

Health-related research in IWMI in 2008/09

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Wastewater irrigation

Several IWMI projects especially in Ghana and India continue to address food safety issues and public health in city vicinity where highly polluted (or waste)water is used for irrigation of crops eaten raw. Option for health risk mitigation are being explored in a participatory way with stakeholders on farm and in the post-harvest sector, accompanied by Quantitative Microbiological Risk Assessment (QMRA) and cost-effectiveness analysis (DALY/US\$). The studies are carried out in collaboration with national and international partners, WHO and FAO, now organized into the Environmental Health Platform.

Improved livelihoods through better dam management

The key objective of this CPWF (Challenge Program on Water and Food) project is to identify how environmental and social (including health) issues can be better incorporated in dam planning and management. The project's health component intensively examined the large Koka dam and reservoir in central Ethiopia. Primary and secondary data were collected on malaria: historic case data, incidence studies, entomological surveys. Some key results: greater malaria case rates in communities close to the reservoir than those further away; greater abundance of malaria vectors in communities close to the reservoir; more rapidly falling water levels associated with lower mosquito larvae counts in shoreline puddles. These findings confirm the role of the reservoir in increasing malaria transmission and, although not conclusive, indicate that there is potential to use dam operation as a tool in integrated malaria control strategies.

Next phase: proposal development to gain more insight into the potential of malaria control via dam operation and to extend this work to other ecological and hydro-climatic areas.

Assessing and mitigating health impacts of small reservoirs

Various projects since 2001 collected data on malaria, schistosomiasis and geohelminthes in Burkina Faso and Ethiopia; and on water quality data in Zimbabwe, Brazil and Morocco. Focus on development of toolkit (*Ecosystems and Health* is one of 4 sections) for better planning and management of small reservoirs, important water storage structures to increase resilience under climate change.

Next phase: inclusion of livestock component (ILRI) and work with regional health partners (AMREF)

Improving health through multiple use water services

CPWF project on evaluation and promotion of integrated water services for domestic and productive purposes (MUS), as well as upgrading existing water systems (domestic, irrigation, fisheries). Key health issues related to drinking water and sanitation: water quality, water availability, sanitation, hygiene behaviour. A synthesis is underway of project data on water quality, intestinal parasites and home water treatment, related to international literature.