



# Current water management cooperation between Australia and Pakistan

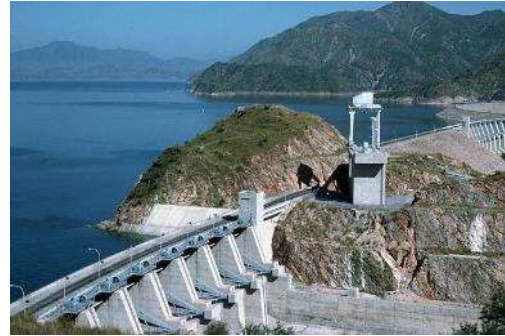
Water-Energy-Food Nexus: Agenda for 21<sup>st</sup> Century  
4<sup>th</sup> Karachi International Water Conference

Mobin-ud-Din Ahmad & Mac Kirby | 26 November 2019



**Australian Government**

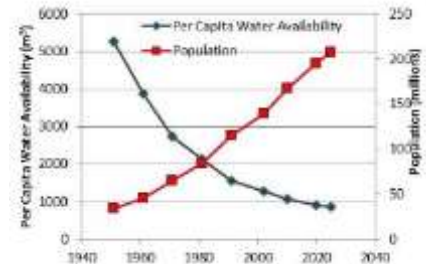
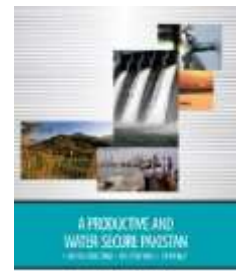
Australia's National Science Agency



# Background

**2012 Water Sector Task Force Report (WSTFR)** outlined a range of significant pressures and issues facing the Indus basin in Pakistan

- ❑ **Requirement for a repeatable system/evidence base** to quantify major water balance terms and then objectively plan for:
  - Climate Change
  - Infrastructure (USD\$26b proposed investment)
  - Development
  - Water sharing according to interprovincial Water Apportionment Accord
  - Food and economic security
  - Secure, productive and sustainable cities
- ❑ Action area 5 (Building Knowledge and Capacity), recommends implementation of Australian water management technologies and associated capacity building



# Consultations

- Pakistan High Commission, Canberra
- Federal and State Minister for Water and Power
- Minister for Planning Development and Reform
- Ministry of Water and Power (*Ministry of Water Resources*):
  - Secretary, Additional Secretary, Joint Secretary
  - WAPDA: Chairman, Member Water and senior officers
  - IRSA: Chairman and members
  - PCIW: Commissioner and Additional Commissioner
  - FFC: Chairman and senior officers
- Chief Minister for Balochistan and Sindh
- Punjab Irrigation and Planning Departments
- Sindh Irrigation and Planning Departments
- Pakistan Meteorological Department
- Minister for Climate Change
- Minister for Food Security and Chairman PARC
- Pakistan Council of Research in Water Resources: Chairman and other senior officers

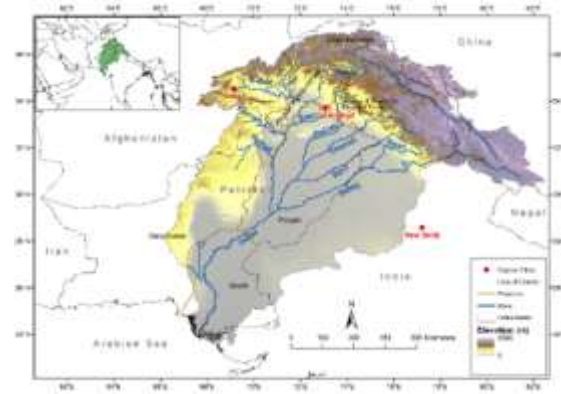
## Signing of IWRM MoU between Government of Pakistan and Government of Australia



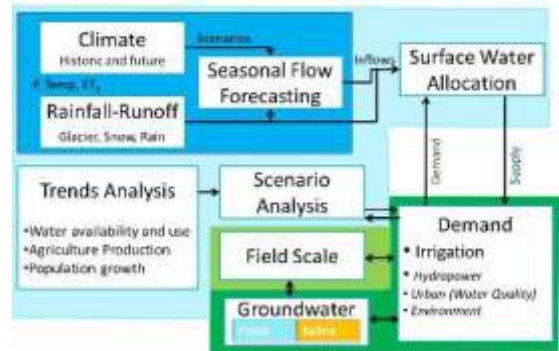
# CSIRO's key activities

Overarching goal to support national and provincial scale water planning and policy development

- We undertake and support integrated water resource assessment, data management, modelling, and capacity building*
- We develop scenarios to look at agricultural production, food security, water use and livelihood outcomes under changing climate, increasing population, and infrastructure development.*

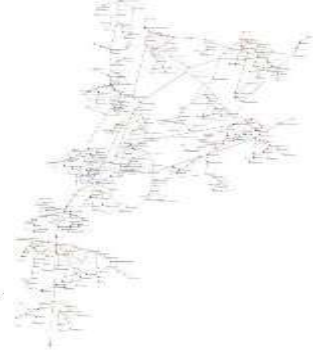
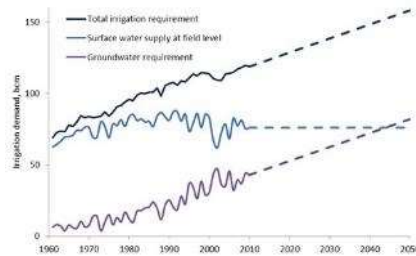


**Indus Integrated Modelling Framework**  
Linking Field, Irrigation System and Basin scales



# Key achievements

1. Indus River System Model to explore planning options
2. Water Apportionment Accord (WAA) tool for seasonal operations
3. Food security analysis, agricultural production and water use trend analysis
4. Gender and socio-economic analysis
5. Surface and Ground water quality analysis
6. Capacity building in hydrological data management and river, irrigation system and gender research

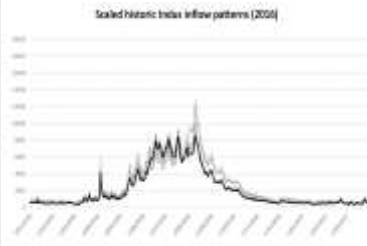
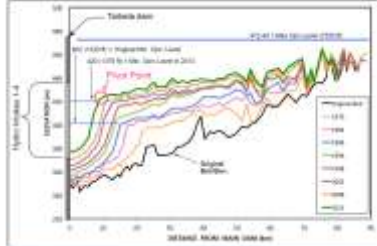


Zartaj Gul Waizir @zartajgulwaizir · Apr 13  
 Fin-finet collaboration with @COBCEmas, an idea and initiatives showed an water conservation and regulation for the same in Pakistan. 🇵🇰

Pakistan's #WATRA regulations are being strengthened through innovative CSIRO input. 🇵🇰



# Understanding impacts of Climate Change and Dam Sedimentation on Sindh



## Supply Implications:

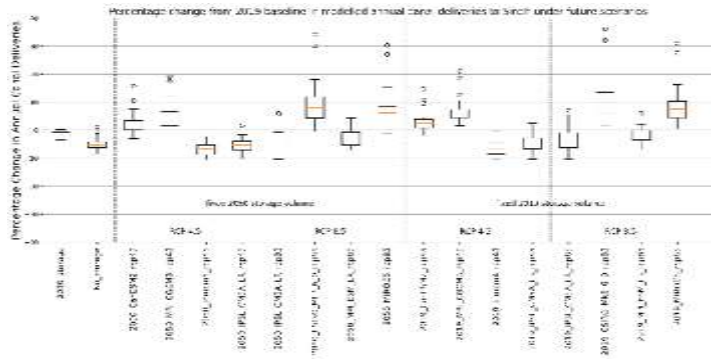
- Impact of reservoir sedimentation on water shares
- Impact of climate change/variability on seasonal water availability

Currently ~35% shortages in Rabi resource & by 2050 a further 15% reduction

## Demand Implications:

- Impact of climate change on agricultural water demand
- Increasing urban demand and competition for water

By 2050 a 6% increase in agricultural water demand



# Priority Areas for Australia-Pakistan IWRM Collaboration

- **River Basin Management**

- Tertiary course on effective water governance
- Partnership to provide water apportionment software and tools
- Strengthening flood early warning in Gilgit Baltistan
- Institutional capacity building in data management and hydro-informatics

- **Water for Cities and Drinking Water**

- Providing access to Australian water sector to assess provincial water challenges
- Improving safe access to drinking water in Khyber Pakhtunkhwa

- **Water for Food and Agriculture**

- Water outlook for Pakistan to support water and agriculture policy decisions
- Sharing leading technologies for groundwater management and improving water use efficiency
- Supporting adaptive management of salinity in lower Indus



# Thank you

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**Australian Government**

Australia's National Science Agency

## Acknowledgement

### Project Partners:

**Policy Partners:** Pakistan Ministry of Water Resources (WAPDA, IRSA, PCIW, NESPAK, CEA, FFC) and Provincial (Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan) Irrigation departments.

**Delivery Partners:** Pakistan University of Agriculture (UAF) Faisalabad, Pakistan Institute of Development Economics (PIDE), Sindh Agriculture University (SAU) Tandojam, Pakistan Council of Research in Water Resources (PCRWR), Mehran University of Engineering and Technology Jamshoro, Meteorological Department (PMD), NESPAK



**Ministry of Water Resources  
Government of Pakistan**

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