

FUTURE PUBLIC TOILETS (WITH EASE OF UTILIZATION)

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ABSTRACT

This paper discusses the role of public toilets, as transmitters of disease, but also of their importance in contributing to the health and well-being of society. Research has shown that public toilets are vital components in creating sustainable, accessible, inclusive cities. But there is no mandatory legislation requiring local authorities to provide them. Over 40% have been closed in the UK in the last 10 years. The promotion of the 24 hour city, characterized by a male youth drinking culture, along with toilet closure, has resulted in increased street urination, creating the conditions for the spread of previously-eradicated, water borne diseases in city streets. Less visible, but as virulent, has been the effect of toilet closure for women. Women, in response to lack of toilet provision, are likely to 'hold on' resulting in urine (and pathogen) retention, and bladder distension increasing the propensity for continence problems. The elderly and people with disabilities may simply not go out for fear of there being no toilet when they need one. Those toilets that are available may be unusable. Lack of regulation or compulsory standards result in poor toilet design, inadequate maintenance and management, and unhygienic conditions, resulting in the spread of MRSA and other drug-resistant diseases. Recommendations are summarized for the provision of a spatial hierarchy of toilet provision that would both meet user needs and reduce the chances of the public toilets acting as epicentres of germ transmission. Unless compulsory legislation, increased funding, and improved management, maintenance and cleaning regimes are instigated, public toilet provision will continue to be a source of diseases.

Keywords: *Public Hygiene, Health Awareness, Efficient Cleaning*

I INTRODUCTION

- Public toilets in city markets, railway station and bus stand are in a deplorable condition. The problem of condition of public toilet is getting severe day by day.
- The public Cigarettes, used napkins, wrappers of eatables and other stuff can be found scattered on the floor. There are no foot mats. A majority of toilets lack is appreciation too from women who always suffer deeply from inadequate toilet facilities.

- Being Engineer and responsible citizen of India, we are in search of how to overcome that problem and try our best from our side.

II. USED CHEMICALS

2.1 VINEGAR

- Acetic acid, systematically named ethanoic acid, is a colourless liquid organic compound with the chemical formula CH_3COOH (also written as $\text{CH}_3\text{CO}_2\text{H}$ or $\text{C}_2\text{H}_4\text{O}_2$). When undiluted, it is sometimes called glacial acetic acid. Vinegar is roughly 3–9% acetic acid by volume, making acetic acid the main component of vinegar apart from water. Acetic acid has a distinctive sour taste and pungent smell. In addition to household vinegar, it is mainly produced as a precursor to polyvinyl acetate and cellulose acetate. It is classified as a weak acid since it only partially dissociates in solution, but concentrated acetic acid is corrosive and can attack the skin.

2.2 BAKING SODA

- Sodium bicarbonate (IUPAC name: sodium hydrogen carbonate) is a chemical compound with the formula NaHCO_3 . It is a salt composed of sodium ions and bicarbonate ions. Sodium bicarbonate is a white solid that is crystalline but often appears as a fine powder. It has a slightly salty, alkaline taste resembling that of washing soda (sodium carbonate). The natural mineral form is nahcolite. It is a component of the mineral natron and is found dissolved in many mineral springs.

2.3 BORIC ACID

- Boric acid, also called hydrogen borate, boracic acid, orthoboric acid and *acidum boricum*, is a weak, monobasic Lewis acid of boron, which is often used as an antiseptic, insecticide, flame retardant, neutron absorber, or precursor to other chemical compounds. It has the chemical formula H_3BO_3 (sometimes written $\text{B}(\text{OH})_3$), and exists in the form of colorless crystals or a white powder that dissolves in water.

2.4 CITRIC ACID

- Citric acid is a weak organic tricarboxylic acid having the chemical formula $\text{C}_6\text{H}_8\text{O}_7$. It occurs naturally in citrus fruits. In biochemistry, it is an intermediate in the citric acid cycle, which occurs in the metabolism of all aerobic organisms.
- More than a million tons of citric acid which are manufactured every year. It is used widely as an acidifier, as a flavoring and chelating agent.^[7]

A citrate is a derivative of citric acid; that is, the salts, esters, and the polyatomic anion found in solution. An example of the former, a salt is trisodium citrate; an ester is triethyl citrate. When part of a salt, the formula of the citrate ion is written as $\text{C}_6\text{H}_5\text{O}_7^{3-}$ or $\text{C}_3\text{H}_5\text{O}(\text{COO})_3^3$

2.5 ADVANTAGES

- There are mainly three uses of that process:

- Cost Effective.
- Helps in maintaining hygiene in public places.
- Many people can use public toilets with less difficulty and its helps in medical (Health) improvement of India.

2.6 BRIEF PROCESS

- Pre-treatment: For our project, the basic components of our project are :
 1. Vinegar (Acetic Acid)
 2. Baking Soda (Sodium Bicarbonate)
 3. Boric Powder
 4. Citric Acid
- It Is very simple process.
- First we mixed all the components mentioned above in proportion of 1:1:1:1 .

We make that paste and pour it on required area / region which we have to clean .

❖ SCOPE OF PROJECT

1. Economical
2. Resistance to diseases.
3. Maintaing public health
4. Promote the concept of health awareness.
5. Natural, minimize use of chemicals .

III.ACKNOWLEDGMENT

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- *use of above mixture on the stained WASHBASIN*

● STEPS:-

1)Before applying solution



2) applying the solution:-



3) spreading the solution on washbasin:-



4) after applying the solution:-



5) wait for 5-10 minute :-



6) after washing with water:-

