Thesis entitle DESIGN AND CONSTRUCTION BAMBOO WATER-CLOSET

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ABSTRACT

This thesis through researches is highlighted upon the designs and constructions of 3 models of water-closets in bamboo works. In preliminary stage, boiled potato and papaya were tested as solid and semi-solid excretas. The test (t - test) at 95% confidential limit were used in the preliminary comparison test of the 3 models. The results were as follows:-

1. The average water storage capacity of trapping system of 3 models of bamboo water-closet, in 24 hours, were not significantly different. The average water lost by trapping systems,model 1, 2 and 3 were 2.07%, 2.10% and 1.59%, respectively. The trapping system, model 3 displayed the lowest percentage of water lost.

2. The average flushing quantity for cleaning bamboo water-closet, model 2 was significantly different from model 1, but not significantly different from model 3. The average flushing quantity for cleaning bamboo water-closets, model 1, 2 and 3 were 2,090 ml/run, 1,450 ml/run

and 1,403 ml/run, respectively. It showed that the lowest average flushing quantity for cleaning was model 3.

3. The average storage capacity of trapping systems of model 2 after flushing was significantly different from model1, but not significantly different from model 3. The average percentage of water lost of trapping system, model 1, 2 and 3 were 5.0%, 1.89% and 1.83%, respectively. The lowest percentage of water lost was model 3.

4. The total production cost of bamboo water-closet model 1, 2 and 3 were 43.63, 43.83 and 40.83 Baht/unit,respectively. The cheapest production cost was model 3.

It was concluded that bamboo water closet model 3 was the most suitable one in terms of cost, water economy and appropriate technology. It was constructed then tested for merits. The average water required for cleaning was 2,186.5 ml/run, which is less than the average water quantity of 2500 ml/run used in conventional water-closet.