



## CASE STUDY: ENTERPRISEWORKS

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### Problem: Lack of access to clean water

Around the world, more than 2 million people die each year from waterborne diseases. Ninety percent of the victims are less than five years old. Often the only source of water for a village is a stream or river located many miles from a village, which results in women and children spending hours collecting water from rivers and lakes, preventing them from working or attending school.

Enter EnterpriseWorks, now a division of Relief International in Washington DC. EnterpriseWorks is an international non-profit organization focused on fostering economic growth and raising the standard of living in the developing world.

EnterpriseWorks saw the potential to help people gain access to fresh water and provide an opportunity for local businesses at the same time through rainwater harvesting. Rainwater harvesting was not a new idea, but previous approaches required storage facilities that were too expensive to be implemented at a household level. In addition, shared facilities, where the cost would be distributed over several families, tended to become neglected, with no individual taking ownership of their upkeep. EnterpriseWorks knew that for this approach to work it would require the development of much lower cost storage containers for rainwater that could be purchased and maintained by individual families.

### Challenge: Provide a safe, affordable method of collecting rainwater

EnterpriseWorks surveyed their clients and industry experts and found that no storage device currently existed that met their sustainability standards, and it was not clear that anyone could invent one, given their stringent requirements. The new storage unit would need to hold at least 125 gallons of rainwater at an installed cost of no more than 20 USD. EnterpriseWorks was told by experts in the rainwater harvesting field that this target was unachievable.

This is when EnterpriseWorks turned to InnoCentive and its unique Challenge Driven Innovation methodology. InnoCentive worked closely with EnterpriseWorks to frame the problem in a way that clearly articulated EnterpriseWorks' goal - to find a solution that could be used under the widest variety of conditions at the lowest possible cost.

Crafting the Challenge required breaking the problem down and examining it from many different angles. Whatever storage vessel EnterpriseWorks chose, it had to be supported and protected. Should it be above ground or partially buried? Should it be a totally new device, requiring lengthy development and testing, or could it be built around a product already in use but designed for a different purpose? Would it be acceptable to the target users? What had been tried before? Why hadn't previous attempts worked? Every nuance of the project was analyzed to ensure that solutions would address all of the criteria.

During the Challenge Development process, InnoCentive suggested an award of \$15,000 for solving the Challenge, in return for which the Solver would willingly relinquish the intellectual property rights to the design. The market specialist from EnterpriseWorks, Ann Koontz, was skeptical: "I thought this was just really silly," she recalls, "that no one in their right mind would come up with a solution for that money and give up their rights to the product."

#### CHALLENGE SPECS

##### CHALLENGE

**Low Cost Rainwater Storage System**

##### DISCIPLINES

**Engineering and Design, Environment, Developing Countries, Public Good**

##### SOLVERS ENGAGED

**1,188**

##### SOLUTIONS RECEIVED

**164**

##### CHALLENGE AWARD

**\$15,000**

##### TIME TO SOLUTION

**60 days**

#### Challenge Impact

- Solution provided a simple, affordable storage for fresh, uncontaminated rainwater right at the household for people in developing countries.
- Changed village economics by enabling women and children who were previously tasked with collecting a family's drinking water to work or attend school.
- Enabled profitable business opportunities for local suppliers and installers.

“Without InnoCentive, we may not have found this level of quality.”

The Challenge was posted on the InnoCentive platform, which reaches hundreds of thousands of diverse individuals in nearly 200 countries. Within a few weeks, nearly 1,200 InnoCentive Solvers had indicated interest. And by the end of the 60-day submission period, 164 proposed solutions had poured in. After eliminating those that failed to meet the Challenge specifications, a team at EnterpriseWorks consisting of a Board Member and former GE Engineer, the Technical Director, and a volunteer from Boeing Aircraft Corporation reviewed almost 100 qualified responses.

## Solution: Simplicity itself

The winning solution was submitted by a German inventor whose company specialized in the design of tourist submarines. His solution was simplicity itself, requiring no pumps or moving parts – a plastic bag within a plastic bag. The solution was based on a proven industrial technology, but one that had not been used for water storage. The outer bag would provide the strength to contain one ton of water while a lightweight inner liner would ensure impermeability. The product was lightweight, easily transportable, and able to be folded into a small retail package. The winning Solver received \$15,000 for his solution.

EnterpriseWorks’ Technical Director Jon Naugle was delighted to find a product idea with such tremendous potential. When the first sample arrived a few months after the Challenge, he recalls his initial impression: “When I felt how light it was and saw how compact the package was and then filled it with 125 gallons of water, my thirty years in the field told me that we had the makings of a winner.”

## Impact: Clean water, improved economics

Since the Challenge concluded, EnterpriseWorks has taken the product forward under the name “bob.” The rainwater collection tank has been adapted based on field testing in Uganda, including a modified shape to make it more stable, an outlet tap and inlet screen. The final version holds nearly three times the amount of water required – more than 350 gallons. This greater capacity means lower demand on women and children who traditionally carry water to their villages from distant water sources. As a result, women are able to spend more time working in the fields or taking care of children, a major economic benefit to the family. Girls who now help with the daily water carrying are able to attend school. The devices will be installed and sold by local businesses, providing additional income to communities in the region.

## Conclusion: Solving an “unsolvable” problem

Dr. Farshad Rastegar, CEO of Relief International, parent agency of EnterpriseWorks, says he believes the innovation is a “game changer” in the world of rainwater harvesting. “Within the next decade the storage bag will make a major dent in the problem of water availability faced by tens of millions of families around the world. It does so because it is simple, affordable and scalable.” Using InnoCentive’s Challenge platform and methodology to find a solution to this “unsolvable” problem has given EnterpriseWorks the potential to change the lives of millions in the developing world.

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“The solutions we received through InnoCentive far exceeded our expectations in terms of quality, usability and cost. Without InnoCentive, I’m not sure if we would have found this level of quality. In the period of a few months, we received a solution that might have taken years to develop.”

**Don Feil, President and CEO, EnterpriseWorks**

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To learn more about InnoCentive visit [www.innocentive.com](http://www.innocentive.com).

To learn more about EnterpriseWorks, visit [www.enterpriseworks.org](http://www.enterpriseworks.org).

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## About InnoCentive, Inc.

InnoCentive is the open innovation and crowdsourcing pioneer that enables organizations to solve their key problems by connecting them to diverse sources of innovation including employees, customers, partners, and the world’s largest problem solving marketplace. InnoCentive’s proven Challenge Driven Innovation methodology, community of millions of problem Solvers, and cloud-based technology platform combine to fundamentally transform the economics of innovation and R&D through rapid solution delivery and the development of sustainable open innovation programs. Leading commercial, government, and nonprofit organizations such as Eli Lilly, Life Technologies, NASA, nature.com, Popular Science, Procter & Gamble, Roche, Rockefeller Foundation, and The Economist partner with InnoCentive to solve problems and innovate faster and more cost effectively than ever before. For more information, visit [www.innocentive.com](http://www.innocentive.com).

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