DEHLI PUBLIC SCHOOL, INDORE

PRESENTING

SYNOPSIS FOR

BAL VIGYAN 2019

PHYSICS

THEME-

SUB THEME-

PRENSENTED BY: -

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INTRODUCTION

The world battles an everlasting crisis which poses a threat to our future generation which can be broadly categorised as threat to good security, existing flora and fauna. Technology plays a significant role in the advancement of our society. It guides us to solve our problems efficiently and economically. We the students of Delhi Public School Indore have made an attempt to resolve some of the major problems faced by the citizens of India using technology as a tool, keeping in mind the rural and urban problems. We worked on some topics like.

- Agricultural sector development (Irrigation Technique)
- Excess rain prevention

IDENTIFICATION OF PROBLEM

Challenges related to water scarcity-

1. Water related issue

• 2.1 billion people lack access to safely managed drinking water services.

• 4.5 billion people lack safely managed sanitation services.

• 340,000 children under five die every year from diarrhoeal diseases.

• Water scarcity already affects four out of every 10 people.

- 90% of all-natural disasters are water-related.
- Salination of soil is caused due to excess rain that alters the pH of soil and makes it unsuitable for agriculture purposes.
- Draught in some major cities of India while excess flooding in some of the other cities.
- Most of the states especially Kerala got flooded due to excess rain while some parts of Andhra Pradesh experienced draught condition.

2. Irrigation related issue

- Over irrigation because of poor distribution uniformity or management wastes water, chemicals, and may lead to water pollution.
- Under irrigation or irrigation giving only just enough water for the plant (e.g. in drip line irrigation) gives poor soil salinity control which leads to increased soil salinity with consequent build-up of toxic salts on soil surface in areas with high evaporation. This requires either leaching to remove these salts and a method of drainage to carry the salts away. When using drip lines, the leaching is best done regularly at certain intervals (with only a slight excess of water), so that the salt is flushed back under the plant's roots.
- Assisting smallholders in sustainably and collectively managing irrigation technology and changes in technology.

OUR EFFORTS TOWARDS RELATED PROBLEMS

AUTOMATIC IRRIGATION –

In this system, soil moisture sensor senses the moisture level of the soil. If soil will get dry then sensor senses low moisture level and automatically switches on the water pump to supply water to the plant. As plant get sufficient water and soil get wet then sensor senses enough moisture in soil. After which the water pump will automatically get stopped. An automatic irrigation system does the operation of a system without requiring manual involvement of persons. Every irrigation system such as drip, sprinkler and surface gets automated with the help of electronic appliances and detectors such as computer, timers, sensors and other mechanical devices.

DUAL DRIP IRRIGATION-

It comprises two Drip Irrigation frames. It reuses extra water collected two again irrigate the field. It can be used for or large variety of crops. Needs fewer lookouts by the farmer. This will help to make the best use of extra water.

Water will be collected in the temporary canal made by the farmer through temporary canal made across the field another drip irrigation frame will be connected pump in in temporary field and re irrigate the field if needed.

FLOOD PREVENTING FIELD COVER-

The project comprises of two motors and also a polyester curtaineous structure. In case of excess precipitation the field will be covered with polyester curtain while in case of slight rain the cover will remains unemployed allowing proper supply of water to land through rain. The water which is collected will be supplied to nearby dry areas which will improve the conditions. This project will be utilised for various villages which will be connected to canals, parks, playgrounds, function gardens and government land.

SURVEY

We have surveyed various people in our locality of different age groups and different occupations.

In our survey we discovered that many people views about irrigation and situation during heavy rain:

- They feel like they can utilize their time in other work.
- They agree that there should be a unique cheap irrigating system which should irrigate the field according to soil moisture.
- Their advice is that it should be implemented in Indore.
- They the fact that it will help farmer.

- They also advised that it should be implemented in parks gardens
- They accepted the fact that after heavy rain parks can't be used for at least two days
- They agree that this water should be used by the farmer for irrigation.
- They get irritated when the match is postponed due rain.
- Managers face loss when their function is postponed due to rain.

Hence we decided to tackle all these general problems through the use of technology

UTILITY IN THE FUTURE AND SOLUTION TO THE PROBLEMS

Agricultural sector development-

Farmer will be using it to irrigate their field. They will be operating their field with their phone. They will be able to give their precious time to their other task like sitting on their shop and other family business. With the following agricultural system India will be counted in one the developed agricultural countries. Precise watering system

according to soil moisture will improve soil quality and will protect crop from over irrigation.

Big farms will be dual drip irrigation. With the help of automatic irrigation and dual drip irrigation farmer will don't have to take care of irrigation for months as know that with the help these device and instruments soil moisture will be maintained with any other external effort.

FLOOD PREVENTING FIELD COVER-

This project will be utilised by cities as a whole to solve the problem of both floods and draughts. This field cover will be fully automatic but will also be operated manually if the owner wishes particular supply of water through rain. This project will also be helping the farmers to be tension free regarding crop failure due to less rain. In sports sector matches are often cancelled due to rain this will help overcome this problem as well and will also have numerous other issues such as in open marriage gardens, playgrounds, etc.

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