iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** VIII **Month of publication:** August 2021

DOI: https://doi.org/10.22214/ijraset.2021.37713

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue VIII Aug 2021- Available at www.ijraset.com

Experimental Investigation of Contaminated Water Causing Various Diseases in Shirol Region

Vaishnavi S. Shinde[1], Paresh S. Koli[2], Sejal S. Desai[3], Pradnya R. Shinde[4], Rekha U. Mahale[5], Sanket S. Mardane[6], Pranav V. Devkate[7], Digvijay B. Patil[8],

[1, 3, 4, 5, 6, 7, 8]*B.Tech Civil Engineering Students, Ashokrao Mane Group of Institutions, Vathar, Kolhapur, Maharashtra-416112, India*

[2]*Assistant Professor, Civil Engineering, Ashokrao Mane Group of Institutions, Vathar, Kolhapur, Maharashtra-416112, India*

Abstract: ***Shirols rapid growth of economic, industrialization and urbanization, have resulted in worldwide water pollution. In shirol today approximately 4 lakh people over half the population consume drinking water contaminated with levels of animal and human. These are alarming serious health problems. In last few decades Taluka Shirol is dangerously suffering from cancer and various diseases. Based on the previous year, from 2013 to 2018 a total Only 201 cancer patient's data has been received. The soil and water is responsible for both cancer and other viral diseases. These diseases spreading all over vigorously. According to Raychurs Research center there is Poisson matter, chemicals founded in water, soil and vegetables sample. These causes cancer and disease. Since 1990s and 2000 there is not almost a complete natural river in the world. Therefore, it is urgent to develop a cost effective technique to manage the river water quality. In this paper we have provide two measure conclusions. First is Provide filter from using orange peels and banana peels was studied by investigation of test. Which is proved more beneficial and this method is based on agriculture waste automatically, it can be said that it cost effective as well. Second is Created awareness among the people and use the organic fertilizer and reduce excess used of non-organic fertilizer.***

Keywords: ***Shirol, cancer patients, Organic fertilizers***

I. INTRODUCTION

Due to fast development of economy and industrialization as effect on land and water i.e. contamination of water pollution. A huge amount of domestic and industrial waste water directly flowed into the river which causes water pollution. Water and soil contamination also have an additional effect on people's health. Environmental carcinogens, in a strict sense, contamination of drinking water by nitrate is a growing problem in many agricultural areas of the country. In last few years, Taluka Shirol is dangerously suffering from various diseases. The soil and water both are responsible for cancer and other viral diseases. Increase of township enterprises in the Shirol, River Basin has led to an ever-increasing amount of wastewater from industries and factories. As per Government study in shirol taluka there are more than 18,000 cancer patients. As per study conducted by rachurys Water and land have arsenal contents, it get transferred to vegetables fruits and sugarcanes. In shirol region the people use huge amount of chemical fertilizers and all the vegetables are sold in Pune, Mumbai, Ahemdabad and Banglore. The Government had done home to home survey to collect the data about those are suffering and suffered. So Our Government and scientists focus on Research for water pollution. Hence, there is a need to protect river water quality due to severe water pollution and scarcity of global resources.

II. MATERIALS OF FILTER

Following are the materials of filter which is used in filter as a layer. This materials are eco-friendly, natural and cost-effective. As follow:-

1) *Gravel* - First gravel layer catches large pieces of debris such as twigs, leaves and bugs
2) *Coarse Sand* - Next, the sand layer catches smaller particles such as dirt and grit and metals the water clean
3) *Charcoal* - The Charcoal layer get rid of bacterial some chemicals such as lead and arsenic
4) *Orange Peels*

a) *Contain*

- Vitamin c - 67% of the Reference dairy intake (RDI)
- Folate -15% of the (RDI)
- Potassium - 10% of the RDI
- Magnesium - 6% of the RDI
- Riboflavin, thiamine, vitamin B6 and calcium

5) Banana Peels

a) Mineral content in banana peels is primary consistent of potassium (70.10 mg/g)

b) Manganese (70.20 mg/g)

c) Other mineral are present are sodium, calcium and iron at 24.30, 19.20 and 0.6 mg/g respectively the peels high potassium contents it taken orally, aids in maintaining normal blood pressure.

III. PREVIOUS RESEARCH WORK

A. History

1) In Feb, with the help of Shivar Samajik Vikas and Investigation Seva Sansta organization. The soil and water testing is done. This samples are collected from Varana, Krishna, Panchaganga, Dudhaganga rivers and Kurundwad Kotholi, Majarewadi, Luxmi industries soil samples. These soil sample were send to the Research and Analysis University of agricultural Sciences Raychur. By four month's Investigation the samples results are declared.

2) In 6 Sep in Kolhapur Shwabhimani Shetakari Sanghtana organize workshop. On that workshop so many Agricultural department specialist and Environmental Research specialist was participated. Workshop organize on over use of pesticides and fertilizers it directly effect on human health due to this diseases are occur.

3) Raychur Research and Analysis unit of agriculture science search work done in 4 Month. According to Raychurs Research center in soil and water got poisons matter causes cancer and some other diseases

B. Papers

1) *Lead Removal By Waste Organic Plant Source Materials Review:* Mentioned about their study related to remove lead from wastewaters using different sources of organic materials from plant origin. In this paper an attempt has been made to review different sources of waste organic materials and the respective carbon materials which have been used for the removal of lead from water and wastewater based on recent literature review.

2) *Assessment of Physico-Chemical Characters and Heavy Metals Distribution Along the Panchganga River, India:* Mentioned about their study related to assess some chemical parameters of Panchaganga River like PH, EC, DO, BOD, COD and content of highly toxic heavy metals like Cd, average toxic metals like Zn, Ni.

3) *Effects of Pesticides In Environmental":* Mentioned about their study related to overall study of pesticides, their uses for crop and negative impact on environment. They said that Pesticides are concern for sustainability of environment and global stability. This chapter intends to discuss about pesticides, their types, usefulness and the environmental concerns related to them. Pollution as a result to overuse of pesticides and the long term impact of pesticides on the environment are also discussed in the chapter.

4) *Water Pollution Sources, Effect And Control:* A review mentioned about their study related to concept of sources of water pollution, effect of water pollution on human health and plant, and their control. They said that water pollution control and water quality improvement.

IV. METHODOLOGY

In this project, the following methods are to be used as,

A. Filter Desing by Natural (Organic) Method

Natural Method 1 Organic material

1) *Orange Peels:* High colored contaminated waste water is a serious environment problem as it is seriously observer's waterways as well as blocking sunlight for photosynthesting plant species in the water now, Researches in Algeria have discovered that nothing more sophisticated than orange peel could be used to remove acidic from industrial effluent.

2) *Banana Peels:* Banana peels can be used to purify drinking water contaminated with toxic heavy metals such as copper and lead.

B. Procedure of Banana and Orange Peels into Powder Form

We collected peels from various centres. The peels were washed and dried at sunlight at a stand temperature 100oc for 24 hrs. The banana and orange peels are grinded separately to form a powder. The sizes of particles are varies up to 5 mm. We prepare standard silver nitrate solution for use

Water.

V. RESULT AND DISCUSSION

The removal of organic substance from water using orange peel and banana peel was studied by investigation of pH, turbidity and various tests. When both dried peels of banana and orange have used the result obtained by us by quite accepted. We used not only pH test but also hardness and turbidity test was performed for supporting our project. The result obtained were positive and it is being proved that this method is effective. The peels were able to remove silver nitrate metal present in the solution. The dried peels were be proved more beneficial as compared to individual powder and peel. As this method is based on agriculture waste automatically it can be said that it cost effective as well. This technique is eco-friendly and cost-effective as well, it will help for growth of our environment

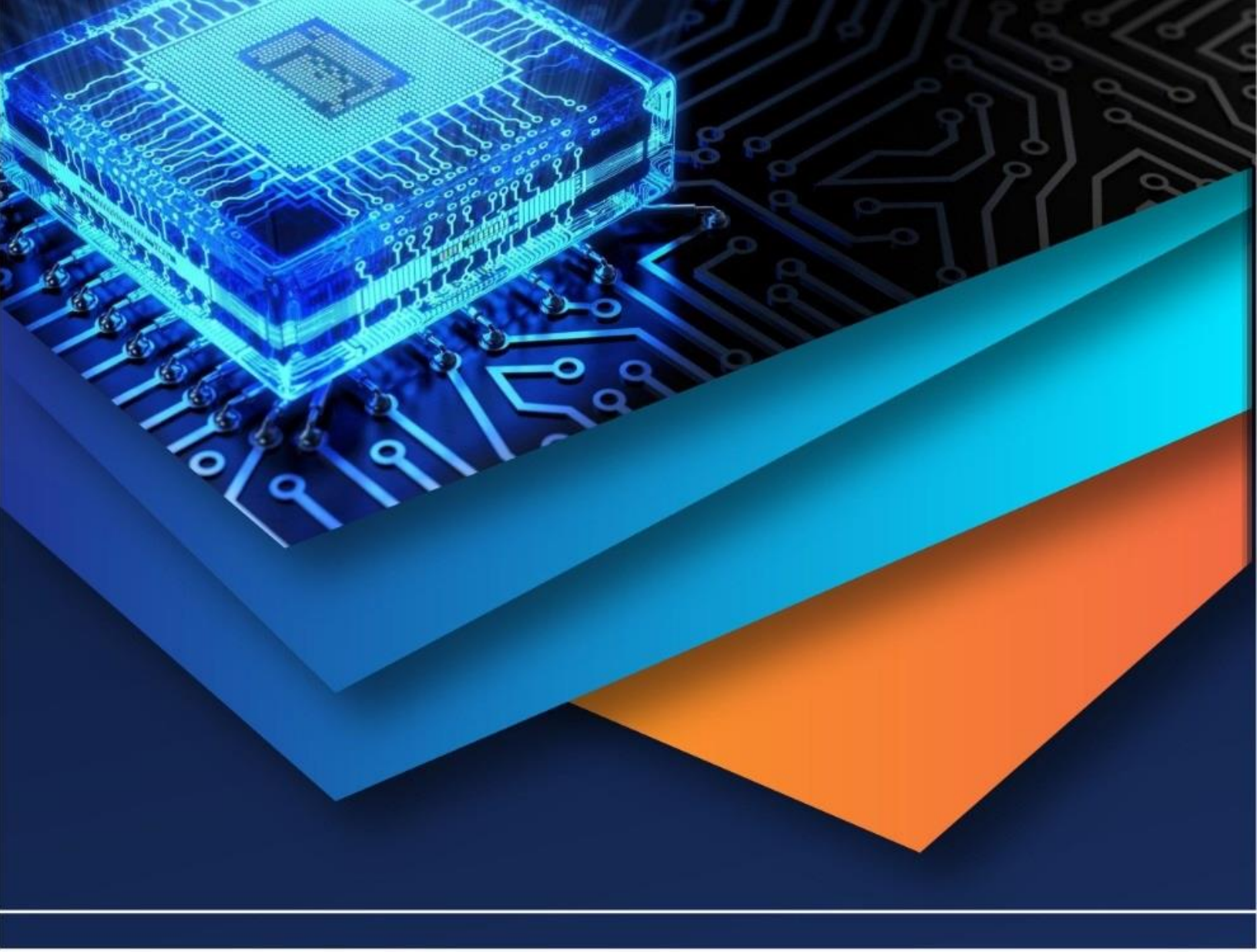
The ph. range of before filtered sample water and after filtered water sample having huge different. Like our first water sample ph. range is between 9.5±0.5 mg/l and after filtration range varies 6.5 ± 0.005 mg/l. Turbidity also changing after filtration i.e. 12±0.02 mg/l to changes 5.8±0.05mg/l. The sample water color was brown or faint brown after filtration it turn out into white. With the differences Hardness also changes i.e. 290±0.2 to 235±0.2 mg/l. The Total Solid range is also decreases from ranges 210±0.02mg/l. We found that water sample of DO which is before filtration that range was slightly less and after filtration it increased. From these we conclude that it having huge difference between before and after water sample tests. After all these results and filtration we found out pure water which is drinkable.

VI. CONCLUSION

Orange and banana peels have ability to removal all impurities and heavy organic matter from water. Both having 50.1% of impurity removal capacity. The study shows that, at the time of growing season insecticides and fungicides are used, all farmer are uses large amount of pesticides on crop after every three to four days they spray pesticides on crops. It is possible to used organic filter media for removal of harmful ingredients from water which is also economical and easy to adopt. So we suggest use of organic filter media in farming at various locations. Excessive use of pesticides shows the potential for land degradation. After doing this project research suggest testing the quality of soil in the laboratory to insure the condition of the soil in the current agriculture environment. We suggest Routine assessment and soil quality and pesticides uses to control and maintain a sustainable ecosystem

REFERENCES

[1] Pratiksha, Preeti sharma, Status of Environmental pollution in rural Panjab and its Management" International Archieve of applied sciences and technology, vol 11 December 2020:65-71, ISSN- 0976-4828
[2] Mehtab Haseena, Water pollution and human health" Department of zoology, Pakistan, July 13, 2017, ISSN: 2529-8049
[3] Prakash Dattatray Raut, Dr. S. J. Dhawal " Assessment of physio- chemical characters any heavy metal distribution along the PANCHAGANGA RIVER", MS INDIA corresponding, Department of Environmental science, shivaji university Kolhapur, 416004, (August 2017) volume 6, Issue8, 1823-1836, ISSN 2278-435
[4] R. Sudha, P. Premkumar, Lead Removal by Waste organic plant source Materials Reviews" Vol.9, NO. 01, 2016, ISSN: 0974-4290
[5] Asha Gupta, "Water pollution sources, effect and control", Manipur University, January 2016.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY