

VINA-SANRES PROJECT ACHIEVEMENTS AND FUTURE PLAN

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1 BACKGROUND

In 1996, with the support of the Sanres programme, Department of Preventive Health of MOH and Nha Trang Pasteur Institute started Vinasanres Project in Cam Duc commune in central of Vietnam. The purpose of the project is to develop and/or improve sanitation systems suitable for the rural and peri-urban areas in the new stage of development. It also includes improving awareness in ecosan amongst the people, policy and decision-makers.

2 RESULTS

2.1 Community survey

The project started with a whole community survey to investigate hygiene behavior, sanitation and water supply at the Cam Duc Commune.

2.2 Toilet construction and training

Sixty-two toilets in 6 types were built during the project in three stages. The toilets at later stage were improved and better than the former.

- Traditional Double Vault (TDV) (2 units)
- Traditional Double Vault, ventilated (TDVV) (17 units)
- Single Bucket, ventilated and solar heated (SB) (9 units)
- Multi-Bucket, ventilated and solar heated (MB) (9 units)
- Double Vault ventilated, and Solar Heated (DVSH) (12 units)
- Double Vault ventilated, solar heated and with a Moveable Shelter (DVMS) (15 units)

All of the toilets are urine-diverting types and most of them use ash to cover freshly deposited faecal matter.

(The construction designs and use guide will be presented in full report as appendixes)

Three training courses in toilet construction and use, and hygienic practice were given to the toilet owner before the toilets were built in each of three phases of building.

2.3 Testing the survival of microbial indicators

The survival time of microbial indicators (*Salmonella typhimurium* phages 28B and *Ascaris suum* eggs) in processing chambers has been tested in 12 toilets (2 of each type).

The results showed:

The survival time of the indicators seemed to be independent of the types. This conclusion led us to choose TDVV as the most advantage type for the future application.

The pH of the toilet material is the most influential factor to their survival time, If pH is upper than 10, the microbial die-off will be shortest. The user can do this by adding more than 300 ml of wood ash after defecation.

Although the survival time of indicators in some tested toilets was not longer than 8 weeks, there were some toilets where the microbial indicators could survive for 24 weeks. Therefore, the retention time of 6 months of material inside the chambers was recommended for safety.

(For more details, see the paper presented by Bui Trong Chien.).

2.4 Evaluation on toilet function, users' practice

Three investigations were carried out for evaluation of the adoption of the operational guidelines given and of toilet function. These visits were also used as a follow-up activity in order to sustain the users' belief in ecosan toilets and enhance good practice in use. As a result, the situation was improved from the first to the third visit.

2.5 Ecological workshops

With the aim of development of ecosan systems, two workshops on ecological sanitation were hold in Nha Trang City. One was for local health staff in the province with 40 participants, the other was a national workshop, with 82 participants . These workshops, especially the last one, made a radical change in scientists and decision makers' thinking and attitude in ecological sanitation and established a favourable climate for wider establishment and acceptance of ecosan in Vietnam.

2.6 Acceptability by the local population

Almost 80% of users would stay with eco-san given the choice. We believe if one takes into account the quality of the phase 3 toilets the figure would be higher.

The acceptability was also persuasively proven by the private building of more than twenty copies of the TDVV Vinasanres design in the commune almost 200 other households would like a Vinasanres toilet. (ref. Calvert , Nghien, Appraisal of Vinasanres Programme, Oct 2000)(see below)

2.7 Project appraisal

The project was appraised carefully by a project-independent team composed by Paul Calvert and Pham Si Nghien in Oct. 2000. The whole appraisal report consisted of more than fifty pages is available on www.wkab.se. According to the appraisers, the project achieved its objectives. They also recommended some follow-up activities that we have been carrying during the year 2001.

3 PLAN FOR THE FUTURE

3.1 Project follow-up activities

To enhance the project achievements to make this pilot project become an attractive demonstration on ecological sanitation, Sanres programme supported to carry out a

number of follow-up activities within the year 2001 as recommended by Calvert and Nghien:

- Hygiene education and regular user training to bring all users up to the standard of the best.
- Improve the earlier toilets to a better standard.
- Establish a practical demonstration of the value of human urine as a fertilizer.
- Hold a community workshop in Cam Duc to expose the best toilets to the commune and nearby communities.
- Train masons in the community how to build the most preferred toilets.
- Produce a construction and operation manual in Vietnamese for the TDVV.

3.2 Establish an ecological sanitation commune.(2002-2003)

Cover a commune with Vinasanses toilets to establish it as larger demonstration on ecosan then prove the effectiveness of ecological sanitation in protecting public health within this community.

3.3 Develop ecosan to the other areas.

After the national workshop in Jan 2001, the ecological approach in sanitation was approved as a viable sanitation option by scientists in environmental health and decision makers from National Programme of Rural Sanitation and Water Supply, the Ministry of Construction, Agriculture and Rural Development, and leading academic institutions.

The Vietnamese Ministry of Health plans to discuss with involved institutions to:

- Apply Vinasanres toilet in *National Programme for Rural Sanitation and Water Supply* as a priority alternative in sanitation.
- Seek international funding resources to research and develop ecological sanitation in the whole country.