IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

DRINKING WATER FROM ENVIRONMENTAL AIR

Ms. N. Vijayalakshmi, M.Sc., M.Phil.,
Assistant professor, Department of Computer Science,
Bon Secours College for Women-Vilar Bypass, Thanjavur-613 006, Tamilnadu, India.

Ms. A. Sakila, M.Sc., Computer science, Department of Computer Science,
Bon Secours College for Women-Vilar Bypass, Thanjavur-613006, Tamilnadu, India.

V. Abinaya, M.Sc., Computer Science, Department of Computer Science,
Bon Secours College for Women-Vilar Bypass, Thanjavur-613006, Tamilnadu, India.

ABSTRACT-The Environmental Air to Water Purification Project aims at providing potable water using power assets. The system utilizes wind as a source of renewable energy for ordinary use. By using a thermocouple sensor, both cases transform wind power to electrical energy. Improving access to safe drinking water will offer measurable health benefits. Close to one billion people go through needlessly without access to healthy drinking water and more than 5,000 young people die every day from water-related diseases. Water-associated diseases: caused by insect vectors, especially mosquitoes, which breed in water; consisting of dengue, filariasis, malaria, onchocerciasis, trypanosomiasis and yellow fever; The gadget will properly transfer energy to dc 12v fan air and heat sink converted into water and all device additives will be fee-efficient and require minimal maintenance. Drinkable water supplies are far from most Indian villages. In particular, women and children expend hours of work simply to satisfy their family's fundamental aspirations to travel 5 miles and larger to nearby towns simply to get access to drinking water. Some nice people travel long distances in these villages with motorcycles and trucks that consume fuel and pollute the air.

Keywords: Water, Ari to water, water scarcity, natural resource production

INTRODUCTION

Air Powered Water Pump is an eco-friendly system, alongside water purification. The air-power-water purifier systems work best without power on mechanical energy. The air energy water cleanser systems provide water consumption in remote areas where energy remains a top-rate issue. Moreover, a family of 5 wishes at the very least fifteen gallons of water each day. The handiest way to sanitize the circulate water to be had to those villages is with the aid of boiling which also consumes precious resources and contributes to

deforestation given that the most effective source of electricity for boiling this a good deal water is firewood and charcoal. In addition, a family of 5 wishes a total of fifteen gallons of water each day. The most useful way to sanitize the circulating water for these villages is through boiling, which also absorbs valuable resources and leads to deforestation as the most powerful source of electricity is firewood and charcoal for boiling this a good deal of water. The rising power costs are generated by air electricity water cleanser structures. Evolving countries around the industry face weakening challenges in accessing safe and clean water intake. Improving access to safe drinking water will lead to meaningful health benefits. About one billion people go through needlessly without being admitted to safe water intake and more than 5,000 children die every day from water-related diseases. Drinkable water supplies are far away from maximum Indian villages. Specifically, women and young people spend hours of work just to fulfill their family's primary wishes to walk 5 miles and more to nearby towns just to be admitted to drinking water. Some good people travel long distances in these villages with motorcycles and trucks that consume fuel and pollute the air.

RELATED WORK

1. Experimental study on heat pump integrating air conditioner and water heater with heat recovery of shower waste water

The heat pump's calculated coefficient of heating efficiency (coph) varies in the range of 4.57~5.38, which is ideal and attractive on the experimental conditions. Several suggestions for improving the overall efficiency of the heat pump are also stated in brief, based on the experiments and study. To save energy, our laboratory designs and manufactures a form of heat pump which integrates air conditioner and water heater. Through efficiently extracting heat from the wasted water from the tub, it can provide enough hot water for the bath and fulfill the requirement for personal after-bath air conditioning. Experiments and analyzes show that when bed, city water and shower waste water temperatures are 22~23 ° C, 20 ° C and 31~34 ° C, respectively, it can supply hot water at a temperature of 42.6~43.4 ° C at a flow rate of 4.72~5.27 l / min, and supply air conditioning at a temperature of 12.3~14.7 ° C at a cooling capacity of 520~690w for personal air conditioning.

2. The effect of water droplets spraying and water droplets position on water treatment by pulsed air discharge

The time spent decolorizing the water droplets, including indigo carmine, was 0.57 times shorter than that which flowed into the discharge along a reactor's inner wall. This result shows that the spraying into the air discharge as water droplets is successful for faster water treatment. The time spent at the location near the reactor's cylindrical electrode for decoloring the water droplets, like indigo carmine, was 1.5 times faster than that at the location near the reactor's wire electrode. This result shows that the location near the reactor's cylindrical electrode has many radical elements that are efficient for organic compound degradation. Some characteristics of a process for the decomposition of organic compounds are described in this paper by spraying a water solution of organic compounds as droplets into pulsed streamer discharges in air. One coaxial electrode was used in the experiments. As a sample an organic dye solution, indigo carmine, was used. Experimental methods of spraying the

droplets of water were to sample each solution obtained as water droplets and water film through the discharge region. Experimental methods for the effect of water droplet positions were spraying the water droplets near the wire electrode or the cylindrical electrode. For the characteristics, the effect of spraying the water droplets compared to water film flowing in a chamber wall, and positions of water droplets in the discharge region were investigated for water treatment by pulsed discharge in air.

3. Air and Water Sterilization using Non-Thermal Plasma

This research provides data on the efficacy of pulsed spark discharge sterilization action in water containing Escherichia coli (E. coli). A pulsed spark discharge system was used to treat drinking water containing E.coli. The other discharge systems used for water sterilization were also studied for comparison: pulsed corona, gliding arc and DC discharge over the water. This PDRF (Pathogen Detection and Remediation Facility) consisted of a circulatory airflow system, a plasma chamber and a sampling device. The airflow was adjusted to mimic actual air flow in an HVAC (25 L / sec) system. In these experiments the bacterium E coli was used as a reference bacterium. It is a non-spore-forming gram negative bacteria. This impact of sterilization is extremely important in combating the danger of bioterrorism. So far, the majority of research on sterilization have been in the direction of surface sterilization. In this study we investigated the sterilization effect of plasma on air and water. A small-scale HVAC model was designed for air sterilization, and the dielectric barrier discharge plasma system was used for air treatment. So far, the majority of research on sterilization have been in the direction of surface sterilization. In this study we investigated the sterilization effect of plasma on air and water. A small-scale HVAC model was designed for air sterilization, and the dielectric barrier discharge plasma system was used for air treatment.

EXISTING SYSTEM

Existing river, underground or rain water source and water purification system use chlorine to disinfect pipe water. But it is also recommended that families chlorinate their water further in case the water purifier system has not killed any of the bacteria. Even if the water is safe from the system, bacteria can multiply very quickly and re-contaminate water if the water rests for a long time reaching the user, or if the pipes conveying it are themselves contaminated. The existing system also uses more chlorine. Chlorine is an available and relatively economical form in urban or peri-urban areas.

DISADVANTAGES

- High cost.
- High maintenance
- Low reliable system.

PROPOSED SYSTEM

Water is life's most basic necessity, yet almost one billion people in the world lack access to it. People in many developing countries travel several miles to access a water source which is not even potable. Distance and portability isn't just an issue. This project aims to tackle water accessibility and cleanliness issues in developing countries by designing and constructing a cleaning system that is portable, durable, and cost-effective. Air Powered purifying water is an environmentally friendly

device. Without power, the water purification system only works on mechanical energy. Air power water purifier provides drinking water in remote areas where water purification is still a big issue. As well as having an atmosphere that is eco-friendly, it also helps to regulate good health because air purifier system is not only pollution-free but also offers clean drinking water.

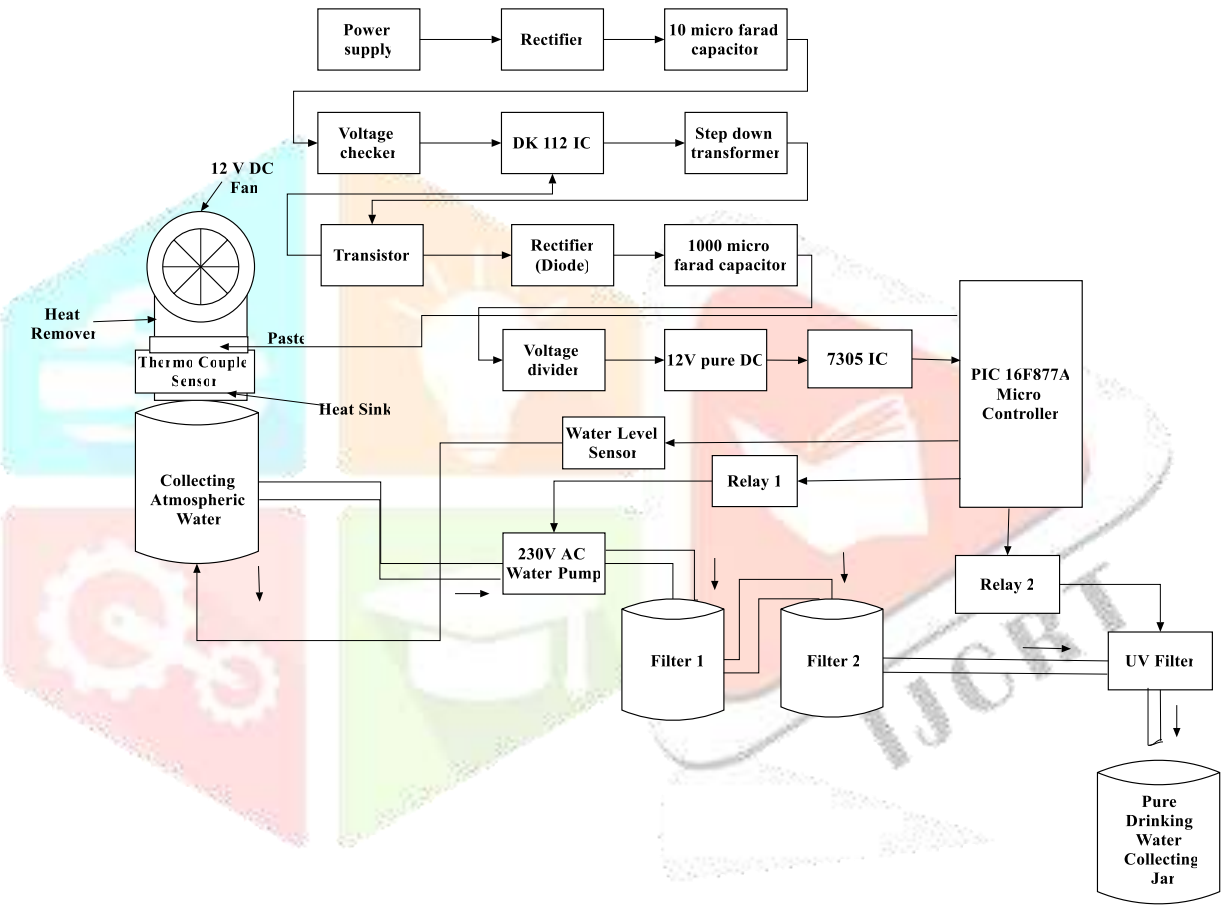
Advantages

• System Free from Emissions.

• It didn't need water.

• Defense against harmful species • Low cost reduction of sufficient potable water for commercial users.

• Sufficient Cleaning.



METHODOLOGY

- Input from air
- Applying Hot and cold energy using thermocouple sensor
- Microcontroller controlling atmosphere air convert to water
- Water level sensor (Pump the water to filter)
- Filter the water in purify(UV filter)

INPUT FROM AIR

Seek to water from the atmosphere and utilize it for drinking. The dehumidification remains the most prevalent process for producing water from ambient humidity. To feed the atmosphere air. It can be process and produce water.

APPLYING HOT AND COLD ENERGY USING THERMOCOUPLE SENSOR

A huge range of hot temperatures and cold ones. May add sensor thermocouple.

Thermocouples can provide measurements of temperatures over large temperature ranges. Thermocouples are therefore known for their versatility as temperature sensors widely used in a wide range of applications-from a thermocouple for industrial use to a regular thermocouple used on utilities and standard appliances.

MICROCONTROLLER ATMOSPHERE Transform AIR TO WATER

A microcontroller with a processor, memory and peripherals can be called a self-contained system and can be used as an embedded system. The bulk of microcontrollers currently in use are found in other equipment, such as computer systems cars, telephones, appliances, and peripherals.

WATER LEVEL SENSOR (PUMP THE WATER TO FILTER)

Level sensors are used to detect the level of substances that can flow. Level measurements can be done inside containers or it can be the level of a river or lake. Such measurements can be used to determine the amount of materials within a closed container or the flow of water in open channels.

FILTER THE WATER IN PURIFY (UV FILTER)

Bright (UV) water purging frameworks are thought to offer the most financially savvy method for securing private drinking water against natural contaminants. UV cleaning frameworks can be utilized to ensure against water-borne infections, microbes, molds and pathogenic illness causing microorganisms, for example, giardia and cryptosporidium.

CONCLUSION

We realize that Drinking Water is as yet one of the serious issue in rustic territory. In summer days individuals battles with the lack of water. There is no need of land,river and downpour to refine the messy water. The water filtration framework is another framework that is helpful in creating nations to have day by day access to safe drinking water all by saddling the vitality. This plan will diminish the work, cost and exhaustion brought about by moving and sterilizing drinkable water for use.

REFERENCES

- V K Ravi, Sushmitha V, M Venkata Praveen Kumar, Amal Thomas, “Reverse Osmosis Water Purification by Cycling Action”, International Journal of Latest Engineering Research and Applications (IJLERA), Volume – 02, Issue – 05, May – 2017, PP – 54-59.
- Drake, Human Powered Reverse Osmosis for Producing Potable Water for Developing Countries, Ninth LACCEI Latin American and Caribbean Conference(LACCEI’2011), Engineering for a Smart Planet, Innovation, Information Technology and Computational Tools for Sustainable Development, Medellin, Colombia, 1(9), August 3-5, 2011, 1-6.
- Anusha Pikle and Yash Siriah, Air Operated Water Filtration System (Mobifilt), International Journal of Current Engineering and Technology , Department of Mechanical Engineering, Shri Savitribai Phule Pune University, Pune, India, 2(4),March 2016,254-258.
- Anand B. Rao and Ramprasad V, Seminar Report on Portable Water Purifiers, Centre for Technology Alternatives for Rural Areas (CTARA), Indian Institute of Technology

Bombay, Powai, Mumbai, November, 2014, 36-37.

- Jayant Gidwani, Amit Kesheorey and Nitesh Lowanshi, "Air Powered Water Pumping and Purification",ijsart.Department of Mechanical Engineering, Swami Vivekananda College Of Engineering Indore, Madhya Pradesh, 1(2), 5 May2016, 10-13.
- Garud R. M. and Kulkarni G. S ''A Short Review on Process and Applications of Reverse Osmosis'' Universal Journal of Environmental Research and Technology Shivaji University, Kolhapur, Maharashtra, 1(1), 2011, 233-238.