



Photo: Tom Van Cakenberghe

# Making waves in the field of informal wastewater use

*The International Water Management Institute (IWMI) has played a central role in elevating the issue of widespread informal wastewater irrigation from a barely known concept to a challenge of global importance.*

IWMI's efforts to nurture a debate around wastewater use in farming began at the turn of the millennium. At that time, little attention was being given to the unplanned use of sewage and polluted water to irrigate crops, which was already a common reality in developing countries.



Collecting water from a polluted canal to water vegetables in Ghana.

Photo: IWMI

In 2002, IWMI and the International Development Research Centre (IDRC) jointly sponsored research into the extent, benefits and risks of informal wastewater irrigation. The findings outlined the considerable scale of the issue. Around the Ghanaian city of Kumasi, for example, farmers were using polluted water sources for irrigation on some 12,000 hectares, more than twice the area under formal irrigation in the entire country. Globally, IWMI estimates an area of 6 to 20 million hectares.

The research was presented at a conference in Hyderabad, India. IWMI specifically drew attention to the World Health Organization (WHO) 1989 *Guidelines for the safe use of wastewater in agriculture and aquaculture*. IWMI felt that its emphasis on 'irrigation water-quality thresholds' was difficult to apply in the developing world. In low-resource countries, no treatment plants existed, and informal irrigation with polluted stream water was already practiced by millions of poor farmers.

## Facing up to reality

The common recommendation in such situations was to stop farmers from using polluted water for irrigation or to ensure they grew crops that would not be consumed by humans. However, both suggestions failed frequently. "The idea of changing crops was often rejected by farmers because their livelihoods were based on growing crops that sold the best, and not any other," explains IWMI's Pay Drechsel, who led the research.

These new insights were discussed with WHO and led to the 'Hyderabad Declaration', which urged decision makers to give

due attention to livelihood issues, while designing alternative risk mitigation options. When the US government published its *Guidelines for water reuse* in 2004, it printed the complete Hyderabad Declaration and included case studies from IWMI's research.

IWMI and its partners worked intensively on alternative 'non-treatment' or 'post-treatment' options that would help reduce health risks when poorly treated wastewater was used. This research supported the current 2006 WHO guidelines, updates and a related FAO Farmer Field School Manual.

## A positive influence

Richard Carr, WHO's project coordinator at that time, explicitly recognized IWMI's influence on the 2006 guideline revision, stating "Definitely the guidelines were positively influenced by IWMI." He noted that the Institute's work had raised awareness of the beneficial aspects of wastewater for many poor communities.

IWMI also worked with the World Bank to produce the Policy Research Working Paper *Improving wastewater use in agriculture: An emerging priority*, and in 2011, joined a two-year initiative of the UN-Water Decade Programme on Capacity Development for the Safe Use of Wastewater in Agriculture. This involved seven international workshops, reaching nearly 160 participants from over 70 countries. Based on the feedback, WHO is currently developing *Sanitation Safety Plans*. This work is part of a larger project on safe resource recovery and reuse, co-led by IWMI.

When the US revised its 2004 guidelines in 2012, IWMI co-authored the international chapter and is currently assisting the Water and Sanitation Program of the World Bank to develop a guidance document on wastewater use for India.

Having helped draw the world's attention to wastewater irrigation during a decade and a half of research, IWMI is now helping to define sensible indicators for a wastewater target for the United Nations Sustainable Development Goals.

## Donors and partners

International Development Research Centre (IDRC), Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), CGIAR Challenge Program on Water and Food (CPWF), Google Foundation, World Bank, UN-Water Decade Programme and the United States Agency for International Development (USAID) and many national partners.

## For more information

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