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**GEOGRAPHY — THE CORE IN ENVIRONMENTAL
EDUCATION¹**

by

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The United Nations Conference on the human environment held at Stockholm in June 1972 focused world wide attention on the efforts of man to have better through the use of science and technology which ironically brought harmful effects in his life and well-being. Such effects include the degradation of the natural resources, pollution of air, water, and land, depletion and extinction of some flora and fauna, uncontrolled rural-urban migration, conversion of good agricultural lands into urban lands, population explosion and the problems of human settlements.

The term environment may mean differently to different people. One scholar defines the environment as the unique skin of soil, water, gaseous atmosphere, mineral nutrients and other organisms that cover the otherwise undistinguished planet earth. Another writer defines the environment as constituting the natural things that surround us from the essentials to sustain life such as air, water, and land to the non-essentials including the living space which nevertheless make life sustainable. As used in this paper, the environment is that aggregate surroundings that influence the growth and development of the life of an individual or population, especially man. It includes the physical, biological, and socio-cultural environment. The physical and biological environment represent the natural systems while the socio-cultural, the man-made aspects of the surroundings. Because of this broad concept, the study of the environment intersects many disciplines and involves

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several branches of knowledge — the natural and social sciences as well as the humanities.

The Belgrade Charter published in the initial issue of UNESCO-UNEP *Environmental Newsletter* defines the goal of environmental education as follows: "To develop a world population that is aware of and concerned about the environment and its associated problems and which has the knowledge, skills, attitudes, motivations, and commitments to work individually and collectively toward solutions of current problems and the prevention of new ones." This goal laid down the basic guidelines for the worldwide environmental education which is applicable to both the developed and developing economies.

In the Philippines which is fast approaching an agro-industrial economy, the study of the environment has acquired a very significant role. It is observed that much of the damage to our natural resources the quality of our environment can be attributed to ignorance and because of this, the impetus of the movement in environmental education is getting accelerated momentum. In May 1974, the Philippine National Science Development Board and the United States National Academy of Sciences sponsored a workshop in Manila on education and training needs for the Philippine environmental program. The workshop underscored the importance of education and training in solving environmental problems and recommended that environmental studies be introduced in the elementary, secondary, and tertiary levels of education. The contemplated reform in the educational process is central to the promotion of a new socio-economic order. The basic cause of our environmental woes is man's lack of ecological sensitivity. Unless the youth receives a new kind of education that is ecologically oriented and until the environment is regarded as a responsibility rather than an economic opportunity, the programs and approaches to economic development will only be short term pallatives. The heated debate going on between economic development and the maintenance of environmental quality will only slow down the progress of mankind until man can become aware of his fellow organisms and the correspondence between their well-being and his own. Education moulds human values and this makes man more keenly interested not only in his own survival but also in the society where he lives.

Environmental education should consider the environment in its totality — the natural and man-made as well as the social and health sciences and aesthetics. No single discipline can cover adequately all aspects of the environment. The approach must be both inter-disciplinary in nature. The interdisciplinary approach means that disciplines are applied to a given problem which will complement and supplement one another in such a way that an integrated conclusion can be drawn

instead of the isolated findings of the different disciplines. In a multidisciplinary approach the findings of the individual disciplines are brought to bear on the problem in a cumulative manner. In the interdisciplinary approach there is interweaving of the disciplines whereas in multidisciplinary, the disciplines may overlap each other but they are all oriented toward the solution of a given problem.

How then is the discipline of Geography related to the study of the environment? In 1968 a joint inquiry by the International Bureau of Education and UNESCO noted that the study of the environment is an essential part of almost every subject and geography was ranked first in terms of its contribution. The geographer has not, however, taken the lead in focusing attention to the study of the human environment. To arise his sensitivity it is pertinent to examine the nature and the role of geography in environmental education. Geography is a broad division of human knowledge which is concerned with the study of the surface of the earth and the relationship between man and his environment. The surface of the earth is in the nature of a thin shell that extends slightly above and below the surface proper. It is in this thin zone of contact between the gaseous envelope above and the solid and liquid spheres below that life in its various forms exists. This is in effect the human environment.

The surface of the earth is made up of two interrelated features: (1) those that are provided by nature such as climate, surface configuration, soils, economic minerals, surface and underground water, and native plant and animal life including the forest and fishery resources and (2) those which man has added through living on the earth and using its resources such as population, settlement, communications, transportations, farms, factories, irrigation, mines, and others. These two groups are designated as the natural and cultural features, respectively.

The surface of the earth can also be looked upon as being made up of the atmosphere, hydrosphere, lithosphere, biosphere and homosphere. Because of the broad and rich coverage in the study of the surface of the earth several disciplines participate in the study of the natural and cultural environment. Thus, the study of the atmosphere, the element and control of weather and climate and their ramifications is claimed to be the prerogative of the meteorologists and climatologists while the study of the hydrosphere including the marine, brackish, and fresh water as well as surface, ground and oceanic waters is staked by the oceanographers and hydrographers. The lithosphere which comprises the solid portion of the earth such as the soils, rocks, minerals including coal and oil is mainly the domain of the geologists. The biologists on the other hand claim as their territory

the study of the plants and animals. This include the grasslands, forests, agricultural crops, wild life, fishery and livestock resources. The study of the works and activities of man as a social being is the concern of the social scientists. This includes the institutions, social organizations, industrializations, urbanization, demography and other socio-cultural features of the earth.

Since the study of the surface of the earth has been partitioned by the various disciplines what is then the role and the portion left to the geographers? Obviously, then, the subject matter of the surface of the earth as it relates to geography must be studied in a special way. It is not the study of the features of the earth in isolation that concern the geographer. To him, it is the interrelationship of all those elements — physical, biotic, and human — that is significant. This is the very essence of environmental education. Geography synthesizes and integrates all the elements of the surface of the earth in an holistic way. By its nature, geography is environmental oriented and interdisciplinary in character for it makes use of the findings of other disciplines in integrating and arriving at a rational conclusion. It provides the connecting link between the natural and the social sciences as well as the humanities. It holds the distinction of being the "queen of the sciences" as well as being dependent upon the knowledge of sister sciences.

The main trust in the study of geography is earth and man. The earth provides the physical, biological, and socio-cultural environment. Such study is not limited to an examination of the natural and cultural features but include the analysis of the relationship and interdependence of the various elements. As one writer has put it, everything else is related to another. The tradition of studying the influence of the environment to man and inversely the influence of man to his environment including pollution and the degradation as well as the conservation of the natural resources has long been and is still the legitimate sphere of the geographer.

Because of the richness of its contents and the integrative as well as interdisciplinary nature of geography, it can very well serve as the core in environmental education. No other discipline can cover as much ground as geography in its treatment of the various aspects of man's relation to his environment — the inanimate and animate world including man himself. The geographer however, does not claim that he can cover the entire field of environmental science, rather it can provide the foundation in the understanding of the complex relationship of man to his environment. Because of this fact, the discipline of Geography should be studied in the elementary, secondary and tertiary levels of education.

In asserting this role, the geographer finds justification not only on the subject matter covered but also on the objectives and approaches in geographical study. The main objective in the study of geography is to picture man's habitat and to show his relation to it. Geography enriches the value of liberal and professional education by giving man a broad perspective of the physical, biological, and social environments. Specifically, geographical study provides the following meaningful objectives:

1. It promotes the study of environmental education and conservation of the natural resources to maintain a desirable quality of the environment. The growth of population, urbanization, and industrialization are affecting the quality of the human habitat and the survival of man. Man must consider himself as part of nature and not apart from it.

2. It interprets the interrelations and interdependence between the natural and human resources and how these can serve as the basis for socio-economic and political development. Progress is brought about by the proper conservation and utilization of the human and natural resources.

3. It stimulates the observation of natural and cultural patterns of the earth's surface which brings about better appreciation and understanding of the landscape. The cultural works of man are invariably influenced by the nature of his physical surroundings and inversely the cultural features affect man's thinking and behavior.

4. It provides the key to the promotion of international understanding among the peoples of the world on the realization that there is a global interdependence among men. No man is an island. Since the countries produce different goods and services, trade is necessary to satisfy human wants.

5. It fosters the appreciation of similarities and dissimilarities from one region to another, the haves and the have nots, the developed and less developed areas of the globe and to find causes and solutions therefrom. This will promote better understanding, tolerance and goodwill among men.

As in many other sciences, in geography, systematic and direct observations and descriptions are preliminary to the interpretation of the relation between the physical environment and man's activities. It also utilizes the holistic and ecological approaches in its study. The results of his observations are then analyzed, synthesized, and recorded in maps, graphs, or charts which are the tools of the geographer. This then will provide the basis in explaining the causes and interrelationship of the physical, biological and human spheres of the earth.

Geography with its emphasis on the study of man and his environment and with a view to understand the patterns and processes involved utilizes the following three methods of approaches:

1. Systematic Analysis — Geography, like any other science uses the systematic or topical approach in analysing and interpreting the interdependence among the various aspects of the natural and cultural features of the earth. The analytical study of the atmosphere, hydrosphere, lithosphere, biosphere, and human sphere is undertaken and their relations to man and society are evaluated. Man himself including his growth, development, distribution, settlements and works is examined to find his role in the man-environment complex.

2. Regional or Spatial Analysis — under this approach, a region such as a city, a country, or a continent is taken as a unit of study. The study of the world as a whole can also be considered under this approach. Moreover, some environmental problems such as marine pollution, food supply, and the energy crisis, among others, are not only regional but are also approaching global proportions. The various cultural and natural features of the region are studied in their spatial arrangement in a holistic way. The systematic approach is also utilized in studying the different geographic elements of the region with emphasis on their contribution to the economic, social, and cultural development or stagnation of the area.

3. Ecological Analysis — In ecological analysis, the concentration is upon man-environmental relationship within a geographic unit. The flow of matter and energy in and out of the structural unit called ecosystem is analyzed and the resulting effects on life are emphasized. An ecosystem is any unit that include all the organisms in an area interacting among themselves and with their physical environment. In the ecosystem, the flow of energy and materials lead to an understanding of the structure, biological diversity, and material cycles that take place in a natural or human community.

Considering that the subject matter and objectives of geography cover the broad spectrum of the human habitat and the systematic, spatial, and ecological analysis are utilized in its approach to the man-environment complex, it is reasonable to conclude that the discipline of geography can provide the core and the framework in the emerging field of environmental education. There is a strong congruence between the subject matter of environmental education and the field of geographical studies. Both study the surface of the earth and its relation to the manifold activities of man. In a nutshell the underlying objective, is to understand, protect, and conserve the quality of the environment. But in order that the geographer can take his proper place in environ-

mental education it is necessary that he asserts himself by taking more active role in national and international forums and in disseminating geographic knowledge involving the environment so that his worth can be given proper recognition. No other discipline can cover as much ground on the various aspects of man's relation to the physical, biological, and social environments than the field of geography. For geography is the study of the philosophy, the art, and the science of the earth as the home of man.

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