Daily planning based water distribution at the WUA level

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The disintegration of the formerly existing organization of irrigated area into many farms with relatively small irrigated plots that took place in recent years against the background of furrow irrigation from gravity irrigation systems prevailing in Uzbekistan has somewhat complicated the water resources management process at the so-called lower level. To coordinate the relationships between water users and water management agencies, Water Users Associations (WUA) were established on a voluntary basis. The main purpose of WUA is equitable distribution and effective use of water resources among users.

Users' demands, driven by crop water requirements, can be met only with accurate coordination of water delivery schedules in WUA canals with the schedule of water delivery to WUA offtakes from the main canal. Achievement of such coordination between the schedules of water distribution from the main canal and through the WUA irritation network is based on the seasonal water use plan prepared on the "lower level" (WUA Administration) on annual basis, which then is adjusted by the "higher level" (CMO), depending on water availability forecasts. Consequently, a "compromise" plan is adopted and is to be followed by WUA when organizing and managing water distribution within its boundaries.

To estimate crop water requirements properly, first one needs to determine to which hydromodule zone (HMZ) the given irrigated area belongs. In Uzbekistan, a unified HMZ scale[1] is used for this purpose, on the basis of which HMZ areas are defined by using soil-reclamation maps. Then, the HMZ maps are combined with those of the irrigated territory of the WUA, wherein irrigation, collector and drainage networks, and irrigation wells are shown so that a particular irrigation contour could be referred to proper HMZ.

To organize turn-based water distribution among users, depending on number, depths, and periods of watering events during growing season, a unit (group) of water users is formed (WUU).

When scheduling crop irrigation, one proceeds from the theoretical assumption that a particular crop is uniformly provided with a design irrigation depth during the whole irrigation period. However, such "theoretical" irrigation schedule spread to the whole irrigation period, with daily coverage of crop water requirements, can be provided only by means of the drip irrigation method.

To achieve the coordination between the schedules of water distribution from the main canal and that through the WUA irritation network as well as to reduce irrigation water wastage, IWRM-Fergana Project uses technique of focuses, technologically feasible water delivery implemented under daily water distribution practice.

[1] The unified HMZ scale is adopted at the regional coordination meeting in Dushanbe in 1991.