



## WASTE WATER FILTRATION USING NATURAL PLANTS

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*Abstract : The main aim of this project is to utilize the waste water into clean drinking water by filtration. Water is the basic needs of human. We cannot live without water. Water is polluted in many areas. In this project waste water is filtered in to clean water For cleaning the waste water we have used materials like fine sand, coarse sand, charcoal, cloth. These materials are measured and filled in containers by layers for filtration purpose. For filtration purpose we have taken all the substuents to a measured amount . We have taken three water bottles in this first we have filled the measured amount of Arugam pull and rest of the sample by layers in the 1<sup>st</sup> bottle. Then remaining materials in 2<sup>nd</sup> bottle. One bottle is kept down covered by a strainer at its top for filtration purpose Slowly the waste water is allowed to pass through the layers of sample. The waste water passes through the samples of layers and finally we got a clean clear water in the container. We have conducted several tests from the collected clean water. 1<sup>st</sup> we have undergone a test after resting the water 30 minutes for and later by 1hour. We have conducted test for iron content chloride content ,PH ,turbidity for the collected clean water sample after resting for 30 min and 1hour separately .In later days we will use copper mesh instead of strainer for filtration purpose. To develop an eco-friendly wastewater filtration system using natural materials such as Vettri Ver, clearing nut, charcoal, cloth, Pampoo, and sand. Comparative analyses and investigations into different grey water, rain water ,waste water and understanding of their quality. These advancements provide valuable to society for low cost filtration. Purification consists mainly of eliminating substances that are toxic to people, such as chromium, lead and zinc, as well as algae, sand or bacteria and viruses which can be present in water. In essence, it aims to eliminate any potential risk to the health of people. With the growing world population, the lack of clean water is becoming an increasing problem.*

### Introduction

- **Background:** Overview of the wastewater problem in the area and the need for sustainable solutions.
- **Purpose of the Project:** To utilize natural materials for effective wastewater filtration, reducing environmental impact.

### Materials and Methods

- **Materials:**
  - **Vettri Ver:** Used for its filtering properties.
  - **Clearing Nut:** Effective for coagulation and sedimentation.
  - **Charcoal:** Acts as an adsorbent to remove impurities.
  - **Cloth:** Used as a final filtering layer.
  - **Pampoo (Cotton Grass):** Natural absorbent properties.
  - **Sand:** Provides mechanical filtration.

## Natural Materials for Filtration

### Sand and Gravel:

○ Layers of sand and gravel can effectively filter out larger particles and sediments from wastewater. The finer the sand, the smaller the particles it can filter.

### Activated Charcoal:

Activated charcoal is excellent for removing impurities and odors from water. It adsorbs contaminants, making it a popular choice in natural filtration systems.

### Clay:

Clay can be used to create a natural barrier that helps in sedimentation and filtration. It can also absorb certain pollutants.

### Coconut Coir:

The fibrous husk of coconuts can be used as a filter medium. It is effective in trapping sediments and can also support microbial growth that aids in breaking down organic matter.

### Bamboo:

Bamboo can be used in various forms, such as charcoal or as a structural component in filtration systems. Its natural properties can help in filtering and purifying water.

### Benefits of Using Natural Materials and Herbal Plants

- **Eco-Friendly:** Utilizing natural materials and plants reduces the reliance on chemical treatments and promotes sustainable practices.
- **Cost-Effective:** Many natural filtration systems can be constructed using locally available materials, reducing costs associated with traditional wastewater treatment methods.
- **Biodiversity Support:** These systems can enhance local biodiversity by providing habitats for various organisms, including beneficial microorganisms and wildlife.
- **Improved Water Quality:** Natural filtration methods can effectively reduce contaminants, making water safer for various uses, including irrigation and even drinking after proper treatment.
- **Aesthetic Value:** Incorporating plants into wastewater treatment systems can enhance the visual appeal of the area, creating green spaces that benefit the community.

## Methodology:

**Layering:** Create a filtration system with layers of sand, charcoal, Pampoo, and Vettri Ver.

**Collection:** Utilize cloth to collect and filter out larger particles.

**Testing:** Regularly test the water quality after filtration.

## Project Implementation Plan

- **Timeline:** [Insert a detailed timeline with phases: planning, implementation, and monitoring]
- **Milestones:** Key deliverables and deadlines.





DEMO OF WASTE WATER TREATMENT

### Conclusion

- Summarize the importance of the project and its potential impact on the community and environment.
- In this project waste water converted to clean water in low cost.
- Normal water filter assembly is comprised of an inlet,filter grid,clamp and outlet.In our projectall the natural plants,natural materials will be used .

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