

CHINA: A QUICK GLANCE AT A DEVELOPING COUNTRY'S BIO-ENVIRONMENT EDUCATION

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Introduction

As expressed by Dr. Arvanitis, "in view of the existing threats to the preservation of bios, there is an urgent need to restructure the educational framework and to redefine our priorities. Placing emphasis on an integrated system of education will allow bio-environmental issues to be handled more efficiently. Interdisciplinary communication and the broadening of the educational framework could convert diffuse efforts into coordinated action within universities and government organisations."

But, first of all, who should be educated, what should be taught, how does one best educate? All of these matters have to be redefined at the very beginning of planning and restructuring our bio-environmental education framework. Some bio-environmental education activities implemented in China may provide us with some enlightenment and reference.

The government thinks highly of bio-environmental education

In the course of fostering the B.I.O. goals through global bio-education to bridge the gap between technological progress and societal values, understanding, support and effort coming from governments of nations are undoubtedly important. The central government of China thinks highly of bio-education and has already made great efforts.

Mr. Deng Xiao Ping invokes "A forest motherland" and is the first himself to plant trees with his granddaughter on the "plant tree day" every year. Mr. Li Peng, the Premier of China, has been emphasising that "publicity and education on the protection of the environment must be vigorously strengthened so that leaders at all levels and the general public can really understand why environmental protection is a basic state policy, why the harmonious relations between economy and environment should be promoted- hence a full understanding of the position and role of the environment drive. This should be heeded attentively as it is an important component of our efforts to socialist culture and ethics. The general public should be educated to consciously protect environment and regard this as a social morality."

Mr. Qu Geping, the Administrator of the National Environment Protection Agency of China, decided to establish a special publicity and education department of environment protection in all levels of environmental protection agencies from 1970, and great amount of outstanding work has been done for bio-education. Both Mr. Li Peng and Mr. Qu Geping were awarded the gold medal by U.N.E.P. to cite their contribution.

Environment-conscious education in China

The environment education in China was started late and it has developed along with the development of environmental protection. Environment protection is part of the basic state policy in China. Strengthening the education of environment consciousness is a crucial step in carrying out this policy, although China is affected by the worldwide economic exploitation of developed countries and its own economical development as well as continuous population growth. How to improve the public's perception of the environment and how to protect the limited living environment are two important tasks for personalities of various circles and especially educators.

Education of juveniles on fundamental knowledge about environmental protection

The first stage of development of ideas and norms about life can be traced to the schooling period, or even early childhood. The youth of today will be a vital new force in the construction of the country at the end of this century or at the beginning of the 21st century. It is important to instruct them with fundamental knowledge about environmental protection today or even in the future. The youth must understand that "mankind has only one earth" and "the Chinese have only one China." Youth must be trained to be responsible vis-a-vis the living

environment and to love our motherland.

It was at the end of 1970's that environment education was included in the teaching programme of elementary and middle schools. In the 1980s, models of environment education had been formed in kindergarten, elementary and middle schools. Children were instructed with different methods according to their ages, knowledge, psychology and learning abilities. Direct methods of teaching with amusement is used in the education of children. The knowledge of environment science is included in the education of language, general knowledge, mathematics, arts and games. Elementary and middle school pupils are educated according to their studies. It is stated in the teaching programme of elementary school that "we must teach children to know nature, to understand human beings, and how to explore, use and protect nature and we must teach children to know the relationship between human progress and the environment, to understand how to use nature rationally and the importance of environment protection."

Some contents of environment education are included in elementary school courses such as literature, arts, music, dancing and moral education. It is requested "to select knowledge about ecology" in the middle school biology teaching programme in order to let pupils know the relationship between organisms and environment in addition to the importance of keeping the ecological balance. Theories and experiments on environmental protection, energy and the ocean are also included in the chemistry courses of middle school.

Another feature of our environment education is to organise pupil participation in various kinds of extra-curricular activities. Juveniles are active, and they strive for improvement and accept new things easily. They are organised to take part in "The World Environment Day", "The World Nonsmoking Day", "The Tree Planting Festival" and "The Week of Loving Bird"; to collect specimens of animals and plants; to investigate environmental quality and pollution sources at plants and the countryside; to clean up rubbish and to plant trees and grass in cities. Exhibitions, knowledge tests, photographs, drawing issues and summer camp are often conducted by various agencies of education and environment protection and other social communities.

There was a composition test about environment protection on the national University entrance examinations. Some conferences about environment education in elementary and middle schools have also been conducted by the Environment Protection Agency of China, the State Education Commission, the Chinese Society of Environment Science and other people's organisations in 1985 and 1989. All these activities have attracted more attention and promoted the spread of environmental knowledge.

The environmental consciousness education of all citizens

Environmental education has nationwide and worldwide features. China is a developing country in economy and culture. In order to let the public understand the seriousness of environmental problems and awaken them to environmental concepts, people throughout the country must be organised for environment extensive education in a variety of fields.

Since the 1970's, many educational activities about environmental protection had been conducted in China. Especially in March, 1980, a nationwide environmental education was carried out to implement "The Laws of Environmental Protection" and disseminate knowledge about environment science. Since then, March has been defined as "The Month of Environment".

Broadcasts, television and film are popular instruments of education. In recent years, the education of environmental protection has been strengthened because the government has paid great attention to this essential policy. In 1984 and 1990, a series of broadcast programmes and lectures were held at a series of Chinese Central Broadcasting Stations and China Television Centers with the promulgation of "The Law of Water Pollution Control" and "The Law of Environment Protection". Some public competitions about environmental problems have also been held in Beijing, Shanghai and other cities. The related TV programmes and films have been shown some times and, as a result, the public is beginning to pay attention to environment protection.

Newspapers, books and magazines are important media for spreading knowledge and information about the environment, and it is often reported, and related knowledge and policies are often introduced in the China Environment Daily, started in 1984, as well as other newspapers and magazines. Up to the beginning of 1988, approximately 40 magazines concerned with environment protection have been openly published. We Have Only One Earth, Our Common Future, the Chinese Encyclopedia: Environment Science and other books have also been published, all of which constitute important steps toward environmental education.

Although environmental education is at the exploring and practising stage, remarkable progress of school and societal education has been made in improving the conception of the environment in the eyes of the public, and especially the youth.

Speciality education of environment in China

The contribution of Chinese education to domestic environmental protection is essentially determined by the quality and quantity of trained professionals specialising in environmental protection.

Chinese education of the speciality of environmental protection in general higher and secondary schools. Establishing the speciality of environmental protection and cultivating professionals in the field of environmental protection in universities and colleges began in the mid-1970s. From 1973, there were only several universities and colleges including Veijing University, Zhongshan University, Beijing Industry University, and Tongji Medical University, which had adopted the speciality in the field of environmental protection. Through developments in the last ten years, there were 64 universities and colleges in which 15 types of undergraduate specialities concerning the area of environmental protection were established and the number of specialties has grown to 86. This includes branches concerning sciences and art, engineering, farming and forestry, medicinal sciences and pedagogy. According to preliminary statistics, there were about 8,000 matriculated undergraduate students in the specialties concerning the field of environmental protection at colleges and universities which belong to various of official departments under the State Council in 1989.

In the meantime, college-training and medium-training specialties of environmental protection have, to some extent developed correspondingly. Up to the end of 1989, five specialised secondary schools in the field of environmental protection were newly built in the nation, and more than ten specialties relative to environmental protection were installed in more than 160 professional high middle-schools and more than 80 specialised secondary schools. The number of matriculated students have grown to more than 12,000. Up to the present, various classes and types of schools have provided more than 10,000 graduate students with high or medium educational backgrounds and distinct educational levels from the specialties of environmental protection for the department of environmental protection, thus improving, to some extent, the critical condition of being very deficient in professionals for environmental protection.

To make the specialised education of domestic environmental protection more suitable for the needs of environmental protection activity, we have continuously regulated the corresponding education levels of environmental protection specialties. Not long after our nation resumed the system of academic degrees from 1981, the committee of academic degree of the State Council had ratified, in succession, 38 units which can offer doctorates in 14 types of environmental branches, and 107 units which can offer master's degrees in 21 types of universitiesöBeijing University, Tongji University, Tongji Medical University, the Research Institute of Environmental Protection of Chinese Academy of Sciences, etc. The number of matriculated graduate students has grown to more than 500.

In the meantime, a number of post-doctorate training stations have been established. All the afore-mentioned changes greatly improve on the previous education mode which was constructed by single branch of learning with rather lower educational levels in the early period when our nation began specialised environmental education. It indicated that our special environmental education is being gradually improved day by day, and also lays a sound foundation for international professional exchanges and technical cooperation in the field of environmental science.

The training of professional men cannot be made without teaching materials. In April, 1985, the State Education Commission presided over and set up the high college committee of unified teaching material's compilers and revisers in environmental engineering specialties of colleges and universities, which drew up training objects, specialised contents of education, educational planning and basic environmental demands for core courses of two main specialties, i.e., environmental engineering and environmental monitoring. It also organised to compile and revise teaching materials for specialised courses.

Up to the present, Chinese education of the speciality of environmental protection in adult higher and medium educational-school planned teaching materials of the environmental specialties in "the Seventh Five-Year" have been finished with 21 types. In the coming period, the main goal of training men for environmental profession, starting from the reality of state education, is to lay stress on optimisation of educational layer structure, adequately lowering the centre of gravity, enlarging the scales of medium training specialised schools, developing more professional training education, and training a large number of men with junior of medium educational levels for profession of environmental technology and management to be suitable for the wide needs of basic units in the state factories and countrysides.

Specialty of environmental protection in China's adult higher and secondary schools. Because the work of cultivating people for environmental professions began very late, many who take up environmental protection jobs come from other specialties. Half of them had not been systematically educated in the specialised knowledge of environmental protection. To let them be quickly competent at their job, China recently carried out various forms of environmental education for adults.

It is especially important to stress the education of basic knowledge to protect the environment for various classes of decision-makers and managers. It is because their environmental consciousness bears a direct influence on the works of environmental protection.

By setting up series of lecture courses and training teams, we have trained all the head officers of a city's environmental protection agency. In April 1985, the Committee of Environmental Protection of the State Council decided to have an examination for the leaders of the state's large and medium enterprises. To prepare for this examination, every district and department had to have a very good effect on promoting the environmental consciousness of enterprise leaders.

In the meantime, the state formally set up the Environmental Management College for Leaders, which takes charge of training, continuous education and academic degree education for high and medium leaders. This is also to give more workmen the opportunity for having systematical protection in some of the high and medium specialised schools for adult.

Certainly, the current adult environmental protection education cannot remain suitable for the needs of environmental protection activity. Due to the limits of funds, the scale of this kind of education has been short of the necessary teaching conditions. All these problems require further solutions.

On the threshold of a new millennium, it would be instructive to learn about bio-environmental education in developing countries where billions of people are to be educated for realising the goals of the International University for the Bio-Environment (I.U.B.E.) and the Biopolitics International Organisation (B.I.O.).

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