



Processing Biodegradable Waste to Minimize Cholera Risks In Tanzania

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Introduction

Recalling the cholera epidemic that erupted in the recent years 2015/16, one of the suggested cause for the problem was as a result of using poor methods of waste disposal especially wastes generated from food stuffs being our main regard which in turn ultimately led to the spread of the epidemic in Tanzania .

The ministry of health in Tanzania has worked hard in the eradication of diseases especially epidemic diseases in collaboration with the ministry concerning with environmental issues as well as eradication of poor methods of wastes disposal especially waste s generated from food stuffs which is currently a great challenge to most areas especially the marketing areas in cities such as Arusha ,Dar-es-salaam, where there is a bit congestion of people and poor disposal of wastes including regions such as Shinyanga

The aim of this project was the production of o bio fuel (ETHANOL) which was the main goal for us handling the project as a substitute product derived after the recycling of wastes from food stuffs.

Method

The team walked through various markets between two regions of Arusha and Shinyanga.

The method of data collection which were used in markets during the research work were mainly interview method and field observation method.

The following are the results of the research in markets.

In Arusha region, we had a walk visiting two different markets, Kilombero market and Samunge market. In Kilombero market we had an interview, conversations with different business me and women using different questionnaires that we asked them.

We also made a thorough research on various dumping sites in those stated regions as follows;

We had a check on the state of food waste disposal at the dumping sites and the situation was worse than ever especially along the roads. The wastes produced a very stinky scent which is dangerous to human healthy. We also used the internet to widen our research.

Results

The team used the school laboratory to organize the distillation process of the impure ethanol. Various tools were gathered to accomplish the process which is as follows. Condensers, Fractionating column, stands, thermometers, heat source, collecting jars and so on.

The liquid ethanol was filtered to remove most of the solid impurities. The filtrate was heated in a round bottomed flask. Since ethanol has a lower boiling point, it vapours first then passed through a condenser for cooling. After the liquid will be collected as a "FILTRATE". The filtrate obtained is the required "PURE ETHANOL".

The team had a test on the Ethanol obtained from the distillation process about its variation in composition for both physical and chemical properties.

For the physical property, the ethanol proved to be flammable when ignited. Its boiling point also ranged between 760C – 790C .

Conclusion

Through the utilization of biodegradable wastes of processing them into a bio fuel (ethanol) , it will greatly conserve the environment and hence minimize the risks for epidemic outbreak (CHOLERA).

If produced at large scale, this will help to raise the nations income and currency when exported to which mostly depend on bio-fuel.

The project also aims at reducing long queues of cholera patients on hospitals which will help to reduce expenditures on treating these people. In reference to the current epidemic which has claimed many lives and our country is using lots of money to overcome COVID-19.

Through the research many business me and women were able to learn that wastes dumped carelessly in their surroundings are of great use as they can be decomposed and being used as fertilizers hence increase crop production.

References

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Acknowledgments

Humbly the team would like to extend their sincere gratitude to Sir Joseph and his cabinet members for this great program which has widened our thinking capacities, reasoning skills and may others.

Likewise Madam Eudora for great and wise support towards accomplishing the Report work. Also our special gratitude to the Head master of ilboru high school for giving us a chance to participate in these competitions.

We thank our fellow students who provided us a conducive place for making research and so on. And lastly thank those who provided us the necessary information in our field research which has enabled us reach this stage.

