

WaterWheel Rolls Out Solution to Ease Heavy Load

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Phys.org) —For those with running water in their homes, water is light, rolls right through the fingers, easily pours out of the faucet, and gives us hygiene and hydration in minutes so that we go on about our day. For families without such access, water is a different story. Water is heavy. Water collection dominates the time women and their school-age daughters have to spare on any day. They have the role of water-bearers and they walk long distances, hours, back and forth, to rivers and streams, with pails and jugs on their heads. The water they get will be doled out carefully for drinking, cooking and washing that day.

From economists to health experts to educators, there is no argument that the daily burden of getting [water](#) is a drain on human productivity, limiting the time women and school-age children could have for other opportunities to work and attend classes. One attempt to resolve this very basic issue has been the WaterWheel, a device from a U.S.-based group called Wello, which describes itself as a social venture.

Wello has reinvented the wheel, in that they have used the wheel to rethink water collection in parts of the world such as India and Africa. Fundamentally, the wheel answers the question, what would be the benefit if you rolled water back to your village home instead of carrying the water on your head?

Wello in 2011 worked in close collaboration with village residents in Rajasthan, India, on the concept and Wello later on won a \$100,000 Grand Challenges Canada prize to develop the WaterWheel, which was announced by Grand Challenges Canada, funded by the government of Canada, in November.

According to the prize project description: "The WaterWheel can be used to [ferry clean water](#) from a community tap to the home, used to collect rainwater during the wet season, to collect water from an open source during the dry season, or used to travel longer distances to reach a safe water sources when other options are unavailable."

The designers considered different sizes before deciding on a 50 liters. The result is a plastic wheel that serves as a 50-liter container that enables people to roll ample collections from water sources at once rather than carrying multiple jugs on their heads—between three and five times the amount of water collected by traditional methods—in short, far more water and in less time.

The WaterWheel's form was inspired by the shape of the traditional matka (pot). According to the Wello blog, they manufactured their first production run of WaterWheels in Ahmedabad, Gujarat in 2012. The device can also find use in irrigation and tending herds of animals.

Wello also had to devise a sustainable business model. According to the project description for the Canada prize, the Wello team said, "We designed our business model around extreme affordability. While similar products retail in the \$75 to \$100+ range, the WaterWheel will retail for \$25-\$30, making it accessible to the people who need it the most."

Wello said they had partnerships "with organizations throughout the clean water value chain, local governments businesses and NGOs, that will enable Wello to build on the progress made and leverage local knowledge.

A [report](#) in *The Guardian* said that Wello plans to sell the WaterWheel in the Madhya Pradesh, Rajasthan and Gujarat states, as well as explore opportunities for water purification.
