

Water Management – Water Use in Rainfed Regions of India¹

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Abstract

Large investments of about Rs.800 billion since Independence has gone into development of surface irrigation projects and the gross irrigated area increased from 22.56 m ha to 75.14 m ha by 2000-01 in India. In spite of large-scale developments in irrigation sector, the agricultural production remains static at 212 mt, a cause of great concern, which is mainly attributed to the inefficient water management practices, poor maintenance of structures and water conveyance systems. In this review article, various issues, perspectives and strategies in water management research programs were highlighted. The impact of climate change on water resources at global level and at national level has also been discussed. A few case studies on improving the water use efficiencies through watershed programs carried out at CRIDA, Hyderabad are mentioned. Social problems in implementing water management strategies have been indicated.

15.1 Introduction

Huge investments amount to Rs.790.55 billions have gone in development of surface waters by the Government of India during the period 1947-2001 (Parthasarathy, 2006). As a result, the gross irrigated area increased from 22.56 m ha in 1950-51 to 75.14 m ha in 2000-01, thus creating largest irrigated area in the world. It is reported that about 4400 (large, medium and small) dams have been constructed

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Table 15.1 Crop wise status of irrigation facility across the country – India

Crop	Irrigated area (1000 ha)			
	North	South	West	East
Barley	125	92	158	NA
Cotton	1749	466	1671	NA
Fruits	444	278	417	250
Groundnut	NA	600	224	72
Maize	413	303	523	138
Millet	363	266	459	121
Potatoes	147	92	138	83
Pulses	1309	141	1839	248
Rape seed	154		302	56
Rice	8,788	7,004	1,970	6,129
Sorghum	305	224	387	102
Soybean	286	179	268	161
Sugarcane	1650	809	777	NA
Vegetables	394	246	369	222
Wheat	6526	204	9,994	3,671
All irrigated crops	20,651	10,905	19,496	11,251
Equipped for irrigation	16,032	10,020	15,030	9,018
Cropping intensity	129	109	130	125

so far in India. The expansion in irrigated area in the country is mainly due to developments in ground water exploitation and nearly 60 percent of the irrigation in the country is met from ground water resources. These have contributed to the increased agricultural production from 50 mt to 212 mt, thus becoming self-sufficient in meeting the foodgrain requirements of the increased population to above 1.1 billion. The status of cropwise irrigation facilities across the country is given in the Table 1.

It is inferred from the table that the irrigated area is high under rice in north, south, west and eastern India followed by wheat in north, west and eastern India. Sugarcane, cotton and pulses occupy the third place. In recent years, the agricultural food production remains static, which is hovering around 210 mt, a cause of great worry to the administration in meeting the future food requirements. Per-