadequate water and sanitation infrastructure in schools may contribute to low completion rates. A school mapping exercise conducted by the ministry of Education in 2011² found that 67.5 per cent of the schools in the rural coastal and rural interior do not have piped water. 38.5 per cent of headmasters claim the toilets are in a bad condition while only 19.4 per cent are satisfied with the conditions of the toilets. The lack of adequate sanitation facilities in schools particularly affects adolescent girls who have started their menstrual cycle, forcing them to miss school during their menstrual period. Indeed, the rural interior is the only area of Suriname where more boys than girls attend secondary school (MICS

Indicator	National Average	Urban	Rural Coastal Area	Rural Interior
Primary school attendance rate	95%	96.5%	96.7%	90.1%
Primary school completion rate	91%	93%	92.3%	61.7%
Source: MICS 2010				

² School mapping research executed in 34 schools in Eastern Suriname, Marowijne and Sipaliwini

2010), although other factors such as distance to secondary schools are presumably also factors.

Geographic and socio-cultural context

The Republic of Suriname is located on the north eastern coast of South America with the Republic of Guyana to the west, French Guyana to the east and Brazil to the South. Until 1975 a Dutch colony, Suriname is one of the most ethnically diverse countries in the world, with more than eight ethnic groups. Dutch is the official language.

The target geographic area for this project was the rural interior, a vast geographic area encompassing the districts of Sipaliwini, and Brokopondo, and also including some villages in the eastern province of Marowijne. Data from the 2012 census shows that approximately 62,000 Indigenous and Maroon people are living in the interior of Suriname, in villages ranging from 150 to 4,000 inhabitants.

Villages in the rural interior are generally located along a river. Most are inaccessible by roads, and many are cut off from the rest of the country even by boat, due to the presence of rapids along the major rivers. Successive MICS studies over the years have demonstrated that most communities in the interior lack access to basic services, including safe drinking water and improved sanitation. Approximately 15% of the villages have electricity, 2% have internet, and 60% have some cell phone coverage.

Box 1: WASH in Maroon villages

The largest population group in the rural interior are the Maroons, a classification which combines several broad groups / tribes originally of African descent. The target populations of this project were from the Saramaccan and the Aucaan groups / tribes. The project also reached two Indigenous villages.

There are a few features of Maroon villages that must be considered carefully when considering WASH interventions.

Gender roles

Maroon villages today are mainly inhabited by women, as adult men leave the villages to seek employment. Despite this, the political and administrative decision-making authority in Maroon villages is wielded by the Captain, a role reserved for men, and women typically play a subordinate role in official village proceedings, or *krutus*. However, women are responsible for the day-to-day management of the village, which includes cultivating food crops, caring for children and the elderly, fetching water, cooking, washing and cleaning, among other tasks. Therefore, WASH interventions must pay particular attention to involving women and drawing out their needs, while also respecting that Maroon women are time-poor and already have a heavy workload.

Village layout

Maroon villages are located in clearings in the jungle next to a river, with the villages ascending linearly away from the riverbank. The village boundaries are defined by the cleared space around houses – any un-cleared area, even only a few meters away from houses is considered “outside the village.” This is critical when discussing sanitation practices: in some villages there may be aversion to having latrines inside the village, but placing latrines in the bush behind groups of households can be considered acceptable.

In general, people live in family clusters of individual dwellings determined along the matrilineal line, with adult female relatives living near each other. Maroon culture is family-centric, and there is little culture of communal infrastructure. In general, facilities are shared only between groups of related women. This must be taken into careful consideration when determining the number and placement of WASH infrastructure such as water faucets and sanitation facilities.

Cultural perceptions

Sanitation, in particular defecation, is a sensitive topic in Maroon culture. Most people do not feel comfortable discussing defecation; there is also a strong cultural aversion to seeing, smelling or handling faeces. This limits the type of sanitation options that are acceptable in Maroon culture: any latrine design that smells, where faeces are visible or that require the removal of faeces (e.g. composting toilets) are not likely to be accepted in Maroon culture. The aversion is not as strong in Indigenous villages.

Situation in target villages

Water

According to a pre-intervention survey on Knowledge, Attitudes and Practices (KAP) conducted by UNICEF’s partners, less than 10 per cent of people surveyed had access to an improved drinking water source. 31 per cent reported using surface water as the main source. 60 per cent of people in target villages reported collecting rainwater as their main source of drinking water; however in practice, due to seasonal variations and lack of sufficient rainwater storage capacity, most villages rely on surface water for drinking during at least part of the year (dry season). Despite this, 88 per cent said they did nothing to improve the water quality.³ *“People prefer rainwater for drinking, but because of seasonality they don’t always have it available, so in the dry season they fall back to drinking river water or creek water,”* explains Haidy Malone, the former UNICEF WASH project officer.

Most villages in the rural interior are built on river systems, and for generations people have used the river for all of their needs: *“We used the river for everything. We wash in the river and drank the water. We threw our trash and used diapers in the*

³ S. Laurens, UNICEF WatSan Data Analysis report

river. We used the river for defecating,” says Banwarie Mesack. (Ricanaumofa, 28/05/14)⁴

In some target villages, people obtained their drinking water from a separate groundwater source, usually a nearby creek. This task falls mainly to women. “I fetch water from the creek, about 1 kilometre away. I carry the 20-litre container on my head. Since I have to get water for myself, my mother and my grandmother, I make at least three trips a day, and sometimes more,” says Truda Adjako from Kajapati (21/05/14). Although locals perceive the water to be safe for drinking, in at least one target village (Pempe), both the river and the creek were tested and found to have a high concentration of harmful e-coli bacteria.

Some people in the target villages observed a relationship between sickness and unimproved water sources: “Children used to use the river to bathe. They would play around and drink bad water and get sick,” says Mina Anakaba (Masia Kriki, 23/05/14). “We are used to the water, so we can drink it. But if someone comes here from the city and drinks it, they will get sick,” says Altin Stedenburg (Abenaston, 21/05/14). “The children get diarrhoea and stomach pains from drinking the water after a big rain,” says Truda Adjako from Kajapati (21/05/14).

This explains villages’ preference for rainwater harvesting when possible, but in the dry season, they have no other alternative.

Sanitation and hygiene

Open defecation is still the most common practice in the rural interior, in particular among Maroon communities (MICS 2010). While the open defecation rate in the rural interior overall is 49.1 per cent (MICS 2010), the pre-intervention KAP survey identified an open defecation rate of 89 per cent in target villages, much higher than the national average. This means that only one in ten children in the target villages had access to improved sanitation. According to some of the interviewees for the inquiry:

Only one in ten children in target villages had access to improved sanitation.

“People here are not used to using a toilet. Everyone is used to going in the river or the bush.” (Altin Stedenburg, Abenaston, 21/05/14)

“Adults just go in the bush or in the river, because that is what our grandparents did. At night, children go behind the house because it is dark and they don’t want to go very far.” (Sanna Bobo, Pempe, 22/05/14)

⁴ Please note that all interviews were conducted through a translator, so all quotes in this document are paraphrased. Consequently the words may not be exact, but the author has tried to stay true to the sentiment expressed by the interviewees.

“When I was growing up, we would cut down a tree in the forest and defecate there.” (Louisa Misiedjan, Ricanaumofu, 28/05/14)

The KAP survey indicated a relatively high level of awareness of basic hygiene behaviours prior to the project intervention, in particular around hand washing. 75.8 per cent of respondents correctly identified that they should wash their hands after defecating, 65 per cent said they wash their hands before eating, and 38 per cent said they wash their hands before cooking. 87.4 per cent said that their family members use soap when they wash their hands, and 65 per cent of these could present soap. Despite this, there may be differences between actual and reported behaviours. Access to water also plays a significant role in hygiene behaviours: as former UNICEF WASH project officer Haidy Malone points out: *“Even if people know they should wash their hands, they often don’t because the water is not close by.”*

Solid waste disposal was also an issue of concern for many of the target communities. *“The village used to be very dirty,”* says Nisha Pepe of Ricanaumofu. *“There was garbage everywhere on the ground, including dirty diapers. We didn’t know what to do with it.”* (28/05/14) Other villages created trash piles, but these also caused issues for public hygiene, creating runoff into water sources and attracting rats and flies, which spread disease in the village. (Shannon Morrison, former PCV Masia Kriki, 03/06/14)

Health

In the villages visited as part of the inquiry, people consistently reported that diarrhoea was a health issue for children and adults alike. The Captain of Ricanaumofu village in Eastern Suriname, Banwarie Mesack, says: *“Our main health problem is diarrhoea.”* (28/05/14) *“People used to be sick a lot with diarrhoea and bad stomach aches,”* says Rudy Sana, from the village of Pempe (22/05/14). During the KAP survey, diarrhoea was the most common illness identified.

Former UNICEF WASH program officer Haidy Malone recalls: *“When we began the project we had data from the Medical Mission that nearly 50 per cent of patients treated for diarrhoea were children under five, and those were just the reported cases. The reality may be much higher.”* While adults in the target villages tended to shrug off diarrhoea as a ‘normal’ part of life, for young children the consequences can be severe. *“Young children are more vulnerable,”* says Haidy. *“Diarrhoea can have multiple impacts and hamper their development both physically and cognitively. This means that these children from a young age may not have equal chances to have a healthy, productive life.”*

Climate change

While the WASH programme did not explicitly target climate change adaptation, the vulnerable communities in Suriname's rural interior are increasingly at risk from environmental changes. In particular, since many communities rely on rainwater as their only source of safe drinking water, changes in rainfall patterns are having adverse effects on health and wellbeing.

In the village of Pempe in Upper Suriname, Rudy Sana, a man in his 50's, says that he has seen changes in rainfall pattern in his lifetime, and that there is currently less rainfall than in the past. *"The rainy season used to be regular – you could count on it. Now it is changing, we never know when it will come. When it comes, it is not enough. People need water to live."* (22/05/14)

Villages in the rural interior are built within close proximity to the river, rendering some communities vulnerable to flooding. One target village, Ricanaumofu in Eastern Suriname, experienced two major floods during the time of project implementation.

Communities in the rural interior are also increasingly aware of environmental degradation caused by human occupation. Many interviewees shared the perception that the river water was dirtier and less safe than in the past.

Previous interventions

In many of the target communities, the GoS/UNICEF WASH project was not the first attempt to improve access to safe drinking water and improved sanitation.

According to various stakeholders, previous development projects in the Suriname interior had been externally driven and top-down. According to Jessica Schmitt, a former Peace Corps Volunteer in Gran Slee: *"There is a history of outside parties coming in and making promises and then not fulfilling them, or coming to hold meetings and then never coming back."* (13/06/14)

Another issue was that previous interventions might have placed low value on local knowledge and cultural practices. Communities recalled that in the past, projects had been undertaken to try and increase rural communities' access to improved sanitation through the construction of public toilet blocks. However, public toilet facilities are not a culturally acceptable solution in rural Suriname, and the inquiry team several times heard anecdotes of these facilities being used for storage while communities continued to defecate in the river or the bush.

Likewise, NGOs had previously built water systems in several of the communities that benefitted from this project. However, when the current project conducted a needs assessment, those systems had broken down and communities did not have the capacity to repair them.

Suriname climate change scenario projection for the year 2100:

- Temperature rise between 2-3 degrees Celsius;
- Rainfall decrease of 10%;
- Increase of weather extremes, including wind;
- Sea-level rise of 1 metre.

Dream: What was the vision?

Given the stark contrast between the rural interior and urban and rural coastal areas with regards to access to improved water and sanitation, the vision of this project was that women, men, boys and girls in the rural interior have equal opportunities to grow up and live in a healthy environment as that of their urban and rural coastal counterparts.

The program originally targeted 32 villages in the rural interior, with the initial goal to improve the health of 10,300 isolated people in the interior of Suriname through increasing sustainable access to safe drinking water and use of appropriate sanitation and hygiene practices.

After the initial consultation phase, 16 villages formally requested inclusion in the project. Thus the revised goal of the project was to improve the health of 6,875 isolated people in the interior of Suriname through extensive participatory processes in order to increase sustainable access to safe drinking water and use of appropriate sanitation and hygiene practices. This represents a target group of just over one third of the estimated 16,000 people living in the rural interior of the country.

Design: What action was taken?

Taking into account the failure of past projects that did not adequately consult with communities, the foundational approach of the project was to adopt participatory methodologies to enable communities to lead the project themselves. To achieve this, UNICEF received support from the Netherlands National Committee for UNICEF. The total funding received between 2010 and 2013 for the activity was US \$690,089.66.

Phase 1 of the project aimed to improve WASH knowledge and practices in target communities. For this phase, UNICEF entered into partnership with two non-governmental organisations (NGOs) to develop customized training methodologies adapted to the context of the Suriname interior – SALT and PHAST.⁵ They also developed two sets of culturally appropriate image kits to be used during the trainings, one for Maroon communities and one for Indigenous villages. In order to reinforce the capacity of villages, the first step in the approach was to training local WASH facilitators in both SALT and PHAST, who then mobilized their villages to create action plans for WASH activities. UNICEF also entered into partnership with the US Peace Corps and mobilized the Peace Corps Volunteers in each target village to support the WASH facilitators and assist them to share what they had learned in their villages and mobilize their communities.

Once the community action planning process was complete, 15 out of the 16 villages identified access to improved water sources as their top priority and improved sanitation as their second priority. One village identified waste management as

⁵ The methodologies developed were called PHAST (Participatory Hygiene and Sanitation Transformation) and SALT (Stimulate Appreciate Learn and Transfer)

their top priority, as they were expecting support from a local NGO partner to address their water needs.

Phase 2 of the project was the implementation of the community action plans. However, due to the high cost of constructing water installations in the interior, it was found that the requested construction costs exceeded the remaining available budget of the project to meet the needs of all 16 villages. To overcome this in a way that would not exclude any of the target villages, in 2012 UNICEF approached the Ministry of Natural Resources to support the implementation of the plans. An agreement was reached whereby the MoNR, as the official duty-bearer for access to water, agreed to commit the necessary funds for repairs and construction of water systems. Based on this agreement, UNICEF also approached and entered into a partnership with the Ministry of Regional Development for the construction of sanitation facilities with the remaining funds. Staff from the Ministries and UNICEF then worked with communities to identify locally appropriate technical solutions and ensure local ownership and sustainable government management of the solutions adopted.

A more detailed overview of the implementation process is available in UNICEF's final report to the Netherlands National Committee.

Deliver: What was the impact?

Deliverables

According to the project documentation, this project produced the following deliverables:

Table 1: Deliverables

Baseline sanitation assessments / Knowledge, Attitudes and Practice (KAP) surveys were conducted in all villages;
Locally appropriate, image-based training materials for WASH (PHAST) were developed for both Maroon and Indigenous communities;
WASH training manual developed;
35 local level facilitators were trained in SALT and PHAST methodologies;
A child-friendly activity booklet "A day in Bryan's Life" was produced to teach WASH to children in schools;
Water systems were built or upgraded in 15 communities, reaching 9,567 persons: 4,677 males and 4,890 females (some still on-going). NB that some of the communities received assistance from other sources to construct water systems;
Local water managers were appointed for day-to-day maintenance of water systems;
144 latrines were constructed in 16 villages (some still on-going);
Solid waste management systems were put in place in 6 villages.

With regards to water systems, the MoNR is still awaiting the release of some funding, and expects completion of all agreed systems within the 3rd quarter of 2014.

With regards to sanitation, the MoRD reports that the villages have completed construction of approximately 80 per cent of the planned latrines. They continue to follow up with villages to encourage the completion of the remaining 20 per cent, which have been delayed for various reasons including flooding, local labour shortages, and disputes with local contractors.

Impacts for target communities

Beyond the project deliverables, the Appreciative Inquiry sought to identify the impact of the project in target communities and also on the broader policy environment.

Hygiene awareness, behaviour change and local capacity

Beyond a doubt, the project increased the level of knowledge about WASH in target communities and led to behaviour changes in households and in some cases, at village level. In each community visited during the review, people spoke of how their awareness about hygiene had improved, and how they had changed their personal behaviours as a result of the training the community facilitators had delivered. This in turn has led to beneficiaries reporting that they felt their villages were cleaner and overall healthier places.

“As a result of the training, people have changed their habits. The village is much cleaner now,”- Altin Stedenburg, Abenaston

The spark for this change was the increased level of community awareness as a result of the training that was conducted by local WASH facilitators with support from the Peace Corps volunteers. *“As a result of the training, people have changed their habits. The village is much cleaner now,”* says Altin Stedenburg from Abenaston (21/05/14).

Rudy Sana, from the village of Pempe, says: *“We learned that if we do not do certain things, then what goes out, comes back in. For example if people defecate in the forest, flies land on the excrement and then land on our food. As a result of the training, we now bury our excrement, and we cover our food to keep away the flies.”* (22/05/14)

According to Sanna Bobo, who was trained as a WASH facilitator in Pempe: *“Because a lot of women in my village attended the training, they now keep the village clean. When children defecate in the village they clean it up right away and bury it. The village has changed a lot – it is much cleaner than before.”* (22/05/14).

“As a result of what I learned, I wanted to build a latrine... I am very happy to have a toilet of my own.”- Sanna Bobo, Pempe

Sanna also says that in Pempe, people used to defecate in the bushes in the area above the creek that is the village’s main source for drinking water. She

remembers: *“During the training we realised that when it rains, faeces washed down into the creek and contaminated our water.”* In fact, water samples from both the creek and the river in Pempe were tested and found to have the presence of harmful e-coli bacteria.⁶ As a result, the village leaders banned defecation in the area of the creek. However Sanna decided to take matters into her own hands: *“As a result of what I learned, I wanted to build a latrine, so when UNICEF offered the materials, I accepted and paid for the construction myself. Now myself, my sisters and my children all use it. I am very happy to have a toilet of my own.”* (Sanna Bobo, Pempe, 22/05/14)

In Eastern Suriname, community awareness of hygiene and sanitation has also changed life in the village of Ricanaumofu. *“There has been a big change in our village. We no longer use the river as a toilet or to drink water. We also learned not to build latrines too close because it will contaminate the water for the future. Hand washing in our village has become a way of life. Now that we know it can make us sick, we would not go back to drinking river water.”* (Banwarie Mesack, Ricanaumofu, 28/09/14)

“There has been a big change in our village. We no longer use the river as a toilet or to drink. Now that we know [...] we would not go back.” – Banwarie Mesack, Captain of Ricanaumofu

In Ricanaumofu, increased awareness of village sanitation and hygiene also led them to solve another problem: waste management. *“We used to throw all our waste on the ground or into the river,”* says Nisha Pepe, a trained WASH facilitator who works in the local child-care centre. According to Nisha, the village used to be full of rubbish lying on the ground or under trees. If it was thrown away, everything went into the river, including diapers, children’s faeces and adult faeces as well as plastic and other garbage. After receiving hygiene training, the community successfully lobbied the Ministry of Regional Development to help them deal with the problem. Now a truck comes to collect their rubbish once a week.

These gains have been achieved due to the local capacity that the project created in communities. Even in the absence of infrastructure, community WASH facilitators continue to be a source of knowledge and to educate others about healthy behaviours. Each WASH facilitator was given a copy of the specifically developed toolkit, which used culturally appropriate images to trigger discussions and learning about water, hygiene and sanitation behaviours. These materials continue to be used: in Ricanaumofu, former WASH facilitator Nisha Pepe had some of the images displayed on the walls of the child care centre where she works. *“I use them to teach the children about things like washing their hands,”* she said. (28/05/14)

Healthy families

These behaviour changes may have contributed to improvements in the health of children and adults in the target villages. While the inquiry did not find any available

⁶ Semoisi/Pempe Water Improvement Plan

health data to corroborate this, anecdotal accounts from project beneficiaries indicate improvements and attribute them directly to the WASH intervention.

In Pempe, Rudy Sana states *“there is less sickness in the village than before, and less diarrhoea.”* (22/05/14) Sanna Bobo corroborates: *“I feel healthier than before. My family does not have diarrhoea as often.”* (22/05/14) The villagers attribute much of their better health to the rainwater collection system that they installed themselves (with support from the Peace Corps), and to hygiene improvements they have made.

“There is less sickness in our village than before.” – Rudy Sana, Pempe

Villagers in Masia Kriki, whose water system was repaired thanks to the project, say that they suffer less frequently from diarrhoea and stomach aches. *“Since the water system was repaired we have really noticed the difference,”* says Yohan Anakaba, the local WASH facilitator. *“Fewer people get sick.”* (23/05/14)

In Ricanaumofu, the community has seen big changes since getting access to safe drinking water, which the village organized on its own with a donation from a private sector company, building latrines, and organizing weekly solid waste disposal. *“A lot of the children at the kindergarten where I work used to have diarrhoea. Now that we have safe drinking water, their health has really improved,”* says Nisha Pepe, who takes care of around 20 children under the age of four at the village’s child care centre (28/05/14). Since recurrent diarrhoea is one of the leading causes of death of under-five children worldwide, the benefits to this age group are particularly important.

“A lot of the children [...] used to have diarrhoea. Now their health has improved.” – Nisha Pepe, Ricanaumofu

Empowering women

In the villages that received upgraded water systems, the biggest impacts were felt by women. As put succinctly by Mr Edson Paal, the Deputy Permanent Secretary of the Ministry of Natural Resources: *“Women are the biggest benefactors of clean water, women and children.”*

“Women are the biggest benefactors of clean water.” – Mr Edson Paal, Ministry of Natural Resources

Despite the fact that most Maroon villages are largely inhabited by women, women traditionally do not play a leadership role in village decision-making and public meetings (*kutus*). In order to ensure women’s involvement, WASH project deliberately targeted women to be trained as WASH facilitators, and both male and female WASH facilitators were encouraged to seek the active participation of women in community action planning. The inquiry found that this was successful: *“One of the positive things about the approach is that it gave women more of a voice in community meetings and a chance to express their priorities. The women in Masia Kriki were more vocal at WASH meetings than any other community meetings, because they are primarily concerned with water and hygiene,”* says Shannon Morrison (03/06/14).

Women whose villages gained access to water benefited from the reduced demands on their time and labour. *“The water supply has really improved the lives of women,”* says Haidy Malone. *“Women were very happy to have water, because they have time left to do other things.”*

In Maroon culture particularly, women are responsible for fetching water for drinking, cooking, washing, bathing and other household chores. They also bear the burden of caring for sick children and elderly relatives if they are affected by diarrhoea or other illnesses.

In Masia Kriki, Mina Anakaba says that she used to make at least two twenty-minute round trips per day to fetch water for drinking and washing dishes. A farmer and mother of 10 children, four of whom still live at home, she says that her household chores are much easier now that she has access to water in the village, meaning that she has more control over her time. *“Before we had water, most women had to go to the river every time they needed to wash something or bathe their children. Now the water is much closer, so it takes less time,”* she says. (23/05/14)

As the main agricultural producers and caretakers in Maroon families, when women spend a great deal of time fetching water, they have less time for the other social and economic activities. In villages that gained access to safe drinking water, women reported that because they spent much less time fetching water, they were able to use the time to take care of children or engage in other productive activities.

While difficult to quantify, improvements in health also have positive impacts on household economies and may increase productivity, since people are able to spend more time engaged in productive activities. *“I used to go to the river or the creek at least three times a day. Now I get water from the tap right near my house, so I can bake more bread and buns,”* says Vonnie Joonha, a widow who depends on the earnings from her bakery to support herself and her five children (Abenaston, 21/05/14). Likewise, children who do not suffer from recurrent bouts of diarrhoea are more likely to do well in school, which also has positive economic returns.

“I used to go to fetch water three times a day. Now I can spend more time baking bread.” – Vonnie Joonha, Abenaston

Benefits for children and vulnerable people

Investing in clean water and improved sanitation has a positive impact on children’s health. Sanitation in particular has a strong appeal for children: *“It’s not good for children to have to go in the river or the bush, because it can make them sick,”* says Jiliano Djoe, a 15-year old boy from Ricanaumofu. According to former WASH project officer Haidy Malone: *“For children, they especially liked the sanitation. The water they don’t mind, they like having to wash in the river because they can play, but for sanitation they really like it that they don’t need to go in the bush or the river, especially at night.”*

“If there are no toilets, children can get sick and then they can’t do well in school.”

- Fariza Misiedjan, 13

Investing in clean water and sanitation for children also has educational returns. Yohan Anakaba, a father of four, says that since having access to safe drinking water his children do not have diarrhoea and stomach aches as often, and do not miss as much school. (Masia Kriki, 23/05/14)

Children who suffer from recurrent diarrhoea are also more likely to have poorer educational performance from having to miss school. As Fariza Misiedjan, a 13-year old girl from Ricanaumofu, says: *“If there are no toilets, children can get sick and then they can’t do well in school.”*

Proximity to clean water for bathing also improves school attendance. Yohan adds that the children in Masia Kriki now bathe close to home, under the watchful eye of adults. *“Before, children bathed in the river and took a long time playing around. This is really helping the children to get to school on time.”* (23/05/14)

Access to clean water and sanitation facilities also benefits children’s security and protection. *“It can be very dangerous for children to use the river as a toilet, especially for the small children when the water is high after heavy rains,”* says Banwarie Mesack (28/05/14), the Captain of Ricanaumofu. *“If you go to the toilet in the bush, you could be bitten by mosquitoes or by a snake,”* says Sanna Bobo (22/05/14), who built a latrine for herself, her two small children and other family members in her village of Pempe. *“It is much better to have a toilet close by.”*

“I think all schools should have good toilet facilities, because it’s not good for children to have to go in the river or the bush – it can make them sick.”

- Jiliano Djoe, 15

Having access to water and sanitation in the village also has a significant positive impact on the well being of older people, who formerly had to rely on relatives or children to fetch water for them, sometimes at a cost. In Masia Kriki, WASH facilitator Johan Anakaba observes: *“It is much easier for older people to get water now, it’s a big difference for them. They used to have to depend on their families or pay local children to get water for drinking.”* (23/05/14)

“I am getting older, so it is not easy to walk far away to go to the toilet, especially at night.”

- Louisa Misiedjan, 65 years old, Ricanaumofu

Improvements to sanitation also have significant positive impacts for the older people in villages, who may find it increasingly physically difficult and to access the river for washing or going to the toilet, putting themselves at risk of injury. For this reason, in Ricanaumofu, the village elected to give their donated latrines to older people first. *“I am getting older so it is not easy to walk far away to go to the toilet, especially at night when it is dark,”* says Louisa Misiedjan, 65. *“It will be much better when I have a toilet right in my house.”* (Louisa benefitted from a UNICEF-donated toilet but the construction is still incomplete).

Increased demand for improved sanitation and healthy communities

Although the construction of sanitation facilities was on a very small scale due to financial constraints, the project has stimulated awareness of and demand for improved sanitation in other households in the target villages.

In Abenaston, the villagers are increasingly aware of the negative consequences that lack of improved sanitation can have on their health. *“We have learned that using the river or the bush as a toilet can lead to diseases or diarrhoea. We want everyone in our village to have their own latrine,”* says Altin Stedenburg, a boatman and father of four. (21/05/14)

“We have learned that using the river or the bush as a toilet can lead to diseases or diarrhoea. We want everyone in our village to have their own latrine,” – Altin Stedenburg, Abenaston

In some villages, other households have taken this demand into their own hands, using the project design to construct latrines with their own resources.

“We allocated our latrines to people in the village who we thought were the most vulnerable – older people or households with large families. But when other people saw that they were getting latrines, they started building their own toilets with money they earned from selling crops,” says Banwarie Mesack, the Captain of Ricanaumofu village (28/09/14). In fact, some of these spin-off constructions have been finished more quickly than the originals due to a dispute with the contractor.

“When other people saw that they were getting latrines, they started building their own toilets.” – Captain Banwarie Mesack, Ricanaumofu

The experience of Ricanaumofu highlights the significant opportunity for social marketing campaigns to build a sense of pride around ‘healthy villages’ and create momentum in villages to make improvements to their own hygiene and sanitation.

Community ownership and maintenance of infrastructure

In target villages whose water systems had been repaired or completed, the Appreciative Inquiry found that villages felt a positive sense of ownership over the systems, while at the same time recognizing the Ministry of Natural resources as the duty-bearer for long-term maintenance of the systems.

In Abenaston, villagers contributed local labour to make a desired improvement to the water system that was not included in the initial budget: they dug a trench to connect the solar-powered water system to the community generator so that the pump could run at night. This contributed to the high sense of ownership and pride that they feel over the system. The community in Abenaston remembers the opening of the repaired water system as a high achievement for their village. Altin Stedenburg, 35, recalls: *“We decorated the entire village, and the Minister and UNICEF representative came. It was a really proud moment for us, and a big celebration.”*

Local ownership has a strong positive impact on sustainability. In villages with functioning water systems, the inquiry found that local water managers were continuing to perform regular maintenance and upkeep on the systems on a volunteer basis.

In Abenaston, Hardy Remak Antonomori has been maintaining the local water system (originally constructed by Rotary) for 8 years, despite never receiving any payment. Every day he spends at least one hour in these duties: checking that everything at the installation is functioning smoothly, checking the water intake at the creek, cleaning the slow sand filter and making sure that nothing is blocking the water overflow valve. Thanks to Hardy and his machete, the grounds surrounding the water installation are immaculate, as is the inside of the station.

In Masia Kriki, the pump draws directly from the river, so local water manager Johan Anakaba and his assistant Wim Anakaba must sometimes make several trips to clear river debris from the water intake point. They also open and close the valves to fill the storage tanks and even clean the tanks periodically.

Both Johan and Hardy hope that he will one day receive the payment that the government has promised them for this work, but in the meantime they will not abandon their water systems. *“The important thing is that I am doing something for my community,”* says Johan. *“If I stop, older people and schoolchildren will not have access to water anymore, so I keep doing it because I love my village.”* However not everyone is as dedicated as these two men: in Abenaston there used to be two water managers, but the other one has stopped maintaining the system because he did not receive the promised salary.

“If I stop, older people and schoolchildren will not have access to water anymore, so I keep [maintaining the water system] because I love my village.” – Johan Anakaba, Masia Kriki

High-level impacts: Planting the seed for WASH in Suriname

Over the course of its implementation, the WASH project has made positive gains towards raising awareness of WASH needs at policy level and creating an enabling environment for future investment in rural water, sanitation and hygiene.

Greater awareness of WASH needs

While in the past, the Government’s main focus was exclusively on building water stations, the WASH project raised awareness of hygiene and sanitation needs in the rural interior. *“It was a shock to me that in this age, people still do not have a toilet,”* says Mr Edson Paal, the Deputy Permanent Secretary of the MoNR. *“This was the first ever sanitation project on this scale,”* comments former WASH project officer Haidy Malone. *“We planted*

“This was the first ever sanitation project on this scale in Suriname. We planted the seed and created demand for improved sanitation.” – Haidy Malone, former UNICEF WASH project officer

the seed and created demand for improved sanitation.”

Janet Vola, Policy Maker for the Ministry of Regional Development says: *“Now we have a better understanding of the sanitation and hygiene needs of the interior, and how many children are affected by the lack of hygiene.”*

This awareness has translated into action, as well.

As a direct result of the WASH programme, the Ministry of Regional Development has taken the initiative to start working on sanitation in the rural interior. This is a significant step, since prior to the WASH programme, rural sanitation did not have a focal point within the Government structure. According to Janet Vola: *“The Ministry has taken its own initiative to start working on community sanitation in the interior. We plan to start with the largest villages, and to take into account the lessons learned from this project.”* Alice Jongaman, Head of Community Development, adds that the Ministry also plans to continue using the hygiene training materials developed by the UNICEF WASH project.

“The Ministry has taken its own initiative to start working on community sanitation in the interior.”
– Janet Vola, Policy Maker, Ministry of Regional development

The Ministry of Natural Resources has devised their own way of taking WASH forward: at the time of writing, they are just about to launch a campaign to teach WASH to children in schools. According to Mr Paal: *“Until now the Ministry has focused on water stations. Now, we have decided to start a water awareness campaign for children in schools. The focus is on teaching children in schools how to look after the environment, and hygiene behaviours like washing their hands before eating.”* The Ministry has created an awareness video and plans to use it in conjunction with the child-friendly booklets that were created as part of the UNICEF project.

New partnerships

Water is already one of the highest Government priorities for rural development in Suriname, and falls under the responsibility of the Ministry of Natural Resources. However, there are significant barriers of cost and access to getting water systems to remote communities. Mr Paal explains: *“The government has a policy that they want to increase the availability of water to everyone in Suriname. But in the interior, we have to use surface water, which must be treated. That is a point that makes water more expensive.”* The technical demands of filtering surface water to make it safe for drinking add to the logistical cost of transporting equipment to the remote areas of the country, many of which are only accessible by boat or by private airplane. Mr Paal also points out that in the urban areas, users pay for water, but in the interior, the policy is that services are free.

Because of the limited availability of finances, the Ministry is therefore appreciative of partnerships, such as with UNICEF or with the private sector, that can help them to address the water needs in the rural interior, especially in smaller communities. *“The government has limited funds, so we give priority to larger communities or villages that provide core services to the surrounding area such as health and*

education,” says John Abidi, the water Policy Supervisor for the Ministry of Natural Resources.

The MoNR has a growing appreciation for the complementary skills that other partners can offer. *“NGOs help to organize people in the villages and make them more aware of their circumstances. The partnership between NGOs and the Government should be strengthened, so that were the Government does not have the people, but has the resources, the NGOs can do the work,”* says Mr Paal.

The staff in the Ministry of Natural Resources perceive the positive impact of community involvement in water systems on daily maintenance of the systems. *“When the community is really with you from the beginning, they will choose the best person for the job. Local maintenance and how the installations are managed makes a big difference for the sustainability of the systems,”* says Mr Abidi.

There is also a growing awareness, at least at the technical level, of the value of techniques that involve communities as partners, not simply as beneficiaries. *“Communication with the villages is really important, because they are your eyes and ears on the ground. If you share plans and ideas with them, they might add something that you missed,”* says Policy Supervisor Abidi.

With regards to sanitation, the Ministry of Regional Development sees that working in partnership with communities is the answer to sustainable rural sanitation. *“Communities need to be involved because if they have inputs into building sanitation facilities, they will maintain them in the long run,”* says Policy Maker Janet Vola. The MoRD also sees potential for partnerships with the private sector that would involve local capacity building: *“We need to work in partnership with contractors to hire and train local labour, so that communities have the skills to build sanitation facilities themselves,”* says Ms Vola.

Discover: What were the strengths and success factors? What could have been done better?

What worked well: strategies for success

Participatory methodology and community engagement

The participatory methodology of the WASH project resulted in high levels of participation, community ownership, and active contributions from communities to achieve WASH objectives. *“Something that was very good in this project was that people could decide for themselves, negotiate with each other, and make decisions themselves,”* says Ms Malone. *“The appropriation of the process of sanitation and hygiene by the villages themselves should be maintained.”*

This participatory methodology, although time-intensive, was critical to achieving quality, culturally appropriate results. As succinctly put by John Abidi, water Policy Supervisor for the Ministry of Natural Resources: *“If you don’t tackle problems at village level, the cost to the government later on will be very high.”* Former WASH

project officer Haidy Malone illustrates this high cost with an example: *“We heard many reports, especially around sanitation, where people don’t listen to the community and do what they think is best and in the end it doesn’t work. There are a number of toilets in the interior that are not being used because they are not located in a culturally appropriate place.”* Placing the responsibility for decision-making with villages ensures that the facilities that were constructed will actually be used, representing a better long-term return on government expenditure.

Participatory programming is also key to harnessing local resources and getting communities to contribute time, labour and materials to the construction of infrastructure that will benefit their village. This creates a greater sense of local ownership, which in turn has a positive impact on the sustainability of the outcomes: *“When people are involved like that, they have ownership over the results and will maintain the infrastructure better, so it lasts longer,”* says Alice Jongaman, the Head of Community Development for the Interior at the Ministry of Regional Development. John Abidi, water Policy Supervisor for the Ministry of Natural Resources, agrees on the critical role that community ownership plays for the maintenance of water systems: *“You can have two installations that are technically identical, but one breaks, and one continues to run. Local maintenance makes a big difference.”*

Best practice:

Involve communities from the beginning in order to increase local ownership of the results, which in turn has a positive impact on sustainability.

It is hoped by some stakeholders that the participatory process used by the WASH project will become a blueprint for future interaction with villages in the interior: *“The process that we used should be used for every other thing that is supposed to bring development, which is the process of self-action. We need to leave it up to the communities because they know what they want,”* says former WASH project officer Haidy Malone.

Many interviewees believed that the WASH project was the first time that a participatory approach had been used to address water and sanitation needs in the target villages. *“It was probably the first time that horizontal programming was used in the village,”* says Erica d’Aquila, a returned PCV who lived in Pempe. *“In the past, programmes were outside driven. Little information was shared with the village and that resulted in a low level of ownership.”* By contrast, decisions around the WASH project were made at village level, through open meetings. *“This made the process of identifying priorities and planning next steps more transparent to people in the village,”* says Morrison, a returned PCV who lived in Masia Kriki.

Best practice:

Allow villages to conduct their own decision-making processes and respect the decisions taken.

This may also have been the first time that stakeholders at the Ministerial level were directly involved in a community-led development process: *“This was the first time that the Ministries had been directly involved in a process that promoted self-action*

and empowerment for communities,” says Ms Malone. For the Ministry of Regional Development, this was a positive factor: “What was good was that the community decided for themselves who should get the latrines. They knew who needed them the most,” says Ms Jongaman.

Participatory methodologies such as these ones, which harness communities’ existing capacity and put them in charge of decision-making, could help to break the cycle of dependency on outside interventions and lead to a greater sense of self-responsibility for communities. This was clearly demonstrated by the fact that many communities undertook work of their own initiative to improve hygiene and sanitation in their villages, for instance digging pits for waste management or, in one case, constructing pit latrines.

Participatory methodologies could help to break the cycle of dependency on outside interventions and lead to greater self-responsibility for communities.

Culturally adapted materials and use of local languages

The evidence from this review showed the positive impacts of investing in villages’ knowledge and skills to further their own improvements to sanitation and hygiene. The success of this was bolstered by the use of specially developed, culturally appropriate training materials.

The WASH project ordered a set of customized images for use in the training, and developed a set of images for both Maroon and Indigenous communities. “The images were made culturally sensitive so people could recognize themselves and see people who live and look like themselves,” says former WASH project officer Haidy Malone.

Best practice:

Use methodologies and materials that are adapted to the local culture; conduct all communications in local languages.

The images were designed to help the local WASH facilitators deliver the training in their own villages, using local languages. “Having their own people address them in their own language is far more effective than having a stranger deliver a training in Dutch,” says Ms Malone.

The project also developed a child-friendly booklet designed to teach children in schools about WASH. The booklet, images and training manuals that were developed represent a significant resource that can be re-used to promote healthy WASH behaviours in Suriname. “The hygiene training was very good. We plan to use this model in future projects,” says Janet Vola, Policy Maker at the Ministry of Regional Development.

Empowered individuals

The success of any undertaking depends on the ‘human factor:’ the commitment of a few dedicated individuals who drive things forward and make things happen.

As part of the participatory methodology of this project, local people were actively placed in leadership roles and empowered to drive the process forward in their own villages. *“The success of the projects really relies on these people who are the agents of change for their village,”* says former WASH project officer Haidy Malone. *“It’s the people who take the lead and take ownership of the process who make it successful.”*

Best practice:

Identify ‘natural leaders’ – including women – and empower them with the skills and knowledge to lead the process from within their communities.

Recognizing the key roles that individuals play in generating success, the WASH project sought to identify WASH facilitators who were already active, self-motivated, and had leadership potential in the village, and to further empower these people with skills and knowledge. *“The process engaged people who have the drive and who are not concerned for their own benefit,”* explains Ms Malone. This strategy of identifying and empowering ‘natural leaders’ is a best practice for community-led sanitation around the world. More thought should be given as to how to continue to motivate these individuals to work for the good of their communities in the future, possibly through financial incentives or non-financial rewards such as participation in training courses or exchange visits.

The WASH project also explicitly sought to empower women to lead the WASH process. Although this is a natural fit given that women in Maroon culture are responsible for water and hygiene, traditionally, women are less frequently found in village leadership roles than men. *“Putting women in leadership roles gave them the opportunity to step outside of cultural norms and assume their capabilities,”* says Erica d’Aquila, returned PCV.

The success of the WASH programme also depended to a great extent on the contribution of dedicated individuals including the UNICEF project officers, and government staff, without whose strong commitment the project would not have been possible.

Two-way communication between villages and implementing agents

Another important good practice was building relationships and keeping open channels for regular, two-way communication between villages and implementing partners.

Communication plays a key role in establishing trust: *“When [focal points in the villages] call, I always answer. Because if you tell them to call and then you don’t answer or you don’t call them back, you harm the trust relationship. And trust makes or breaks a project,”* says former WASH project officer Haidy Malone.

According to John Abidi, the Policy Supervisor at the Ministry of Natural Resources, the success of projects can depend on communication: *“For technical issues, you can outsource. But before that, you have to find the right way to communicate if you want to succeed at implementation.”* Mr Abidi also notes that it is critical to identify the right people to serve as community liaisons: *“You must find the right people and explain everything clearly to them, so they can communicate with others and persuade the village to work with you.”*

Mr Abidi also says that to achieve high quality outputs, listening to communities is equally important as communicating to them. *“You can’t use the same shoe for every foot, or the same approach for every village,”* he says. *“They know the real situation and the real needs, so you have to listen to communities if you want a good result.”* Mr Abidi also adds that in his experience, involving communities in the planning process has in several cases led to innovative solutions to problems through ideas proposed by the villages.

Best practice:

Regular, two-way communication is critical for building trust and finding solutions adapted to the local context.

Transparency about project parameters, progress and decision-making is important for long-term relationships.

New partnerships and relationships for WASH

The WASH programme successfully forged new partnerships between UNICEF Suriname, the Ministry of Natural Resources, the Ministry of Regional Development, and target villages. These relationships now form a platform upon which future work in water, sanitation and hygiene can be undertaken.

Probably the most critical partnerships formed by the WASH project are those between villages and the duty-bearers for water and sanitation, the Ministry of Natural Resources and the Ministry of Regional Development, respectively. The involvement of the duty-bearers in constructing village infrastructure, especially for water, increases the sustainability of the systems constructed and ensures that the systems fall under the government’s responsibility for maintenance.

Good practice:

Site visits by government officials helped to increase awareness of WASH needs.

Best practice:

Include administrative and finance personnel in site visits, because their support is critical for quick and effective implementation.

These relationships benefitted initially from the organization of site-visits by Government staff to the target villages, which helped to increase awareness of WASH needs in villages. These site visits also involved not only technical staff but also administrative staff, whose support is vital for getting projects through the bureaucracy and to implementation.

The WASH project also benefited greatly from the partnership with the Peace Corps volunteers, who acted as catalysts from within the village. *“It really made a difference to have a support person permanently in the village to move things along,”* says Haidy Malone. *“The Peace Corps Volunteers were also fluent in the local languages, which really helped.”*

Best practice:

Conduct all meetings and trainings in local languages.

“Maroon communities have a huge capacity to self-organize, for example around village ceremonies,” says returned PCV Erica d’Aquila. According to her, one of the important roles that the PCVs played was to harness this capacity and mobilize the community to self-organize around WASH activities.

PCVs also provided organizational support: *“We acted as facilitators and contributed our organizational and management skills to help the villages develop an action plan with responsibility lists,”* says Shannon Morrison, returned PCV from Masia Kriki. PCVs also acted as intermediaries and liaisons between the villages and partners like UNICEF, translating concepts into local languages and also ‘translating’ concepts across cultures.

What could have been done better: suggestions for improvement

Financial constraints for infrastructure construction

While the WASH project was highly successful at raising awareness of WASH needs and generating demand for improved water and sanitation in target villages, the infrastructure component of the project was subject to several challenges.

These challenges are primarily rooted in the high cost of building infrastructure, in particular water systems, in the remote rural interior of Suriname. This was not taken into account in the original project budget, which meant that the project alone was unable to fund the action plans that it had requested communities to produce.

Suggestion:

Future WASH programmes should take into account the high cost of construction in Suriname’s rural interior.

In overcoming this challenge, an appropriate solution was found by means of entering into partnership with the Ministry of Natural Resources for the construction of water systems in target villages. This solution is actually an improvement over the original proposed independent construction, because target communities are now sustainably linked with the MoNR, the official duty bearer for water supply. This also means that the MoNR can track the installations for future maintenance. However, the fact that the project did not consider this in the initial design meant that significant delays were experienced by communities between the community action planning and receiving the infrastructure.

Regrettably, further delays were experienced due to financial bottlenecks in accessing government funding and delays in paying contractors for the work, with the result that construction is still not complete in some villages.

The high cost of building in the rural interior also posed a constraint to the construction of sanitation infrastructure, which meant that with the available remaining funding after securing partnerships for the construction of the water systems, only 144 toilets could be built, amounting to just 9 toilets per target village (see section on cost-efficiency, below).

Suggestions:

- Future WASH interventions should take into account the high cost of infrastructure in the rural interior. This should be considered in the proposal and planning phases in order to avoid delays in implementation.

Appropriateness and effectiveness

The positive feedback on the participatory methodology shows that this way of working is indeed appropriate and effective in the context of the rural interior of Suriname.

Overall the infrastructure component of the project also resulted in appropriate solutions for water and sanitation, but nonetheless, some improvements could be made.

A major technical issue for WASH in the rural interior is the inappropriateness of water-intensive toilet designs. Given that many villages in the rural interior do not have water piped into the household, latrine designs with high water consumption are not ideally adapted for these conditions, and the need for additional water to flush toilets may present a significant barrier to having a toilet.

The lack of water to flush toilets, especially in the dry season, is also an issue for sanitation in schools. This can lead to unsanitary conditions despite the presence of improved sanitation infrastructure, or can lead to situations such as teachers locking students out of the toilet blocks in order to preserve their cleanliness. It also has disproportionate consequences for adolescent girls if menstrual hygiene needs at schools are not addressed.

Suggestion:

More research is needed into low-water sanitation designs adapted to the reality of water availability in the interior.

It is clear that more research is needed into appropriate, low-water options to meet sanitation needs in the rural interior. (See also discussion on cost-effectiveness, below.)

Solid waste disposal also remains a high concern. Although one village in Eastern Suriname managed to lobby the Ministry of Regional Development to collect their solid waste, little progress was made in other villages for improved solid waste disposal. The villages visited during the inquiry reported that most waste was still

thrown into the river. In one village, the Peace Corps Volunteer attempted to mobilize the village to dig rubbish pits, but encountered cultural barriers to digging around the village.⁷

With increasing population growth and the introduction of modern waste to villages, this will become a growing issue in coming years, and the risk of pollution to the river system is high.

Suggestion:

Solid waste disposal should be a priority issue for future rural development initiatives.

Suggestions:

- More research is needed into low-water sanitation solutions appropriate to the actual conditions of households and schools in the rural interior.
- Appropriate solutions for solid waste disposal should be a priority for rural development.

Cost efficiency

While it is not the scope of this report to assess the cost-efficiency of the programme, the challenges of delivering improved water and sanitation in the rural interior lead to a reflection on the costs of future WASH programming in the Suriname interior.

Start-up costs

Firstly, it is important to remember that this programme was the first WASH intervention of this scale in the Suriname interior. Like any new approach or technology therefore, it was subject to high initial costs due a number of factors, including: the lack of local WASH experts; the absence of existing training materials; and the need to develop culturally specific educational materials. These factors meant that the start-up costs of the WASH programme were relatively high both in terms of financial investment and time.

Suggestion:

Greater cost efficiencies could be achieved by integrating WASH into existing rural development services and programmes.

However, the aforementioned costs of developing the WASH methodology and materials are one-time-only expenditures. Therefore the return on the investment will grow with time if the products are re-used in future approaches.

Operating costs

A second factor is the high operating costs of working in the remote rural interior. Travel costs to the interior are very high, as are the costs of importing materials and labour for construction.

⁷ The obstacle encountered was that the villagers did not know the location of the bones of the ancestors, and therefore could not identify a location to safely dig, for fear of disturbing the bones. (S. Morrisson, 03/06/14)

These costs could be reduced through cost-saving strategies such as: coordinating travel to the interior and sharing the transportation cost with other programmes; holding trainings in villages (not in resorts); and sourcing materials and labour locally when possible.

In addition, given the absence of a strong WASH sector in Suriname, greater cost efficiencies could be achieved by integrating WASH into existing rural development services and programmes, such as health and education.

High cost of infrastructure

A final factor affecting this project was the high cost of both water and sanitation infrastructure adapted to the needs of the rural interior.

Water infrastructure is costly due to absence of groundwater in the rural interior and the technical demands of delivering safe drinking water from surface water sources. In addition to the necessities such as pumps, filters and water storage tanks, both communities and the MoNR have a preference for higher-cost infrastructure due to its longer lifespan (for example, steel towers instead of wood, cement tap stands instead of wood). These preferences result in a much higher overall cost per system, however, they also result in much more sustainable systems.

Water is an even greater challenge for communities who do not have improved water systems or where these systems cannot be built for technical reasons. While many communities manage to self-fund or fundraise for rainwater collection systems, these generally have low catchment volume and may not be adequate to meet the needs of villages in the dry season. Villages in the rural interior would benefit from more research into affordable, higher-volume rainwater catchment systems such as underground cisterns.

The sanitation infrastructure constructed by this project was also expensive. In the first place, the environment in the rural interior presents environmental challenges that require more expensive solutions, for example dealing with drainage in areas that experience seasonally high groundwater levels or are prone to flooding. Secondly, the project found that households, in particular in Maroon culture, had a strong preference for pour-flush toilet designs, which are much more costly than other latrine options (such as pit latrines or composting toilets). Similarly to the water installations, households also preferred modern to traditional construction materials, for example cement walls instead of wood. The result was a very high cost per unit of sanitation.

Suggestion:

More research is needed to develop options for more affordable designs for improved sanitation, appropriate to the environmental and cultural context of the rural interior.

Future sanitation interventions would benefit from more research into cost-efficient sanitation designs. There is a wide body of global research on affordable sanitation solutions that may present options for improved sanitation appropriate

to the Suriname context, for example more water-efficient pour-flush designs. Some simple solutions present themselves: for example, the village of Ricanaumofu, which chose to manage their own funds, managed to make the latrine design more cost-efficient by using a cement base with plastic walls, and further cost-efficiencies could be achieved by using cheaper, locally-available materials (wood) to supplement construction. Other options that should also be investigated for feasibility and affordability in the local context include: pre-fabricated septic tanks; lower-cost components such as toilet seats; and integrating latrines into existing household structures (saving costs by sharing walls and a roof – feasible in areas with modern house constructions).

Greater community/household contributions

Villages in the rural interior do have the capacity to raise funds and contribute to village infrastructure, as well as the willingness to contribute labour and materials. Higher levels of village contributions, negotiated during initial consultations, could improve the cost-efficiency of building communal infrastructure such as water systems.

Sanitation, on the other hand, is not communal in the cultural context of the rural interior, and therefore individual households would be required to prioritise resources for sanitation construction. Public information and social marketing could also play a significant role in encouraging households and villages to improve their own hygiene and sanitation.

In concurrence with information campaigns, guidance on different sanitation options, costs and instructions for construction should be made widely available in order to empower each household to choose a design that is appropriate for their budget and situation. This guidance would have to be based on the results of a local feasibility study, including a market assessment. Private sector partnerships may be required in order to increase the availability of sanitation hardware (for example, low-water pour-flush seat toilets).

Innovative financial solutions, for example rotating credit funds, would also help households to be able to afford the costs of constructing sanitation facilities.

Case study:

In the Democratic Republic of the Congo, UNICEF and the government created a model called Healthy Villages.

In order to qualify as a Healthy Village, villages had to meet seven criteria for improved water, sanitation and hygiene.

Villages are included in the initiative by their own request, and have to work towards achieving the sanitation and hygiene components themselves. When a village meets the criteria, a celebration is held and the village is awarded a Healthy Village flag to display. The Healthy Village flag has become a status symbol and has also become a factor for villages to attract future partnerships with private sector organizations or other NGOs.

Suggestions:

- Future WASH interventions should re-use the methodologies and materials developed by this project, so as to increase their cost-efficiency and maximise the return on investment in WASH.
- Efforts should be made to integrate WASH within other initiatives and service delivery in other sectors (e.g. health, education), and to cost-share travel in order to improve the cost-efficiency of operating in the interior.
- As much as possible, materials and labour should be sourced locally in order to reduce construction costs, and initial negotiations with villages should include any expectations regarding village contributions.
- More research should be conducted in order to investigate different options for affordable, culturally appropriate and environmentally sound sanitation designs.
- Public information and social marketing campaigns could be used to increase households' motivation to construct improved sanitation.
- Based on feasibility research, guidance on different sanitation options, including cost and instructions for construction, should be made widely available in order to empower households to construct their own improved sanitation facilities.

Working with communities

Participatory methodologies for WASH are relatively new in the rural Suriname context. In general, the methodologies developed for this WASH project were appreciated by partners and by communities. Nonetheless, the inquiry gathered suggestions for how working with communities could be improved in future interventions.

The participatory approach relied on training WASH facilitators, who were then expected to organize village-level trainings to share what they had learned. Regarding this methodology, some WASH facilitators and PCVs interviewed expressed that it might have been more effective to hold at least one information session / training on WASH inside the village (as opposed to other locations) in order to reach the maximum possible audience at village level, create a supportive environment for the WASH facilitators, and provide transparency about the roles of the WASH facilitators and the expectations of the villages participating in the programme. Additionally, some gave feedback that village seasonal calendars were not taken into account in planning WASH facilitator trainings, meaning that it was difficult for people to attend all training sessions, especially women.

Suggestion:

Take into account seasonal calendars in order to maximise people's ability to participate in trainings – especially women.

On this note, given that culturally, water and sanitation are the responsibility of women, but that women may not feel culturally comfortable speaking up in village meetings, some interviewees felt that more could have been done to encourage women's participation in decision-making at village level, for example holding

special consultations with women. Such consultations may also have permitted discussions around sensitive issues such as menstrual hygiene practices.

Suggestion:

Hold special consultations with women only in order to ensure that women in the village have equal opportunities to voice their thoughts and opinions.

Some WASH facilitators also expressed that they lacked confidence and would have liked more support to organize trainings at village level. Given the scarcity of dedicated WASH personnel in Suriname at present, a possible future solution could be to involve people working locally in other sectors who have relevant knowledge and expertise, for example health workers or teachers, to help facilitate trainings in the villages.

One of the villages visited during the inquiry, Ricanaumofo, requested to manage their own budget for the construction of sanitation facilities. This request was accepted and the money was provided to the community. Unfortunately, the community did not have experience managing contractors, and paid the entire lump sum in advance. The contractor has still not completed the work. The lesson learned by the community was to pay for the work in small instalments; financial guidance and oversight to the community by the partners could have helped to avoid this issue.

Suggestion:

When working with communities, transparency about budgets is important to allow them to produce action plans within budget constraints.

Finally, a critical point that was raised is that villages were led to understand that if they produced community action plans, these plans would be funded, and they committed time and labour under this expectation. The subsequent unavailability of funds for water systems construction caused a sense of disappointment in target villages and loss of faith in the partnership. Greater transparency around project budgets and operational constraints at the outset of projects would have helped communities to produce action plans within financial limitations, and clearer communication around subsequent timelines and resource constraints would have helped to mitigate the risk of damage to the relationship.

A more realistic assessment of needs against the original project budget could have identified this risk in advance and might have helped to develop mitigating strategies and inform clearer communications from the start.

Suggestions:

- Holding at least one training for the whole village could create a more supportive environment for community action around WASH.
- Holding special consultations with women only can help to get women's thoughts and ideas. When appropriate, these should be fed back into mixed-gender sessions for transparency.

- Seasonal calendars should be taken into account when asking individuals and communities to commit their time, especially women.
- If communities are allowed to manage their own budget, guidance and financial oversight should be provided to ensure project aims are achieved.
- Transparency and clear communication around budget, resource constraints and timelines can help to manage community expectations and allow them to produce action plans within budget constraints.
- Initial assessments of needs and costs can help to identify risks in advance and inform mitigation strategies from the start.

Sustainability

The challenges of providing safe drinking water in the rural interior of Suriname generally require high-tech solutions. For villages that did receive water systems, one area of high concern for sustainability is the sustainable maintenance of these systems. At present, local water managers are performing daily, unskilled maintenance tasks on the water installations, but there is no system currently in place for regular skilled maintenance. Ideally, maintenance systems should have been negotiated early on to ensure that they could be up and running shortly after the completion of the installations (within 3-6 months for first service).

The Ministry of Natural Resources has a two-phase plan to deal with the maintenance of systems. According to water Policy Supervisor John Abidi, in the short-term the Ministry plans to sub-contract water installation maintenance to contractors, who will be responsible for clusters of systems in a particular geographic area. In the long-term, the Ministry plans to invest in training local skilled water technicians who would be employed to maintain the systems in their villages.

The results of this inquiry have shown that the project produced sustainable impacts in addition to infrastructure. Behaviour changes in the communities visited had resulted in changes that were still evident approximately three years after the initial WASH training sessions.

Nonetheless, at village level the project ended without a clear exit strategy or a clear plan for how communities would continue to build on their achievements, especially in the areas of sanitation and hygiene. This was also compounded by the withdrawal of the US Peace Corps programme from Suriname.

Every village visited for the inquiry expressed the sentiment that they have lost momentum without the PCVs. In the words of one interviewee: *“We know that if we have ideas, we can work together to achieve them. But without the Peace Corps volunteers, we don’t have any new ideas.”*

This suggests that there is an opportunity to continue to work with villages in the rural interior to improve their health and wellbeing. Without the presence of the Peace Corps, future approaches should focus on building local capacity for

Suggestion:

Future approaches should seek to build more sustainable local capacity for organization and action.

organization and action, perhaps by working through existing women’s groups or other village-level organizations.

Suggestions:

- Future water programming should take maintenance into account from the beginning in order to ensure that maintenance systems can be up and running after systems are built.
- Greater investment in building local capacity in both technical and organizational fields would increase sustainability.
- Future approaches should try to work through sustainable local organizations, such as women’s groups, where possible, and devise clear exit strategies for how the work will be carried on beyond the project life cycle.

Dream: Vision for the future and next steps

This project was a first step towards a future in which all women, men, boys and girls in Suriname have equal opportunities to live productive and healthy lives, underpinned by access to clean drinking water, improved sanitation, and adequate hygiene. The project has achieved some positive results, especially in terms of policy awareness, village-level knowledge and behaviour change, and has created a window of opportunity to build on the lessons learned and the achievements of the WASH project in order to maintain momentum for improved WASH in the interior.

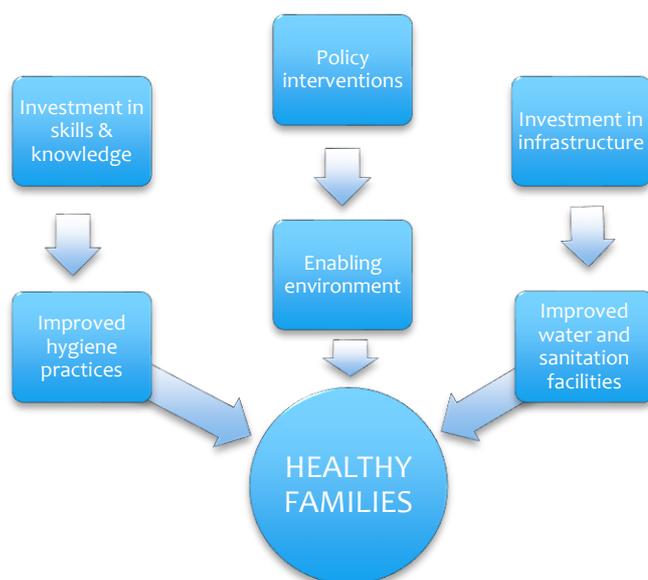
While some progress has been made, there remains a great deal to be done in order to reduce the inequality between the rural interior and the rest of the country. Given the fundamental importance of WASH for healthy families and a healthy environment, the Government of Suriname, through the Ministry of Natural Resources and the Ministry of Regional Development, and UNICEF Suriname, should continue to keep WASH needs high on the rural development agenda and leverage broad partnerships to make WASH part of an integrated approach to healthy families, schools and villages.

Figure 2: Vision for WASH in families, schools and villages



Future WASH initiatives in Suriname should keep communities at the heart of the approach, and continue to pursue a three-pronged approach of policy initiatives, investing in skills and knowledge, and investing in infrastructure (see below). Other potential partners include community development organizations, NGOs and the private sector.

Figure 3: Three-pronged approach for WASH



In particular, the Government of Suriname could seek to mobilize partnerships and resources to:

- Develop a real-time monitoring/reporting system for improved rural water system maintenance;
- Identify options for appropriate, cost-effective, water-efficient latrine designs suited to the conditions in the interior;
- Identify the best options and strategies to address WASH needs in schools, including menstrual hygiene;
- Develop communications strategies, messages and materials to promote WASH behaviour change and to motivate communities to take action to address hygiene and sanitation needs;
- Continue to support child-friendly education campaigns for WASH and help build children’s resilience to the impacts of climate change;
- Develop a National Sanitation Policy and plan for how to improve rural sanitation and hygiene and eliminate the practice of open defecation in Suriname;
- Conduct a mapping exercise to determine which Ministries, partners or NGOs are working where in the interior and look for ways to integrate community-led WASH into their existing programming;

- Work with communities to identify risks and develop climate change adaptation strategies to help the country's most vulnerable people build resilience.

Annex 1: List of interviewees

Name	Location	Gender, Age	Title	Date
Hardy Remak Antonomori	Abenaston	M, 54	Water maintenance (volunteer)	21/05/14
Altin Stedenburg	Abenaston	M, 35	Community member	21/05/14
Wonnie Joonha	Abenaston	F, 38	Community member	21/05/14
Nelly Pengel	Abenaston	F, 55	School director	21/05/14
Cissa Adjako	Kajapati	M, 77	Head Captain	21/05/14
Truda Adjako	Kajapati	F, 40	WASH focal point	21/05/14
Efani Adjako	Kajapati	M, 27	WASH focal point	21/05/14
Sanna Bobo	Pempe	F, 40	WASH focal point	22/05/14
Rudy Sana	Pempe	M, 55	WASH focal point	22/05/14
Johan Anakaba	Masia Kriki	M, 55	WASH focal point	23/05/14
Mina Anakaba	Masia Kriki	F, 37	WASH focal point	23/05/14
Wim Anakaba	Masia Kriki	M, 25	Water maintenance assistant	23/05/14
Alice Jongaman	Paramaribo	F	Head of Community Development, MoRD	27/05/14
Janet Vola	Paramaribo	F	Policy Maker, MoRD	27/05/14
Haidy Malone	Paramaribo	F	Former WASH project officer	27/05/14
Banwarie Mesack	Ricanaumofu	M, 33	Captain	28/05/14
Nisha Pepe	Ricanaumofu	F, 36	WASH focal point	28/05/14
Louisa Misiedjan	Ricanaumofu	F, 65	Community member and sanitation facility beneficiary	28/05/14
Fariza Misiedjan	Ricanaumofu	F, 13	Student	28/05/14
Jiliano Djoe	Ricanaumofu	M, 15	Student	28/05/14
Glenda Pinas	Ricanaumofu	F, 38	School director	28/05/14
Ian Jones	Skype	M	WASH in emergencies specialist, UNICEF Guyana	29/05/14
John Abidi	Paramaribo	M	Policy Supervisor, MoNR	30/05/14
Edson Paal	Paramaribo	M	Deputy Permanent Secretary, MoNR	30/05/14
Novella Majana	Paramaribo	F	Finance Administration, MoNR	30/05/14
Erica d'Aquila	Skype	F	Former PCV Pempe	03/06/14
Shannon Morrison	Skype	F	Former PCV Masia Kriki	03/06/14
Jessica Schmitt	Skype	F	Former PCV Gran Slee	13/06/14