

COURSE : DISASTER MANAGEMENT (MA/ MSc PART I)

Paper : VII

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Topic : Drought Prone Areas in India

INTRODUCTION

Drought is a temporary reduction in water availability on an area for unusually long period. Depending on the resulting water scarcity, a drought has disastrous and long-term socio-economic impacts, which may last for months and in some cases years. It is a slow phenomenon. It is generally caused by adverse water balance, or scarcity of water to satisfy the normal needs of agriculture, livestock or human population. There are three types of droughts i.e. meteorological drought, hydrological drought, agricultural drought. Meteorological drought occurs when the monthly or seasonal rainfall over an area is appreciably below normal. Hydrological drought occurs when the water scarcity over an area results in reduction in the available water in surface water bodies and the water table also recedes. Agricultural drought occurs when the water scarcity results in partial or total loss of crops and affects agricultural activity adversely.

DROUGHT PRONE AREAS

India has suffered major and worst drought over the 18th and 19th centuries, resulted millions of deaths and led to major Indian famines such as Odisha famine of 1866, Bengal famine of 1943 and Bihar famine of 1873–1874. States affected by drought in India are Maharashtra, Karnataka, Andhra Pradesh, Orissa, Gujarat and Rajasthan, Major population of these region depended on the rice crop of the winter season. Due to the failure of the monsoon, some parts of Bihar and Jharkhand along with Punjab and Haryana were also affected by drought.

The 1962 Irrigation Commission defined a drought-prone area as one which receives less than 10 cm rainfall and even three-fourths of this is not received in 20 per cent or more of the years under consideration; or an area in which 30 per cent or less of the total cropped area is irrigated.

Erratic nature of the monsoons exhibiting late onset and early withdrawals at times, dry spells occurring during the rainy seasons and a highly uneven spatial distribution of rainfall are the main causes of occurrence of droughts in India.

Different parameters can be used to identify the drought-prone areas. Here, we will discuss two such schemes.

Three levels of intensity of droughts can be identified if the combined effect of parameters, such as rainfall intensity, periodicity of rainfall, ground water potential and agricultural production, are taken into account.

The three levels are as follows:

I. Extreme drought conditions cover 12 per cent of the total drought-prone area; these areas include western Rajasthan and Gujarat, western Uttar Pradesh, north-west Madhya Pradesh.

II. Severe drought conditions prevail over 42 per cent of the total drought-prone area; these areas are the leeward side of Maidan plateau, Rayalaseema and Telengana regions of Andhra Pradesh and Marathwada and Vidarbha regions of Maharashtra.

III. Moderate drought conditions affect 46 per cent of the total drought-prone area; these areas are Orissa, central-north Madhya Pradesh, Chhotanagpur, Jammu and Kashmir and central- east Tamil Nadu.

The second scheme looks at the absolute spatial distribution of drought-prone areas while ignoring the intensity. The total drought-prone area in India amounts to 10.7 lakh square kilometres. On an average, one in every five years is a drought year.

The drought-prone area includes:

- (i) the rectangle formed by the lines from south Saurashtra Coast to Kanpur and then to Jalandhar (6 lakh sq km);
- (ii) a second drought zone that occupies most of the area in the leeward side of the Sahyadris stretching eastward upto 100 km of the east coast and southward up to a line joining Tumkur (Karnataka) and Chittoor (Andhra Pradesh) (3.7 lakh sq km);
- (iii) certain isolated pockets (1 lakh sq km)—Coimbatore and Tirunelveli districts of Tamil Nadu; Jhansi, Lalitpur, Banda and Mirzapur districts of Uttar Pradesh; Purulia district of West Bengal; Palamau district of Jharkhand and Kalahandi district of Orissa.

Most prominent drought hit localities of the country are :

Jalna-Beed: The Marathwada region of Maharashtra states is facing severe water scarcity. Drought affected region in Marathwada includes Eight districts Aurangabad, Nanded, Latur, Jalna, Beed, Parbhani, Osmanabad, and Hingoli. Jalna is the most affected district among others in the region.

Chitradurga-Bijapur: The Chitradurga district of Karnataka state is among the talukas which are reeling under drought and North Karnataka is worst hit. Area of bijapur, Dharwad, Hubli and Bagalkot are always the most affected when there is a drought in northern part of Karnataka.

Bikaner-Jaisalmer : Bikaner and Jaisalmer districts are the major tourist attraction of great Thar desert and known for its golden sand dunes and camel safari. They both fall in the drought Prone area of Rajasthan along with jodhpur, Nagaur and Barmer.

Saurashtra-Kutch :TheSaurashtra region of Gujarat state is consists of 7 districts is one of the drought-prone region,Kutch region being other. Kutch region is well famous as dead land and one of the hottest place in the country.

Mahbubnagar-Khammam :TheMahbubnagar-Khammam district of Andhra Pradesh state were declared drought-hit in 2002. Poor and delayed monsoon affected its number of mandals which are declared as drought prone area.

Mayurbhanj-Balasore :TheMayurbhanj-Balasore region of Orissa, 30 districts were identified as drought-hit due to the short rainfall. Mayurbhanj district was the worst-hit and Balasore has a worst history of Orissa famine of 1866.

Map of Drought Prone Areas in India (shown in red)

