

RESEARCH DIRECTIONS

Improved village water supplies in India

Professor Basant Maheshwari from the School of Science and Health is leading a research team that will build a partnership between Australia and India for a major international collaboration that aims to improve the security of irrigation water supplies and enhance livelihood opportunities for rural communities in India. This project is being supported by the Australian Centre for International Agricultural Research (ACIAR).

'Because of deficiencies in monsoonal rainfall, groundwater is being used for irrigation by small-holder farmers across India and has increased significantly over the years because of advances in technology', says Professor Maheshwari. 'Unfortunately, due to rapid population expansion groundwater is being used at a much greater rate than its natural replenishment. The overall aim of this project is to improve the security of irrigation water supplies and enhance livelihood opportunities for rural communities. We will concentrate on assessing the effectiveness of current rainwater harvesting and groundwater recharge structures as well as the management procedures that are currently being practiced in villages.'

A range of hydrologic, agronomic, economic, social and cultural data will be collected from selected villages over a period of four years. Local farmers and communities and other stakeholders will be directly involved to ensure effective solutions bring about wider ownership and adoption. Scientific tools and models will be developed or adapted to evaluate the current issues, identify options and develop strategies to improve long-term access to groundwater and regenerate the natural resource base for irrigated farming systems.

Guidelines and tools developed in this project will assist in capacity building of implementing agencies, NGOs and communities at a local level and result in the development of policies that will deliver tangible economic social and environmental



benefits. Improved planning, implementing rainwater harvesting and groundwater recharge works will in turn lessen poverty, providing a better livelihood for local communities.

Project Title: Improved village scale groundwater recharge and management for agriculture and livelihood development in India
Funding has been set at: \$1,216,109
Contact Details: b.maheshwari@uws.edu.au
UWS: <http://www.uws.edu.au/marvi>
ACIAR: <http://aciarc.gov.au/project/LWR/2010/015>
May 2012

Australian Research Team: UWS - Dr H. Grewal, Dr M. Varua, A/Prof B. Simmons, A/Prof R. Packham, Prof. B. Bellotti; **CSIRO Land & Water/Ecosystems Sciences** – Dr P. Dillon, Dr D. Tucker, Dr R. Kookana, Dr J. Ward.

Indian Research Team: **International Water Management Institute** – Dr S. Prathapar, Dr T. Shah; **M.P. University of Agriculture & Technology** – Professor R.C. Purohit, Dr P.K. Singh, Dr S.R., Bhakhar, Dr H.K. Mittal, Dr. M. Kothari, Dr. S.S. Sisodia, Dr P.S. Rao, Dr K.K. Yadav; **Vidhya Bhawan Krishi Vigyan Kendra** – Dr Hakimuddin, Mr P.C. Bhatnagar, Mr. A.S. Jodha; **Development Support Centre (DSC) Ahmedabad** – Mr S. Oza, Mr M.B. Sharma, Mrs Manju Ravi, Miss Seema Dave and Aashish Patel.