

Approaching the 'last mile'

Taking a sip of water, flushing the WC, washing your hands; you take it all for granted. Until you find yourself in Nepal, soon after the earthquake, at a rural school in Kyrgyzstan or in the migration region of Burkina Faso, when clean water is a matter of survival or of life itself. In 2030 there must be access to drinking water for all. How can this be achieved? Three experts explain.

Author: Sarah Haaij

More than 2.6 billion people have obtained access to safe drinking water over the past 25 years. The Millennium Development Goal to halve the number of people without access to clean drinking water has been achieved. There is now a new point on the horizon of the global community: universal access and sustainable management of water and sanitation in 2030. Safe and clean water for all, not only now but also in the long term.

Sustainable Development Goal number six was not a misplaced idea; the human right to safe and clean drinking water and sanitation has been a recognised human

right since 2010. At the United Nations the Bolivian President Evo Morales advocated the right to water, which until then had been vaguely discussed, to be established in a resolution. Access to water is therefore not only a noble endeavour, it is a right that people can lay claim to.

And that is what is happening. In the Netherlands a Heerlen judge already ruled in 2008 that water could not be cut off from a household that had not paid the bill, because that would violate the international law on water. Last year an Indonesian judge ruled that water companies were failing because they were not supplying affordable

water to poor residents of a slum in Jakarta: "The companies are not complying with the people's right to drinking water." The judge summoned the local authorities to restore the public water supply for these people.

Water receives the attention it deserves. However, this does not mean that there are no major challenges involved in achieving the sixth Sustainable Development Goal.

On the contrary: tales of water scarcity dominated the news in 2018. Extreme drought in South Africa, demonstrations because of water shortages in Iran and Pakistan, a violent drinking water crisis in the Indian city of Shimla, and the Dutch were also warned this unprecedented dry summer that nobody, not even the farmers, were allowed to continue to tap surface water.

As opposed to the goal to provide everyone with clean and sustainable water, there is the global challenge of population growth, urbanisation and ever increasing consumption.

Although in recent years 2.6 billion people obtained access to water and sanitation, forty percent of the world's population now has to cope with water scarcity, according to the UN Development Programme. Three out of ten people, that is to say, 2.1 billion persons worldwide, still do not have access to safe water in their home. And six out of ten people, that is to say 4.5 billion persons worldwide, do not have access to safe san-

itation, according to figures provided by Unicef and the World Health Organisation. Every year three hundred thousand young children die of diarrhoea as a result of dirty water and the lack of clean toilets.

According to Guy Hutton, development economist at the World Bank, up to and including 2030, thirty billion dollars are needed annually to provide access to safe water and sanitation (WASH). And ninety billion dollars for the services to make it safe and sustainable. What should be done? Three experts, each with their particular water specialisation, talk about their road map regarding safe water for all.

Nepal, 2015 – a couple of weeks after the devastating earthquake. We have to walk for two days to visit Sindhupalchowk with a humanitarian NGO. The earthquakes have made the roads difficult to pass and it soon becomes clear that they have destroyed the water infrastructure. Many sources have been polluted, wells have collapsed and water tanks are not in operation. No clean drinking water is available anywhere in the valley. For unexplained reasons there is a supply of small bottles of very sweet cola; we drink nothing else for three days. Many Nepalese are condemned to the potentially dangerous water.

Sustainable Development Goal 6.1 Safe and affordable drinking water for all

In order to achieve Sustainable Development Goal 6.1, 884 million people who are totally deprived of water and 2.1 billion people who do not have water at home still have to be reached. These people lack access to a tap or a pump, a source or a pipe.

The Dutch water company Vitens Evides International (VEI) advises water companies in developing countries all over the world about how to effectively design and maintain such a system. The website of Vitens Evides reminds us that 'Every day tens of thousands of people die, mainly children, due to a lack of clean drinking water and sanitation'. "That is the equivalent of twenty jumbo jets a day."

Adriaan Mels is regional manager for Africa and Asia at VEI: "Many people die because the water quality is poor. It makes them ill." However, there is a major problem in the water distribution. "People say that you need a total average water supply of a thousand cubic metres every year, also for irrigation and industry. In Kenya only three

hundred cubic metres are available, which means that you start with a scarcity."

It is precisely in countries with a water scarcity that it is advisable to supply the little water that is available to people's homes. The infrastructure is a problem in this respect, which is often not in a good condition, according to VEI. The problems include old pipes, poor water metres and leaks.

In areas where the company is active one issue always crops up: water supplied by the companies gets 'lost'. The water seeps away through leaks or there is no registration system for properly collecting water bills. There are companies where just two thirds of the water supplied is paid for. Mels: "As a result there is no money to properly maintain the infrastructure."

With development subsidies from the Netherlands and a contribution (over half a percent of its turnover) from Vitens Evides, VEI is starting long-term partnerships with these companies. Mels: "Eight years is the minimum, in my opinion." This covers the entire business operations. For example, VEI is introducing software for plant maintenance, which shows you when need to check the pumps or replace a part. "It comes from a Dutch firm, is relatively cheap and works well almost anywhere."

"Why do you always have to be innovative? Sometimes things just simply work well"

The money received by VEI comes, for example, from the Sustainable Water Fund (FDW): 5.3 million euros for ten projects. So, do Dutch companies always have to be involved? "It is not compulsory", Mels replies. "We include them if they offer an effective price-quality ratio. Sometimes they are simply too expensive."

In the beginning the collaboration with NGOs felt a bit like a shotgun wedding. Mels doesn't remember it being love at first sight. The technical, result-oriented specialists at VEI and the more process-based development workers sometimes could not work together well. Yet now he sees the added

value it provides: "NGO access to the poor is often easier; they are better equipped to identify the people's needs. And an organisation took us with them to Kenya, which is great."

However, an intermediate review of the public-private partnerships in FDW conducted in 2015 by the Ministry of Foreign Affairs revealed that the projects do not adequately focus on *development*.

"I view things differently", Mels states. "When you improve people's access to water it leads to development, doesn't it?" Mels remembers that the evaluation also claimed that the projects are not *game changers*. "Then I have to ask: why not? Do you always have to be innovative? Sometimes things simply work well and you want to apply the same method."

Kyrgyzstan, 2012 – a public primary school a three-hour drive from the city of Osh. When the hundred pupils or their teachers have to go to the toilet they have a wooden deck with three holes. Next to them is a container of lime to 'break it all down'. There is no well or pump to flush or wash their hands. The man that is supposed to empty the latrine hasn't been seen for weeks. After four days our team of seven visitors is sick. Not surprisingly the pupils opt to use the open fields behind the school.

Sustainable Development Goal 6.2 Access to adequate and equitable sanitation and hygiene for all, and an end to open defecation

One in three people in the world does not use a safe and clean WC. And according to estimates ninety countries are now lagging behind in terms of the goal of sanitation for all.

What's more, the people at IRC do not believe that this will change as long as we pour money into infrastructure, but ignore the system that should ensure the infrastructure continues to function. IRC is a knowledge centre and project organisation focusing on drinking water and sanitation.

For the first water special five years ago *Vice Versa* also spoke to Catarina Fonseca, head of the international innovation programme of IRC. At the time she revealed that thirty to forty percent of WASH investments is wasted because the systems do not function anymore. The classic story of the water pump that is not maintained.

"Oh, wow," Fonseca exclaims, "is it already five years ago that I said that? Can you

believe it!" In her opinion the basic problem still exists today, but fortunately she also sees that much has changed over the past five years: "In the Dutch government's plans for WASH 2030, in the United Nations, you can hear people everywhere talk about a system approach. There is greater focus on water management, governance and financing."

However now, Fonseca adds, the discourse must shift from talking to action. Money should be invested and "until now this has not happened". If she had one water wish for 2030 it would be a water budget: one for each country. It may not sound very exciting, but she believes it is necessary if we are to achieve the sixth Sustainable Development Goal.

"And by that I mean an overview: what is received in taxes, aid and water payments. What should be done and how can we deal with the budget deficit? All countries committed themselves to the Sustainable Development Goals, but only a few have a plan to actually realise them."

In the latest IRC water campaign you therefore see a woman at a water pump on the left of the poster and a man holding a propeller on the right. And underneath the text: "If this is a permanent water system, then this is an airline company." Fonseca: "We want to focus the attention on the system behind the water."

However, Fonseca, like Mels, notices that it is sometimes difficult to get donors to focus on long-term action; the investments are not necessarily innovative, but they are desperately needed for a water system to continue to function. She even has her own term for it: *flatlining*. "When a country realises a sixty to seventy percent water supply, you often see activities flatlining. Investments still increase substantially, but water coverage remains the same."

Fonseca knows that the investments usually focus on innovation. Not on maintenance, not on strengthening the institutions or on monitoring. "Donors say that is something governments have to take care of. However, this doesn't mean we shouldn't keep a close eye on it."

Thailand, 2016 – the metropolis Bangkok is severely affected when the monsoon rears its angry head. The drainage system has to process so much waste water from households all year round that it constantly becomes blocked with rubbish and sediment. Everything overflows to

knee level, including the contents of the sewers. Anyone who wants to move around simply has to wade through water.

Sustainable Development Goal 6.3

Improve water quality and combat the discharge of untreated waste water

"Anywhere water is used, waste water is produced", Merle de Kreuk explains, who is professor in waste water treatment at TU Delft. "And waste water contains pathogens you should eliminate before the water enters the cycle again."

According to the World Health Organisation, half of the population of developing countries may suffer from diseases linked to a lack of clean water. As a result of the Sustainable Development Goals there is now a focus on the role of waste water; "the flip side of water".

This is good, De Kreuk adds, because she believes the flip side is equally important. Certainly in countries where water is scarce and is recycled in a much more direct way.

As a researcher De Kreuk is involved in various collaborations in Asia. Like in India, where cities are growing at an unprecedented rate; but where there are no sewage or treatment systems to process the waste water from all these people. "This is a current issue that is out of control." The waste water in these metropolises does not only cause disease, it also pollutes the rivers into which it is discharged.

If you could treat the water, you could create a new source of water for all the millions of city dwellers, provided it is done properly.

This is where De Kreuk's expertise comes in. "I am a technologist", she explains. "I examine purification systems; which system is suitable here and how are we going to achieve it? In India we are currently looking at ways to organise treatment locally and on a small scale, so without the large sewer systems that we know, but in a district or apartment complex."

Her partners at the Vrije Universiteit and research institute TERI in Delhi are studying the social aspect of water. What do people think of water and safety? Are they prepared to directly recycle treated waste water. "In the Netherlands we think that this is disgusting. But it's not, you know; in Namibia they've been doing it for years."

De Kreuk would prefer to see water treatment designed in such a way that it can generate an income, by separating waste

flows and selling water, energy surpluses or fertilisers. "When a profit can be made parties will also be inclined to maintain the system."

"If it only were true: a well that solves all your problems"

Burkina Faso, 2017 – after a four-hour drive, a canoe trip and a journey across dirt tracks on the back of a 50cc bike with gears, we finally reach our destination: a water pump, installed by the International Organisation for Migration in the south of Burkina Faso. It is a region from which many young people set off to seek their fortune in Europe. Do the youngsters gathered around the well know why IOM placed it there? No, not really. "The idea is that it removes your fundamental reason for migrating; as a result you don't want to leave anymore." They grin: "If only that were true, a well that solves all your problems."

At the core is the sixth Sustainable Development Goal about access to water. It is no longer a purely technical subject, but more than ever a political issue; especially now that governments are pointing to water as a cause of migration. From the WASH strategy 2016-'30 of the Ministry of Foreign Affairs: "Water insecurity in countries of origin is one of the fundamental causes of conflict and migration. [...] These fundamental causes must be eliminated."

When you talk to people who do not have access to water, you're talking about the 'last mile': the last 884 million people with no clean drinking water. The people that are most difficult to reach: the vulnerable, those that live in remote areas, outcasts, those that want to leave, the poorest of all.

Mels, Fonseca and De Kreuk all see challenges in this task. In order to achieve the Sixth Goal, political will as well as the will to invest are required, sometimes also selflessly, Fonseca emphasises. After all, if we want to provide the poorest people with access to water, someone will have to pay for it.

It does not suffice to merely save a well, as the boys in Burkina Faso already know: a well is no panacea. According to one of them, water is "A matter of survival." ●

Drinking water and sanitation



Around the village pump

The villagers are responsible for maintaining their water pump in the Ugandan countryside. For a long time the government and aid organisations viewed this management model as the key to better water supplies. But is this still the case? On assignment.

Author and photographer: Eva Huson

In Kanara's village street a handwritten note is attached to a bamboo stick. The note bears the title 'Water meeting' and calls on all villagers to convene for a serious discussion at three o'clock that afternoon. The topic of the meeting is the only water pump that exists in this rural area in West Uganda. "And of course I had to go and fetch everyone myself", Jonathan Bengyi Kabuka, the note's signatory, winks. He stands a short distance away, in a garden with mango trees, and surveys the full meeting benches in front of him. It is four o'clock and the meeting can begin.

Kabuka is the new chairman of Kanara's water committee, a small group of residents that has been elected by the rest of the village to manage and maintain the local water pump on a voluntary basis. This is an important task, because the national water mains do not reach these remote villages in the province. Anyone who is thirsty or wants to wash him/herself in Kanara has to rely on this communal water point.

In order to ensure that the pump remains operational, Kabuka's team sees to it that the surrounding water point is kept clean and that villagers use the lever properly. The volunteers also make sure the local mechanic regularly services the device and performs any repairs quickly and correctly. In order to fund all this, the water team also has a financial task. Every month the committee collects a water tax, fifty eurocents per household, which the treasurer keeps in a piggy bank.

"Well, yes, that's the idea", says Kabuka. Following the death of his predecessor, the water committee stagnated and for months the water tax went uncollected. The payment arrears are substantial, and that is exactly what Kabuka, recently elected as the new chairman, wants to address today during his first meeting. "Everyone has