Agricultural Drought Mitigation and Management of Sustained Agricultural Development in India

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Abstract  Drought is a many faceted natural disaster that leads to serious socio-economic impacts particularly affecting agricultural production and water supplies. There are two distinct phases in which the application of the knowledge of weather and climate can reduce the impact of drought on the communities. The first is the long term planning in which strategies can be devised, and precautions taken to reduce impact. The second phase is the action taken during the onset of the event to reduce adverse effect. Efforts were made to stabilize dryland agriculture by evolving contingent crop production strategies in rainfed areas of India. Drought management policies included agricultural planning and practices with consideration of overall water requirement within the individual agroclimatic zones.

The ill effects of drought, to a considerable extent, can be alleviated by adopting proper crop management strategies. These strategies may vary from moisture conservation to manipulation of plant population, and even mid-season corrections. Rainfall also can be harvested in either farm ponds or in village tanks and can be recycled. In case of drought mitigation, it was recommended that economies diversify to include agro-industry or various tertiary products, which could create new forms of income. The focus in mitigation should be on measures like improvement in agriculture, management of rangeland, development of water resource and animal husbandry. There is an urgent need to develop appropriate policies and strengthen institutional mechanisms for drought preparedness and mitigation accompanied by concrete programs.

16.1 Introduction

Among the various hazards of nature, drought is one of the most disastrous because it brings innumerable miseries to mankind. Few areas of the world can boast of not having faced this calamity one time or the other in their history. A few thousand years ago people were aware of how adverse weather conditions affected food production and water supplies. The idea of a genesis strategy was suggested in biblical times, i.e., to store surplus grain produced in the good rainfall years for use in the years of poor rainfall. This idea reminded societies that droughts do recur and that the people must learn from history, or they will repeat their mistakes.

Drought and famines have occurred in India for centuries and have even been mentioned in folklore. No precise data of these events are available,
Fig. 16.1: Drought years in India, with percentage of the area affected since 1875