

Radha Kamal Mukherjee and His Idea of Ecology and Environment

Taniya Basu Majumder (Das)¹

I. Introduction

The environmental sociology is not just sociology of the environment, but rather a sociology informed by an understanding of ecological limits. The thinning of ozone layer, pesticides residues in food, nuclear waste and water pollution, should make it abundantly clear that human activity has a direct effect on the natural world. Conversely, the natural environment influences the social realm as well. Environmental Sociology explores these effects by examining the interdependencies between population, organization, technology and environment. As such, this approach departs from traditional sociology in that it emphasizes the natural and built environment as factors influencing human behaviors and social organization.

From a small beginning, ecology has emerged into a frontline science by the turn of the 20th century. From the conventional regional floristic and vegetation studies the switch over to ecosystem approach in the late fifties and early sixties, the concerted worldwide productivity studies under UNESCO's International Biological Programme (1964–74) and then incorporation of 'man' as part of biosphere in UNESCO's Man and the Biosphere (MAB) Programme followed by inclusion of geosphere also in the International Geosphere Biosphere programme, have shaped ecological researches to a great extent. Widespread environmental degradation and catastrophic episodes have generated serious concerns and environment-friendly growth in agriculture, forestry, urban and industrial systems by holistic management methods.²

The seriousness of the recent forms of environmental degradation had led the contemporary sociologist to predict that the 21st century will be characterized by a massively endangered natural environment if the present trend of ecological devastation continues. Further, it is predicted that this aspect will become increasingly dominant in the field of politics, foreign affairs, development policy, education, technology and research. In the century of environment, the ecological imperative will determine law and

¹ Assistance Professor in Sociology (Part-time), Department of Law, University of North Bengal.

² Raghubanshi, A. S.; Singh, J. S. (1999) Ecology in India Current Science, 77 (4). pp. 488-491. ISSN 0011-3891 1999.

administration, city planning and agriculture, arts and religion, technology and economy. Intervention for a radical transformation in the contemporary situation, which may be termed as the ‘Earth Politics’ alone can be salvage the future. In the recent times, however, environmental concerns, both the origins and nature of environmental deterioration and the emergence of environment centered politics have been articulated in sociological writings. Many Sociologist namely, Anthony Giddens, Ulrich Beck, clause offe, Jurgen Habermas and others have addressed themselves to these issues.

Perhaps this new found concern is based illustrated by two well – known but contrasting episodes: The Chipko movement that acclaimed initiative of the Himalayan peasantry towards forest protection, and the gas leak at Bhopal, that most devastating of industrial tragedies. If Chipko demonstrated the resilience and folk wisdom of the rural poor, Bhopal for its part revealed the dark side of modern technology.³

The two are the dramatic illustrations of the social consequences of environmental degradation. At a day to day level, however, the majority of Indians are faced with more prosaic but equally significant environmental problems. Indeed, virtually every segment of Indian society has to cope with chronic shortage of natural resources. To take the forestry sector alone, there are acute shortages of forest land for shifting cultivators, fodder for pastoral nomads, fuel and small timber for peasant farmers, and raw materials for forest based industry. There is also serious crisis in the quality and availability of water, excessively high rates of urban and industrial pollution and a continuing loss of biological diversity. We are faced with an ecological crisis of monumental proportions, whose most serious consequence is increasing social conflict, inevitable as different groups exercise competing claims on a dwindling resource base.

Both the cause and consequences of environmental degradation are, of course, research problems within the purview of the social sciences. Yet it is notable that the environmental crisis has caught the social science community unawares. As yet, they have contributed little to environment debate to India. By contrast, environmental journalists, social activists and natural scientists have contributed significantly to our understanding of the social implications of environmental degradation.⁴

In the West, too, social scientists have been rather slow to respond to the environmental dilemmas of their societies. Sociologists have ascribed this neglect to two factors: (i) the Judeo-Christian ethic of man's mastery over nature, and (ii) the fact of the social sciences themselves being formed

³ Guha Ram Chandra, 1994, Social Ecology, New Delhi, Oxford University Press.

⁴ Guha Ram Chandra, January, 1992. Pre-history of Indian Environmentalism. Intellectual Tradition, Economic and Political Weekly, Vol- XXVII No-1-2.

in an epoch of unprecedented economic prosperity. These factors worked in unison to foster an illusion of man's independence of the natural world, an illusion reinforced by the discovery of new sources of energy and the colonization by Europeans of new lands which had an abundance of natural resources.⁵

The dominant social science traditions in the West and India do share one assumption: that, to quote Durkheim, social facts can only be explained with reference to other social facts.^{6,7} True, for any particular social or historical process there are always competing explanations. Thus, in the most famous textbook example in sociology, the rise of capitalism was interpreted by Karl Marx as a consequence primarily of changes in the economy, whereas Max Weber was inclined to grant greater significance to the role of religious beliefs. How then does an ecological approach modify the basic assumptions of the social sciences, and more particularly of sociology? It appears that sociologists implicitly work within a model of society as being divided into four broad categories: the economy, the polity, social structure, and culture.

Essentially, an ecological perspective adds a fifth basic category to the scheme—the ecological infrastructure of human society that is, soil, water, flora, fauna, climate, etc. While humans are unique amongst the earth's creatures in their elaborately developed culture(s), they do not stand above or apart from nature. The ecological infrastructure powerfully conditions the evolution and direction of human economic life, political relations, social structure, and ideology. At the same time, human intervention itself reshapes the natural environment in its own image. However, the intricate linkages of cause, effect and feedback in nature—of which even modern science has only a very imperfect understanding that can, produce many unintended consequences of human intervention. 'Social ecology', then, rests on the awareness of the interdependence of the biophysical and Scio-cultural domains⁸.

The present ecological crisis a more recent concern is significant to modern social theory. The modern society is seen to be characterized by large-scale environmental degradation. The hitherto neglected area of the

⁵ Catton, W.R. and R.E. Dunlap, 1980, A New Ecological Paradigm for Post-Exuberant Sociology, *American Behavioral Scientists*, Vol. 24, No. 1, pp 15-45.

⁶ Catton, W.R. and R.E. Dunlap, 1980, A New Ecological Paradigm for Post-Exuberant Sociology, *American Behavioral Scientists*, Vol. 24, No. 1, pp 15-45.

⁷ Buttler H. Frederick, 1986, "Sociology and the Environment: the winding road toward human ecology", *International Social Science Journal*, Vol.38, No. 3, pp. 339-354.

⁸ Burch, W.R., 1971, *Daydreams and Nightmare: A Sociological Essay on the American Environment*, Harper and Row, New York.

relation between human beings and nature and the deleterious effect of human action upon the latter, especially in the last century and a half, has emerged as a major issue. The growth of the environment politics or environment movements that offers a challenge to the modern industrial or capitalist mode of production as well as consumption is another important issue in contemporary theory of environment.

II. Ecology and Environment: Indian Sociological Perspective

Today we are confronting the problem of ecological survival on a planetary scale. The western model of capitalist industrial development exists as the dominating development paradigm. Since globalization and liberalization loomed large, this model of development is actually preparing a recipe for disaster. With the emergence of modern environmentalism and the gaining of popularity of the concept of 'sustainable development', there is a present and ongoing search for an alternative paradigm of development to save the planet earth from ecological disasters. People of many hues and cries are involved in this process –many 'isms' are invoked.

Then what's the harm if we also give trace to the Indian sociological perspectives as one of the greatest paradigm in search for the alternative for the present? Simple denouncement and the reinterpretation of the Indian sociologists are not so easy, but can be of more help in our journey towards sustainability.

The fundamental ecological processes such as the migration, adaptation, and dominance are the useful tools in the clustering and distribution of man's habitations, in the growth and structure of hamlets, villages and towns and in their relations. All these and other social ecological aspects of rural and urban life find as an engaging treatment in the group aspect of human ecology. The study of the human individual in his reaction to the environment; physical and organic; his adaptations to soil and climate as well as his structural and behavioral responses to his habits and occupations, and to his relation with other individuals of his own or other communities are of equally significant.

III. Mukherjee's Ecological Thought and Assessment

In the time period in which professor Mukherjee wrote, there is no denying of the fact that at that period of time environment and ecology was hardly a matter of concern, either popularly or scholarly. However, there exist several such occasions where R.K. Mukherjee had showed grave concern for environment and ecology.

In a series of books and articles written in the interwar period, Mukherjee fleshed out his theory of 'social ecology'. For him social ecology

was a complex formulation in which a number of social sciences interested. The geological, geographical, and biological factors worked together to produce an ecological zone. In its turn, ecology is conditioned by social, economic, or political factors. For example, in the past many Indian ecological regions were opened up for human settlement and agrarian development through political conquests. As there is a definite link between ecology and society the development of ecological zones must be seen in terms of a dynamic process: i.e. challenge of the environment and response of the people who establish a settlement.

Besides the Indian thinkers there were many Western thinkers with whom Mukherjee worked and who influenced his writings. Some of them were sociologists like Edward Allsworth Ross, Robert Ezra Park of Chicago Mckenzie and P. Sorokin. Most of these American Sociologists were interested in the study of Region, Urban Disorganization, Human Ecology, Social Change and so on. The friendship and intellectual interaction with these sociologists stimulated Mukherjee's own efforts in social sciences to which he gives due credit.⁹

The influence of the Scottish ecologist, Patrick Geddes, and the French historian, Lucien Febvre, is visible in his early explorations of the regional basis of social life. At the same time, Mukherjee kept pace with the developing discipline of scientific ecology, and was personally acquainted with pioneers like the British animal ecologist, Elton. He drew fascinating parallels between ecological influences on the plant, animal, and human worlds respectively. While eschewing ecological determinism, he illuminated the influence of the 'web of life' on human economic, political and social relations¹⁰. Finally, Mukherjee tested his theoretical ideas through empirical studies of different geographical regions. Several studies¹¹ focused on ecological and socio-economic renewal of the Indo-Gangetic Plain, while another dealt with the princely state of Gwalior, whose peasants were plagued by soil erosion and declining yields¹². Mukherjee's prose style is both unwieldy and wooden, but he was working towards an integration of ecology with the social sciences that was considerably ahead of its time.

Apart from many other Indian sociologists contributed their thoughts in the ambit of environment and ecology, this present paper is rather a

⁹ Singh Baljit (ed) 1956, *The Frontiers of Social Science*, (In Honour of Radha Kamal Mukherjee), Macmillan and Co. Ltd. London.

¹⁰ Mukherjee R.K, Dec 1942, "Mobility, Ecological and Social", *Social Forces*, vol.21, No.2, pp154-159.

¹¹ Mukherjee, R.K. 1938. *Regional Balance of Man*. Bombay, Popular Prakashan.

¹² Mukherjee R.K, Dec 1942, "Mobility, Ecological and Social", *Social Forces*, vol.21, No.2, pp154-159.

preliminary attempt to point out some of the basic ecological ingredients of Professor Radha Kamal Mukherjee's ideas in environment and ecology.

Professor Radha Kamal Mukherjee - who is one of the harbingers in Indian Sociology with long-standing contributions in the fields of Regional Economics and Regional Sociology stands apart from his general sociological scholarship and falls more within the purview of an ecologically inspired sociological reasoning, which of late appeared as an important arena in contemporary sociological theoretical tradition. In the present context when the application of biological principles and techniques to the study of balance and interrelations of the human species and communities has grown the new discipline of human ecology, of which Prof. Mukherjee is a pioneer covers few but important aspects of human settlement, in some of his writings

Prof. R. K. Mukherjee indeed says at the very outset that, the ecology and sociology of rural and urban habitations are not merely of theoretical interest for interpreting forces and trends in contemporary society but also of considerable practical significance for mitigating the present disorder in economy and technology and in man's ecological, occupational and power relations in all countries.

Like the distribution of plants and animals man's spatial and temporal location is largely governed by ecological factors. Social ecology studies the positional and distributive factors, the spatial and food relations of human beings, habitations and institutions. It concentrates its attention on 3 fundamental inter-relations between man and his milieu:

- i) The influence of the habitat upon his food and aggregation, his occupational and social relationships.
- ii) The position of sustained maximum economy for man in the midst of changing environmental pressures, adaptations and balances.
- iii) And the influence of mobility, specialization and distance on the relations between individuals and on the stratification and segregation of functions groups and classes.

According to him the sociological situation is one single ecological whole, but in analyzing the problem of human habitation a selective approach must be made. Prof. Mukherjee covers few but important aspects of human settlement, in some of his writings. To make it clear he encompasses the following points-

1. The study of human habitations explains in the first place, the spatial patterning of population and settlement forms.

2. The study of habitations accordingly analyses the inter-relations between density, mobility and tempo of life and thus relates types of human habitation to fundamental ecological processes.
3. Such a study also includes an investigation of the social and institutional implications and consequences of density, mobility and distance, normal social trends as well as deviations and misfits in different types of habitation, village, small-town, city and metropolis.¹³

Radhakamal Mukherjee –had been enthusiastically taken up the ideas given by Anthony Giddens. Prof. Mukherjee has dealt problems of mobility, competition, suggestion and succession in the study of the inter-relation between man and environment. For him, alike the plant and animal life too, symbiotic relationship between different groups of people with their different modes of exploitation of natural resources and social habits develops, so that the region becomes an assemblage of ecological patterns.

According to Prof Mukherjee the transformation of the village into a small town, based on a change in the ecological base of the community, accompanies a change in the mental and social interaction and the framework for collective life. Ecological relations of individuals to the land or to the system of machinery and to fellow individuals as competing or cooperating units in the struggle for food, position and status govern social interaction. To him, society everywhere arranges its density, spatial distribution, occupation and social stratification so as to fit harmoniously into its ecological base. To him, social distance between groups helps towards appropriate collective social-ecological adjustments that help population towards maintaining and average stable abundance. Social mobility and distance are thus mechanism of establishment of numerical balance in the ecological order. Under the subheading of ecological succession in relation to culture he argued that changes in the ecological base due to the introduction of new economic technique bring about cultural succession but on the other hand the cultural lag – he described destroys the internal unity and the economic efficiency of the social ecological pattern. He discussed that how the imitation of the criterion of density differentiate village from city by giving a number of instances of various cities. To him, the change from agriculture to machine industry not only increases the physical and social mobility, which truly differentiates the urban from the rural social environment but also bring about changes in the tempo of life and work in the rural and urban society at large.

Prof. Mukherjee again paid a little heed to the distinction between rural and urban community on the question of solidarity with nature and on

¹³ Mukharjee, R.K. 1968. *Man and His Habitation* Bombay-34, Popular Prakashan.

social distance. For the former, he said that, the peasant lives in a world in which a personal god and a communing nature are a constant invisible presence in the relation with his land and social environment, but in a congested urban environment, it is not the sun but the dial of the clock work, which regulates the vast quick and variegated contacts, activities and movements of fluid masses of men. In the letter, he said that, social grouping are less stable and more open but the social distance are sharper in the urban than in the rural populations. He exhibits that where ever there is high mobility there is rapid change in types of human relationships and human interactions which interns accompanying change in the ecological organization or patterns of the city more rapidly than those of the country side.

He Measure the rural–urban difference on the basis of struggle for status, man's segmental and composite role and on group patterns, he depicted that, physical and social mobility, heavy density of population, punctuality, computability, guided by pecuniary and intellectualistic scheme of valuation, fear and uncertainty along with enterprise dominate the complex urban community. On the other hand, in the rural community, a relatively fixed economic and social status and rigidity of social groups tend towards the acceptance of stability and security in the world as a norm.

According to him, there is no hard and fast dichotomy between village and city. Social cohesiveness, stability of primary group controls, settled habitations, exhibit common institutions, habit and attitudes above all the settled habitations characterized the ruralism, on the other hand, ecologically speaking urbanism is characterized by a demographic and mechanical technique base; biological speaking by a preponderance of a heterogeneous, foreign-born, adult population; sociologically speaking – is a system of superficial, transitory human relations, groups and institutions characterized by high physical and social mobility and interchangeability, and psychologically speaking, a system of ideas, attitudes and ideals marked by formal objective and pecuniary standards. And the persistence of two indispensable antithetic trends in social ecology viz the ruralization and urbanization brings about a disparity of the size of human settlements everywhere.

To him human fixation and human circulation arise out of regional or local endowments and human preferences and determine the various orbits within which man seeks the satisfaction of his main-fold desires and interests from his isolated homesteads and self sufficient rural communities to the city and the metropolis with their world-wide connections. To him, the ecological region, physiologically, is a following stream of human circulations with centers or nodal points, channels or routes, and orbits or boundaries. Structurally it is a constellation of different types of habitations, scattered and weak or nucleated and intense foci of human circulations. Prof.

Mukherjee advocated this by assuming the region as an ecological conscious entity. To him, the region is not only a man made through fare, but is also a great living current of solidarity and consciousness of mind. Thus human habitations and circulations, route and region form together an integral indefinable entity made up of both material and intangible elements.

Prof. Mukherjee said that, mobility changes the dominant interests and elements of group formation in the neighborhood hamlet or village. Caste and kinship used to underlie the relative stability of many relationships and the continuance of village institutions; mobility becomes the solvent of tradition, caste and ancient social functions and institutions. As the facilities for travel, communications and intercourse break the barriers of physical and social isolation the inter relationships of villages change. A neighbourhood group or hamlet depends upon for daily weekly or bi-weekly marketing. The size and the nature of both the primary and secondary markets vary according to the facilities of communications, density and the standard of living of the rural populations.

The fairs –which are characteristically of religious, social, economic and recreational, are also significant. According to him, the hamlet, the village the town, and the city are interlinked in a system of circulation of men, goods and services, developed on an entirely new scale both in extent and intensity where some special natural advantages may focus powerful centripetal forces. While discussing about the functions of river, route and town, he cited a excellence instance of how kolkata assembles and accumulates the agricultural products and raw materials from its hinterland for exportation, but has added to itself the new roles of an important industrial centre and the major distributing centre of imported manufactures for the greater part of India.

Changes in areas and forms of services also caught the attention of the author, where he said that, the physical and cultural isolation of rural community is constantly being challenged by drifting, temporary or permanent raids of new occupations; mobility somewhere in the neighbourhood accordingly introduces new ecological and social interactions in the stable rural community. The nature and functions of an industrial town its mobility and grouping alignments are for different from those of a country town or a “rurban centre” through which rural society seeks larger integrations of services and interests in the wider drama of national life. Prof. Mukherjee, pointed out the burning problem of personal disorganization in new cities and industrial towns which is a product of social disorganization, excessive mobility as well as the entire trend of social and economic forces. He argued about the probable hindrance about this disorganization through social welfare. The essence of social welfare is to fight anti social attitudes and behaviour through the re-establishment of a stable community

organization which may be redefine the social situation and gradually rebuild the life-organization for persons who have suffered loss of status.

As the town increase in size and transform itself into the city, physical and social mobility increases with proximity, it is from here that the city's industry, trade and finance are directed the city's centre or area of dominance – which draw the remote regions into its ambit. Cities in different ages and cultures differ in types and in their areas of dominance. The dominance of the business zone – where control and co-ordination are centralized, brains and ability concentrate and the community is most alive – is the result of in-evitable process of division of labour and segregation. To him the towns are urban villages or village agglomerations – developed at all focal points of human circulation, especially markets and defense and pilgrimage centers.

While discussing the role of the culture he pointed out that, it is the cultural traditions of the village which on the whole determine the toner of civic life and also govern the distribution of utilities services or facilities in the separate natural areas of the town, villages and towns in India were, indeed planned according to a religious symbolism which governs the layout of wards and streets, the location of temples, monasteries and village halls as well as of open spaces, tanks and gates. To him, Indian town - planning accordingly solves the problem, of maintaining social amity among heterogeneous races and peoples safeguarding their communal autonomy and civic unity.

The sanctification of the site of the city not only determines by the religion but other factors such as commerce, industry, means of communication and domestic politics also make the town or city or influence its density. According to him, on the basis of these factors the ancient Indian towns were classified into capital city, commercial emporium fortress town, little town, market town, bigger market town, frontier town, trading outpost and last but not the least university town. These classified towns change their spacing of human beings and utilization of urban sites and facilities as they change their dominant functions, occupations and interests.

Prof. Mukherjee said that, it is the culture that determines the predominant characteristics of a city, whether it is industrial and commercial or whether the main reason for its being is religion, education, health or recreation. It is the culture which governs the spatial distribution of population units, social institutions and urban facilities. It is the culture that nourishes appropriate expressions and symbols of civic life and consciousness. Above all, culture takes upon itself the tasks of preventing the ecological principles of segregation and dominance of urban groups and function from becoming a means of civic discord and of working it out as a legitimate means of civic service.

IV. Conclusion

To sum up the whole discourse, it may be theoretically stated that, Rahda Kamal Mukherjee in the first place grounds the amorphous rural and urban sociology in the scientific concepts of social ecology derives from the biological dimension; secondly he uses modern ecological concepts for the interpretation of the regional organization and its trends of balance, unbalance and optimum and thirdly, formulates certain ecological and psychological indices, such as location, density, mobility, specialization, distance, dominance and tempo of work and life for qualitatively measuring social relations and patterns of an entire region community and culture. An integral holistic, tran-disciplinary social science procedure, which is introduced by social ecology, studies the human community's ecological balance, industrial equilibrium and cultural harmony in there dynamic reciprocity and interchange.

The interchange between man and his environment – i.e. in his habitation, natural resources and technology and his social habits and values is reciprocal and intimate. It can be argued that ecological planning accordingly is a part and parcel of social and economic planning everywhere. So, the new technology and the new economic and ecological planning will have to be aided and reinforced by the human community's recovery of its ancient sensitiveness and responsiveness to 'Mother Nature' and 'Mother Earth'. This formative principle in man's social living, growth and culture and in his pattern of habitation and aggregation must no longer be eclipsed by out grown technology and outworn social attitudes and values of life. Social ecology has, therefore, a tremendous practical significance for modern urban-industrial culture that has spread as a global pattern.

In the concluding Para it may be only suggest that the Indian sociologists must pay serious attention to all the issues regarding environment and human spontaneous access over them, not because they are currently in vague, but because they represent a major challenge in future. But by and large, environment remained outside the sociologist's concern.