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NEPAL/INDONESIA: HARNESSING NATURE TO BRING WATER WHERE IT'S NEEDED

Securing Water for Food (SWFF) Grand Challenge Innovator aQysta, Barsha Pump

Duration: 2014–2017

Challenge

Barsha means rain in Nepalese. Nepal is a country with more than 6,000 rivers, but its smallholder farmers often lack access to water for irrigation. SWFF Grand Challenge Innovator aQysta invented the Barsha Pump, a low-cost, innovative solution for farmers to irrigate their fields without using fuel or electricity. Its floating water wheel design (and innovative spiraling bodies) rely on river currents to pump water through a hose to fields, eliminating the time-consuming and back-breaking work of hauling water by the bucketful.

“Before the installation of the Barsha Pump, we used to carry the water buckets for almost six hours a day and still we couldn’t fulfill the water demands of the crop,” says farmer Ashuk Prasad Chaudhary.

Opportunity

After a four-month pilot period, aQysta began selling its pumps in Nepal in 2016, and with help from SWFF it now has a local manufacturer and distributor. The distributor negotiated a deal with the Nepalese government to subsidize the purchase of as many as 200 aQysta Barsha pumps by smallholder farmers.

Securing Water for Food Grand Challenge Innovator aQysta’s Barsha Pump runs on river currents alone and is, therefore, and environmentally friendly, low maintenance irrigation solution. Photo credit: aQysta

The increase in demand has been accompanied by economies of scale, with production costs dropping by 53 percent since the start of the project. A corresponding drop in the price of a pump makes it accessible to even more customers. Twenty pumps were sold in Indonesia this year. aQysta also is expanding to new markets, including Guatemala, Colombia, and Ghana.

aQysta is most proud of the impact it has had on a village that had farmed the same crops for 400 years. Because the Barsha Pump provides access to a year-round water source, the village has diversified to multiple vegetable crops that grow throughout the year rather than just during the monsoon season. This has allowed some of the younger men to stay and farm rather than migrate to cities looking for work. And when the young men stay to farm, the women are freed up to pursue other activities. The village is both able to produce vegetables for their own use and for sale, generating additional income.