1207. **Srivastva, A.K., Verma, B., Rama Mohan Rao, M.S. and Chittaranjan, S. 1985.** Striving for optimum landuse and conservation of resources in watershed management. Abst. 103, Voluntary Papers, National Seminar on Soil Conservation and Watershed Management, New Delhi, Sept. 17-18, 1985: 70-71.

Studies were conducted on the management of suitable cropping systems *vis-a-vis* watershed characteristics at Kota, Bellary and at the farmers' field at Joladarasi (Bellary) and G.R.Halli (Chitradurga) from 1976 to 1985. The soil types were medium heavy, heavy black and red soil. Grain production from pigeonpea+ blackgram (1:1) over four seasons was 1583 kg/ha followed by pigeonpea+sorghum (1:1) and pigeonpea+greengram (1:1) 1495 and 1344 kg/ha, respectively in table land of ravinous watershed. Greengram imparted stability in the year of moisture stress. Pigeonpea+blackgram intercropping was comparable with greengram-safflower double cropping (1573 kg/ha) in successful years. Rainfall productivity of greengram safflower sequence was 19 kg/cm of rains

compared to 15-18 kg/cm rains from intercropping systems. Watershed characteristics affected production of sorghum, which decreased by 507 kg/ha with 0.5% increase in degree of slope over 1891 kg/ha from 0-0.5% slope, whereas decrease was only 61 and 30 kg/ha over 369 and 539 kg/ha in case of coriander and safflower intercropping in black soils. In red soils, with every cm increase in soil depth, additional yield of 14.5, 4.2 and 3.9 kg/ha of *bajra*, sunflower and ragi was obtained over 800, 632 and 1025 kg/ha, respectively from shallow soils (7.5 to 22.5 cm depth). Production of coriander and safflower was not affected appreciably by site characteristics and physiographic varieties whereas sorghum yielded 27% more in basin area than near the ridge. In red soil, increase in yield of sunflower, *setaria* and redgram was 30, 10 and 9% more over the ridge. Degraded land could be a promising source of fodder, fuel and food. Combinations of *subabul* and sorghum has produced 8104 kg fodder, 6298 kg fuel and 1155 kg of grain.