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"A Case Study of Water Crisis and Its Impact on Environment and Community Health" With Special Reference to Bundelkhand Region (U.P.)

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ABSTRACT
The water crisis is directly correlated with the environment and community health. The understanding of environmental sanitation was limited to general cleanliness of the houses and did not extent to the safe methods of disposal of refuse, solid waste etc. The understanding of the unsafe disposal of these being a potential source of infections and diseases. Stagnating water, lack of proper drainage for waste water, improper garbage disposal is very harmful for health and environment.

Water is precious for our life. Life is not possible without water. Water scarcity is the lack of fresh water resources to meet the standard water demand. We are facing a Global water crisis and it is getting worse. We are at a real inflection point where, if we are not care. Annually about 37.7 million Indian are affected by waterborne diseases, 1.5 million children die from diarrhea. Earth is the blue planet. There is no shortage of water. We have 326 million trillion gallons of it. But 97% of it is salty and 2% is trapped in ice at poles, so, all of us humankind relies on just 1% of that water to survive.

INTRODUCTION
Background
Historically, Bundelkhand is a geographical and cultural region and also a mountain in central & North India. The hilly region is now divided between the state of Uttar Pradesh and Madhya Pradesh, with the larger portion lying in the latter state. There are seven districts in Bundelkhand U.P. The Bundelkhand region in India has been dealing with a severe water crisis Madanpur village of Lalitpur district, Rampur and Gopipur of village of Patha Chitrakoot, Gusiyaari of Hamirur, Rawatpura of Mahoba, Kalinjar Tarhati of Banda district are most water scared villages.

PURPOSE
To minimize water wastage and maximize efficient beneficial use of water and to overcome the water crisis problems and to enhance natural water resources.

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OBJECTIVES OF THE STUDY

- To find out the actual ongoing situation of water crisis and community health issues, and how to overcome the water crisis.
- To find out the remedial measures for waterborne diseases and health & hygiene and environmental sanitation.
- To assess the knowledge and practices of the community regarding water crisis and its harmful effects on environment and climate change.
- To find out the problems of women regarding water crisis in relation with the sustainability and operation & maintenance of the water resources .
- To study the different tools and pedagogies used to measure water crisis and the different components of water crisis.
- To study the training needs for capacity building of water supply and environmental sanitation and initiatives from the Government / Non-Government regarding the research issues.

NEED AND SIGNIFICANCE OF THE RESEARCH

Water crisis is raising alarms for the community

Cape Town is the first major city in the world to run out of water. Cape Town, South Africa in inching closer now to Day Zero. There are perceptions it is a big problem, Infect, by 2040 most of the world would not have enough water to meet demand year-round. In Indian context the ground water is finished in Chennai. So, it is a subject to concern and find out the studies on it. In comparison to other countries, in India among the poorer and illiterate sections of the society, even the basic water requirements are not met. A lot of community members are thirsty in the nation. The rate of morbidity and mortality is high due to water crisis. Therefore, they are in a constant need to care the water supply resources on the part of community and also nation. So, It is necessary to assess their water supply demand.

The community members residing in the villages are mostly, educationally, socially and economically backward. This study will focus on the root causes of water supply and environmental sanitation problems. On the basis of this study, the action plan can be prepare to aware them and this study may also helpful in behavioral practices and maintenance of water resources to save the water.

The water crisis is a health crisis. Nearly 1 million people die each year from water, sanitation and hygiene-related diseases which could be reduced with access to safe water or sanitation. Every 2 minutes a child dies from a water-related diseases.

REVIEW OF LITERATURE

The review of literature gives as insight into the problem. The available literature has been presented under the following lines -

According to Alexis Ty, June, 20/21, Disturbing Global Water Crisis Facts For World Water Day 2021. Despite being a basic necessity for life, millions of people around the world are

facing a shortage of safe, clean water. The global water crisis has long been the root of many other issues for those affected by it.

Established by the United Nations (UN) in 1993, World Water Day is held every March 22 to raise awareness of the world water crisis and highlight the importance of safe water.

To mark World Water Day 2021 this Monday, here are 15 global water crisis facts you need to know:

1- The average woman in rural Africa walks 6 kilometers (approximately 3.5 miles) every day to collect and haul 40 pounds of water, according to WorldVision.org.
2- By 2050, at least 1 in 4 people will likely live in a country affected by chronic or recurring fresh-water shortages.
3- A leaky faucet can waste 100 gallons of water a day. About 30% of global water abstraction is lost through leakage, according to the World Health Organization (WHO).
4- Think H2O has reported that only 1% of the Earth's water is available for drinking water and 2% is frozen.
5- About 844 million people lack basic drinking water access—more than 1 of every 10 people on the planet.
6- About 80% of global wastewater returns to the environment without being treated or reused.
7- More than 800 children under the age of 5 die each day from diarrhea caused by the lack of clean water and sanitation.
8- By 2040, it is estimated that there will not be enough water in the world to meet the demands of the global population and keep the current energy and power solutions going if the water crisis fails to be addressed.
9- About 4.5 billion people globally already live within 50 kilometers (31 miles) of an “impaired” water resource—one that is running dry or polluted.
10- According to UNICEF- Of the 4.4 billion people who do not have safely managed sanitation,2.3 billion do not have access to basic sanitation services,
11- Diarrheal diseases, caused primarily by unsafe water and poor sanitation, kill more children under 5 years old than malaria, AIDS and measles combined. Per UNICEF, diarrheal disease kills one child every minute.
12- According to WHO- About a quarter (22%) of health facilities in Least Developed Countries have no access to safe water,
13- More people die from unsafe water than from all forms of violence, including war, former UN secretary-general Ban Ki-moon said in 2010.
14- Each year, there are an estimated 400 million school days lost due to water-related diseases, with 272 million lost to diarrhea alone.

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15- According to WHO - Globally, at least 2 billion people use a drinking water source contaminated with feces.

The WHO reports that 884 million people lack access to safe drinking water Two-thirds of the world's population experience severe water scarcity . The Global Water Institute estimates that 700 million people could be displaced by intense water scarcity by 2030

Literature Review: Water Shortage is the next global crisis. Water shortage has significantly threatened the world on a global scale /significantly challenged /is the key danger/biggest threat / globally/confronted by the world today Water is an essential part of life. Aside from drinking, water is used in irrigation, sewage systems, food preparation and transportation.

05/01/2021 · Abstract. **Literature Review: Real Time Water Quality Monitoring** With the advent of this new era of water crisis, save water is the cry all over. Water sources are encroached from every existence on Earth. Saving water needs a systematic monitoring approach to determine its quality.

NASA "A new satellite study from the University of California, Irvine and indicates that the **Colorado River Basin lost 65 cubic kilometers** (15.6 cubic miles) of water from 2004 to 2013."

The World Bank predicts that,
India only has 20 years before its aquifers will reach 'critical condition'
FT series, A world without water
Troubled waters - the Mekong River crisis
Nestlé warns on water scarcity
Australian drought bites into beef trade
Water shortage shuts Coke plant in India
The marginal cost of water is rising around the world,"
The bottom line
Mining matters
Managing water scarcity
The number of water-related conflicts reported US national security interests," said a 2012 intelligence report prepared for the US State Department.
Rapid depletion of one crucial source: groundwater.
Water-hungry farms and rapid population growth mean that between 2002 and 2008, the region's aquifers lost an amount of water nearly three times the maximum Lake Mead can hold.

THE WORLD WATER CRISIS - The world is facing a water crisis. As countries are growing, and more people are being born, the demand for water to produce goods is increasing. The shortage of the supply versus the high demand will not sustain and many global problems will arise. The article states the idea of water being recognized as an

economic good. Past failure to recognize the economic value of water had led to wasteful and environmentally damaging uses of the resource. This is a world issue because almost every living thing is affected by the water crisis. Businesses and economies will struggle, political arguments, and even survival will be an issue.

China's Looming Water Crisis The Ecologist
According to World Water council-Water resources are becoming scarce
Agricultural crisis
Environmental crisis
An increase in tensions

Source: Water GAP 2.0 - December 1999

CONTRIBUTION IN THE FIELD OF PROPOSED WORK

This study will be focus on the root causes of the water crisis and it's impact on environment. On the basis of the study, safe handling of water management ,good practices of environmental natural resources, health and hygiene can be improve and action plan can be prepare. India's terrifying water crisis. The reservoirs and other water supply Sources become dry during harsh summer days. It leads to growth retardation in plants. This study will be impact on the operation and maintenance of water, agriculture and farming, food production, rainwater harvesting, improvement of water resources, health and hygiene benefits and to reduce Burden on women to fetching water far from remote areas.

DESIGN AND METHODOLOGY
SAMPLING PRCEDURE

A sample of 2 villages will be selected randomly from each district as par projects of water supply and non project area. The numbers of the sample can be increased as per the research need.

At the village level contact will be made with various stakeholders. the Focus will be given on the village water supply and environmental sanitation committee (VWSC).Treasurers, village maintenance worker (VMW), Pradhan from the PRI-Model, NGOs. community members specially women.

PROCEDUER OF DATA COLLECTION

The data for the present study will be collected on the prescribed schedule after conducted the pilot study. Data will be gathered from this selected sample and direct interview techniques will be used for the present study.

TABULATION AND STATISITICAL ANALYSIS

Collected data will be compiled and tabulated with the help of the computer. Percentage, mean, standard deviation correlation Coefficient and test of significant, Rating and ranking will be used for drawing valid conclusion.

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TOOLS AND TECHNIQUES FOR THE STUDY

The information will be gathered from the selected samples. and interview, observation, FGD,PRA,SWOT-Analysis, SARAR-Tools, projected techniques, objected techniques, developmental methods, attitude measurement techniques, survey method, qualitative and quantitative analysis questionnaire and other suitable tools and techniques. Performa will be developed with the help of supervisor and expert of the subject. water poverty index, Criticality ratio etc.

STUDY AREA

The present study will be conducted in the rural area, blocks, district areas of the Bundelkhand in Uttar Pradesh of India.

SOURCES OF INFORMATION

Both primary and secondary data will be collected from Villages, PHC, CHC, Anganwadi, PRI, blocks, district areas, rural development department, Health department, education and other departments and non govt. organization related to the study.

EXPECTED OUTCOME

1. Climate change is correlated with the water crisis.
2. Maximum burden on women to fetching water for their drinking needs.
3. Water born diseases are correlated with the water supply and sanitation.
4. Behavioral changes of the community, intensive efforts of the social activists/NGOs or Government policies can reform the water crisis.
5. Environmental sanitation and hygiene is also correlated with the water availability.
6. Formal literacy is not more affective for the capacity building in reference with the management of water supply.
7. Education affects on the behavioral practices of the community regarding water supply and environmental sanitation.
8. Trainings, exposures are most impactful factor in the capacity building.

CONCLUSIONS

The health & hygiene and environmental sanitation practices are considered as secondery need. Generally the rural community do not have the understanding of the basic importance of health & hygiene and environmental sanitation.In conclusion water scarcity and polluted environment is an issue that will greatly affect on crop production,sever environmental degradation,declining ground water global warming ,heat strock,climate change, global warmingetc.Adequate water and clean evironment is necessary for living. So, good personal, domestic hygiene and environmental sanitationand finding the causes of these practices coul be instructive in formulating the future strategies and implementation os sanitation.

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