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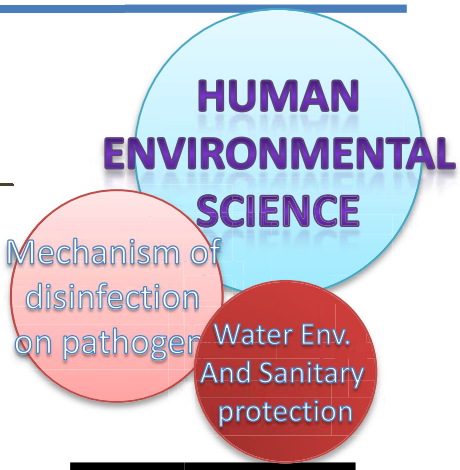
The Natural/Applied Sciences Division / Department of Human-Environmental Science

http://www.eng.ocha.ac.jp/enveng/index.html



■ **Researcher information**

Contact

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Major

Environmental sanitation engineering

■ **Research topics**

The research on management & control of water environment and sanitation

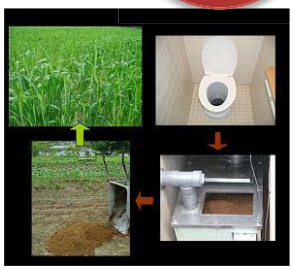

Fig.1 Recycling nutrient by composting toilet

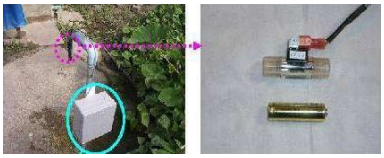

Fig.2 Small flow meter and battery box

Keywords

Mechanism of disinfection on pathogens, Ultraviolet disinfection, composting toilet, Domestic water demand in each purpose.

Contents

■ Overview

Out study consists of 3 main parts. One is the research on disinfection technology of drinking water which directly relates human health. We focus on Ultra-violet technology which produces less by products. Second is the research on disinfection aspects of composting toilet which can recycle the nutrient and reduce water consumption (See Fig. 1). About both of them, we focuses on disinfection mechanism. Third is the research on domestic water demand in each purposes which relates to the water volume and quality for protecting healthy human life (See Fig. 2).

■ Process, case study

About UV disinfection, we treated different type UV lamps and evaluated the efficiency difference of Qb inactivation (See Fig.3). And now we are trying to develop the easy methods for measuring UV dose of disinfection device.
About compositing toilet, we investigated the disinfection mechanisms of pathogenic viruses and compared in different condition like wet or dry, low of high temperature etc.
About domestic water demand research, we implemented field survey in Thailand and Vietnam. We attached small meter in each tap and measured water consumption volume by it. It is definitely unique point.

■ Potential (applications, future goals)

UV application increased recently, then technical aspects and basic information in our lab. should be useful. Composting toilet can be utilized in developing country which especially has less water resource and low sanitary condition. Measuring domestic water use in each purpose by metering can be useful for evaluating questionnaire survey or forecasting water demand in future

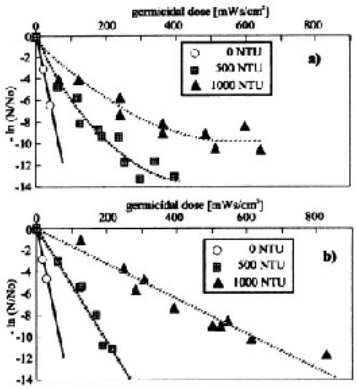

Fig.3 Qβ inactivation efficiency in high turbidity conditions: (a) by LPUV, (b) by PXe

Intellectual properties (Patents, computer programs), productization, publications and social/industrial contributions

Committee member of evaluating new sewage treatment technology in Tokyo Metropolitan, etc.

Potential of social/industrial contribution

■ Joint research