

DROUGHTS IN INDIA

Dr. RITUPARNA GHOSH

Drought: Introduction

Drought is a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. It is a normal, recurrent feature of climate that occurs in virtually all climate zones, from very wet to very dry. Drought is different than aridity, which is a permanent feature of climate in regions where low precipitation is the norm, as in a desert. Droughts are among the most costly weather related events, in terms of economics and loss of life.

Types of Drought

- 1) **Meteorological Drought:** It is defined based on the degree of dryness or deviation of actual precipitation from an expected normal or average amount either monthly, seasonal or annual.
- 2) **Agricultural Drought:** soil water deficits, reduced ground water or reservoir levels needed for irrigation.
- 3) **Hydrologic Drought:** there is marked depletion of surface water flow and drying of lakes, rivers and reservoirs.

HISTORY OF DROUGHTS IN INDIA

There were 10 drought years during 1950-1990. Since 2000, there have been six drought years: 2002, 2004, 2009, 2014, 2015 and 2016. In 2016, about 330 million people spread across 10 states were affected by drought in India after two consecutive years of weak monsoons.

YEAR	NO. OF DROUGHTS
1801-1830	6
1831-1860	5
1861-1890	6
1891-1920	10
1921-1950	2
1951-1980	7
1981-2010	4

DROUGHT PRONE AREA

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 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.

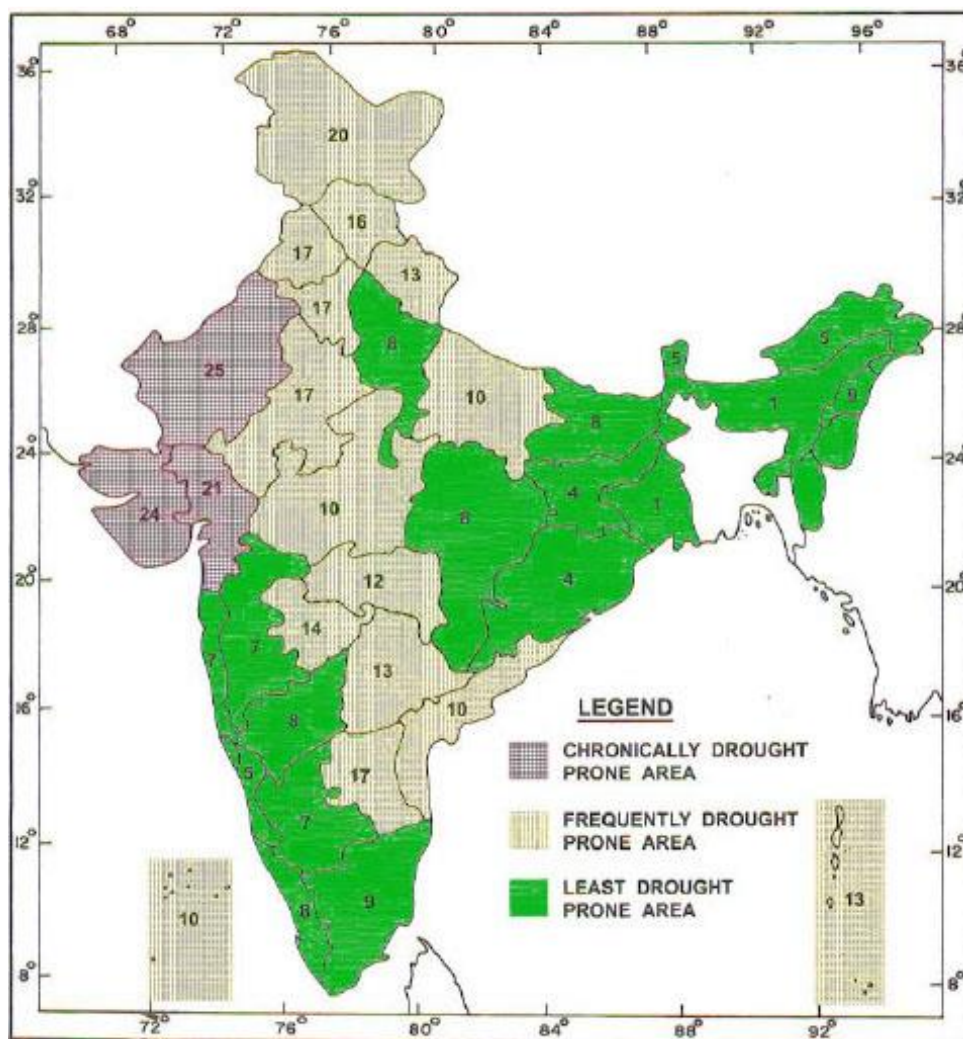
The Chitradurga district of Karnataka state is among the talukas which are reeling under drought and North Karnataka is worst hit. Area of bijapur, Dharwad, Hubli and Bagalkot are always the most affected when there is a drought in northern part of Karnataka.

Bikaner 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.

The Saurashtra 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.

The Mahbubnagar-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.

The Mayurbhanj-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.



IMPACT OF DROUGHT

The impacts of drought are not restricted to the agriculture sector alone but they radiate to other sectors, as well

- 1) **Environmental Impacts:** Drought affects various components of ecosystems and environment. The availability of water level in the reservoirs, amount of rainfall, soil moisture and ground water depths are some of the environmental indicators of drought. Drought does not only reduce water quantity in the wetland areas (e.g., lakes, rivers and ponds) and groundwater table but also reduces soil moisture contents. Biodiversity depends on various forms of water, including moisture in soil and atmosphere, for their survival. There may be permanent and temporal impacts on biodiversity depending on the duration, intensity and scale of drought.
- 2) **Social Impacts:** The drought brings food crisis, which has number of social and economic ramifications. It affects people's health and safety besides inviting conflicts on the use of water resources. The high dust molecules density in the atmosphere due to prolonged drought may finally affect the people's respiratory system and may create allergy. The dried condition may give more space for forest fire, which threaten the people's life living in the forests and forest fringes. The anticipation and depression about the loss of economy due to drought may further create conflicts and disturb the peace of mind. The widespread malnutrition due to low production during drought makes people vulnerable to diseases. Drought may also force people to sell their property in return of saving life. The weaker section of the society is more prone to suffer from the adverse impacts of drought because they do not have enough resources or stock to sustain during drought. At the same time, the rich people may exploit the poor people by taking undue advantage of prevailing drought and its aftermath.
- 3) **Economic Impacts:** Drought impacts economic conditions of nations at local to global scale. It may affect the people not only living in the drought-stricken areas but also those who live outside the drought areas as they may also depend on drought stricken areas for their livelihood. The agriculture sector is most influenced by drought. Around 70% populations depend on agriculture for their livelihood, either directly or indirectly in rural India. However, they have rain fed agriculture system, which is highly affected by drought. About 70% of agricultural crop production is affected by moderate drought. The direct impact of drought is reported in India's GDP as a study suggests that there is decline in GDP due to major dip in the food-grain production, which corresponds to large deficit in monsoon rainfall

SEVERE DROUGHT YEARS IN INDIA

Droughts are one of the scariest and deadliest natural calamities. Droughts have claimed innumerable lives in India in the 18th, 19th and 20th centuries. Since agriculture is one of the main livelihood sources in India and it is depended on rainfall and water supply, a shortage in water affects agriculture badly resulting in famine and causes deaths on a large scale. The severe drought years are 1918, 1965, 1972, 1979, 1987, 2009.

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