



HIGHLIGHTS

50 % More Land under Irrigation

Conflicts Resolved

Better Crops with Canal Water

Reduced Input Cost

Changing Farmers' Lives

An Improved Community Watercourse

The water shortage issue and the need for effective water management is not a recent phenomenon in Pakistan. It has been a momentous challenge since creation of the country as fresh water resources have drastically dwindled during last decade and continue at an alarming rate. It is becoming evident that application of efficient water management techniques is need of the hour as more than 90 percent water is being used for irrigation.

A watercourse is a community irrigation channel used for sharing water among shareholders through a weekly rotation system called “warabandi”. Community watercourses are connected to farmers’ fields through a complex system of channels and ditches. Water losses in watercourses are estimated at 40 percent, mainly through spillage, seepage, side leakage, evaporation etc. which result in significant shortage of irrigation water at the farm level, particularly in tail reaches that compel the farmers to use groundwater for irrigation purpose.

As a matter of fact, the groundwater is not fit for irrigating crops in most areas of the Punjab and causing degradation of productive/fertile soils. To minimize the water loss and improve the conveyance efficiency at the farm level, watercourse lining becomes the most feasible solution as it helps to improve conveyance efficiency upto 80 percent alongwith other benefits.

Water Management wing of the Punjab Agriculture Department has introduced Precast Concrete Parabolic Segment (PCPS) technology to improve community watercourses for enhancing their conveyance efficiency.

The improvement of watercourses is a community driven activity that is being undertaken through participatory approach with active involvement of Water Users Associations (WUAs), organized and registered on each watercourse. This community-based development model is helping the poor and small land holders to improve their living standards.

The community of mouza Deo Syal, tehsil Chunian, district Kasur were facing huge water loss problem due to seepage, side leakage and spillage since long and experiencing acute water shortage at their farms as they were unable to use groundwater because of its extremely poor quality for irrigation. This watercourse has more than 70 shareholders and irrigating the command area of about 875 acres (350 ha). The problem was aggravated due to elevated position of the watercourse requiring intensive monitoring of water flow with high labor cost for irrigation. It was extremely difficult to irrigate elevated fields in the command.

While searching for solution, the community learnt about the government facility for watercourse improvement and approached the OFWM staff for rescue. The OFWM staff suggested the farmers to construct an elevated watercourse with PCPS for smooth flow of water to all the fields in the entire command. Given the severity of the issue, the community availed the facility being provided by the Punjab Government which has changed their lives.

“Before the improvement of watercourse, only two (2) acres out of twelve (12) acres were irrigated but now five (5) to six (6) acres can be irrigated easily with same warabandi time”, Mr. Rana M. Fayyaz, the shareholder of the watercourse and Chairman of the WUA, shared the benefits of improved watercourse. He added that *“conflicts/disputes have also been reduced significantly. Major conflicts among the farmers were due to overtopping and side leakage of the water which used to damage the crops of other farmers having lands along the watercourse”*.



Chairman of the Water Users Association, Rana M. Fayyaz and other members recording their views about improved watercourse to the author during site visit at mouza Deo Syal, tehsil Chunian, district Kasur.

Another member of the Water Users Association, Ch. Karamat Ali shared excitedly that *“our watercourse has been improved during 2017-18 under the World Bank assisted Punjab Irrigated Agriculture Productivity Improvement Project. Before improvement, majority of the farmers of this village used to irrigate their lands by lifting the canal water with Diesel Engine and they had to spend a lot of money to irrigate their crops. Now their input cost has been reduced and they are getting more net profit per acre”*.

Rana M. Fayyaz told that improved watercourse enabled us to irrigate about 50 % more land with same quantity of water. It also helped us to save labor expenses as 10-15 workers were required for irrigation before improvement of watercourse. Now one worker is enough for the purpose. He further shared that *“another major benefit is better crops with canal water as groundwater is not fit for the growth of crops and causes lower yields. Before watercourse improvement, the shareholders quit to grow sugarcane due to water shortage and the land of some farmers had become almost barren owing to shortage of water leading to use of poor quality groundwater but now they have not only started to grow sugarcane, but their wheat and other crops’ yield has also been doubled.*