



Thammarat Koottatep

Sanitation Expert

T: +66 81 869 6741

E: thammaratkoottatep@gmail.com

SUMMARY

- 20+ years experience working for research & development and consulting organizations in Thailand, Southeast & South Asia and Africa.
- Experienced in sanitation systems and decentralized wastewater systems in developing countries projects. Well versed in sanitation systems, decentralized wastewater treatment processes and technologies, including; natural treatment processes, constructed wetlands, fecal sludge management/treatment. Have a strong understanding of strategic planning, stakeholder engagement, management practices, market-driven innovations (i.e. Material Flow Analysis, Quantitative Microbial Risk Assessment, Water Pinch Analysis).
- Solid business development and project management experience that has encompassed the full life-cycle of project management; i.e., proposal preparation, project costing, resourcing, scheduling, budget control and the management of small teams of technical professionals from various disciplines.

CORE COMPETENCIES

- Decentralized Wastewater and Waste Management
- Fecal Sludge Management and Treatment
- Innovative Sanitation Systems
- Environmental Monitoring and Modeling
- Environmental Project Management

EMPLOYMENT

- May 2011 – Present: **Asian Institute of Technology (AIT)** | Thailand | Associate Professor
- Sep 2002 – Apr 2011: **National Center of Competence in Research (NCCR) North–South** | Switzerland | Regional Coordinator
- May 1999 – Aug 2002: **Asian Institute of Technology (AIT)** | Thailand | Research Engineer

EDUCATION

- 1993 – 1999 **Asian Institute of Technology** (Thailand), D.Eng. in Water & Wastewater Engineering
- 1991 - 1993 **Asian Institute of Technology** (Thailand), M.Eng. in Water & Wastewater Engineering
- 1987 - 1991 **Chiang Mai University** (Thailand), B.Eng. in Environmental Engineering (1st Rank)

REGIONAL EXPERIENCE

Thailand, South East Asia (Vietnam, Cambodia, LaoPDR, the Philippines and Indonesia), South Asia (India, Nepal, Bangladesh, Sri Lanka), Africa (South Africa and Ethiopia)

DECENTRALIZED WASTEWATER MANAGEMENT

Development of Innovative Decentralized Wastewater Treatment Prototypes (Regional: Thailand, Vietnam, Cambodia, South Africa, India, and Bangladesh):

Be a team leader in developing innovative technologies for decentralized wastewater treatment systems using market analysis and advanced processes. Technology prototypes are planned for commercialization in most developing countries where access to sustainable sanitation is crucial.

Policy Guidance Manual on Wastewater Management (Southeast Asia):

Was key resource person designated by United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and United Nations Human Settlements Programme (UN-Habitat) to develop a policy guidance manual on wastewater management with special emphasis on decentralized wastewater treatment systems.

Ecological Reuse System with Health Risks Determination: A demonstration case at public school (Thailand):

Was a team leader in the design and installation of constructed wetlands as a decentralized wastewater treatment system for a public school with consideration of wastewater reuse and health risks.

Constructed Wetlands for Wastewater Treatment of Chulachomkiao Royal Military Academy (Thailand):

Was a team leader in planning, design, and installation of constructed wetlands for wastewater treatment with emphasis on low-cost in operation and maintenance.

Baffled Septic Tank and Constructed Wetlands for Community Wastewater (Vietnam):

Was a technology supervisor in planning, design, and installation of baffled septic tank and constructed wetlands for treatment of domestic wastewater with consideration of health impacts.

Environmental Technology Verifications of Decentralized Wastewater Treatment Systems (Thailand):

Was a team leader in developing methods for environmental technology verifications of decentralized wastewater treatment systems for Thailand with technical assistance from US-EPA.

Onsite Wastewater Treatment Systems for Small-scale Communities (Thailand)

Was a team leader in developing technical guidance for design and operation of onsite wastewater treatment systems for small-scale communities in Thailand. The guidance has been used as a national code of practices by the Pollution Control Department.

FECAL SLUDGE MANAGEMENT

Fecal Sludge Treatment Plant in Kathmandu (Nepal):

Was an international consultant to UN-Habitat in designing of fecal sludge treatment systems in Kathmandu city at a treatment capacity of 200 ton/day

Stakeholder Engagement in Fecal Sludge Management (Lao PDR and Thailand):

Was a team leader in application of stakeholder analysis in participatory planning of fecal sludge management system of a local community. The project could lead to effective participation of stakeholders in execution of the project.

Rehabilitation of Fecal Sludge Treatment Plant (Bangladesh):

Undertook site investigations and detailed design for rehabilitation of the existing fecal sludge treatment plant in Janipur city, Bangladesh. Recommendations on improvements of fecal sludge collection and transportation systems are given to the city planner and operators to reduce the cost of operation.

Design of Fecal Sludge Treatment Plant (Bangladesh):

Undertook site investigations and developed detailed design of fecal sludge treatment facilities for Kulna and Kushtia cities in Bangladesh. Operational and maintenance manual was provided in consultation with local communities and institutional partners such as SNV and Kulna University of Technology.

Upgrading Constructed Wetlands for Fecal Sludge Treatment (Vietnam):

Was a supervision team in planning, design, and installation of upgraded constructed wetlands for fecal sludge treatment plant in Nam Dinh province in collaboration with Swiss experts.

WASTEWATER MANAGEMENT

Wastewater Reuse in Bangkok City (Thailand):

Part of the leading team in planning wastewater reuse for Bangkok wastewater treatment plants with consideration of reuse options, health risk assessment and socioeconomic impacts. The study encompasses field investigations of wastewater treatment capacity and reuse potential of its effluent together with a systematic planning approach on health risks and cost consideration.

Wastewater Reuse Master Plan (Thailand):

Part of a leading consultant team in developing a master plan for the wastewater reuse in Thailand covering domestic, agricultural and industrial sectors with consideration of resource recovery within/among sectors. It was the first master plan of the Pollution Control Department, Ministry of Natural Resources and Environment focusing on wastewater reuse plan in Thailand.

Technical Guidance on Green Accommodations in Coastal Areas (Thailand)

Was a leading consultant with Swiss consulting team in developing a technical guidance for credit facilities in evaluation and implementation of green accommodations in coastal areas in Thailand under the technical assistance of French Development Agency (AFD).

Grease and Oil Waste Reuse and Recovery (Thailand):

Was a team leader in developing and testing an appropriate approach for reuse and recover of grease and oil wastes from domestic kitchens and restaurants. Technologies were transferred to local authorities through the Pollution Control Department.

Rehabilitation of Wastewater Treatment Systems in Tsunami-hit Areas (Thailand):

Part of the leading team in investigations of wastewater treatment facilities after Tsunami-hit in Thailand with technical assistance from Government of Denmark. Team was capable to design and reinstall wastewater treatment facilities in Phi Phi island, Krabi province, Patong municipality, Phuket province and Baan Pruteau, Phang-nga province. Technological supervisions and investigations have been also provided during the operational period of 5 years.

Code of Practices and Management Guidelines for Wastewater Sludge and Biosolids (Thailand):

Part of a consultant team to develop the first code of practices and management guidelines for wastewater sludge and biosolids in Thailand with emphasis on reuse, recycle and appropriate disposal methods.

Water Purification and Reuse through Constructed Wetlands in an Industrial Estate (Thailand)

Was a leading consultant in planning, design and operation of the constructed wetland systems for reuse of the industrial wastewater from industrial estate at a capacity of 2,000 m³/day. The project could result in implementation of constructed wetlands for wastewater reuse in its expanded areas of the estate at a capacity of 8,000 2,000 m³/day.

Computer Software in Design and Evaluation of Sewerage and Wastewater Treatment Systems (Thailand)

Was a leading consultant in development of computer software in design and evaluation of sewerage and domestic wastewater treatment systems in Thailand. Products of this project have been used for development of municipal wastewater treatment projects by the Pollution Control Department of Thailand.

ENVIRONMENTAL MONITORING AND MODELING

Water Quality Modeling for Pollution Control in the Upper Gulf of Thailand (Thailand):

Part of a team of experts employed to advanced water quality modeling in assessing pollution problems in the upper gulf of Thailand especially on the discharge of mega wastewater treatment plant of Bangkok. Mitigation measures was provided in consultation with local stakeholders and international experts.

Analysis of Sugar Dispersion in River (Thailand):

Was a co-leader of consulting team in design and analyze pollution problems due to the sink of sugar boat in a river by using water quality model and laboratory experiments. Results of the study were used by the Pollution Control Department in lawsuit with the polluter.

Biowaste Reuse in Southeast Asian Cities (Vietnam, the Philippines and Thailand):

Part of an international consultant team to study the potential of biowaste reuse in selected Asian cities with emphasis on waste from agricultural practices and kitchens.

Environmental and Social Safeguards (Vietnam, Lao PDR and Thailand)

Part of a leading consultant in field-testing and validation of the concept on environmental and social safeguards developed by World Bank in the region.

INNOVATIVE SANITATION SYSTEMS

Innovative Sanitation Systems Development (Southeast Asia and Sub-Saharan Africa):

Be part of a leading team in developing innovative sanitation technologies and systems with partners from the Netherlands, Burkina Faso, Brazil, Columbia, Indonesia, Kenya, and Ghana with emphasis on emergency sanitation, resource recovery, low-cost systems, and socioeconomic impacts.

Fecal Sludge Management Toolbox (Asia and Africa):

Be a team leader in developing innovative toolbox for planning, designing and executing fecal sludge management projects in developing countries where field testing sites will be in South, Southeast Asia, and Africa. Innovative Technology and Integrate Management Systems for Sustainable Sanitation

Innovative Technology for Sustainable Sanitation (Southeast Asia):

Be a leading collaborator with Korean scientists of the Korea Institute of Science and Technology (KIST) in developing innovative technology on sustainable sanitation for developing countries encompassing advanced electrochemical processes, hybrid constructed wetlands, and advanced adsorption materials.