

EXECUTIVE SUMMARY

Introduction

The Directorate of Water Use Efficiency of the Department of Water Affairs (DWA) is tasked to improve agricultural water management guided by the Water Conservation and Water Demand Management strategy (WCWDM) in the agricultural sector. In the management of water loss control, one of the major responsibilities of the sub-directorate is water accounting and auditing. This function requires the sub-directorate (Water Loss Control) to report on water use on government irrigation schemes, indicating both beneficial and non-beneficial water uses, with the objectives of reducing the unaccounted-for water component. Another important responsibility of the sub-directorate is the training of water control officers to effectively deliver against their water management responsibilities.

At the end of 2008 a Water Use Efficiency and Accounting (WUEA) report was developed as part of the Water Administration System (WAS) through funding by DWA and project management by the Water Research Commission (WRC). This WUEA report was successfully implemented at thirteen irrigation schemes and training was done on the different schemes and at a number of workshops.

Experience from this project has shown that the newly developed WUEA report is easy to use and that everybody prefers the new report over the previous Excel-based report. To build on the successes of this project and to ensure that the WUEA report is actively being used in a sustainable manner, it was recommended that much more should be done in terms of training courses and training material. This follow-on project funded by the WRC, is an extension of the previous project and the main focus of this project is the development of training material and documentation.

Objectives of the project

The objectives for this project are to:

- Develop step-by-step training documentation for WAS focusing on the generation of the WUEA report.
- Continue with the implementation and training of the Water Use Efficiency Accounting (WUEA) report in WAS at schemes that participated in the previous project and where additional training was required.
- Do a WAS training course through the Continuing Education department at the University of Pretoria (CE at UP).

Plan of action

Three different training methods are planned for this project which include:

- The development of step-by-step training documentation will be an ongoing process throughout the duration of this project. The training documentation will also be available on the WAS website at www.nbsystems.co.za.
- Training will be done onsite at the selected irrigation schemes. The training will be done much more intensively at a slower pace and where possible on a one-on-one basis.
- At least one WAS training course will be done during the duration of the project through the Continuing Education department at the University of Pretoria (CE at UP).

Training

A total of eight schemes were included as part of this project and all the training sessions at the different irrigation schemes are recorded. All training sessions were done at a slower pace as planned and, where possible, done on a one-on-one basis. The final test for success is whether a scheme can generate and submit a Water Use Efficiency Accounting Report (WUEAR) independently without any help.

The results have been excellent except for two of the eight schemes which include the Lower Sundays River WUA (LSRWUA) and Sandvet WUA. At LSRWUA the WAS is installed but not operational which made the use of the WUEAR therefore impossible. At Sandvet WUA the Water Use Efficiency Accounting Report (WUEAR) has been implemented successfully but problems have been experienced with the measuring of the inflow into the scheme. Demo runs of the WUEAR have been done successfully and the training has been completed so that management personnel will be able to generate the reports on their own. New measuring equipment has been installed and it should be operational early 2011.

Training course at CE at UP

A short-hands course on the implementation, operation and maintenance of the Water Administration System (WAS) was held over a period of two days at the Continuing Education department at the University of Pretoria (CE at UP).

The training course at CE at UP was successfully completed in June 2010. A total of 24 people attended the course that was held in a computer training laboratory at the University of Pretoria. The training facility was really up to standard and it was possible to demonstrate WAS from a central computer over a network where each student could follow on his/her own computer screen. All the marketing and registrations were done by CE at UP. A brochure was compiled which was used to market the course. A brochure was also distributed to the Department of Water Affairs (DWA) regional offices, irrigation schemes and potential candidates by Mr. J. Fourie from DWA.

WAS online training documentation

The online step-by-step training documentation that was developed and put on the NB Systems website turned out to be a huge success and a number of compliments have been received. Lower Olifants WUA successfully used the step-by-step documentation on the web without additional training to setup and generate their WUEA reports. Further development and improvements will be made to the documentation on a continuous basis. The development of training video clips have also been investigated and will definitely be added as part of the WAS training suite on the Web in the near future.

Conclusions and recommendations

The step-by-step training documentation has proven to be successful, easy to use and it will definitely be expanded in the future. The implementation of the WUEA report has also shown that it is a straight-forward and simple procedure to generate a useful report on water losses on irrigation schemes.

Although there is a place for basic training of larger groups (10 and more), better results were obtained when focusing on intensive one-on-one training. A well trained individual on a scheme means a lot more on a scheme than a group of half trained people.

In summary it can be stated that the correct tools are available but the focus needs to be directed to:

- Implementation of water loss control through WAS;

- Selected personnel to do the job;
- Identifying and training of core individuals that can train other people;
- Measuring stations (specifically the inflows into the scheme);
- Updating the step-by-step training documentation continuously and adding video clips.