

Strategies to Enhance Water Productivity and Water Use Efficiency in Agriculture

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Among different agro-inputs, irrigation may be considered as a backbone of modern intensive agriculture, as it not only ensures physiological water needs of crop plants for desired growth of photo synthetically efficient new genotypes but also supports efficient utilization of plant nutrients. But in spite of all these impressive achievements, net sown area in the country remains at about 142 Mha and net irrigated area is only 54.7 Mha. Out of net sown areas of 142 Mha, the ultimate irrigation potential is 139.9 Mha. But to meet the projected food grains demand of 494 million tons by 2050, it is required to bring 146 Mha areas under irrigation. This is quite high compared to the present gross irrigated area of around 99 Mha. Thus, it will be an enormous task to achieve the requirement of 146 Mha of irrigated area. On the other hand it is also essential to increase the crop productivity from present 2.3 tones/ha to 4 tones/ha under irrigated conditions and from 1 ton/ha to 1.5 tons/ha in rain fed area. Net area under irrigation is required to be increased to catch up with our increasing population for food security and to prevent the decline of share of agriculture to gross domestic products of the country. In this paper strategies to enhance water productivity and water use efficiency in agriculture have been vividly discussed.

Keywords: Water productivity, Water use efficiency, Agriculture, Food security