

PHILANTHROPY

DEFEATING DENGUE



Brothers Sjakon George Tahija and George Santosa Tahija have joined in a global battle to fight dengue using an innovative new approach.

BY GLORIA HARAITO

PHOTOGRAPH BY TOTO SANTIKO BUDI FOR FORBES INDONESIA



IN MAY, BILL GATES STUCK HIS ARM ON THE OPENING OF A BOX FULL OF MOSQUITOS. “WITHIN A FEW MINUTES BY ARM SWELLED UP WITH DOZEN OF BITES. IT WAS A SMALL PRICE TO PAY FOR AN AMAZING PROJECT

that has the potential to turn the tide against a terrible disease,” wrote Bill on www.gatesnotes.com. The “amazing project” was the Eliminate Dengue Project at Gadjah Mada University in Yogyakarta financed by the Tahija Foundation. The mosquitoes that bit the world’s richest man would have given him dengue, except for a special bacteria inside them that blocked the virus, making their bite annoying but harmless.

It was a dramatic demonstration of the progress that the Tahija Foundation has made in its long effort to eliminate dengue, which is found throughout Indonesia. In Yogyakarta, about 1 in every 700 residents are stricken with the disease, which has no cure. The project to create dengue-free mosquitoes is being conducted in six countries, but the one sponsored by the Tahija Foundation in Indonesia is the largest in the world.

“We are the pioneer in the world since no one can conduct this project on such a large scale as in Indonesia. We believe we could do something to better mankind, and improve scientific research in Indonesia,” says Sjakon George Tahija, one of the founders and trustee board member of the Tahija Foundation, in a rare interview. He takes special pride in recent progress because the foundation’s efforts for many years has been marked by frustration and few achievements.

The traditional way to fight



CLOCKWISE FROM TOP: Bill Gates giving his arm to be bitten by mosquitoes that have been injected with wolbachia bacteria; “We decided to fund the project in Indonesia as Bill Gates requested a local partner to do it,” says Sjakon George Tahija; Mosquitoes injected with the wolbachia bacteria will effectively blocks dengue, yellow fever and chikungunya fever.

dengue is to try to wipe out its breeding places, such as water containers. However, this approach is problematic.

In 2010, Sjakon, 62, asked the foundation’s consultant on tropical diseases, Duke-NUS Professor Duane Gubler, to suggest another approach. He recommended the foundation set up an Indonesian branch of the Eliminate Dengue Project (EDP), which was started by Scott O’Neill, a professor at Monash University in Australia. The EDP’s strategy is to infect mosquitoes with the wolbachia bacteria. This bacteria, which is present in 70% of all insects,



including bees and flies, effectively blocks three diseases: dengue, yellow fever and chikungunya fever.

However, wolbachia is not naturally found in aedes aegypti mosquitoes, the type of mosquito that spread dengue, so they must be injected with wolbachia. Then these



PRESERVING THE LEGACY

The Tahija Foundation was founded in 1990 by Sjakon and George, and their late parents Julius and Jean Tahija. Sjakon says the foundation tries to maintain the original vision laid down by their parents. His father, the former chairman of Caltex Pacific Indonesia, wanted to help his fellow Indonesians and preserve the environment, so the foundation focuses on healthcare, environment, education and heritage preservation. For heritage sites, the foundation has excavated the remains of a Hindu temple in Yogyakarta and renovated the former official residence of the VOC in Banda Neira. “We have a history that we should be proud of, that is why we help preserve heritage sites,” says Sjakon. In education, the foundation has built schools and provided scholarship for potential students. While for the environment, the foundation supports marine patrols and a reef fish monitoring program in Ujung Kulon national park. “We do these activities to make Indonesia a better place,” he says.

injected mosquitoes can be released into nature, which will then spread the bacteria to untreated mosquitoes through breeding. The goal is to stop dengue by spreading wolbachia to all aedes aegypti mosquitoes. This approach, rather than kill mosquitoes, will neutralize the threat posed by them. “The impact is not less than the discovery of vaccines or antibiotics since wolbachia can block three kind of diseases,” says Sjakon. The Tahija Foundation has so far spent \$8 million to support the EDP.

Nevertheless, before this method could be applied extensively in Indonesia or elsewhere, it had to be studied and tested. In Indonesia, the project is formally called EDP-Yogyakarta (EDP-Y) and is a joint effort between the Tahija Foundation, Gadjah Mada

University and Monash University. In other five countries where EDP is active, it funded by the Bill and Melinda Gates Foundation, while in Indonesia the project is entirely funded by the Tahija Foundation. “We decided to fund the project in Indonesia as Bill Gates requested a local partner to do it,” says Sjakon. Besides funding, the foundation is also involved in managing EDP-Y.

Sjakon is convinced if the project succeeds, it will have a substantial impact. Thus, 2011 was a watershed year for the foundation since it decided to focus its funding on EDP and discontinue other dengue activities. The EDP will be done in three stages.

In the first phase, starting on September 2011 to this year, the research-

ers did crossbreeding between aedes aegypti carrying wolbachia and local aedes aegypti for several generations. Currently, the diagnosis shows that local aedes aegypti are carrying wolbachia. In the final stage of this phase, researchers are releasing some infected mosquitoes in selected areas starting this year to find out the effectiveness of crossbreeding.

The second phase from this year to 2015 will release a large number of mosquitoes with wolbachia across Yogyakarta. Prior to the release of wolbachia mosquitoes into the wider natural environment, researchers must prove the wolbachia’s capacity to stop the dengue virus and do a



CLOCKWISE FROM TOP: The infected mosquitos then released into nature to spread the bacteria to untreated mosquitoes through breeding; George Santosa Tahija (right) with Yogyakarta's Health Inspector staff during a visit.

risk and safety assessment to prove there is no risk to humans, animals or the environment. However, research already conducted in Australia and Vietnam has proved this.

The final and third phase will be conducted from 2015 to 2018. In this stage, researchers should be able to release the special mosquitoes across most of Yogyakarta sometime in 2016. Researchers will then measure the EDP's effectiveness in reducing dengue across an entire city. Sjakon hopes at the end of the third phase, the EDP-Y will reduce dengue by up to 50%. At that point, the EDP can move to even larger cities, such as Jakarta, and outside Indonesia to cities such as Ho Chi Minh. In a separate email interview, Sjakon's brother George Santosa Tahija, 56, was also optimistic the EDP-Y can have a major impact. "The EDP-Y is an excellent example of public-private partnership. If it succeeds, the EDP-Y can have a tremendous impact in improving public health," says George, the supervisory board at the foundation. **F**

GROWING BUSINESS

The Tahijas' philanthropies are supported by their successful businesses. The family's main enterprise is PT Austindo Nusantara Jaya (ANJ). In 1986, George established ANJ and served as its president director for more than two decades until becoming a commissioner last year. After doing an IPO in May 2013, currently the Tahija family holds a 90% stake in ANJ, which is worth Rp 4.5 trillion. Last year, ANJ recorded a \$152 million in revenues with a net profit of \$22 million. The company operates six oil palm plantations spread over Sumatra, Kalimantan and Papua which last year produced 134,933 tonnes of CPO.

In energy, ANJ owns a biogas power plant in Belitung called PT Austindo Aufwind New Energy. The company also has minority stakes in two geothermal power plants in partnership with Chevron called PT Darajat Geothermal Indonesia and has minority stake in a coal-fired and diesel power plant business in partnership with Freeport-McMoran.

George is also involved in education as a trustee on the board of

Dharma Bermakna Foundation and as one of the founders of the PSKD Mandiri school. He is also interested in environmental preservation as the founder and chairman of the Bali-based Coral Triangle Center.

Meanwhile Sjakon's interests are more in healthcare. He is the founder of PT ANJ Healthcare that owns the eye clinic chain Klinik Mata Nusantara (KMN). For Sjakon, KMN is more than a business. "It gives me pleasure to be involved in a medical practice. That is why I don't mind to buy sophisticated equipment for the clinics. Even though they cannot afford this equipment, I can purchase it with my own money," he says. He says KMN is the first clinic in Indonesia which has RetCam, which can analyze premature babies at risk for eye disease. In addition, KMN also has a Heidelberg Spectralis, a high-tech device used to examine the structures of retina. Before opened his own clinics, Sjakon was a vitreoretinal consultant in the Jakarta Eye Center and an ophthalmologist at Karawang General Hospital, and has a specialist degree from the department of ophthalmology at University of Indonesia in 1988.

