



# WATER IN ACTION

Partnerships

Knowledge

Solutions

## Innovative agricultural irrigation pays off

In the face of a growing world population and limited water resources how do countries safeguard their future food production? Countries such as India, for example, currently use over 80% of the available water supply to irrigate crops and most farmers still use inefficient flood irrigation methods fed by open water channels. Even in parts of Europe there are concerns about the water consumed by agriculture and in particular how efficiently this valuable resource is used in irrigating crops.

This concern prompted a group of companies including Acquedotto Pugliese, ANBI, Borealis, Federutility, Irritec & Siplast, Nestlè, Ritmo and SAB to sponsor a project by the Althesys Strategic Consultants house in Milan to evaluate the effects of a water saving strategy in Italian agriculture through a cost benefit analysis.



The project was started in the middle of 2010 under the direction of Alessandro Marangoni, Professor at the Bocconi University in Milan, and the findings were presented at a conference held in Rome, Italy, in February 2011. The conference brought together high-ranking stakeholders triggering important discussions and resulting in a commitment to cooperate on an action plan to work towards the study's recommendations.

## An overhaul of irrigation systems could save 17 billion EUR in Italy alone over the next 30 years

The study estimated the financial benefits of different water management strategies within the Italian agricultural industry including the cost savings due to reduced water usage, environmental savings due to the reduced exploitation of water and the social benefits from an improved environment and a more competitive agricultural industry. These strategies were grouped into the following four critical categories.

### Financial benefits of different water management strategies

**1. The use of the most efficient irrigation methods:** In this category the team identified where old irrigation systems could be replaced with the most efficient drip and micro-spray systems. This enabled them to estimate the financial benefits of the water reduction and environmental and social factors less the cost of the investment. For Italy this translates into a financial gain of some 4.3 billion EUR over a time period of thirty years.

**2. The use of the latest business management models:** In Italy information technology is available from the Water Reclamation Consortium which would enable individual farmers to optimise the use of their irrigation system based on the overall evaluation of meteorological, agronomic, geological and other pertinent data. The potential water savings to be achieved in this area alone are worth around 3.2 billion EUR.

**3. The use of the latest technologies in irrigation management:** Computer controlled water delivery units provide yet another step in reducing water consumption and increasing crop yield per litre and in Italy could provide benefits to the tune of 1.1 billion EUR.

**4. Improving the quality of the water supply systems:** Over 72% of the water for irrigation in Italy is transmitted to the fields in open channels which typically lose 60% of the water they carry due to evaporation and seepage. Repairing the existing water transportation pipes and replacing the open channels with new pipes would yield yet another 8.7 billion EUR of savings over the investment cost.

## Water for the World™ – Borealis and Borouge commitment to tackle the global water challenge

The Italian study on agricultural irrigation practices was conducted as part of Water for the World™, a programme established by Borealis and Borouge for the purpose of contributing solutions to global water challenges. "Food security and water efficiency are closely linked. There is an urgent need for the establishment of new water management policies due to the growing scarcity of water resources and the risks it presents for food security," says Cino Serrao, Borealis Business Development Manager. "That is why we have supported this important study as part of our Water for the World engagement and why we intend to act on its findings."

This methodology and many of the conclusions can be applied to many other countries around the world that are facing water shortages and Borealis and Borouge will investigate how we can use the study in other countries.

Established in 2007, Water for the World™, Borealis and Borouge Corporate Social Responsibility (CSR) programme, aims to address the global water challenge encompassing social, environmental and business initiatives such as water access projects, awareness raising and the promotion of best practices.



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For more information on this project contact:  
Hugo Hammar  
[hugo.hammar@borealisgroup.com](mailto:hugo.hammar@borealisgroup.com)

To learn more about the Water for the World visit: [www.waterfortheworld.net](http://www.waterfortheworld.net)

For more information contact:  
[info@borealisgroup.com](mailto:info@borealisgroup.com)



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