IN AT MOST 5 PAGES WRITE AN ESSAY ON DROUGHT MITIGATION

As we think about Mitigation as it relate to drought, Mitigation means taking taking actions before or at the beginning of drought to help reduce the impact or the effect of drought.

Drought mitigation measures would include establishing comprehensive early-warning and delivery systems; improved seasonal forecasts; increased emphasis on water conservation (demand reduction); increased or augmented water supplies through greater utilization of groundwater resources, water reutilization.

Drought mitigation measures include a large number of actions, which can be grouped into three broad categories: supply-increase, demand reduction, and drought impact minimisation. Each category affects the physical, economic and societal impacts of drought in different ways which requires advance preparation of both long-term actions oriented to reduce vulnerability of water supply systems, and short-term actions to be taken during the drought period.

**INTRODUCTION**

The severe drought events that have occurred world-wide during the past decades have increased awareness to the seriousness of the impact of this hydrometeorological hazard and have induced many researchers and decision-makers to develop drought mitigation measures. In particular, the necessity of an urgent response to drought problems is strongly recognised in arid and semiarid regions, where the risk of severe water shortages is growing, due to the pressure of increasing demands on scarce water resources presenting a high natural variability.

The objectives of this paper are to review the measures for mitigation of drought impacts with particular focus on water management strategies in Mediterranean regions of Europe, to present the main lines of a proactive approach for drought response planning, and to discuss some critical points for a successful strategy.

**DEFINITION OF DROUGHT**

Drought refers to casual or random condition of severe reduction of water availability compared to the normal values extending along a significant period of time over a large region.

Desertification is used to indicate a long term and somehow irreversible process of decrease or destruction of biological soil potential fostered by several ie soil, climate, properties and human activities, where drought might accelerate the process.

 Drought is a natural hazard but can also be a man-affected phenomenon. First of all a drought is perceived as a disaster or as an adverse event when it affects the life, the economic interests or the social well being of a human community. In any case the impacts of a drought of a certain severity can largely differ according to the used criteria.

**TYPES OF DROUGHT**

1) **Meteorological drought**

It usually implies rainfall deficiency where the precipitation is reduced by more than 25% from normal in any given area. These are region specific since deficiency of precipitation is highly variable from region to region.

2) **Hydrological drought**

These are associated with deficiency of water on surface or subsurface due to a short fall of precipitation. Although all drought have their original from a deficiency in precipitation, hydrological drought is mostly concerned about this deficiency affect the component of hydrological system such as soil moisture, stram flow, groundwater and reservoir.

3) **Agricultural drought**

This drought focus on precipitation shortages, different between actual potential evapotrinspiration, soil water deficit and reduced ground water. Plant water demand depends on prevailing water weather conditions, biological characteristics of palnts,stages of growth and biological properties of soil.

4) **Socioeconomic drought**

Its associated with demand and supply aspect of economic good together with element of meteorological, hydrological and agricultural drought. This type of drought mainly occurs when the demand for an economic of good exceed the supply due to weather related water short supply.

**HOW CAN WE PROTECT OURSELVES FROM DROUGHT**

The first step that we can take to mitigate drought is to understand drought and our environment.

It is very important that we all understand drought and also very important that we understand the environment where we live.

**Second, making or using groundwater**; Many people get their water from wells dug deep (or sometimes not so deep) into the ground. People who live in rural areas often have their own wells, which deliver water to their house or farm only. Some towns and cities also have groundwater wells that supply water to the people and businesses in the city.

**Thirdly, use of surface water or reservoirs**; People who do not get their water from groundwater most likely get water from rivers or large lakes called reservoirs. The water is then pumped into towns and cities using pipes, canals, or other devices

**Fourth, Planting of trees;** Trees help improve air circulation, prevent global warming, reduce soil erosion and boost soil fertility. They also act as significant water catchment areas since they hold more moisture, thus attracting rainfall. Increase in rainfall means an increase in water supply which supports plant and animal life.

**Fifth, Application of irrigation schemes**; Irrigation helps to maintain the condensation of the loam. It provides mineral as well as other nutrition by the assimilation from the mold. Irrigation is one of the most feasible ways to grow cash crops like sugarcane, tobacco, etc. At many places, the irrigation serves as the only water source.

We can also prevent drought effect by inventing sofisticated of advanced scientific research personnel for early warning or advice on livestock keepers and the farmers. This will enable to prevent high risk or damage on our properties. It will also help in supplementary and substitute fees fit for the livestock in the season od drought, which will help reduce the death of livestock.

Use of Greenhouse farming; nations that dependence on rain-fed agriculture renders it susceptible to droughts. The government can invest less dependent on rainfall forms of agriculture, such as irrigated farming, hydroponics, and greenhouse farming. Diversifying food output will contribute to the nation's food security, even during droughts.

Greenhouses, on their own but especially when used with these technologies, can be a game changer for water conservation. Technologies available include drip irrigation, water reuse, soil moisture sensors, sub-irrigation, rainwater capture, micro irrigation, and climate-based irrigation.