



# CEFINEA NEWSLETTER

INSTITUTE FOR ENVIRONMENT AND RESOURCES  
VIETNAM NATIONAL UNIVERSITY – HOCHIMINH CITY

---

**ISSUE: September 2003**

**EDITOR: Prof. Dr. Lam Minh Triet**

Phone : 84 8 865 1132, fax: 84 8 865 5670, email: [glkh-htqt@hcmier.edu.vn](mailto:glkh-htqt@hcmier.edu.vn)

## EDITOR 'S LETTER

*Prof. Dr. Lam Minh Triet*

Institute for Environment and Resources has published quarterly a NEWSLETTER to exchange information of research results, postgraduate training, technology transfers which relates to environmental protection, properly use of natural resources and sustainable development of Ho Chi Minh City and neighbour regions. The editor board is grateful sincerely to collaborators for contributing us the evaluable news and for continuously encouraging us during the years.

## NEWS

### **CLEANER PRODUCTION AT MEDIUM AND SMALL-SCALE ENTERPRISES IN CUU LONG RIVER DELTA AREA**

*Vuong Quang Viet*

*Vietnam Institute for Tropical Technology and Environment Protection (VITTEP)*

Cleaner production (CP) has been a new wave in environment protection in Vietnam recently. Some implemented projects on CP have got remarkable effects that lead to a new realization in enterprises. In draft action from 2001-2005, there are CP program and 5 concerning ones).

When this trend and its theory entered Vietnam, the initiators could image difficulties that enterprises would meet such as:

- The owners haven't realized fully about CP yet, and are afraid of changing existing customs.
- They don't have a regulation and management system to apply CP in industrial activities. Home market hasn't created a motivation for enterprises to need CP.
- There lacks of financial sources and acts to encourage enterprises to approach CP.

- The conflict between CP and ability to satisfy: some enterprises have ability to apply CP but the experts staff are short in quantity and weak in quality.

Just recently, VITTEP has trained and implemented CP for some enterprises in Cuu Long river delta (Can Tho, Vinh Long, Bac Lieu provinces). Many experience are presented to exchange and share information.

Medium and small-scale enterprises are processing ones which have limited juridical personality and their scale. According to official letter no. 681/CP-KTN issued on June 20 1998 by Government, medium and small-scale enterprises are ones which have 1-5 billions VND capital and 31-200 employees; one billion VND capital and less than 30 employees, respectively. However, in Cuu Long River delta area, most of small-scale enterprises are close to family-scale. During implementing period, we see that difficulties (even failures), generate from its characteristics as following:

1. The multiform component leads to various management in national, private, individual, home economy
2. Medium and small –scale still depend on “chances” and are not
3. Materials or semi-finished products are not available or met some difficulties to transport.
4. Environment management policy is not consistent between industries, controlling standards is still unclear and unsuitable to local conditions.
5. The realization about CP is still fresh.

With these characteristics, it is necessary to correct implementing ways and disseminate CP to medium and small – scale enterprises in Cuu Long River Delta area in future.

## **CEFINEA'A SCIENTIFIC PROGRAMME FOR THE MODELLING OF AIR POLLUTION IN HO CHI MINH CITY**

*Ho Quoc Bang & Catherine Brassaud*

The increasing air pollution in Ho Chi Minh City (HCMC) is worrying the authorities and competent organisations in this field. Official pollutant limits are frequently exceeded; for instance, peaks of SO<sub>2</sub> of 0.743 mg/m<sup>3</sup> have been recorded in 2001, while the Vietnamese standards set for SO<sub>2</sub> are 0.5 mg/m<sup>3</sup>.

The main sources of atmospheric pollution are vehicles (motorbikes) and the industry. In the busy streets of HCMC, 2'000'000 motorcycles and 250'000 cars were counted at the end of 2001, for a population of approximately 5 million people in an area of 2'093.7 kilometre square (that is about 2'400 persons by

kilometre square!). Out of HCMC's 943 streets, 60 major traffic jams locations have been identified, by far the greatest cause of air pollution in the city.

According to the HCMC's general statistics office, there are about 28'500 factories in the city (including 700 medium- to large-scale enterprises), distributed in ten industrial zones and two export processing zones, producing a total of 60'128 tons per year of SO<sub>2</sub>, 15'295 tons per year of NO<sub>2</sub> and 1'539 tons per year of CO. Among them, the most polluting are the industries of textile and dyeing, concrete, thermo-electricity and food-processing (see table 1), as well as cement plants, steel mills, fertilizer plants, chemical factories, rubber processing plants and the tobacco industry.

Targeting a better management of traffic and the control of air pollution, the Institute for the Environment and Resources (CEFINEA) of the Vietnam National University - HCMC created in 1996 its Department of Air Pollution.

Given the task of implementing the National Environmental Monitoring Program for HCMC and the Mekong Delta area (with the cities of Long An, My Tho, Can Tho, Ca Mau and Moc Hoa), the CEFINEA's Department of Air Pollution started intensive data collection with its mobile and automatic air monitoring station fully equipped for the analyse of Sox, Nox, Cox, Pb, HF, HCl, NH<sub>3</sub>, H<sub>2</sub>S and THC, taking into account meteorological parameters such as wind speed and direction, humidity, temperature, solar radiations and air pressure. At this stage, the air quality network in HCMC includes four ambient air monitoring stations, five roadside monitoring stations and two urban background monitoring stations.

Some of the best CEFINEA's scientists were sent abroad for training in this field: among them, Mr Ho Quoc Bang who just started his MSc in Environmental sciences, engineering and management at the Swiss Federal Institute of Technology, Lausanne (EPFL).

Involved in a cooperation project with the Swiss EPFL, the CEFINEA is currently starting -- through Mr Ho's MSc -- a new scientific programme entitled "Modelling of air pollution in HCMC area and proposal of environmentally friendly traffic regulations".

Mr Ho will work in close collaboration with EPFL's Air and Soil Pollution Laboratory (LPAS), where he will carry out his research project under the supervision of Dr Alain Clapp. Institute for Environment and Resources and Mrs Erika Zarate, doctoral student, developing a similar research programme for the town of Bogota, Colombia, South America.

Mr Ho's research, designed to be the starting point of the bigger programme for the modelling of air pollution in HCMC, will be dedicated to the inventory of

sources of air pollution in HCMC, the analyse of pollutants and the assessment of different models for the modelling of air quality. Then, additional research work and significant financial support will be needed to purchase and validate the model.

While being a very performing approach, modelling of air quality is costly in terms of manpower and finances. But, resulting from the Vietnamese expanding economy, the issue of air pollution in HCMC and other big cities in Vietnam needs be taken seriously, for it may induce serious environmental and human health problems in the long run.

Table 1

Air emission inventory of some major industries in Ho Chi Minh City (ton/year)

<b>Industries</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>2</sub></b>	<b>CO</b>
Thermo – electricity	48'082	14'042	563
Steel refine	897	131	3.104
Acid production	420	35,7	1.4
Concrete	5'589	854	23
Plating	28	4'3	
Rubber	80,1	13,46	
Textile and dyeing	1'128	172'4	4,8
Mechanism	102	15,4	0,56
Food processing	1'120	257	15
Beverage	140,4	22,2	0,81
Plastic be ton	66,7	5,3	13,3
Wood processing	39,5		
Brick and tiles	12,8		
Prochelain and ceramic	0,98	4'91	1,97
Glass	919	257	11
Paper	83	13,4	

## **FLASH**

### **DOCTORAL STUDENT NGUYEN QUOC BINH DEPENDED HIS DISSERTATION**

On September 25 2003, Institute for Environment and Resources held a depend **PhD** dissertation titled “*Studying appropriate technology to treat solid waste generating from exploring and transporting oil in Vietnam*” in state level for Doctoral student Nguyen Quoc Binh. Mr. Binh works for Vietnam Institute of Tropical Technology and

Environment Protection. The purpose of this thesis is to analyze, define components of solid waste in exploring and processing oil at Vietnam. On this base, the author researched deeply on thremolysis principle in incinerator, built software to operate incinerator and proposing an integrated solution to treat oil solid waste. The result of this thesis is an important contribution in treating waste and environment protection. It was graded at excellent level by all board member. It is stored at library of the Institute.

#### **POST- GRADUATE PROMOTION 14**

According to decision no. 623/DHQG-SDH issued on August 13th 2003 by Director of National University in Ho Chi Minh City, the number of post-graduate students passing Environmental Engineer entrance examination on May 9/10/11 2003 are 44 master students and 1 doctoral student. Then, on September 15 2003, Institute For Environment And Resources completed all procedures for organizing, managing, training and beginning new school year. This promotion was divided into two classes (in and out office hour) and studying program was divided into terms. This training form was attracted most of students who worked in office hour. At the present, these two classes were stable as training plan. Besides that, Institute For Environment And Resources has opened a foster post-graduate class for 32 students.

#### **WORKSHOP ON “BIOMASS AND METHANOL PRODUCTION”**

Prof. Masafumi Tateda (Technology College, Toyama University, Japan) gave a lecture on Biomass and methanol production on September 26 2003 at Institute For Environment And Resources. In Japan, biomass is paid a lot of attention as a renewable energy to produce methanol battery for personal computer and mobile phone, etc., Big corporations such as TOSHIBA has produced primary generation of methanol battery. The advantage of this battery is rechargeable time, 24 hours for personal computer and one month for mobile phone. Japan has planned to sell this pin in 2010.

#### **WORKSHOP ON “APPLYING REMOTE SENSING AND SPECTRORADIOMETER IN ENVIRONMENTAL MANGROVE FOREST MONITORING”**

In the collaboration program with ERSDAC (Earth Remote Sensing Data Analysis Center), Japan, Institute For Environment And Resources hold a workshop on “Applying remote sensing and spectroradiometer in environmental mangrove forest monitoring”. On September 9 2003. In this workshop, spectroradiometer was presented as a tool to monitor the ecological changes of mangrove forest. The monitoring results were used to edit and interpret remote sensing pictures from satellite. Coming research is to widely research Cuu Long River delta area including researching mangrove forest and soil using, defining flood sections, the interaction between natural process and human activities and its effect on research area.

## **ASIAN-PACIFIC INTERNATIONAL CONFERENCE ON POLLUTANTS ANALYSIS AND CONTROL**

Continuing news on previous issues, Institute For Environment And Resources will hold Asian-Pacific Conference on “Analyze and Control pollutants” from 1-3 December 2003 in Ho Chi Minh. This is an opportunity for home offices, departments, authorities and scientists working in environmental field exchanging to international scientists issues on analyzing and controlling pollutants, integrated environmental management, environmental risk assessment, policies and trends to protect environment, etc. To whom it may concerned, please contact to Dr. Do Hong Lan Chi: tel (84 8) 8651132, fax (84 8) 8655670, email: [lanchi@hcmier.edu.vn](mailto:lanchi@hcmier.edu.vn), website: [www.hcmier.edu.vn](http://www.hcmier.edu.vn).

## **WORKSHOP “ESTABLISH BUSINESS PLAN AND MANAGEMENT INFORMATION SYSTEM”**

In developing SDC project, Institute For Environment And Resources held a workshop on “Establish Business Plan and Management Information System” from 06– 10 October 2003. This is one of the regular activities of project to strengthen management capacity for staff in financial, administration, research, training, consultant and technical transfers.

## **WORKSHOP on “Promoting restoration of Tanhoa Logom canal, HCMC; developing a model CPEM (community-based environmental management) process through international exchange”**



Workshop on “ Promoting restoration of water quality of Tanhoa – Logom canal, in District 11, HCM city, developing an environmental management model based on community through international exchange” is one of activities in the frame of ASIA FOUNDATION project of Institute for Environment and Resources. The workshop was held successfully with attendance of various participants (Representatives of HCM –

VNU, US – AID, The US Consulate; Portland State University, community citizens, enterprises in District 11).

Through experts ‘ supports, all participants approached and built a concrete program of environmental management based on community, with some following basic principles: Identifying the project boundary; Identifying the most difficult problems; Identifying some major participants; Unanimous goals, scopes to solve the problems; Giving out possible solutions.

At the end of the workshop, the participants unified some next needed steps to implement in order to the project can get its expected results.

### **ENGLISH TRAINING ACTIVITIES**

Within the scope of Capacity Building for Institute for Environment and Resources, the SDC Project has organized English courses for staff at 3 different levels:

- Elementary English class, at the Cefinea Office, for an initial period of 6 months, 3 days per week, 2 hours per day.
- Lower Intermediate English class, at A USP, for a period of 120 hours, 3 days per week, 2 hours per day.
- Intensive course, at A USP, for a Master candidate to go study abroad.



**ACKNOWLEDGEMENT: The editor board of CEFINEA NEWSLETTER is grateful for financial support of Swiss Agency for Development and Cooperation (SDC)**