

# Good nutrition entails safe drinking water

Switzerland headquartered Global Alliance for Improved Nutrition (GAIN) in collaboration with the Ministry of Health and PT Holand for Water are working towards improving nutrition in the first 1,000 days of a child's life in East Java under the Baduta Program, which has access to safe drinking water as one of four program components

There is a direct correlation between safe drinking water and health, especially when linked to the national agenda, called the National Movement for the First 1,000 Days of Life (Gerakan 1000HPK). "People often did not realize the negative effects unsafe water has on their health, until they or their children get a disease, such as diarrhea. The issue of people's inability to have access to safe drinking water should be tackled properly because otherwise it may affect the government's efforts to reduce stunting and improve the health of the next generation" said Ravi Menon, GAIN's Country Manager for Indonesia.

In 2008, the World Health Organization estimated that 50 percent of malnutrition cases worldwide were associated with repeated diarrhea or intestinal infections caused by unsafe water and inadequate hygiene.

"Eight years later these rates might have dipped, but they largely hold true in any country where pregnant women and children do not have 'on-tap' access to clean drinking water;" "We can try to make families change their eating behavior, the government can ensure that foods are correctly fortified and formulated, while the private sector can make sure that they are affordable."

"But everything comes to nought if the child is affected by diarrhea caused by drinking unsafe water or because of food prepared using boiled water that is re-contaminated due to improper storage," Menon said.

This is why GAIN decided to integrate access to safe drinking

water into their ongoing Baduta Program.

## Integrated Nutrition program

GAIN, a Swiss non-profit technical agency with offices in 17 countries, including Indonesia, signed a memorandum of understanding with the Ministry of Health to support the 1,000 Days of Life Movement by bringing what it had learned globally and incorporating it in the Baduta Program.

The signing was conducted two years ago not long after the government announced its intention to reduce the incidence of stunting and improve the health of the next generation through the Gerakan 1000HPK.

The Baduta Program aims to improve the nutrition status of pregnant women and children aged 6 to 24 months and to show progress on key indicators that contribute to reducing stunting.

40,000 pregnant women and 60,000 mothers and caregivers of children under 2 are expected to participate in intensive program activities at the community level.

The program kicked off in October 2013 and will last until June 2017, with six sub-districts of Malang and Sidoarjo, in the East Java province, being the program areas.

According to Menon, GAIN raises funds internationally and channels them to local implementing agencies. "The primary donor for the Baduta Program is the Kingdom of the Netherlands," he said.

"At the outset, we had extensive discussions with the Health Ministry and the district health

offices to fully understand where we could add value, without replicating what they were doing."

"In the end we designed an integrated program with nutrition-specific and nutrition-sensitive components."

The program has three nutrition-specific components: behavior change in eating habits, capacity building of nutrition knowledge and breastfeeding counseling at Puskesmas, village midwife, and Posyandu levels and providing technical support to review packaging of complementary foods to make them internationally compliant.

"The nutrition-sensitive interventions we have chosen are providing water filters and delivering hand-washing messages to the target areas."

"GAIN outlined the design for each component and then went through an exhaustive process to select three organizations, namely Save the Children, Yayasan Paramitra and PT Holland for Water who are the manufacturer of Nazava Water Filters, to implement them," he said.

## Behavior change component

Promoting community level behavioral changes in maternal eating habits and feeding of young children is a major part of the Baduta Program. This involved the development of four television commercials under the tag-line 'Rumpi Sehat' (Healthy Gossip) and developing Emo-Demo games linked to each of the four behaviors highlighted in the TV commercials. "The Emo-Demo technique of triggering emotions associated with behaviors was pioneered by



Courtesy of GAIN

**Scheduling:** Mothers learn about feeding timelines for their children in an integrated health service post, Posyandu in Malang, East Java.

the London School of Hygiene and Tropical Medicine (LSHTM) for hand-washing programs."

For the Baduta program, GAIN worked with LSHTM to develop 11 new emo demos especially for nutrition behavior and the response from the community has been overwhelmingly positive.

"Kaders (Village cadres) are thrilled that they have a new instruction technique that has enthused mothers and attendance at monthly Posyandus has swelled. Entire communities are seen to be supporting each other to practice these behaviors through what the implementers have named the Gerakan Rumpi Sehat," Menon said.

## Safe drinking water component

The Baduta Program encourages the establishment of a sustainable supply chain of household drinking water filters, community water assessment and education on appropriate household water treatment and safe storage.

Nazava Water Filters (PT Holland for Water), is piloting a micro-entrepreneurship model for the distribution of community water filters. These entrepreneurs, the majority of whom are women with no previous business background, are taught the importance of safe drinking water, the cost savings of filtering versus boiling, and how to assemble and maintain water filters. The GAIN funds allow for these women to receive a small stock of filters and then sell them in installments that are affordable in their community.

"GAIN did not want program funds to be used to provide free equipment because we know from

experience that anything given for free has little or no value to recipients who eventually stop using that item. Hence we really liked Nazava's proposal to sell the filters in affordable long-term installments and set up a livelihood program which would empower women" said Menon

"Nazava has reported that early customers have started buying replacement candles which proves to us that filters are actually being used, which is very good news" he said.

Meanwhile, Nazava's director and co-founder Guido van Hofwegen said that what is innovative about the Baduta Program is that perhaps for the first time in Indonesia, nutrition and access to safe drinking water are combined within one project.

"Most projects focusing on nutrition underestimate the importance of safe drinking water, which means that fortified foods and extra nutritional supplements become ineffective if the consumer continues to drink contaminated water and gets diarrhea, flushing away all the nutrition," he said.

Ensuring that filtered water is safe to drink, he explained that the core elements of the Nazava Water Filter is a filter candle made of ceramic and filled with activated carbon and mixed with silver.

"The Nazava Water Filter works like a sieve but with holes that are a thousand times smaller," he said.

"The pores in the filter are so small (0.4 micrometer/micron) that bacteria (0.5 micrometer/micron) cannot pass," he explained.

"So the filtered water is free of bacteria," he adds.

To reach out to rural consumers, the company works together with the district health departments. "We team up with Community Health Centers (Puskesmas) to educate women how to make water safe to drink and how to store drinking water properly," he said.

To date, the company serves 47,000 households, reaching almost 250,000 people through more than 120 safe water entrepreneurs in Indonesia alone. It also exports to other Asian and African countries.

## Sustainability

The evaluation of the Baduta Program will end in June 2017 and GAIN is preparing to make the program sustainable.

"Sustainability is built into our program because every aspect has been designed based on government direction. The most expensive parts of the process have already been done - the formative research, the TVC production, the emo-demo development, testing and the legal research into changing regulations."

"The Ministry of Health will evaluate the program this year and then decide if it is worth replicating and scaling up, either as a whole or in parts, in which case they will issue new national guidelines. It is a long process but in the end will ensure the program's sustainability," Menon said.

According to van Hofwegen, Nazava is building a sustainable supply chain for water filters in the Baduta program areas. "It is sustainable because we work with entrepreneurs who will keep on selling filters after the program is finished, he said.

(Sudibyo M. Wiradji)

# Helping villagers have access to safe drinking water

Financially disadvantaged villagers living in rural areas are highly susceptible to diarrhea and other waterborne diseases because their well or spring water is not properly treated or the boiled water is stored in dirty pots and pans.

In Donomulyo subdistrict, Malang, East Java, for instance, water sourced from the ground, rivers and the mountain springs is often murky, and also contains high levels of bacteria. Boiling the water does not make dirty water clear and if water is boiled for less than 3 minutes not all bacteria are killed.

"Because the water is unsafe to drink, we educate local people about the importance of treating the water. Using a Nazava water filter is one of the solutions to the community's health problems," said Ipung Dyah Kurniasasi, 38, who coordinates the sale of the Nazava water filters in Donomulyo.

For most villagers, drinking filtered water is a new experience and therefore, extra effort is needed to change their long and established drinking habits.

"In every community event in which I educate people on safe water consumption, I always show samples of laboratory tested water to the people to make them aware of the difference between treated and untreated water," she said. She said that it has worked effectively when it came to raising awareness about the importance of consuming safe drinking water.

Donomulyo subdistrict covers 10 villages, some of which are difficult to reach because of the mountainous area they are located in.

"I conduct counseling once a month from one village to another. My sub-coordinators totaling 9 ladies also conduct counseling in targeted villages," she said.

In her village meetings, she always includes the issue of safe drinking water while speaking



Courtesy of Ipung Dyah Kurniasasi

**Raising awareness:** Mothers attend a training session about the importance of consuming safe drinking water in Donomulyo subdistrict, Malang, East Java.

about in the first 1000 days of life movement - which is a national campaign.

The bacteria in untreated water can cause diarrhea, one of the major causes of child mortality, she said.

"My main task as is to increase people's understanding of health," she said.

To make sure that even poor farmers can have access to safe drinking water, the Nazava water filter can be paid in 10 installments of Rp 20,500 (1.5USD)

The prices vary, depending on the storage size, ranging from Rp 205,000 to Rp 610,000. "The 16 liter-water filter priced at Rp 590,000 is the most popular one," she said.

The mother of two started to sell water filters in February 2015 and to date, about 400 families have purchased the product. "My target is to educate as many families as possible," she pointed out.

Her goal is to change the behavior of people in relation to water consumption. "Changing people's behavior in this regard is a long process that needs our patience and persistence," she noted.

But she was pleased to learn that the number of cases of diarrhea has reduced since more people consume filtered water.

Meanwhile, water-related problems in Tumpang subdistrict, also in Malang, vary from village to village. There is one village where a livestock chicken venture has emerged, leaving the water heavily contaminated with E.coli bacteria, while there is also another relatively-densely populated village with shallow wells close to houses.

Research by the Malang health office on the water condition in 8 villages in the subdistrict in 2015

showed that water in seven of the targeted villages are contaminated with E.coli bacteria.

"Most of the ground water sources are located less than 10 meters from a septic pit, which is the minimum required distance from the ground water sources," said Yekti Indriati, 31, who is also engaged in coordinating and reselling Nazava water filters.

She said that in every counseling session, she always starts with explaining the crucial issue of the first 1,000 days of a child's life.

"Clean water plays a vital role in a child's growth. Filtered water is not only bacteria free but also contains minerals that our body needs," she said.

Yekti shared Ipung's view that reselling water filters to the community needs patience because most people are unaccustomed to drinking filtered water.

Despite explaining that consuming unfiltered water posed a threat to their health, it took some time for them to be aware of it and change their mindset. "When first introduced last year, many had doubts about drinking filtered water without boiling it first," she said.

But after several months of the program running, more villagers have begun to realize the benefit of owning water filters with a water storage. In every meeting, held irregularly, an average four filters are purchased and as of early April, she has sold 165 units.

Consuming filtered water makes consumers healthy because the water is free of bacteria and they can drink it without boiling it first, which means saving money on wood or gas, which they commonly use as fuel, according to Yekti.

"The most important thing is that I can assist people in accessing clean and safe drinking water at a price they can easily afford," she concluded.

# Turning to filtered water

If offered two options, a glass of boiled water or a glass with filtered water, then Indra Suryawati from Tumpang subdistrict, Malang, East Java, will, without doubt, take the latter.

"It tastes fresher, compared to when I drink boiled water," said the 31-year-old mother of two.

But the important thing was that "the water is free of bacteria and consuming filtered water allows me to be more economical".

She used to spend Rp 500 per five liters of water on gas to boil the water. However, after she turned to filtered water, it's no longer necessary for her to spend the money on gas. "With an average of 330 liters of water per month, I can save about Rp 33,000 per month, or Rp 396,000 per year," she said.

"But that's the minimum because we sometime consume more than 11 liters per day," she said.

"I had wanted to give my family filtered drinking water for a long time," she said, but she could not afford a water filter because "it's costly and I have to pay in cash, but luckily I was informed about the Nazava water filter that offered to take payment through 10 installments," she said.

She said that she bought one priced at Rp 260,000 and has paid seven monthly installments so far. Apart from the filter and the storage, she also received a measurement device and a cleaning sponge.

To keep the filter functioning well, she said, she cleaned it by using the sponge once a week.

An outbreak of diarrhea hit Tumpang subdistrict in 2013, leaving two dead. "That's why as a preventive measure, we now consume filtered water."

Indra is one of the many villagers from Tumpang subdistrict who represents an increase in the number of water filter consumers.

Meanwhile, Novianto, 30, from Tulangan subdistrict, Sidoarjo, East Java, has turned to filtered water after proving for himself that it had no side effects.

He acknowledged that when he first consumed the filtered water several months ago, he was somewhat in doubt about drinking the water taken from the storage without first being boiled.

"It has turned out that I am okay after drinking it [...] it has no side effect and that's why I firmed up my opinion," said the father of one, who works at the local village hall.

The well water in his house, he said, was not safe to drink because it is close to a septic pit. "We only use the well water for washing clothes, plates and taking a bath," he said.

So he must buy drinking water from a water seller. Prior to his new habit of drinking filtered water, he had to boil it first before being consumed.

He shared Indra's view, saying that consuming filtered water saved on LPG, which his family used to boil the purchased water once in every three days.

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