VIA Project

Virtual Irrigation Academy (VIA) Project

Background

The Virtual Irrigation Academy (VAI) project was developed in 2015 in response to major new irrigation investments that are being rolled out in Malawi and Tanzania. In the past, irrigation development projects in sub-Saharan Africa proved more expensive and had lower economic rates of return than those in Asia and South America. Many lessons have been learned concerning design and construction of irrigation infrastructure, but little regarding water management.

Key VIA partners

The four-year project is a brainchild of the Commonwealth Scientific and Industrial Research Organization (CSIRO) in partnership with the Australian Centre for International Agricultural Research (ACIAR). In Africa, the project is being undertaken in Malawi and Tanzania. In Malawi, the Department of Agricultural Research Services (DARS) in collaboration with the Department of Irrigation (DoI) are the lead implementers. In Tanzania, it is implemented by the National Irrigation Commission in collaboration with Arusha Technical College.

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), the body mandated to coordinate sub-regional research in the sub-region coordinates and provides technical backstopping to the project in the two countries.

Aim and objectives

The aim of this project is to improve the profitability of irrigation farming by better water, salt and fertiliser management.

The project objectives to achieve this aim are:

- To refine and deploy farmer-friendly monitoring tools that measure soil water, nutrients, salt and depth to watertable;
- To develop a “Virtual Irrigation Academy”(VIA) through on-line visualisation of data from the monitoring tools linked to a virtual discussion, learning and teaching space with skilled facilitators;
- To determine how the VIA promotes the social and institutional learning that improves irrigated farm productivity;
- To develop partnerships for the post project continuation of the VIA and

monitoring tools.

The Virtual Irrigation Academy (VIA) combines new irrigation monitoring tools with an on-line communication and learning system.

The VIA will has several roles including:

Physical data capture from the schemes on a daily basis, so that project and country leaders can understand the situation and mentor extension workers;
Capture of the dialogue between farmers, extension workers and scientists for analysis of how learning occurs;
Training resources such as: videos on equipment installation and maintenance, interpretation of data and documenting success stories which can be shared with other farmers in the project countries.

How the tools work

The monitoring tools have been designed to fit the mental model of farmers and to give an output that is linked to action. For example information on soil water suction, nitrate concentration and salinity levels are illustrated by colours that represent action thresholds, and not as numbers with complicated units, hence promoting inclusiveness in the use of the monitoring tool across the gender categories especially the women and girls who often have low levels of literacy.

Each country will form three “learning coalitions” consisting of farmers, extension workers, a district irrigation officer and research and project staff. Each coalition will be located around an irrigation scheme, and will build their own case studies based on experiential learning and interactive approaches using the Gender Action Learning Systems (GALS) methodology.

The learning coalition will be required to train at least one additional irrigation community each year, using the VIA as the major resource. They will also be required to mentor that community and to ensure they receive the monitoring tools they request. We expect to set up at least 24 irrigation communities, consisting of between 20-50 farming households, using this approach by year 4, across both countries.

Women and youth who are often marginalised and excluded from the development initiatives will be prioritised in the selection of farmers and project staff, for increased and sustainable project impact.

The anticipated longer term outcomes are:

Increasing productivity and profitability through better management of water and nutrients on smallholder irrigation farms;

Sustainable water and salinity management; and Improved economic returns from investments in irrigation infrastructure.