Summary

In many Indians rural area, open defecation still became a habit. The open defecation became a problem to the environment by the smell and the bad hygiene. Therefore, an appropriate sanitation needs to be built for the rural people to create a healthier environment.

Financial Inclusion Improves Sanitation and Health (FINISH) is one of the program that concern about this condition. One of the project which consisted inside the program is to make an appropriate sanitation in two rural area in India, which is Thiruvarur and Musiri. The project aim is to implement an ecosan toilet linked with the biogas system as the treatment for the excreta. The biogas system that is chosen to be implemented in this project is the Zero Leakage Urban Biogas Reactor (ZLUBR).

The ZLUBR System is a new innovation of a biogas technology. This system has an objective to optimize the production of biogas from the slurry, avoid leakage from the biogas system and ensure the final discharge is safe. Because it is a new technology, it has to be implemented as a pilot project first, to know whether it will be successful in the real world. So the implementation of the ZLUBR System linked with an ecosan toilet can be as a pilot project as well as providing an appropriate sanitation for the people in Thiruvarur and Musiri.

To build the pilot project, first a feasibility analysis has to be done to see whether the ZLUBR system is feasible to implement in the area of Thiruvarur and Musiri. The feasibility of the ZLUBR System in Thiruvarur and Musiri is the main topic of this research.

This feasibility research divided into three aspects, which are technical, social, and economical aspect. The technical aspect analyzes the comparison between the ZLUBR System location condition requirements with the location condition in Thiruvarur and Musiri. The social aspect analyzes the social acceptance of the people with some aspects that are analyzed. And the economical aspect estimates the cost and revenue from the ZLUBR System implementation.

The result shows in the technical part, the location condition in Thiruvarur and Musiri meets the entire requirement of the ZLUBR System. The social part shows the social acceptance in Thiruvarur and Musiri are positive. And the economical part shows the payback period is realistic. Therefore, it can be concluded that the ZLUBR System is feasible to be implemented in Thiruvarur and Musiri.

Keywords: Biogas Reactor, ZLUBR, Zero Leakage Urban Biogas Reactor, Feasibility Analysis, India, Tamilnadu