

# Hygienic Aspects of Sanitation and Water in Rural Areas of the Mekong Delta, Vietnam

## Introduction

The VAC model (Vuon=orchard, Ao=fish pond, Chuong= livestock farming) is a traditional farming system in the Mekong delta, where human and animal excreta are predominantly used as fodder in aquaculture. This practice leads to heavy fecal contamination of the surface water, which is also the main drinking water source. The excreted fecal pathogens contaminate not only water, but also fish, soil and vegetables. Over the last decade, projects by UNICEF, Oxfam and other NGO's have promoted the use of hygienically safe drinking water, predominantly groundwater. The SANSIED project analyzed hygienic problems of the present situation concerning drinking water sources, treatment and storage and sanitation systems in the household as basis for the development of risk communication strategies.



## Background

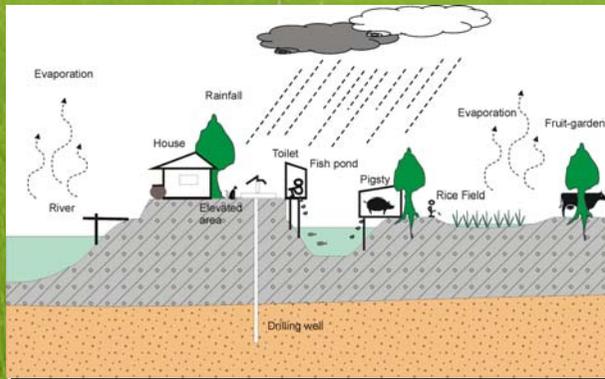
### Socialist Republic of Vietnam

- Population: 79.7 Million;
- 64 provinces
- 1.6 diarrhea episodes/year for children under the age of 5 years
- 67% of rural population with access to improved drinking water
- 26% of rural population with access to improved sanitation (WHO/UNICEF; 2004)

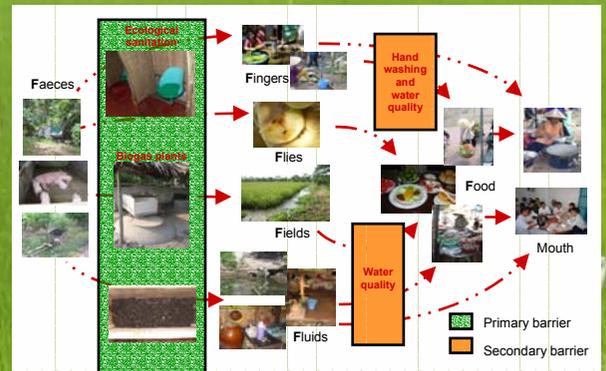
### Research Area

#### Mekong Delta, Can Tho

- 40.000 km<sup>2</sup>
- Delta population: 17 Million
- Rural population: 88%



Scheme of a typical VAC farm (Vuon=orchard, Ao=fish pond, Chuong=livestock) in the Mekong Delta ( T. Le Anh; 2003)



The F-diagram: Faecal oral transmission routes of diseases and implementation of barriers Modified after: Wagner and Lanoix 1958



Water source: Canal



Fish from a Pond



Duck flock in a rice field



Hand pump and storage pots



Kitchen at the canal

## Results

- Open defecation, e.g. via fish toilets, is still common
- Surface water is highly contaminated by faeces, garbage, waste from ships, chemicals, etc.
- The majority of the population prefers surface water as drinking water
- Faeces are accepted as a fertilizer and fodder by farmers
- Ecological sanitation systems could provide hygienic safe nutrient recycling (fertilizer) and improve the sanitary situation

## References

- [http://www.unep.org/infocentre/countries/vietnam\\_statistics.html](http://www.unep.org/infocentre/countries/vietnam_statistics.html)
- <http://www.un.org/vn/>
- Wagner E. G. and Lanoix J. N. (1958). Excreta disposal for rural areas and small communities. WHO, Geneva.

## Conclusion

The following essentials to reduce the risk from water and sanitation have been identified:

- A multi-stakeholder approach to tackle the challenges of hygienically safe nutrient strategies
- Cooperation between universities, NGOs and public authorities, as well as community participation
- Design and implementation of locally adapted disease transmission barriers
- Identification of obstacles in participation and development of suitable training materials
- Development of risk communication strategies