

An Exploratory Study of Akram Wah Canal Command Area, Sindh

# Water scarcity

Myth Vs Reality

OXFAM GB & MUET- US-Pakistan center for advanced studies in water

# Objectives of study

- To assess the level of water scarcity of Akram Wah Canal command area considering both water supply and demand dimensions.
- To analyse issues related to water governance, stakeholders' participation, perceptions, resource-driven conflicts and gender & power (mapping) of water users
- To recommend effective, efficient, equitable and sustainable water resource management policy and practices.



O MIYAN

Head Quarter No. 3, Sul Southern Gat

J.J.V.L.

Almarzar

Karachi Canal

Kotri Barrage

Akram Wah  
Fujan CBR

Akram Wah (Lower Channel)

Phulki (Lower) Canal

Jamshoro Rd

Jamshoro Rd

Jamshoro Rd

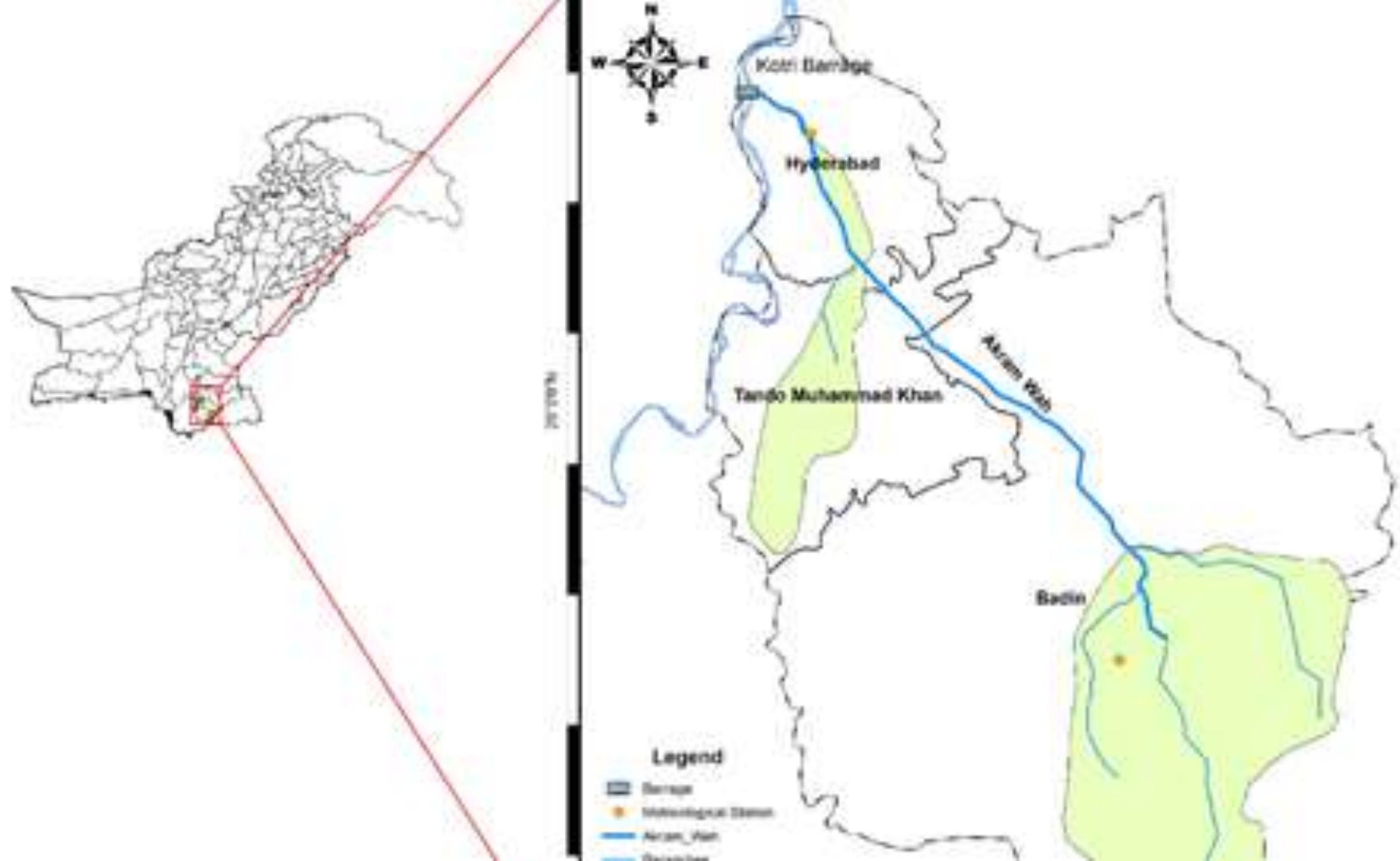
Phulki (Lower) Canal

Indus River

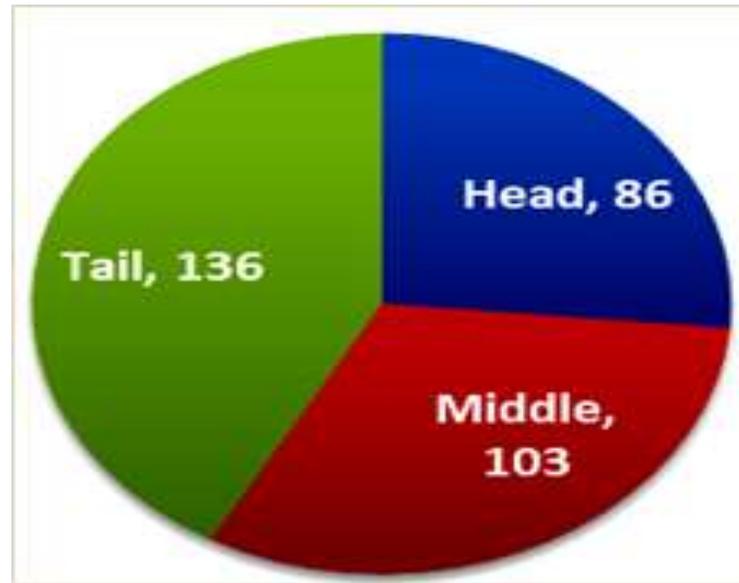
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## Methodology Sampling



### Landholding and area Under cultivation

Variable	N	Minimum	Maximum	Mean
Land Holding	325	1	1250	31.56
Area under cultivation	325	0	400	13.98

Rabi	Wheat, Sunflower, Mustard, Winter Vegetables
Kharif	Rice, Cotton, Summer Vegetables
Annual	Sugarcane, Orchards

- **325 surveys** were collected from members of 14 FOs at head, middle and tail randomly selected. This included 10 respondents as office bearers in Water Course Associations (WCA) and 27 respondents as office bearers in FOs. The respondents reported a mix of education levels at primary, secondary, college, graduate, post-graduates and at Madarsa level. Some 88 respondents reported to have never attended school.
- **6 KI Interviews (KIIs)** were conducted with representation of 3 male and 3 female participants
- **6 FGDs** were conducted with 2 female groups and 4 male groups at watercourse association level in Hyderabad region and at FO level at the tail of Canal.

# Water Governance in Sindh

Old system:

- Sindh Irrigation Act 1879- all irrigation task managed centrally by provincial government and administration and power lies with bureaucracy

New system: **Participatory Irrigation Management (PIM)**-4 water canals in Sindh

- SIDA Act 1997- inclusion of water users/farmers in operation and management of water.
- SWMO 2002
- **ID**-Irrigation Department of Sindh-main body dealing with water
- SIDA-Sindh Irrigation and Drainage Authority-, (Akram Wah, Phuleli, Ghotki, Nara Canal). Tasked with strengthening participatory irrigation and increasing more autonomy at local levels.
- **AWB** (three Area Water Boards (AWB), Nara Canal Area Water Board (NCAWB), Ghotki Feeder Canal Area Water Board (GFCAWB) and Left Bank Canal Area Water Board (LBCAWB). Managing more than one third irrigation water of Sindh.
- **FO** (Farmers' Organization)-established at distributaries and minors- it forms AWB general body
- **WCA** (Water Course Association)--FO general body

## Functions of SIDA, AWB and FOs

### SIDA

- Regulatory Authority
- Transition to Farmers participation from Irrigation Department
- Formation of FO and WCAs and their capacity building

### AWB

- Canal Management and water distribution across distributaries
- Irrigation and Drainage management agreements with FOs

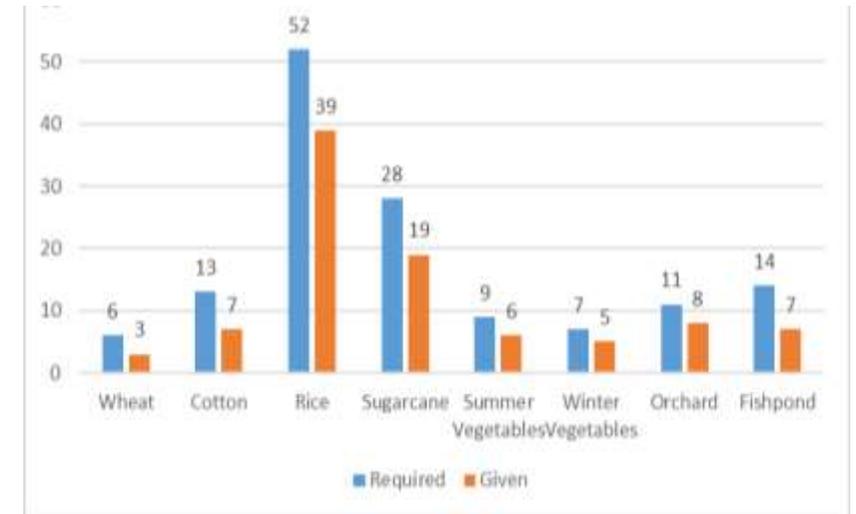
### FO

- Water distribution across water courses
- Receive water head regulator of distributary
- Collect Abiana from farmers
- Increase membership of WCA in FOs

## FINDING-1 Water shortage widely felt

- 95% -shortage of irrigation water.
- 71.4% -drinking water is also scarce.
- 87% -canal irrigation water flow are unreliable and insufficient to fulfil the crops needs.
- 83% -either do not cultivate any crops or cultivate less land to cope with water shortages.
- 67.7%- water scarcity induced migration of young people for daily wages in urban areas.
- Months from January to May are the worst for water shortages and July, November and December also remain critical.
- Tail-enders face water shortage throughout the year.
- The severity of no or reduced cultivation is lesser in big landlords.

Number of Irrigations (Required vs Given)



### Ways of coping with the water shortages:

- taking water from LBOD,
- raising livestock,
- water theft,
- use of ground water,
- working as wage labourers, and
- purchase of water .

## FINDING-2

### Water theft is common phenomena

- 79%-water theft occurs and powerful farmers are involved
- 50%-unaware of the existence of direct outlets on the canal, and there is no consensus on the number of direct outlets.
- 89%- either not aware of any actions taken against violators or no action ever taken in reality. In-fact, survey participants were not even aware as to who is actually responsible for taking action against violators.
- Mogha Tampering, lift of water and illegal pipe connections being on the top while blockages at the head and direct outlets were identified as common means of water theft.
- Irrigation department and farmers' organization remain ineffective in curbing water theft.

### Legal provisions and Penalties-Act 1879

#### Water theft-

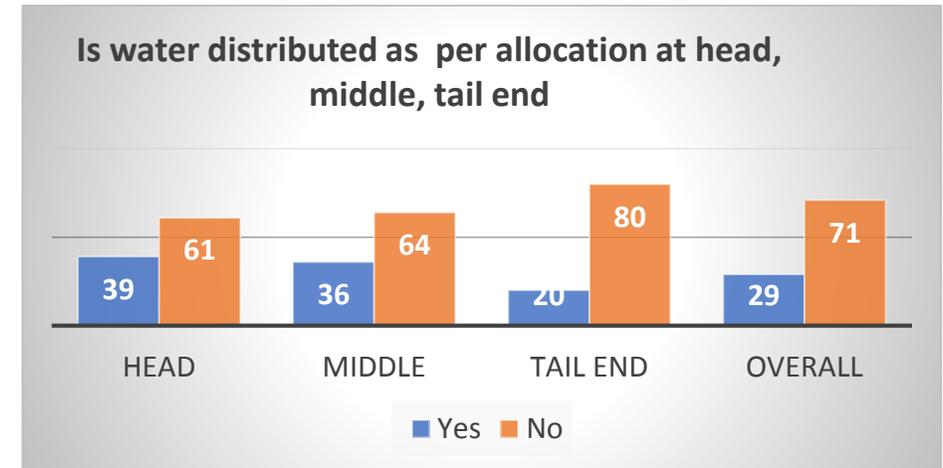
1879- minor penalties (2-3yr imprisonment- two- three thousand fine).

#### Damage, alter, obstruct, interfere supply of water, pierce canal

Under section 62 (B) of Irrigation Act, offences committed under section 61 and 62 are non-bailable

### FINDING-3 Water distribution

- 73%- unequal water distribution
- 71% claimed that they are not getting water as per allocation.
- 80% at the tail end respondents do not get water as per allocation
- 54% consider warabandi can/should promote equal water distribution if managed well.
- Confusion about rotation and the decision making authority are rampant.



Practice of warabandi at the watercourse level: 15%-no warabandi at all when water is available everyone uses it according to their need and requirement. 75% responded that each farmer has one turn in a week and the number of minutes depends on various factors such as landholding and location of land i.e. at the head, middle and tail of the canal. Around 8% said that they get water according to the share list, 2% get irrigation water fortnightly. 41.1%- not received any water for last one year so rotation was irrelevant to them,

## FINDING-4 Water governance

- 62%- no information about water shortage through government structures.
- 82%-no measures were being taken to address water shortages.
- Power has not been delegated to the local level and decisions are large being made by the apex government organization i.e. the Sindh Irrigation Department and SIDA structures are still weak.
- FOs and WCAs reflected that the farmers have not been actively engaged with FOs/WCAs and their decision-making process for a better management of water resources.
- Majority of respondents reported that water conflicts do take place in the area. The two major reasons for water conflict reported by participants included disturbance in the *Warabandi* (31%) and water theft (54%).
- 49% replied that it was managed through community leaders while only 18% said that conflict management was done through PIM structure either through SIDA, AWB, FO or WCA. The respondents clearly indicated that FO did not play any role in conflict resolution and people are still under the influence of feudal lords or community leaders in this respect.
- Irrigation management was considered as an external issue being dealt by men and women were neither directly involved in making decisions related to water management. Minimum presence of women observed in SIDA water management bodies.

# Recommendations

Apart from climate change effects, water shortage is also rooted in poor governance of water resources. This study finds that there is an urgent need for:

- ✓ Ensure implementation of the **participatory irrigation management** model to manage precious resource.
- ✓ **enforce rules and regulation and penalties** of irrigation act.
- ✓ Ensure equal and **fair distribution of available water at head, middle, tail end** users.
- ✓ Ensure **Participation of women and excluded groups in decision making** bodies.