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Suriname, Factor 9: Water and Sanitation

Suriname's Interior: Improving access to safe water sources

Water is the most precious substance on our planet. People drink it, cook with it, wash with it, bath in it, and in some cases use its movement to power electrical generators. About 70% of a person's body is made out of water – we simply could not live without it. But what if your water, along with giving you life, also makes you sick? What if the simple act of drinking water gives you diarrhea and exposes you to unsafe levels of mercury? The majority of the people in Suriname's interior answer this question with every day of their lives. Most people in the United States – along with most people in coastal Suriname – have safe water systems and decent sanitation, and would find it hard to imagine a life without them. Water is so essential that it is easy to overlook. But the people in the interior of Suriname cannot overlook the state of their water, because it is destroying their health and threatening their food security.

1. Everyday Life:

People living in Suriname's interior – the 80% of the country's land area that is not on the coast – face the most extreme poverty in the country and have the least access to essential infrastructure. These people make up 10% of Suriname's population and are mainly indigenous peoples or Maroons (the descendants of escaped African slaves). The people of the interior live in small villages scattered throughout the rainforest. The average family size is approximately 3 people ("Census 2004"). Most families are female-headed ("Census 2004"). Fewer than half of the children in the interior live with both their parents. A family's diet usually includes cassava, beans, rice, sweet potatoes, *roti* (an Indian flat bread), and fish and other seafood ("Food").

In Suriname, there is compulsory education for children between the ages of seven and twelve ("Suriname" year 2012). However, the quality of education in the interior is low. There is a lack of school buildings, the majority of the schools lack piped water, and 30% of primary school teachers have no certification to teach ("Education"). In some interior communities, as many as 91% of primary school teachers have not themselves completed primary school ("Suriname" year 2012). The result of this is that the average villager in the interior has only a basic elementary school education (Donokarijo).

Families in Suriname's interior also have extremely poor access to health care. Most specialised health care is only available in Suriname's coastal cities, which means that rural families in the interior need to take a boat or a plane ride to the coast in order to obtain specialised care. These forms of transport are expensive and can be unavailable when people need them – planes do not fly at night. This can cause major problems for people when there is a medical emergency. Women in the interior often cross the border to French Guiana to deliver their babies, because they perceive the healthcare to be better there ("Suriname" year 2012).

Most often, the men in interior families work as gold miners while the women practice subsistence farming or fishing. The average farming household has 0.8 hectares of land, which is used to grow cassava, maize, peanuts, and highland rice (The Fifth Census). Fruits such as bananas, colocasias, and passion fruits are also grown ("The Fifth Census"). These crops are grown using slash-and-burn agriculture, with tools such as machetes, axes, knives, and spades (Khoesial). The form of agriculture practised in the interior is labour-intensive and does not use chemicals (Khoesial).

2. Common Barriers faced by Families:

The main barrier to agricultural productivity is a lack of improved farming technology. Since most people are limited to relatively primitive agricultural tools, they are able to grow less crops (Khoesial). Another barrier to agricultural productivity is flooding caused by heavy rain. The flood that occurred in 2006 destroyed crops and rendered large areas of land unsuitable for farming (King, Baker, Crawford, & Ramsedit).

The main barrier to employment at a living wage is illiteracy. Only 51% of the interior's people 15 years and older are considered "functionally literate" (able to read a newspaper article easily) ("Suriname" year 2004). This significantly hurts their chances of finding decent employment. Even for the people that are literate, it is not easy to find a decent job. Employment in the formal sector, which consists mainly of working for the government, is unreliable. The government only pays its employees in the interior at irregular intervals ranging from once every six months to once every year ("Maroon"). Since interior public sector workers get paid irregularly, most people seek work in the informal sector – mainly in subsistence farming or fishing, or in gold mining. The gold mining sector is considered an informal sector of the economy because the government does not enforce taxes or regulations on gold mining companies ("Piqué"). Labor laws are not well enforced. Gold miners work for long hours, are exposed to hazardous chemicals, and are paid low wages for their work ("Maroon").

Flooding prevents people from getting adequate nutrition, as it destroys crops as well as the suitability of land for farming. Since most interior families practise subsistence farming, the destruction of their crops and land has a devastating effect on their food security (King, Baker, Crawford, & Ramsedit). Flooding also disrupts access to markets, and thus makes it harder for people to buy and sell food (King, Baker, Crawford, & Ramsedit).

2. The Status of Water and Sanitation:

The problem of access of water in the interior of Suriname may seem paradoxical, at face glance. Most interior families live in the forest, near large bodies of water. There is so much water that the interior often experiences floods – disasters that can destroy people's livelihood and health – contaminating drinking water sources, ruining crops and agricultural land, and killing and sickening many people. The challenge for families in the interior is not so much lack of access to water, but lack of access to water that will not destroy their health.

55.2% of interior families do not have access to improved sources of drinking water ("Suriname" year 2012). Instead, most of these people use surface water from a river or a pond as a water source. This water is considered unsafe as it is heavily contaminated with fuel, feces, sewage, and mercury (Vincent). The mercury comes from gold mining. Mercury contamination is particularly significant in how it affects interior villages. Besides serving as sources of drinking water, bodies of water contaminated with mercury are home to freshwater fish, which are a traditional staple food for many interior peoples. Mercury contamination of water leads to methylmercury contamination of fish, which are then eaten by villagers. While it usually does not outright poison people, many villagers regularly experience more subtle effects from mercury exposure such as headaches and depression (Peplow & Augustine).

Only 33% of interior families have adequate sanitation ("Suriname" year 2012). A lack of sanitation leads to people releasing sewage and feces into the rivers that also function as their drinking water source (Donokarijo). Contamination of water by fuels and other chemicals is also common. Most people do not have access to appropriate water treatment devices, and most of those that do treat their water do not do so correctly ("Water, Sanitation, & Hygiene"). The polluted state of people's drinking water is extremely harmful to their health – which is an issue in and of itself. Unsafe water also is bad for food security because it sickens farmers and reduces their productivity. Pipes used to distribute water are badly maintained, and leakage and theft of water are common ("Suriname" year 2006). The average family lives a 21 minute walk from their source of water (Water, Sanitation, & Hygiene). The vast

majority of people do not have water piped to their homes (“Water Resources Assessment”), which means that women spend a considerable amount of their time fetching water instead of engaging in other activities to increase agricultural productivity (“Water, Sanitation, and Hygiene”).

Fortunately, this factor is improving. In 2001, only 20% of people in the interior had access to safe water and only 30% had access to sanitation (Vincent). Compare those numbers to the 44.8% of people with access to safe water and the 33% with adequate sanitation to-day. The situation is still very bad, but things are definitely getting better for people, at least in the short term.

Global warming will make it more difficult for people in the interior to get adequate water and sanitation. Climate change is changing rainfall patterns in ways that increase the frequency and severity of floods in Suriname’s interior (“World Bank”). Besides threatening people’s food security, floods worsen water quality and ruin sanitation systems. This makes it even more urgent, and more difficult, for Suriname to provide the people in its interior with access to safe water and sanitation.

3. Current Efforts and Recommendations

My first main recommendation is to expand current efforts in the interior led by the Surinamese government and non-governmental organisations (NGOs) to build water systems in villages. The Rotary Club and the National Women’s Movement are two organizations that are very active in building infrastructure and providing training for villages on how to use it (Donokarijo). In the years leading up to 2009, the Rotary Club in Paramaribo completed a series of seven projects that cost US\$350,000 and benefited approximately 10,000 people. Given that the interior is very sparsely populated and is home to roughly 58,000 people, these projects by the Rotary Club of Paramaribo had a significant impact. Suriname’s three local Rotary Clubs offset the monetary cost of the projects by working in conjunction with Rotary Clubs in other countries, as well as partnering with other organisations such as the Georg Fischer Bicentenary Foundation, the Alcoa Foundation, and the Canada Fund. Projects to build water system, led by any organisation, typically include a training period approximately two weeks in length before the infrastructure is built (Donokarijo).

The infrastructure built in water projects usually includes ceramic filters, pumps, water tanks, pipes, and water taps. As most villages lack electricity, it is also necessary to set up a solar energy system or a generator to power the water system (Donokarijo). It is widely recognised that two weeks of training is not enough, but most organisations do not have enough money to train people for longer (Donokarijo). A result of this is that 75% of these projects fall apart after only a few years, mainly because the infrastructure is not maintained properly (Vincent). To counter this, future projects should include longer and more thorough training that teaches villagers how to use, maintain, and repair the infrastructure. There should be a decentralised approach where each family has a specific role to play – whether that be bookkeeping, helping to operate the infrastructure (such as water filters), or physically maintaining or repairing the water system. Many organisations that carry out water projects in the interior emphasize the importance of community ownership and involvement in the new infrastructure. To create this sense of ownership and involvement, I recommend an organisational approach to the water system that takes tasks of operating and maintaining the water systems down to a household level, so that these tasks become an everyday routine that brings the village together. A more communal, bottom-up way of running the water system would mean a broader establishment of responsibility, which would increase the likelihood that water systems are used and maintained properly.

My second main recommendation is to build and/or renovate sanitation infrastructure in interior primary schools and to use the schools as a means to educate children about water hygiene. In 2000, the Pan-American Health Organisation led a project where crumbling sanitation infrastructure was replaced in ten interior public schools (“Report on the Improvement”). Dysfunctional water taps, wash basins, toilets, urinals, sewer lines, and wastewater pipes were replaced. PAHO cleaned storm drains and added tiles and

lighting to bathrooms. Garbage bins were donated and the Ministry of Public Works agreed to collect garbage from the schools. Then, students learned about the importance of water hygiene and completed artistic projects to demonstrate their understanding of the importance of keeping their water safe to drink. This project cost the equivalent of US \$ 11,107.26 or about US\$1,110.73 per school (“Report on the Improvement”). Expanding programmes such as this so that they reach more schools in the interior of Suriname would improve children’s health and make it easier and more desirable for them to stay in school. This would increase their earnings potential as adults and help break the cycle of poverty for interior families. The training portion of this project also demonstrated that primary school is a good place to educate people about water hygiene.

My third main recommendation is that to obtain the resources to provide interior families with decent water and sanitation, Suriname’s government should increase its presence in the interior so that it can enforce taxes and regulations on the gold mining sector. As it is, there is virtually no enforcement of regulations. This means that gold mining companies make their own laws – contaminating people’s water with mercury, dodging taxes, smuggling gold across the border to French Guiana, and violating labour standards (Piqué). Consequently, people in the interior suffer neurological problems from having mercury in their water and workers face low pay and hazardous working conditions. Another result of the the lack of enforcement of regulations, along with these very direct harms to people living in the interior, is that the Surinamese government loses out on much of the gold mining sector of its economy and thus is less well able to provide interior communities with adequate water and sanitation infrastructure and training on how to use it.

The answer to this is that the Surinamese government take a more active role in enforcing taxes and regulations on gold mining companies, and to continue to build water and sanitation systems for people in the interior. The government would most likely find it more useful to hire people who already live in the interior than to send coastal Surinamese government employees to the interior. The remote geographical location of many villages, rendering them inaccessible except for via a boat or airplane – in some cases airplane is the only option – would make it extremely costly for the government to send a large number of its employees who live in coastal Suriname, out to the interior. Rather, it would be far more viable for the government to recruit residents of the interior to be the people on the ground who enforce taxes and regulations on the gold mining sector. Additionally, people who live in the interior would be more invested in protecting their own community.

However, there are several obstacles that must be overcome. As stated earlier, one reason that so many people in the interior are drawn to the informal gold mining sector is because of the low quality of public sector jobs – the government pays its interior employees at irregular intervals. Jobs for the Surinamese government can also have very low wages – according to the US Department of State in 2013, the lowest-paid public servant receives the equivalent of US\$180 a month, and government employees frequently work second or third jobs. For the Surinamese government to have any realistic chance of increasing its presence in the interior, this must change. Overall there must be a closer, more equal relationship between the coast and the interior of Suriname. The government needs to ensure that its interior employees are paid at regular, reasonable intervals (receiving a monthly paycheck instead of a bi-annually paycheck, for example). Furthermore, the government of Suriname should establish a minimum wage (which does not currently exist even in legislation), an action that would benefit both public and private sector workers, and would make government jobs in the interior enforcing regulations more appealing to interior people.

NGOs should also continue to lead projects to build and fix water and sanitation systems in Suriname’s interior. According to PAHO, the private sector has shown a lot of interest in funding projects to renovate water and sanitation systems in interior schools (“Report on the Improvement”). This funding would help the government, NGOs, and interior villages improve people’s health and get people out of poverty.

Communities should be actively engaged in the process and ensure that every family in their village understands and will carry out their role in the usage, maintenance, and repairs of the water and sanitation infrastructure. Families must have a clear understanding about the importance of having access to water of a certain quality and of disposing of waste in a sanitary way.

In conclusion, there is much damage being done to the health and livelihoods of the people in Suriname's interior because of inadequate access to water and sanitation. This factor has been gradually improving as government and NGO sponsored programmes make a difference in people's lives. However, this progress must not be used to hide the need for more aggressive actions to help more interior people access basic necessities like water and sanitation. It is imperative that current efforts to build water systems in villages and sanitation infrastructure in schools are expanded so that they reach more people in the interior, and that the government of Suriname take the necessary actions so that it is able to expand its presence in the interior and actually enforce regulations on the gold mining sector. The status of water and sanitation in Suriname's interior is still very bad, as most people are drinking unsafe water and have little to no sanitation infrastructure. Safe water is such a basic need that it is difficult for people who have it to imagine life without it.

Many US cities have one or more "sister cities" abroad. It would be interesting if several American cities adopted a "sister region" of either Sipaliwini or Brokopondo, which are the two regions making up Suriname's interior. Forming deeper connections with interior villagers instead of just reading statistics about them could help us comprehend what it is like to live without safe water and give us a drive to help them get access to it. The people in Suriname's interior are our fellow world citizens, our brothers and our sisters. They deserve access to water that brings only life, and not disease or death.

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