International Water Management Institute

IRRIGATION DEPARTMENT

ON FARM WATER MANAGEMENT

British High Commission Islamabad

Capacity building training on the application of GPS data collection tools and RS/GIS Mapping

Date: Monday - Tuesday, February 13 - 14, 2023

Venue: IWMI Okara Office, inside On Farm Water Management (OFWM) Research Farm, Renala Khurd, district Okara, Punjab

Background

The International Water Management Institute (IWMI) is implementing the Water Resource Accountability in Pakistan (WRAP) Program Component 1: Climate Resilient Solutions for Improving Water Governance (CRS-IWaG) under the UK's Foreign, Commonwealth & Development Office (FCDO) to strengthen capacities to manage water resources at federal, provincial, and district levels.

The long-term goal of the program is to improve water governance through climate resilient solutions by introducing Federal and Punjab-level climate-smart interventions. The project aims to strengthen, empower, and catalyze national capacities for implementing climate-smart interventions through a transformational change process and by developing action-oriented interventions and recommendations that overcome technical and non-technical barriers and ensuring long-term sustainability. It will also generate evidence to contribute towards the implementation of National and Punjab climate and water policies.

The WRAP Program Component 1: CRS-IWaG has three main outcomes:

Outcome 1: Improving water governance in the Indus Basin to support the implementation of national policies (water and climate change).

Outcome 2: Better 'use' of water within Punjab province and how it is shared around priority 'usage' areas to support the implementation of Punjab Water Act.

Outcome 3: Dissemination of key findings through multiple forums and capacity development activities of key government institutions and the private sector to advocate for up-scaling technical interventions to support diversity and inclusion through improving water governance.

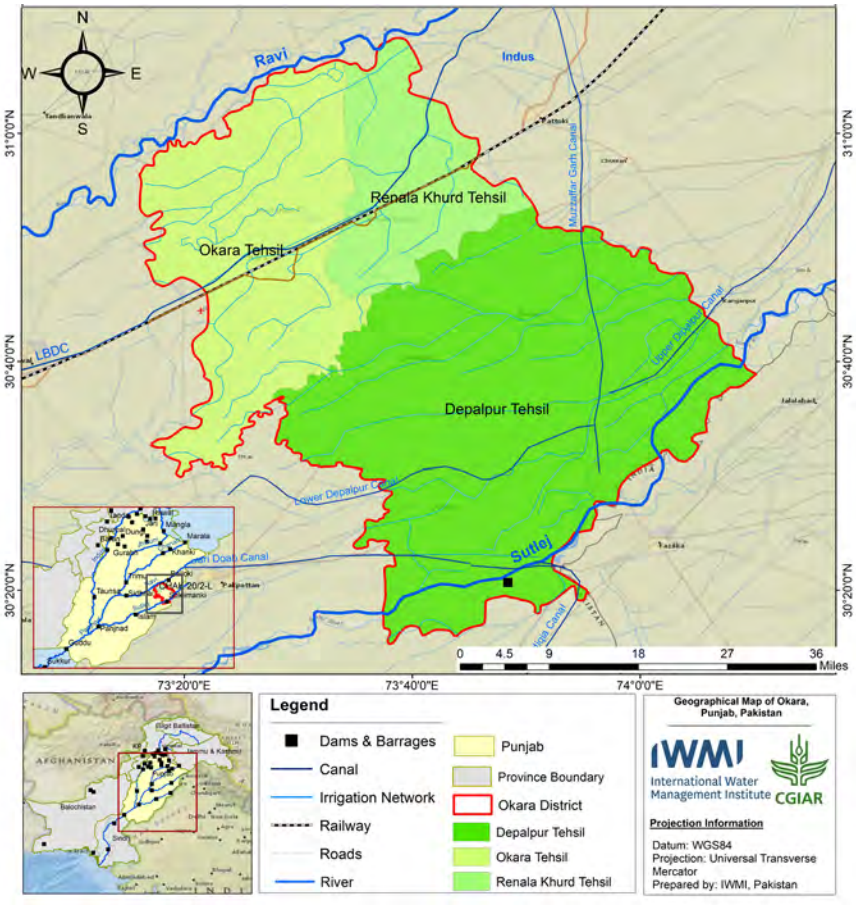

Figure 1 Okara is the pilot district of WRAP Program Component 1: CRS-IWaG

About the workshop

IWMI Pakistan is organizing a two-day training workshop to engage government institutes [Punjab Irrigation Department (PID) and On Farm Water Management (OFWM)], and academia, to build their capacity in effective monitoring and management of water resources using state-of-the-art Geographic Information System (GIS)-based data collection tools especially Remote Sensing (RS) and GIS Mapping. The hands-on training is aimed to build the capacity of participants in the application of open-source handheld application systems, such as Global Positioning System (GPS) data recording and processing, to assist in generating accurate on-ground information. The training will also include orientation to various geotagging collection concepts and methods, analysis of gaps in data collection techniques, and RS application in water resources for upscaling existing database information systems.

Date: Monday - Tuesday, February 13 - 14, 2023

Timings: 09:30 - 14:00 PKT (February 13)
10:15 - 14:00 PKT (February 14)

Venue: IWMI Okara Office, inside On Farm Water Management (OFWM) Research Farm, Renala Khurd, district Okara, Punjab

Figure 2 Land Use / Land Cover (LULC) sampling

Figure 3 The IWMI team along with Irrigation Department officials geotag Piezometers at a site in district Okara

Objectives

- Provide an overview of GPS applications and use of geospatial data collection tools for effective monitoring and management of water resources.
- Enhance the understanding of open-source GPS collection tools and their integration with GIS for mapping purposes.
- Provide hands-on training on the application of Differential Global Navigation Satellite System (DGNSS) and its application in research surveys.
- Enhance the capacity of government officials and other stakeholders in the application of RS in water resource management, monitoring and mapping.

Agenda

Timings	Activity	Focal person
09:30 – 10:00	Registration	
10:00 – 10:05	Recitation	
10:05 – 10:15	Welcome note	**Prof Dr Sajid Rashid** *Vice Chancellor, University of Okara*
10:15 – 10:30	Overview of WRAP Program Component 1: CRS-IWaG and workshop objectives	**Hafsa Aeman** *Senior Research Officer – Geoinformatics* *IWMI Pakistan*
10:30 – 11:00	Importance of GPS and GIS Mapping • Overview of GPS and data collection principles • Integration of GPS database into GIS • Introduction to open-source toolbox for geotagging	**Hafsa Aeman**
11:00 – 11:15	Tea break	
11:15 – 11:45	Demonstration of Differential Global Navigation Satellite System (DGNSS) and its application	**Ansir Ilyas** *Researcher – Water Resources Management* *IWMI Pakistan*
11:45 – 13:00	Application of Remote Sensing (RS) in agriculture and water resource management	**Hafsa Aeman and Ansir Ilyas**
13:00 – 13:30	Group activity • Explore spatial data using maps	**Hafsa Aeman and Ansir Ilyas**
13:30 – 13:40	Closing remarks	**Dr. Habib Ullah Habib** *Director, On Farm Water Management Research Farm (Renala Khurd)*
13:40 – 14:00	Lunch	

Note: The agenda provided above shall remain the same for both days (February 13-14) of the training workshop, except that the Welcome note is on the first day and Closing remarks are on the second day.

For more information about WRAP Program Component 1: CRS-IWaG

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