



Soil and water conservation through vegetative bunds on sloppy marginal land of sub-montane zone (M.S.)

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Abstract : The cultivable area situated on sloppy marginal land is the most vulnerable situation in sub-montane zone (M.S.), where there is maximum runoff and soil loss during continuous heavy rains and neither vegetative nor mechanical measures alone will hold good for conserving soil and rainwater. Under such situation, vegetative bunds - combination of vegetative and mechanical measures are found effective for conserving maximum rainwater in-situ and reducing the soil loss. Vegetative bunds are the small earthen bunds of 0.35 to 0.45 sqm cross section laid on contours at suitable vertical interval and planted with grasses having good soil binding abilities. The bunds planted with grasses like *Dichanthium annulatum*, *Panicum maximum*, *Themeda triandra* and *Panicum antitotle* were studied at Zonal Agricultural Research Station, Shenda park fam, Kolhapur during 1991 to 1998 for their efficiency and structural stability in conserving maximum rainwater in-situ and thereby reducing soil erosion. The bunds once stabilized with grasses were found effective in controlling runoff and soil loss to the considerable extent of 66.67 per cent. Field plot treated with vegetative bunds conserved maximum rainwater in-situ and developed uniform soil moisture status ranging from 25.14 to 28.79 per cent, which was ultimately found beneficial to growth and yield of *Kharif* crops. The average yield levels of finger millet, soybean and groundnut were increased by 37 to 40 per cent. In addition the vegetative bunds were found structurally stable against any kind of damage or breach even during continuous heavy rains. The hydrological study also proved that the flood peaks resulted during heavy rainstorms was reduced considerably; thereby the bunds reduced its erosive capacity. In present context vegetative bunds are having maximum scope for adoption under NWDP on cultivable area situated on sloppy marginal land in sub-montane zone.

Key Words : Soil binding, Structural stability

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