

Desalination of Saline Bore Water By Use of P.T.C

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Abstract- Earth is covered with 71 % water & 29% land, out of which 97.5% is Ocean water (salt water). Remaining 2.5% is Freshwater and is available in the form of ice as Glaciers. This 2.5% also consist of Groundwater which is made available by man with means of Bore wells & Tube wells for various purpose .Due to such water availability conditions most of the Countries are suffering from water scarcity & India is one of them.

In India many states suffer from shortage of fresh drinking water, this shortage is fulfilled by using groundwater for drinking purpose .There are many diseases caused by drinking impure groundwater from Bore wells one of these diseases is Fluorosis. This diseases is caused by excessive intake of fluorine compounds via groundwater salts. This compounds present in ground water is in the form of ions & colloidal particales. The fluorine is found in rocks minerals. The ill effects of consuming such water are; The rapid decaying of teeth .The teeth in the mouth of the people turns yellowish in color & mottling of teeth takes place. The next effect is on the skin , the skin is damaged by the excess continues use of fluorine rich ground water and formation of white patches/spots takes place .The problem of hair loss also happens by drinking & using. Some other problems like hair loss , damage to healthy hair is also know by medical science by consuming such impure water.

I. INTRODUCTION

The effect of consuming such water are permanent . So the quality of safe drinking water is to be increased and made available to people for the better health and growth of human being. There are various methods by which the water can be treated & its water quality index can be increased ,Desalination of water can be done by various techniques. Our project aim at desalination of water by using locally available simple material and resources , So that every part of the society can be benefited by our project.

This project is designed by keeping in mind the problem faced by the rural population as they are the one who consume ground water or Bore water for most of their daily needs including drinking.

Our project will help the people living in rural areas who suffer from drinking of unsafe water. The water used by the people in under developed region are rich in harmful minerals , means the mineral & fluorine quality is high which makes water unsafe for drinking.

Many states in India are currently suffering from problems related to drinking saline water. So to overcome this problem our project “Desalination of saline Bore water “will not only make the water safe ,But also increase the water quality index.

II. METHODOLOGY/MATERIALS

1. Solar Panel
2. Battery
3. P.T.C Unit
4. Condenser
5. D.C Motor.
6. Pipes.
7. Wires.
8. Vessels/containers.

Procedure-

- 1) The Water collected from bore well is collected in container.
- 2) The water stored in container is elevated and kept in the foci of the the setup with the help of semi circular container.
- 3) The top layer of the water evaporates easily but the lower takes more time to evaporate hence next step is introduced .
- 4) The lower layer of water is passed with the help of pipes and the water is kept in the pan.
- 5) The power source to heat the pan is the green source of energy i.e solar energy with the help of solar panel.
- 6) The solar panel is connected to the battery because the solar radiation is not emmited constantly hence for proper supply of electricity to the P.T.C unit.
- 7) P.T.C unit is the main unit in our project the p.t.c unit gets heated by the electricity supplied by battery.
- 8) The water evaporated by both the steps is connected to the condencer.

- 9) The condenser has a pre setup of dc motor because the vapor pressure is inversely proportional to the water evaporation rate.
- 10) Hence the setup has a advantage of green source and clean water.

The most important aspect in our project is the energy .The type and the form of energy that we are implementing In our project is non conventional source of energy. We are using solar panel's output energy to power our project. As we know that solar energy is the form of energy that is available mostly throughout the year, and being a type of green energy this project is environment friendly.

REFERANCES

- [1] Modified Photo Voltic Method For Desalination of bore well water-by-Chetan Kadlag.
- [2] NSW Government article.
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