



# Wastewater and Solid Waste Management in Provincial Centers

NEWSLETTER

Volume 9, Sep, 30, 2009

The '**Wastewater and Solid Waste Management Program**' contributes to improved environmental conditions in, at present, six provincial centers through comprehensive wastewater management, comprising the enhancement of existing waste water collection systems and the construction of new waste water treatment facilities, and/or through improved collection and disposal of domestic solid waste. Capacity development for related municipal/provincial service providers and other relevant institutions assure the sustainable use of the facilities and contributes to improving customer services.

The Vietnamese partner cities/provinces include: Bac Ninh, Hai Duong, Vinh/Nghe An, Can Tho, Tra Vinh and Soc Trang. The German partner institutions include KfW-Development Bank, GTZ-German Technical Cooperation, and DED-German Development Service.

**Component:** TC Component 2 - Capacity Development Wastewater Management

**Perspective:** DONRE Water Monitoring

**Activity:** Provision of equipment and training for DONRE laboratories

**Location:** Bac Ninh, Hai Duong, Can Tho, Soc Trang, Tra Vinh

**Date:** From March to August 2009

**I**n order to evaluate the environmental impacts of the wastewater treatment plants that are constructed through the program's Financial Cooperation funds, valid and reliable data on the plants' effluent and changes in the quality of local surface water bodies are of high importance.

Accordingly, TC Component 2 (WWM) commissioned experts from the Chemistry Institute in Hanoi to implement the project's sub-component on capacity development on water monitoring in the Departments of Natural Resources and Environment (DONRE) of the six participating provinces. The sub-component's objective is to establish a water quality monitoring program as well as to develop skills in analysis of environmental parameters based on Vietnamese regulations and standards. Further activities on quality assurance and quality control aim to ensure the validity and reliability of collected data and their usefulness for decision-makers of provincial government bodies.

Following intensive assessments of the six supported DONRE Centers for Environmental Monitoring and Analysis and their respective laboratories, the WWM project purchased lab equipment that is urgently needed for the analysis of water quality parameters such as pH, BOD5, COD, TDS, TSS. The equipment was handed-over between March and August 2009. Along with the provision of new hardware the WWM-commissioned experts, in cooperation with an international expert on quality management in laboratories, conducted classroom and on-the-job training activities for the lab and field staff in charge of water monitoring within DONRE. The trainings focused on:

- Training on designing a water quality monitoring program and application in



domestic wastewater quality monitoring in local city as a case study

- General introduction on designing a water quality monitoring program:

- Objective of a water quality monitoring program (why to monitor water quality?)
- Monitoring Parameters (What parameters need to be monitored?)
- Location of monitoring points (where?)
- Time and frequency of monitoring (when?)
- How to conduct a field trip
- Prepare a checklist if necessary (calibration of equipments, meters, sampler (horizontal, vertical, bottle samplers), bottles, labels, data sheet, GPS, maps, chemicals for sample preservation, cooling box, ice box for sample preservation.
- Sampling: recording longitude and latitude of sampling location, physico-chemical parameters: pH, DO, Temperature, conductivity, salinity, TDS, turbidity; weather, hydrological parameters.
- How to take samples: Composite, double, spike samples, field and laboratory blank samples....

- Preservation and transport of samples
- Laboratory Analysis
- Reporting
- Budgeting
- Training in sampling procedures, developing skills in analysis of different parameters as required by TCVN for domestic wastewater discharge.
- Training in QA/QC in the laboratories analysis as well as in the field activities such as: how to analysis and interpret data from blank samples (field and lab blanks), duplicate, replicated, spike samples, certified reference material (CRM) etc.

The conducted trainings are only a first step in a series of further training and coaching modules to come. Besides providing technical skills, the support in designing and implementing annual monitoring plans and the introduction of internationally acknowledged principles of quality management for laboratories, the WWM sub-component intends to ensure an efficient, effective and sustainable use of the equipment purchased and a positive impact on the provinces environmental monitoring efforts.

Wastewater and Solid Waste Management in Provincial Centers Program  
GTZ/GFA - TC Component 2: Capacity Development Wastewater Management

7<sup>th</sup> Floor Consulting Association Building Ministry of Construction, 37 Le Dai Hanh Hanoi Vietnam

Tel: 0084 4 3974 0938; Fax: 0084 4 3974 0939, Email: frank.pogade@wwm-gfa.org, Website: www.wastewater-vietnam.org