

# **A Study on the Management of an Ecological Sanitation Project in a Minority Hamlet of Vietnam**

Hidenori Harada

*Key Words: Ecological Sanitation, management, minority, urine-separation toilet, Vietnam, construction, education*

## **1. INTRODUCTION**

Ecological Sanitation (EcoSan) can be an approach to improve sanitation and recovery nutrients from human excreta. The approach has been implemented in developing countries. Specific care taken in the management of EcoSan projects enhances the validity because it has a specific system and usage with urine-separation system. Moreover, EcoSan can be affected by local conditions such as culture and ethnicity. Most minority people in developing countries suffer from poor, resulting in lack of sanitary conditions. This paper presents a study on the management of an EcoSan project in a minority hamlet of Vietnam.

## **2. PROJECT**

Most people belong to minority people, named Kohor, in the Hamlet 5, DanPhuong Commune, Vietnam. They suffered from lacks of sanitation and fertility due to the changing of their life after Vietnam War. In order to improve sanitation and recover nutrient from human excreta, eighty-five EcoSan toilets were introduced in the hamlet in 2002. In the EcoSan toilets, feces and urine are collected separately. Urine is generally sanitized and used as fertilizers after dilution. Deposited feces are covered with ash to raise the pH, make it dry and disinfected. After stored about six months, feces are sanitized and then used to farmland. Moreover, education activities were carried out, such as an orientation, lectures and continuous household guidance.

## **3. CONSTRUCTION OF THE TOILET**

After using about five months, roofs of 23 toilets and other parts of 11 toilets were damaged mainly by strong wind because project site was located in windy area. Inadequate modification of design to suit the local conditions such as strong wind led to the damages. In addition, it was found that the difference in forms of construction affected the status of toilets and the inadequate construction of some toilets resulted in the damages. Based on the results and the discussion of the EcoSan construction, influential characteristics and factors for proper EcoSan construction were proposed. On the other hand, some damaged toilets were repaired by people themselves and the rest toilets were repaired by the author five months later.

## **4. ACCEPTANCE OF THE TOILET**

Through the education, especially continuous household guidance, approximately 90 % of people in the project site could use toilet properly. However, Kohor people needed much effort to adopt the usage than other ethnic people because they could not clearly understand Vietnamese in the education activities. It was found at least three-month education was necessary to adopt the usage. Handling urine and putting ash were crucial actions in the learning. In addition, sequential actions to use toilet was divided into each action. There was discrepancy between motivation of people to each action and the purpose of the action. If the action from a motivation did not match the purpose, education on the action was crucial to use the toilet properly.

## **5. CONCLUSION**

Most people, including minority, accepted the EcoSan toilet through the project. Using it continuously, sanitation in the area will be improved. However, some people could not handle urine correctly. Handling urine should be educated carefully to promote recovery of nutrients from human excreta. Also, feces will used to farmland after sanitized completely. Achievement of this project can contribute to EcoSan projects for minority people.