

Watershed Management Concept and Principles

Watershed is not simply the hydrological unit but also socio-political-ecological entity which plays crucial role in determining food, social, and economical security and provides life support services to rural people. The criteria for selecting watershed size also depend on the objectives of the development and terrain slope. A large watershed can be managed in plain valley areas or where forest or pasture development is the main objective. In hilly areas or where intensive agriculture development is planned, the size of watershed relatively preferred is small.

The rain-fed agriculture contributes 58 per cent to world's food basket from 80 per cent agriculture lands (Raju et al. 2008). As a consequence of global population increase, water for food production is becoming an increasingly scarce resource, and the situation is further aggravated by climate change (Molden, 2007). The rain-fed areas are the hotspots of poverty, malnutrition, food insecurity, prone to severe land degradation, water security and poor social and institutional infrastructure (Rockstorm et al. 2007; Wani et al. 2007). Watershed development program is, therefore, considered as an effective tool for addressing many of these problems and recognized as potential engine for agriculture growth and development in fragile and marginal rain-fed areas (Joshi et al. 2005; Ahluwalia and Wani et al. 2006). Management of natural resources at watershed scale produces multiple benefits in terms of increasing food production, improving livelihoods, protecting environment, addressing gender and equity issues along with biodiversity concerns (Sharma, 2002; Wani et al. 2003a,b; Joshi et al. 2005; and Rockstorm et al. 2007).