

Water management perspective within watersheds: Experiences from Rawal watershed area

Muhammad Saleem¹, Muhammad Yasin² and Qurban Hussain³

¹Senior Engineer, WRII-NARC

²Director WRII-NARC

³Principle Scientific Officer, WRII-NARC

Watersheds are critical for sustainable development and subsequent management of water based socio-economics at command areas. These not only control water supply volumes (runoff) but also qualities through their landuse systems. Bearing in mind the human inability of producing water to meet sectoral demands (agriculture, municipalities, industrial and ecological), the due respect is required for water effluent areas i.e. watersheds. However, due to anthropogenic reasons, the landuse systems within these areas are being changed at rapid rates and consequently leading towards increased inside demands for water. If water resources within these areas are not wisely utilized, there will be serious implications for downstream water users, where established water related demands would be challenged.

The water saving techniques/ technologies, so far have been mainly incorporated only in command areas while generally ignored for management of water cycle within watersheds. Watershed management traditionally remained limited to afforestation, forest conservation, construction of check dams and gabion netted structures only, but under changing landuse and increasing water demands both within and outside watershed areas, there is dire need to introduce and adapt various techniques, which has proven water saving potential. This is because each drop of water conserved/ saved within watersheds will remain available to command area users for ensuring food securities.

The Rawal Watershed area stretched between Islamabad and part of Punjab province is one such watershed whereby water management is being demonstrated through various appropriate water smart technologies on pilot scale. This paper highlights the application of selected water smart technologies in watersheds (e.g., pressurized irrigation systems, watercourse lining, raised bed farming, gravity fed drip irrigation etc.), so that water productivity can be enhanced and sustainable runoff can be promoted for downstream areas.