

THE *BARSHA PUMP* OF THE aQYSTA COMPANY TO IRRIGATE FIELDS WITHOUT USING ANY FUEL OR ELECTRICITY

The aQysta company continues to successfully promote the [Barsha Pump to irrigate fields without using any fuel or electricity.](#)

The *Barsha Pump* was designed and built in 2012 by the aQysta start-up Company founded by three engineers from the Delft University of Technology in Netherlands. The Company's goals are to develop technologies that provide economic benefits and strengthen local communities without hampering the environment.



The pump works on an optimized spiral principle and is designed as a sustainable, low-maintenance and low-cost irrigation pump to enable rural communities to increase their crops. Although the *Barsha Pump* is a new product, it is based on a very old design. The pump itself is essentially a water wheel on a floating platform, that's moored in a nearby flowing river or canal. The moving water rotates the wheel that in turn utilizes a spiral mechanism to compress air. That air drives water through an attached hose up to the fields.



Depending upon the soil, crop, climatic conditions, and irrigation technique, one *Barsha Pump* can irrigate up to 2 hectares of land. The pump can be combined with other complementary technologies like drip or sprinkler irrigation systems helping irrigate the larger area with one *Barsha Pump*.



[The technology has been designed and built in such a way as to bring many benefits for users and the environment.](#) According to its designers, the *Barsha Pump* is a sustainable and economical alternative to other irrigation solutions such as diesel and solar-powered pumping. It can save over 70% of watering costs for farmers, compared to conventionally-used fossil-fuel based pumps and should provide a return on investment in less than one year. It also creates no emissions, can be built from locally-available materials and requires very little maintenance.



Since 2012 the aQysta company has achieved important results by promoting its low-cost technology which facilitates access to water and allows the development of a profitable and environmentally friendly agricultural activity. In particular, the following impact results were achieved:

- More than 200 units of the Barsha Pump have been installed in different countries with a significant [socio-economic and environmental impact](#) for local communities: 5.000 people served, 200 hectares of land irrigated, 300 million litres of water



pumped and 100 tons of CO2 emissions reduced.

- The aQysta company has developed [different variants of hydro-powered pumps](#) that match with different flowing source of water. For each of these versions the main features, dimensions and input conditions required are indicated in the website: Floating Version for Rivers; Standing Version for Rivers; Floating Version for Big Canals; Wall-mounted Version for Small Canals and Breast shot Version for Streams/Canal drops.
- Partnering with international and national organizations and enterprises, the aQysta company has managed to build an important [network of distributors in many different countries](#). Furthermore, partnering with local actors, the aQysta company which has its main office in Delft (Netherlands), has managed to create offices in Colombia, Malawi, Nepal, Indonesia and India, offering services for the promotion of the technology, for the on-site manufacturing of some components, for the installation of the different versions taking into account the types of water sources.
- In Nepal, the company has also adopted an innovative financial mechanism to install the *Barsha Pump*. The smallholder farmers are pre-financed via aQysta's Easi-Pay scheme. This scheme concept allows farmers to buy a *Barsha Pump*, use it to irrigate their crops and pay for it only after a good harvest. The aQysta company, through its partner, [also provides technical support and training to farmers](#) to ensure that their agricultural activities, using the *Barsha Pump*, produce good harvests.

In 2012 the first prototype of the Barsha Pump won the Philips Innovation Award. In 2014 the [Climate-KIC's Venture Competition](#) recognized aQysta as the most innovative clean-tech company. In 2016 the Barsha Pump was awarded by the [Siemens Stiftung Foundation](#). In 2018 the Barsha Pump was recognized as an innovative solution addressing the Sustainable Development Goals (SDGs) by the [2018 UN Solutions Summit](#).

In the aQysta website the [story archive](#) presents some examples of the ongoing projects and results achieved in different countries and all useful information to know more and to establish collaboration is available.

To know more

[Barsha Pump in aQysta website](#)

[Barsha Pump in Facebook](#)

[Barsha Pump brochure](#)

[aQysta's Distribution Partners](#)

[Article in techxlab.org](#)

[Article in solarimpulse.com](#)

[Article in dutchwatersector.com](#)

[Article in securingwaterforfood.org](#)



[Barsha Pump in unctad.org](http://unctad.org)

[Article in globalinnovationexchange.org](http://globalinnovationexchange.org)

[Article in deepresource.wordpress.com](http://deepresource.wordpress.com)

[2018 UN Solutions Summit website](#)

[Article in reset.org](http://reset.org)

[Article in consciustifnews.com](http://consciustifnews.com)

[Barsha Pump in engineeringforchange.org website](http://engineeringforchange.org)

