

# THE CENTRE FOR ENVIRONMENTAL STUDIES THE CHINESE UNIVERSITY OF HONG KONG

## Objectives

Over the years, population growth and industrial development in Hong Kong has caused serious pollution of the environment. To ensure that we will live in a healthy environment, we need to have a broader view of economic efficiency that incorporates environmental quality as one of the dimensions of "economic success". This has become an acute problem for the world in general and Hong Kong in particular.

The Centre for Environmental Studies, The Chinese University of Hong Kong (CUCES) was established in October 1990 with the purpose of using a multi-disciplinary approach to tackle some of the highly complex environmental problems of the modern world.

CUCES aims at promoting interdisciplinary environmental research within the University. It also collaborates with local tertiary institutions, major international research centers, consultancy firms, the Hong Kong Government and local interest groups to solve environmental problems.

The Centre draws on the experience and expertise of an interdisciplinary research team, which comprises academic staff from various fields of studies in the University, to tackle environmental problems from a wide range of perspectives.

## Organization

CUCES is headed by a Director, with assistance by an Associate Director. There are four Programme Directors each of whom takes charge of one of four inter-related research areas:

1. Waste analysis and treatment;
2. Environmental health and hygiene;
3. Environmental monitoring and decision support systems;
4. Environmental education, policies and law.

There is a team of research fellows which consists of faculty members from various departments in the University. Visiting research fellows from overseas tertiary and research institutions come to affiliate with the Centre from time to time to engage in joint environmental research.

## Research focuses

### 1. Waste analysis and treatment

Studies in this group involve basic and applied research on the analysis of different kinds of waste (solid, liquid, air and noise) and their corresponding treatment methods. On-going research projects related to this aspect include the use of freshwater green algae to remove inorganic phosphorus and nitrogen from treated wastewater, the use of immobilized bacterial cells to degrade microbial and oil dyes. Advanced technology aimed at the comprehensive treatment of wastes is being developed.

### 2. Environmental health and hygiene

The study of environmentally-induced health hazards and hygienic problems as well as their solutions make up this research focus. Examples of topics of interest are environmental contaminations and their health effects, routes of human exposure, epidemiology and environmental health policy. Environmental factors which affect the general health and hygiene of people in various areas in Hong Kong will also be examined. These include waste disposal from selected areas, pesticide residues in foodstuffs sold in Hong Kong, noise pollution and quality of rest and mental stress, industrial air pollution and its effects on the health of workers and susceptible population subgroups.

### 3. Environmental monitoring and decision support systems

This group focuses on the development of monitoring programmes using innovative technology, remote sensors and biological indicators to detect environmental change and assess the environmental capacities of water bodies and airsheds for strategic planning purpose. It also develops environmental decision support systems with advanced information technology to assist in decision-making.

#### 4. Environmental education, policies and law

In order to develop a viable environmental policy, it is essential to understand the complex relationship between human activities, human behaviour and human institutions on the one hand, and the biological world and ecological environment on the other. The focus of this group is promote this understanding. Through on going comparative study of environmental laws in different countries, and the collection and analysis of information and data, this group hopes to provide useful input in the formulation of environmental policy in Hong Kong.

### **Consultancy and analytical services**

The Centre offers consultancy and analytical services to the public and private sectors

#### 1. Consultancy services

A consultancy unit has been set up under the Centre to provide consultancy services to outside bodies in the forms of contract research and consultancy projects. The purpose is to bring theories into practice and to help public and private sectors solve environmental problems.

#### 2. Analytical services

CUCES provide various kinds of biological and chemical analytical services for the testing of natural and waste water, soil and geological samples through various participating departments at the University. In addition, facilities for monitoring ambient air quality and environmental noise are available.

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