

EMPHASIS ON ENVIRONMENTAL MANAGEMENT TRAINING IN HIGHER EDUCATION SYSTEM

UMA SHANKAR AND M. L. KHAN

REGIONAL CENTRE FOR SOCIAL FORESTRY AND WASTELANDS DEVELOPMENT, NORTH-EASTERN HILL UNIVERSITY, SHILLONG.

Environmental Education (EE) in higher education system (HES) in India yet awaits to blossom. EE is confined in Indian universities to the teaching of basics of ecology in some life science departments such as Botany, Zoology and as a paper or even a part of a paper in Geography, Geology, Anthropology etc.

Explosion of awareness about environmental perturbations, especially during the later half of this century, has forced the man to sincerely think about the problems which would arise as natural hazards in future. Although it is very difficult to foretell the status of environment which would be established in future, on the basis of update knowledge about environment acquired in different disciplines so far, it is feasible to come up with a certain inter-disciplinary conceptual framework to resolve serious environmental problems.

University governs the society through producing trained manpower and cultivating knowledge. To revert back to the state of environmental equilibrium this trained manpower could be the best resource, if it has been trained in right direction. It is therefore, essential that the university education must focus on the production of increasing number of environmentalists trained in predicting, planning and managing the environment and natural resources, instead of simply teaching them the fundamentals of ecology.

EE has a very wide perspective. It in fact covers a number of disciplines like Botany, Zoology, Soil Science, Chemistry, Engineering, Computer Science, Evaluation, Planning and Management, Geology, Geography, Anthropology, Statistics, Meteorology, Operation Research, Econometrics, Sociology and so on. It is therefore not practicable to justify the teaching of EE through a separate paper or a part of

it. EE in HES should be introduced as a discipline. All the universities should be engaged in EE program, but they should be provided with sufficient infra-structural facilities prior to the implementation of this programme. Higher education in Indian Universities is provided at three levels - graduate, post graduate and research. The graduate level of teaching must be of generalized nature, i.e., its syllabus should be uniform in all universities. The post graduate level of teaching should be, on the other hand, based on ecosystem types. All our environment can be viewed as an unification of different ecosystem type, e.g., forest ecosystem, grassland ecosystem, agro-ecosystem, freshwater ecosystem, marine ecosystem, mangrove ecosystem, coastal ecosystem, village ecosystem, coalmine ecosystem and so on. Depending upon the geographical location, climatic conditions and infrastructural set-up, universities should specialize in the teaching of one or few particular type of ecosystems in detail, particularly at post-graduate level. The research level education must focus on investigating the causes of disbalancing mechanisms and their solutions.

Presented below is the proposed model for EE in HES.

Infrastructural Set-up

- Trained teaching and technical staff
- Class-room and laboratory buildings
- Experimental fields
- Literature with emphasis on ecosystem type
- Necessary equipments/instruments
- Adequate and timely monetary input
- Other contingent facilities

University

Faculty on EE

Faculties

Graduate (3-Years)

Thorough understanding of environmental principles; structure, function and significance of different ecosystems of the world; applied statistics, econometrics, operation research and computer science and their applications in environmental management; application and significance of geological, geographical and meteorological principles in environmental management; creation and maintenance of data bank and library.

Post-graduate (2-years)

Detailed structure and function of a particular ecosystem type and its inter-relationships with other ecosystems (ecosystem hierarchy); impact of various kind of abiotic and biotic perturbations on ecosystem functioning (Environmental Impact Assessment - EIA); environmental engineering to repair & restore ecosystem.

Research (time not delimited)

Investigations on causes and control of the perturbations operating within and outside the ecosystem, and on improvement and better sustenance of the ecosystem.