

# Auke Idzenga: Water Pumps for the Rural Poor in the Philippines

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**Through ingenuity, resourcefulness and commitment, a nongovernment organization (NGO) helps provide clean, affordable water in many upland communities in Negros, Philippines and across Asia.**

Auke Idzenga, a Dutch-born marine engineer, found that many upland villages and farms did not have access to water for drinking and irrigation when he arrived in Negros province in the Philippines in 1985. He helped set up the Alternative Indigenous Development Foundation, Inc. (AIDFI) in 1992 to address the challenges in agrarian reform areas. He developed and promoted the hydraulic ram pump technology that now provides clean, affordable water to many of these upland communities.

## What prompted you to develop the ram pump technology? How does it work?

Ram pumps have existed since 1798, but it never really spread. When I worked on a similar pump at a technical university in Holland, I was fascinated to see water being pumped up without any electricity or fuel. I decided to do something with the technology.

The ram pump makes use of the energy of falling water. This energy can generate electricity by driving a turbine and generator or build up pressure in a hydraulic ram, so that a portion of this water can be pushed to great heights. The basic principle is to convert velocity into pressure. The technology is simple and if locally fabricated, it becomes easy to repair and maintain, since it is based on locally available spare parts.

## How did you introduce the ram pump to the communities? How was it received?

It was like shouting in the desert. We hired a full-time marketing person to get the word out. We printed brochures, shot a video, wrote articles, and developed a website. We also built a working miniature of the ram pump system, which has attracted crowds over the years, including at the 6th World Water Forum. And every installation in the field did the rest of the promotion.

During installations, people could not believe that we would be able to push the water so high without electricity or fuel. The reactions from the community were unbelievable.

## How did the ram pump affect the lives of the people given access to clean, reliable water?

The ram pump helps save people's time and effort since it delivers volumes of water near their houses. Aside from providing drinking water,

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Auke Idzenga (right), the AIDFI Team, and varying model sizes of the ram pump.

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The hydraulic ram pump is a product of years of dedication and hard work that brought it to the level of a small enterprise that is recognized locally, nationally, and internationally. It now serves as model for AIDFI's other projects, involving technologies related to water, renewable energy, and organic farming and processing.

the bigger units are ideal for irrigation, making the farms less dependent on rainfall, thereby increasing production and income. With more water, the villagers also started growing more vegetables the whole year round.

### **Has the ram pump been adapted by other water-scarce communities?**

For many years, we were struggling as a self-reliant NGO moving from one project to another. When the ram pump became more popular, especially because of the awards we received, particularly the Ramon Magsaysay Award, we were noticed by the Earth Day Network Philippines and the Coca-Cola Foundation. For the first time, we were able to get a program financed by Coca-Cola, which entails installing complete ram pump systems in 100 upland villages in 2-3 years. This was followed by 14 systems commissioned by Butuan City, 12 systems by the Bureau of Soils and Water Management of the Department of Agriculture, and nearly 50 systems by the United States Agency for International Development (USAID). We have also started selling ram pumps to other countries and even carrying out complete installation and manufacturing transfer to Afghanistan, Colombia, and Nepal.

### **What difficulties did you encounter in developing the ram pump technology?**

One major challenge is getting a patent. Our model is protected as a utility model, but that does not stop others from copying it. Some engineers also tried to come up with models inspired by our work.

Another difficulty is the paper work. For every project, we have to deal with a lot of paper pushing, which can be more difficult when dealing with far away barangays (villages). We want to work dynamically and we understand some forms of bureaucracy, but it has to be easier to bring water to deprived, far-flung communities faster.

### **What insights can you highlight from your experience?**

First, we must be fully committed to the technology. The ram pump was a product of years of dedication and hard work that brought it to the level of a small enterprise that is recognized locally, nationally, and internationally. It now serves as model for AIDFI's other projects, involving technologies related to water, renewable energy, and organic farming and processing.

Second, we should aim to create small self-sustaining enterprises, with good centralized manufacturing and installation and training expertise.

And third, we should do more technology transfers among developing countries, and this should be facilitated by international development agencies. Too much money goes to conferences and consultants, and for us who maximize every single dollar in the field, it is very difficult to find funds for this kind of technology transfer and exchange.

**The Water Champions series was developed to showcase individual leadership and initiative in implementing water sector reforms and good practices in Asia and the Pacific. The champions, representing ADB's developing member countries, are directly involved in improving the water situation in their respective countries or communities. The series is regularly featured in ADB's Water for All News, which covers water sector developments in the Asia and Pacific region.**

#### **About the Champion**



Dutch-born marine engineer Auke Idzenga is the inventor of the ram pump technology promoted by the Alternative Indigenous Development Foundation, Inc. (AIDFI) in rural communities in Negros Island, Philippines and elsewhere.

Auke worked at a shipping company in The Netherlands for two years before deciding to use his technical knowledge to help the poor. In 1985, Auke came to the Philippines and worked in the socio-economic section of a labor union for sugar workers in Negros, a province known for its vast sugarcane plantations.

Auke together with other sugar workers envisioned an organization that would "cater to the organizational,

agricultural, and technical needs of the agrarian reform areas and those of upland farmers and communities" in Negros. AIDFI was formally registered as an NGO in 1992.

Auke and AIDFI embarked on their first project in 1990, the development of a hydraulic ram pump model that can supply water without the use of any external energy. AIDFI's flagship project was the first model installed in Brgy. Mambugsay, Cauayan, Negros Occidental which yielded a volume of 1,500 to 72,000 liters of water per day.

Today, AIDFI has become a self-reliant NGO which generates its funds through its own income generating projects. It is committed to the development and promotion of appropriate technologies and sustainable development; effectiveness and efficiency in development management; and the empowerment communities, gender equity, and cultural diversity.

Auke lives in Bacolod with his wife and four kids.

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