

991. **Pratap Narain, Verma, B., Rao, D.H. and Singhal, A.K. 1983.** *In situ* conservation of runoff, soil and nutrients. Paper Summaries, Internl. Conf. on "Soil Erosion and Conservation", Honolulu (Hawaii), USA, Jan. 16-22, 1983: 32.

This study was conducted in a field having 0.75% slope and clayey soils (45% clay) in the south-eastern part of Rajasthan, India. The climate of this tract is semi-arid tropical, receiving 798 mm annual average rainfall. About 10-12% of the total annual rainfall are usually lost as runoff. Zingg type conservation bench terraces were tested in the years 1977-78 and 1978-79 to conserve runoff, soil and nutrients *in situ* and to utilize runoff for raising crops having higher water requirement. Yield of paddy was significantly improved by the harvested water. Under rainfed conditions of the tract, it was possible to obtain 19 q/ha yield of upland paddy. The ratios did not differ significantly in the year 1977-78 but in 1978-79, the 8:1 and 12:1 ratios produced significantly higher grain yield than the 4:1 ratio and control. The results indicated that the lower 10 m of 50 m slope length can be converted to conservation type terraces for trapping runoff, soil and nutrients. The amount of runoff conserved on these conservation bench terraces ranged from 86 mm in 1977-78 to 199 mm in 1978-79. The system also conserved 2-3 tonnes soil, 3-6 kg nitrogen, 10-12 kg potassium and about 1 kg phosphorus/ha/annum *situ*, which could have been lost in the runoff water.