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By

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In the United Nations Declaration of the Human Environment, the following statement appears:

> "We see around us growing evidence of man-made harm in many regions of the earth: dangerous levels of pollution in water, air, earth and living being; major and undesirable disturbances to the ecological balance of the biosphere; destruction and depletion of irreplaceable resources, and gross deficiencies harmful to the physical, mental and social health of man, in the man-made environment, particularly in the living and working environment."[1]

The pertinence of the above statement to Malaysia is evidenced by the vast information accumulated on the condition of the environment. One need not go far to actually see, feel, hear, smell and taste pollution. This awareness of environmental problems has gained tremendous momentum leading firstly, to the formation of concerned bodies whose activities, though stimulating, unfortunately need more co-ordination for greater national impact; secondly, has provoked the government to formulate policies and legislation. It is acknowledged that these activities, policies and legislation are aimed at bringing about change not only in the physical, chemical and biological component of the environment, but one of greater importance, a change in the people who use, manage and live in the environment and who form a vital integral part of the environment.

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1. United Nations Conference on the Human Environment, Stockholm, 5-6 June, 1972, "Draft Texts of a Preamble and Principles of the Declaration of the Human Environment," Document A/Conf.48/PC 16, p.1.

Environmental education is unique in that it requires a certain degree of co-operation between educational bodies and the non-educational sector. This is essential since environmental education in the school should relate the environmental issues and situations faced by the nation. Secondly if schools are to be realistic in their teaching, then a flow of information will be necessary from the non-educators to curriculum people in the education system. Thirdly, if environmental education is to be effective, it cannot take place entirely within schools, the non-educational sectors in the society will need to make facilities available for out of school learning experience. Fourthly, the education system should be prepared to look outside their own resources much more if they are to contribute to the improvement of the national environmental situation.

The goals of Environmental Education as stated by UNESCO and which has been generally accepted are as follows:

1. to foster clear awareness of, and concern about economic, social, political and ecological interdependence in urban and rural areas;

2. to provide every person with opportunities to acquire the knowledge, (values, attitudes, commitment) and skills needed to protect and improve the environment;

3. to create new patterns of behaviour of individuals, groups and society as a whole towards the environment.

How is the school, which bears only part of the responsibility, to translate these aims into realistic objectives for the pupils. The development in the individual of awareness, competence, understanding and concern as it relates to the environment are difficult objectives and a close study of these objectives will reveal that there is a built in progression from learning which is mainly directed towards personal

development to learning which increasingly takes into account the needs of society.

Within the given, structured school system of individual compartmentalized subjects focussing on the examination at the end of the eleven year tunnel, environmental related topics can still be delt with within each subject area without giving it an inter-disciplinary character. The effectiveness can be enhanced if the examination procedure could be reorientated to exclude rote learning and regurgitation of facts and to develop skills in application, analysis, synthesis and evaluation leading to scientific and systematic skill training. Also the myth that only the science stream students can undertake studies in environmental education should be abolished and new thinking established as to the exact nature of environmental education.

In order to achieve the above, the following constraints will have to be met:

1. the teacher has to be extremely familiar with the topics in the subject,
2. the teacher has to be sensitive to environmental issues to be able to recognize its relationship to specific topics,
3. the teacher has to be well equipped with teaching techniques and methodology,
4. the teacher has to aware of the resources available to aid in the teaching,
5. there must be suitable time allocated for the topic,
6. the syllabus must be flexible enough to accommodate the new content and provide opportunity for change, and
7. the conditions imposed by the examination must be flexible and accommodating.

These above listed constraints could be used to argue the fact that the system itself has a built-in anti-environmental factor. It has been stated that "the colonial type formal school does not offer an ideal framework for environmental education. In fact, this school alienates the pupils, gives them a fragmented knowledge and prevents the child and the adolescent from achieving a comprehensive view of objects and phenomena. Therefore, it is not enough simply to develop curricula for environmental education within the framework of this type of school, but rather reforms of the formal education system must be undertaken on a regional scale in order to give environmental education its true place."[1]

The current trend in curriculum development to-day is to adopt a holistic approach. This view advocates that a single concept or theme be studied from many complementary view points. The very nature of environmental education lends itself comfortably to this approach since no one discipline can claim priority over this unique field. Its multi-disciplinary nature is extremely difficult to quantify, secondly, it is difficult to describe comprehensively within a single subject nor can it be easily compartmentalized. Examples of unifying topics that can be handled under this approach are energy, conservation, natural resources, food, leisure and recreation, to name a few.

This trend of adopting the holistic or thematic approach should be gradually adopted to replace the compartmentalized traditional approach to teaching concepts under very strict labels such as physics, biology, chemistry, geography etc. Many countries are now moving away from this traditional system towards the logical holistic approach. A good working

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1. Review of the area environmental education and training, Report of the Executive Director. United Nation Environmental Project (UNEP) Report No.1.

example is the Norwegian programme.[1] The Malaysian example in this direction is the Integrated Science Programme of the lower and upper secondary classes. The philosophy of this programme was to attempt a holistic approach, to help dissolve the compartmentalized character of science teaching in the country and to help the child understand science concepts as a whole. Even though the three sciences were now combined yet little attempt was made to actually present the content in holistic or thematic concepts, they exist as individually recognizable topics as they existed previously in the separate science curricula. This weakness encouraged the perpetuation of compartmentalization.

Thus if it is decided to implement a policy for environmental education, some of the practical implications for such a programme might be:

1. the design of syllabus and overall programmes of study to ensure suitability of content,
2. the provision, at suitable stages, of opportunities for all pupils,
   a. to study and discuss enviromental issues
   b. to become actively involved where appropriate,
3. adjustment of the time-table to provide opportunities for a measure of co-operative teaching, and to permit a proportion of the pupils learning experience to be undertaken out of schools,
4. the designation of a trained member of staff to have responsibility for planning and co-ordination.

Even though lipservice is being paid to the importance of the environment and environmental education and the need for a fresh thinking

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1. under this programme themes and sub-themes are developed for each of the six years of the primary school. The themes are namely: Knowledge concerning and experience of the environment; soil, water, air and energy pollution problems in the environment; inter relationships in nature-the ecosystem; population, nutrition, health, utilization and distribution of resources.

in this field, yet effective implementation is often hampered by several constraints. One of these is the debate between industrial development and environmental quality. The Japanese experience[1] in this direction is a useful index to clearly illustrate the urgent need for Malaysia to review the environment-industrial equation. Another would be the lack of trained personnel and expertise and the future job opportunities for these graduates. The education system is a unique system in that, it is not only a provider but also a consumer and will be needing all the trained personnel. As such the movement for environment education has to begin somewhere and its cyclic effect will be automatic.

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1. proceedings of the Symposium "Challenge of Social Scientists, Tokyo, March, 1980 (unpublished).

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