

Evolution and Essence of Human Ecology



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ABSTRACT

The article attempts to compare and contrast the contents and essence of human geography and human ecology because they appear to be overlapping disciplines. It defines Human Ecology as the study of an ecosystem dominated by human beings. The overlap between Human Ecology and Human Geography occurs because the common theme of enquiry in both subjects is interrelationships.

The study concludes that the difference in the subjects lies in the methods of analysis of the interrelationships and not the contents per se. Human Geography highlights interrelationships through the discourses and uses objective methods in a piecemeal manner for isolated phenomenon while ecology offers tools to objectively measure interrelationship between each component within the monistic framework of systems analysis.

Literature on the subject reveals that geographers did develop tools and objective methods to analyse interrelationships but sadly they have lagged behind in using these tools for analysis of interrelationships. In fact, much of these attempts of geographers to use these tools remains confined within an intellectual exercise rather than an analytical exercise.

The paper concludes that Human ecology and Human Geography share a common theme of enquiry but their difference lies in the methods of analysis. It further suggests that the former is more of a tool for analysis of the various dimensions of functional interrelationship between components of a system and is not an academic discipline in itself.

INTRODUCTION

The contents of human ecology seemingly overlap with much of Human Geography, a discipline that apparently is of great antiquity and hence logically predates Human Ecology. This article attempts to trace the relation between Human Ecology and Human Geography used synonymously at times and identify the fine line of differences (if any) between them. As a sequel to it, the article proceeds to trace the evolution of Human Ecology as a separate academic discipline and concludes that it is difficult to designate it as such. The study concludes that human ecology merely offers the tools of

measuring the direction and magnitude of interrelationships between components of the ecosystem as a whole and hence is a part of Human geography.

ECOLOGY AND ECOSYSTEM :-

Ecology is the study of the ecosystem. What is ecosystem then?

Ecosystem is an entity in itself comprising several self propelling and self sustaining components, each of which is related to the other through an orderly arrangement or hierarchy of functions. Each components of a system can be identified objectively and its functions are measureable in objective terms. By virtue of this orderly arrangement or hierarchy of functions, an ecosystem is amenable to part by; part analysis and subsequent assimilation into the 'whole'.

Ecosystems are analyzed in terms of the direction and magnitude of transduction of energy and matter from one level to the other. The interrelationship between the components is maintained through this mechanism of transduction of energy and matter. The mechanisms of fixation and transduction of energy and matter are different in the natural (not dominated by human beings) and human dominated ecosystems because of the fundamental differences in the nature and indicators of matter and energy of the two ecosystems (Bhattacharji, 2007).

HUMAN ECOLOGY : DEFINITION AND EVOLUTION :-

Human ecology may be defined as the study of an ecosystem dominated by humans. If that be so, then one is automatically confronted with the question that in what way is 'earth as a home of man' different from an ecosystem dominated by the humans? The question may be further extended as whether geography (that deals with earth as the home of man) and human ecosystem are synonymous or not?

My answer is in the affirmative to a large extent, because planet earth itself is a giant ecosystem and all other ecosystems are but a part of it and hence could be termed as sub ecosystems. In this context, it may be recalled that Human Ecology and Geography (defined as the study of earth as the home of man) are as old as human existence. This is because ever since humans first conceived, realized and felt their surroundings and their dependence thereupon, there has been some kind of implicit human ecological perspective inherent in them, even if at the conceptual or national level. Conceptually, they seem to have been aware of the idea of the web of interaction among the different components and the cosmic unity existing in the world. The implicit perspective was so obvious that the situation did not demand designation of a separate discipline per se. Thus, the beginnings of these two disciplines are equally shrouded in antiquity and without any formal beginning. The study of Human Ecology and Geography in the p eriod of antiquity appears to mark a response to human instincts of curiosity and the web of human interactions with nature for survival and not as an organized academic discipline.

But despite the similarity in the bases of the disciplines, the course of their development is vastly different. It is imperative to note the chronology of their systematization here. It may be noted that the term 'ecology' was formally introduced 'to capture the complex interactions of the living world in a single word' by Ernst Haeckel (1866) in the latter half of the 19th century for studies of the non

human biological world. Haeckel's (1866) effort to do so 'was a synchronic expansion of Darwin's (1859) diachronic synthesis of evolutionary biology' that emphasized the ongoing interactions among organisms and their environment'. The term ecosystem however came into being in 1935 by the work of Tansley (1935). He used it as a 'general term for both biome and the habitat. All parts of the ecosystem are viewed as interacting factors which in a mature ecosystem are in approximate equilibrium. It is through their interaction that the whole system is maintained'.

At about the time when Haeckel's (1866) coined the term ecology, Geography continued to progress with works of Humboldt and Ritter in the late 19th century. They are regarded as Father of Modern Geography with their empirical methods of collection and analysis of geographical facts. Their period of academic activity is termed the classical period of Geography since their views and methods 'held sway during the formative period of the discipline of Geography as we know today'.

However despite the synchronicity in the development of this discipline it is rather intriguing that Geographers took almost 75 years to accept the unique tools and methods of ascertaining interrelationships between components of an ecosystem as also between different phenomena.

Ecology formally found footage among Geographers with the seminal work of Barrows in 1923 and subsequently by Hawley in 1950. However this came in for critical scrutiny by Eyre and Jones in 1966 as an opposition to the quantification of Geography that were showing increasing trends of reductionism of the 'whole' instead of integration of the 'parts'. Finally it was in 1967 that it was adopted by Geographers as a recognized branch of Human Geography after the work of Stoddart (1967) who was the first to succinctly articulate human ecology into the systems analysis whereby he 'focused on man's location in the wider ecosystem'. In fact Chorley (1973) goes on to point out that 'the formal deployment of a more rigorous systems analysis has in fact provided a whole series of reformulations and extensions of the concept of classical between human and physical systems'.

MERITS OF THE ECOSYSTEM APPROACH IN STUDY OF HUMAN PHENOMENON OR HUMAN ECOLOGY :-

The reasons for the ready acceptance of ecosystem approach as an analytical tool have been very succinctly stated by Stoddart (1967). He states that 'the ecosystem has four main properties of value to Geography. They are:

1. It is monistic. It brings together environment, man and the living world of plants and animals within a single framework within which the interactions between components can be analyzed.
2. Ecosystems are structured in a more or less orderly, rational and comprehensible way so that once the structures are identified they may be investigated and studied.
3. Ecosystems are functioning systems; they involve continuous throughput of matter and energy, so that once the framework has been defined, it may be possible to quantify the interactions and interchanges (e.g. the communication net; flow of goods, services and people, etc.)
4. Ecosystem is a type of general system – it is an open system tending toward steady state and possesses the property of self regulation (action and reaction).

5. Ecosystems can be conceived at different levels of complexity, so that it can guide geographical work at different scales.
6. The ecosystem concept through its general systems property brings geography back into the realm of natural sciences and allows geographers to participate in the scientific revolutions of the century.

DISCUSSION :- Despite the merits of the ecosystem approach as elaborated above, published literature on the subject apparently reveals that the very purpose of adopting the ecosystem concept as an analytical tool in geographical enquirers were not achieved in an optimum manner. In fact, much of these attempts remained confined within an intellectual exercise rather than an analytical exercise. Sifting through the variety of articles published so far within the broad field of human ecology it is seen that a multitude of themes have been addressed by practitioners from diverse disciplines. Most of the reviewed literature on the subject deals with ecological ethics, others on methods of analysis and still others on abstract ways of referring to the web of interaction among the items or themes of their discussion. Despite the diversities in the content of the literatures referred to above they are clubbed together within the broad discipline of human ecology. This is because the common factor among them is the use of ecological methods of analysis although they deal with some selected and different aspects of human life. Critically seen, they refer to a part of the human ecosystem, and hence are reductionist in approach. Nevertheless, it is not to be misconstrued as antithetical to the holistic component of ecosystem because 'reductionism gives us an objective glimpse of a part of reality and this objective glimpse is a necessary precondition to gain consciousness of the whole. The former is physically while the latter is consciousness (that can be visualized on the mental plane alone) and the totality of existence is an unbroken whole and can be expressed through discourses alone. Reductionist and holistic approaches are therefore complementary in nature and comprise the combined approaches of ecological analysis. The outcome of such an analysis is the essence of analysis in human ecology.

CONCLUSION : The study concludes that it is difficult to designate Human Ecology as a separate academic discipline and suggests that it merely offers the tools of measuring the direction and magnitude of interrelationships between components of an ecosystem as a whole. It is a part of study of Human Geography as a whole.

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