Chapter 8

Agronomical Measures for Conservation of Soil and Water Resources in Drylands

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ABSTRACT

Drylands are those areas where annual precipitation is limited and growing of agricultural crops is completely dependent on rainfall as irrigation facilities for raising the crops is limited in this naturally unstable environment. At present, India's about 9 percent area is under drylands which include arid, semi-arid and dry sub-humid regions and these areas are heavily populated. Degradation due to soil erosion has severe implications for livelihood and food security for millions of people living in these areas, as loss of soil and water from the field through the erosion leads to loss of soil nutrients and fertility. Agronomic measures viz., contour cultivation, mulching, cropping system, strip cropping and crop rotation are the vital tools to check soil erosion and runoff and conserve these precious natural resources in sustainable manner. The way, these measures help in conserving soil water resources in drylands includes intercepting raindrops and reducing the splash effects, helping better intake of rainwater, providing more opportunity time for rainwater to infiltrate into soil and helping to reduce runoff generation due to perfect crop geometry/better soil surface cover.

1 INTRODUCTION

Drylands are the areas, which receive an annual rainfall of 750 mm or less and have limited irrigation facilities for raising crops, and where crop production is completely dependent on rainfall (Samara, 2002, NRAA, 2007). About 69% area of India belongs to drylands which include arid, semi-arid and dry sub-humid regions, and these areas are heavily populated. In these drylands, land degradation has severe implications for livelihood and food security

cropping, cropping system and cover crops are the vital tools for checking the soil erosion and runoff and conserving these precious natural resources in sustainable manner in dyland areas.

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