Flash Drought Mitigation & Management Strategies in Gujarat
Organized by
Gujarat Institute of Disaster Management
Date: 25 May, 2022 (Time: 10:30 – 17:10)

Concept Note:

Flash drought is simply the rapid onset of drought. It is set in motion by lower-than-normal rates of precipitation, accompanied by abnormally high temperatures, winds, and radiation. These changes take place swiftly in the local climate that turns into a drought-like situation.

Flash drought occurs when the aforementioned rapid changes quickly raise the evapotranspiration rate and remove available water from the landscape.

The frequency of flash drought generally peaks in the initial growth stages of plants. For all climate regions, flash drought intensity tends to increase toward the beginning of the growing season.

Flash droughts can be classified as agricultural droughts due to their direct association with soil moisture and crop stress. Unlike conventional drought that propagates slowly. Flash drought is characterized by rapid onset and intensification caused by high evapotranspiration (ET) rates. Flash droughts are associated with low soil moisture, extreme heat, and high ET. Flash droughts can be driven by the lack of precipitation known as precipitation deficit flash drought. On the other hand, flash drought caused by anomalously high temperatures is known as heatwave flash drought. However, drivers and characteristics of flash droughts can vary regionally as well as in different seasons. For example, subtropical or temperate regions of the world can experience flash droughts anytime in a year. The regional flash droughts can affect crop production and irrigation demands at the local scale.

A localized flash drought can become widespread due to persistent meteorological conditions that lead to substantial economic losses. Deleterious impacts of flash droughts on agriculture and the ecosystem have been witnessed in many regions of the world.

A droughts impact constitutes losses of life, human suffering, and damage to the economy and environment. Droughts have been a recurring feature of the Indian climate therefore study of historical droughts may help in the delineation of major areas facing drought risk and thereby management plans can be formulated by the government authorities to cope with the disastrous effects of this drought hazard. The impacts of drought are largely non-structural and spread over a larger geographical area than damage from other natural hazards. The non-structural characteristic of drought impacts has certainly hindered the development of accurate, reliable, and timely estimates of severity and, ultimately, the formulation of drought preparedness plans by most governments. The impacts of drought, like those of other hazards, can be reduced through mitigation and preparedness. Drought preparedness planning should be considered an essential component of integrated water resources management. Increasing society's capacity to cope more effectively with the extremes of climate and water resource variability (i.e., floods and droughts) is a critical aspect of integrated water resources management.

Drought preparedness planning will also provide substantial benefits in preparing for potential climate changes.

Drought produces a complex web of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. Its impacts are commonly referred to as direct and indirect. Direct impacts include reduced crop, rangeland, and forest productivity, increased fire hazard, reduced water levels, increased livestock, and wildlife mortality rates, and damage to wildlife and fish habitat.

The practices of Flash Drought Mitigation & Management require nonstop careful watch and updation so that we could have a better resilience mechanism. For better dissemination of knowledge, it requires intense capacity-building efforts so that the state employees could be oriented to their duty and practices in effective Drought Mitigation and Management.

Objectives:

1. Understanding Basic Concept of Disaster Risk Management & Drought
2. Understanding Flash Drought in Gujarat
3. Understanding Flash Drought Mitigation Practices in Gujarat

Target Participants:

District Agriculture Officer, Dy. Director Agriculture (Training), Mamlatdar, Dy. Mamlatdar (Rev.), Executive Engineers & Dy. Executive Engineers

Methodology:

The training has been designed to be in interactive lecture sessions followed by questionnaire sessions. It will be a residential training program.

Resource Person: Dr. Bimal Bhattacharya, Dr. Vimal Mishra, IIT, Gandhinagar, Dr. Manoj Lunagariya, Anand Agri. University, Anand and GIDM Expert.

Expected Outcome:

The participant will aware of the Flash Drought Issues and Possible Mitigation Practices.

Participants & Venue:

1. Officers from Agriculture, NWRWS&K, and Revenue Department.
2. GIDM Campus, Gandhinagar (Virtual Classroom)