



PROJECT : LWR - 036

# IMPROVING GROUNDWATER MANAGEMENT TO ENHANCE AGRICULTURE AND FARMING LIVELIHOODS IN PAKISTAN

QUATERLY NEWSLETTER

( NOVEMBER - JANUARY )



## PROJECT PROFILE

Australia – Pakistan relations refers to the bilateral relations between Australia and Pakistan since 1983. The relations between the two countries have been friendly but year 2005 proved a great step towards former relations after officials exchange their visits. The Australian Government has strong interests in Pakistan due to its strategic position in South Asia so intensified its engagement with Pakistan since 2008 in the areas of security cooperation (including defense and law enforcement training), economic reform, development and democratic governance. Australian government took the initiation of establishing Australia's Centre for International Agricultural Research (ACIAR) and started multiple projects with Pakistan relating to water, agriculture, dairy, livestock and mining.

Australia's Centre for International Agricultural Research (ACIAR) was working with the federal and the provincial agriculture and livestock departments, the Pakistan Council for Water Research in Water Resources (PCRWR), the Pakistan Agricultural Research Council (PARC) and research institutions of the universities.

On January 31st, 2017 Australian Government launched three farm level water programme with the collaboration of PCRWR. These projects are a step toward more effective groundwater use for social, economic and environmental benefits. Project titled "Improving Groundwater Management to Enhance Agriculture and Farming Livelihoods in Pakistan" is four year trans-disciplinary research project attracted a significant amount of from ACIAR because it collaborative approach.

The project aims to enhance capacity of researchers, farmers, farming communities and relevant government and non-government agencies to improve groundwater management in ways that enhance farming family livelihoods in Pakistan. Building capacity means building skills, knowledge and confidence, alongside the provision of tools and processes.



## AIMS AND OBJECTIVES

The aim of this project is to build the capacity of researchers, farmers, farming communities and relevant government and non-government agencies to improve groundwater management in ways that enhance farming family livelihoods in Pakistan.

Building capacity means building skills, knowledge and confidence, and the provision of tools and processes. Enhancing farming livelihoods includes ensuring long-term sustainability of agriculture and fairness of consideration across the socio-political spectrum

### THE SPECIFIC PROJECT OBJECTIVES ARE TO

1. Develop and articulate a shared understanding of sustainable groundwater use for agriculture and the need for improved management in Balochistan, Punjab and Sindh provinces.
2. Develop, with collaborating stakeholders in

each case study, groundwater management tools and options that have the potential to enhance livelihoods of farming families.

3. Enhance capacity and institutional arrangements for post project adoption of tools and options developed in Objective 2 by collaborating stake holder organizations.

Institutional arrangements include the rules, norms and strategies that shape the decision-making of individuals and organizations Collaborating stakeholders include our in-country research partners and other additional collaborating organizations to be identified through the process of conducting the research, including farmer organizations and relevant non-government organizations.

### RESEARCH STRATEGY AND PARTNERSHIPS

The project will use a case study approach to enable in-depth understanding of particular groundwater systems and associated

socio-political contexts, and to engage and build capacity of groundwater managers and users in each case study context through collaboration. The three provinces selected for the case study investigations represent a diversity of groundwater use and conditions due to their different hydrogeological settings, but they provide similar opportunities to enhance agriculture and livelihood outcomes through improved groundwater management.

### PARTNER ORGANIZATIONS

Charles Sturt University's Institute for Land, Water and Society will lead the project, supported by the Pakistan Council of Research in Water Resources (PCRWR), International Centre for Agriculture research in the Dry Areas (ICARDA), University of Agriculture Faisalabad (UAF), PMAS Arid Agricultural University Rawalpindi (UAAR), International Waterlogging and Salinity Research Institute (IWASRI), Balochistan University of Information Technology, Engineering and Management (BUIITEMS), Sindh Agriculture University (SAU), NED University of Engineering and Technology, Mehran University, and the provincial irrigation departments of Balochistan, Punjab and Sindh.

### PROJECT ACTIVITIES

inception Workshop of 4 year project starting fromn 1st oct, 2016 and will end by 20 Nov, 2020 was held on Aug-Sep 2016. During the workshop individual team members took on specific roles and responsibilities identified in the activity schedule, and consideration was given to capacity enhancement needs to enable delivery of responsibilities. The activity schedule was modified accordingly, and additional team members were incorporated into the team to fill gaps in team expertise.

Launch of project and Impact Pathways Analysis (IPA) workshop, Jan-Feb 2017



The PRA preparation workshop involved training in co-inquiry research methods with a small team of co-facilitators taking charge of building teams and developing action plans.



Field visits by Project team to potential case study sites to Gul Minor Sindh



## INTENDED OUTPUTS AND OUTCOMES

By the end of the project, our intended outcomes are that:

1. Farmers, farming organizations and partner non-government organizations have started introducing improved groundwater management practices.
2. Government agencies in Pakistan have started developing/ demonstrating improved groundwater-related planning, monitoring, management strategies/ options and policies.
3. Relevant provincial-level government agencies, non-government organizations and farming organizations have developed effective partnerships for ongoing discussion on groundwater management issues and solutions.

The main outputs of this project will be a suite of groundwater modeling, monitoring and reporting tools, improved cropping and water management options, as well as research reports, research papers, databases, and policy briefs to guide the development of more sustainable groundwater management practices. Networks and forums for exchanging information and skills will form an additional output.

The tools and options are expected to optimize use of scarce groundwater resources by enhancing recharge to aquifers and better managing groundwater demand. This will reduce adverse salinity and sodicity impacts, achieve more profitable and sustainable agricultural practices, and thus benefit farming families.

Increased community awareness of the need for improved groundwater management may also assist farming families explore water distribution and access equity issues. There will also be environmental benefits from reduced land and water salinization as groundwater use becomes better managed.