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STUDY ABOUT FLOOD CONTROL BY UNDERGROUND WATER TANK IN BORI GOSAVI VILLAGE

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ABSTRACT:- A **flood** is an overflow of water that submerges land that is usually dry. Flood having an lots of damages hence it is overcomes by providing the underground water tank & this tank is use to overcomes the water flow & this store water is use to drinking purpose & lots of use by treating this water on water treatment plant.

INTRODUCTION

Flood control methods are used to reduce or prevent the detrimental effects of flood waters. Flood relief methods are used to reduce the effects of flood waters or high water levels. For Flood control one of the methods is used that is underground water tank system. During floods, underground storage tank (UST) systems can become submerged or displaced by flood waters, leading to damaged UST systems or even releases of regulated substances into the environment. If UST facilities are damaged, they need to be returned to normal operation in the most expedient, safe, and environmentally responsible manner possible. In the event of a flood, you - the local, state, or tribal underground storage tank authority - may respond to emergency calls from owners, operators, and other affected parties .The U.S. Environmental Protection Agency (EPA) developed this guide to help provide information to localities, states, and tribes when addressing relevant compliance challenges that may arise after a flood. This guide may not cover every possible situation you encounter.

OBJECTIVES

1) Flood control used to reduce or prevent the detrimental effects of flood waters on human being and animals.
2) For the farmers and the people in the agricultural sector, It helps them in long run by providing the nutrients to the soil that were lacking.
3) It makes the soil more fertile and increases the agricultural production.
4) It reduces the flood intensity or flood disaster effects on society and economy.
5) The storage water in tank used for improves the ecosystem; new predators and prey are introduced to the areas, balancing the aquatic population.

FUTURE SCOPE

1) During the drought or in scarcity of water this stored water is used.
2) Underground Storage water tank is used for storing water from rainwater harvesting systems.
3) It canbe used to store municipal and water from other sources for household use.
4) Underground tanks can be used as water reservoirs for irrigation systems.
5) Emergency supplies of water can be safely stored for long periods underground.
6) Underground tanks can also store water for firefighting purposes.
7) Water for livestock can be stored underground.

8) This stored water can be used for city development as the water used in gardening, fountains.

RESEARCH METHODOLOGY

1. Site selection- The site choose for construction of tank following point are taken into consideration

- Topographical feature
- Hydrological condition
- Metrological condition
- Flood intensity
- Strength of rock mass
- Long term water sealing condition.

2. Survey–The survey includes the Geological, hydrological, preliminary, Reconnaissance survey to know about the features of soil, groundwater table etc. The hydrological survey can be used to find out the flood affected zone.

3. Flood forecasting-It is used for estimating & predicting the magnitude, timing & duration of flood based on the known Characteristics of river basin in order to prevent damage to human life and environment.

4. Discharge calculation - To calculation of the discharge of flood the following methods are used:

1) Catchment runoff
2) Empirical formulae
3) Cross section & bed slope
4) Rational method
5) Area of cross section & velocity
6) Available records

For this flood intensity record of the place is needed.

5. Population forecasting- For that the methods used are-

1) Arithmetic mean method.
2) Incremental increase method.
3) Geometrical increase method.
4) Master plan method.
5) Graphical representation method.

For that the population record before 5to 6year is needed.

6. Underground water tank-Underground water tank act as a reservoir.

The water of high flood and the high rainfall can be stored in a underground tank. The main advantage of this tank is the temperature is lower than the overhead tank, which reduced evaporation inside water tank. This tank is earthquake proof.

7. Canal -It include the finding out the longitudinal slope of the channel & fixing the cross section. The main canal is linedand the smaller one is unlined. The canal can be designed as per the tank storage intensity .The canal must be capable to sustain the discharge and velocity, flow speed of water for that it must be made of good quality of material.

8. Supply of water by canal to irrigation purpose:-It help to regulate the flow &deliver the correct amount of water to the different branch of system & to irrigate the field.

CONCLUSION

The flood control techniques by underground water tank system is not meant to prevent a flood of any size .Their design is meant to make it less effective flood water. The effect of flood can be minimized by the flood control or management approach which promote the coordinated management and development of water, land irrigation and related resources. The flood control by underground water system this can be used in flood arrival zone and the high intensity. During the drought period this project is beneficial by this the environmental

balance maintain because this water can be used for vegetation farming fish production hydropower electricity generation and agriculture purpose etc. drinking purpose.

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