

Natural Resources in Sociological Theory: A Discourse on Environment, Ecology and Development

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Studies on use and abuse of natural resources have gained momentum in recent years in sociology. Although the studies revealing modes of natural resources use in specific socio-cultural contexts are not new, however, these studies are not limited to a certain theoretical framework. A range of theoretical perspectives have developed over the years in order to comprehend various dimensions of use and abuse of natural resources within the discipline of sociology itself. The present paper attempts to understand the development of various perspectives of environmental sociology, social ecology, political economy of development and social movements in order to identify the paradigm shifts in the studies of natural resources in India and west.

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Sociologists over the globe have attempted to explore the linkages between society and natural resources in their researches and sought for its theoretical framework under the purview of various themes of sociological enquiry such as environment, ecology, development and movement. However, it took quite a long time to identify and establish issues such as environmental degradation, ecological imbalance, use and abuse of natural resources and its linkages with development process and protests and movements over these as matter of concern for sociological enquiry. Therefore, it occupied very little room for discourse in classical social theory. For instance, critically analyzing the environmental concerns in mainstream sociological theory, Munshi (2000) is of the view that classical social theory was not much concerned with the issues of environmental degradation. She further states that although some scholars like Benton (1989) do argue that environment and ecological variables are incorporated in classical sociological inquiry (For example, Marxian Historical Materialism and Engle's 'The Condition of Working Class in England'), scholars such as Goldblatt (1986), Giddens (1990) and Murphy

(1997) realized that despite the fact that Marx and Durkheim saw relationship between human societies and natural world, environment and ecology could not be adequately discussed in social theory. For example, Goldblatt argues that Marx and Durkheim saw relation between human societies and the natural world as central to historical change, but did not pay much attention to the impact of economic and demographic processes on ecosystems. In fact classical social theory was concerned with how pre-modern societies had been constrained by their natural environments than how industry in modern society led to environmental degradation. Nor it could see at the time that capitalism would prove to be environmentally problematic in a fundamental sense (cited in Munshi 2000).

Although, classical social theory offers an inadequate conceptual framework to understand the complex interaction between societies, modern social theory not only seeks to explain the causes and consequences of environmental degradation, but also articulates environment centered politics. Anthony Giddens, Ulrich Beck, Clause Offe, Jurgen Habermas and others have addressed themselves to these issues (ibid).

Reflecting upon the causes of environmental crisis, Giddens argues that capitalism along with industrialism is responsible for it. The modern industry, shaped by the combination of science and technology, is responsible for the greatest transformation of the world of nature than ever before (Giddens 1990). Moreover, environmental politics has emerged first; as a response to the ecological threats and thus as 'a politics mobilised by interests in self-preservation', second; as a response to the normative emptiness of modern urbanism and thus as 'a politics mobilised by ideal values and moral imperatives'. Ecological movements are manifestations of those dimensions of modernity which have been overlooked up till now (Giddens 1987). Similarly, Habermas also opines that capitalism is the primary cause of environmental degradation. He perceives the ecology movements as a response of the life-world to its colonisation. Ulrich Beck proposes the modern society as the risk society, emphasizing on its catastrophic potential resulting from environmental deterioration. At the centre lies the risks and consequences of modernisation, which are revealed as inevitable threats to the life of plants, animals, and human being and these can no longer remain limited to the boundaries of certain localities or groups, but rather reveal a tendency to globalization (Beck 1992).

Thus, Giddens, Habermas and Beck attribute environmental crisis to the capitalism, industrialism and modernisation process which are interconnected. Therefore, any society following the path of development based on capitalism, industrialism and modernisation is destined to encounter environmental degradation and ecological imbalance putting a big question on human survival. In response to these challenges, all these social theorists emphasise the need for democratisation of state power and civil society.

Thus, primarily 'environment' and 'ecology' were the umbrella terms which evolved as a framework for analysis of use and abuse of natural resources

in sociological tradition. Tracing out the linkages between emergence of ecology and environment in sociological inquiry, Dunlap and Catton argues “although it has taken considerable effort to break away from traditional sociological assumptions, environmental sociology has begun to do a job left undone by sociological ‘human ecology’ – a field that developed earlier in sociology but then yielded a traditional assumption and reverted to neglecting the societal relevance of the physical environment” (Dunlap and Catton 1979:57). However, Amita Baviskar observes ambiguity over title of discipline with regard to researches in environmental degradation and ecological imbalance among scholars. She comments “compared to economics or political science, sociology is a young discipline. Within sociology, the study of ecology and development is younger still. An indication of its recent origin is the fact that there is no consensus on a title for the range of research in this area; it has been variously referred to as ‘ecological anthropology’, ‘social ecology’, and ‘environmental sociology’” (Baviskar 1997:193).

Despite such contention of Baviskar, scholars attempted to carry out researches firstly, in human ecology and then social ecology and establish it as theoretical framework for sociological enquiry. Durkheim’s concept of social facts which insisted that social facts could be explained only by other social as opposed to psychological, biological or physical facts, led to a strong aversion to ‘reductionism’ among modern sociologists (Catton and Dunlap 1980). However, despite influential taboo against reductionism there began to develop in 1920s, as a branch of American Sociology, an arena of investigation called ‘human ecology’ at University of Chicago under the influence of Robert E. Park (1936). Subsequently, heavy criticisms arrived from anti-reductionist scholars reflecting over limitations of its subject matter. Alihan (1938), Quinn (1939) and Hawley (1944) were among those. Quinn rejected the definition of human ecology as “the study of relations between men and their environment” and insisted that as a branch of sociology it “always studied relations of man to man and never the direct relations of man to environment” (cited by Dunlap and Catton 1979:59)

However, in west, by the early 1970s, a substantial number of sociologists, stimulated by ecological literature such as Hardin (1968), Ehrlich and Ehrlich (1970) and Commoner (1971), as well as firsthand knowledge and media accounts of environmental deterioration were coming to realize that environmental problems and ecological constraints were real and posed serious problems for human society. Both public perception of and public opinion about such environmental issues were matter of curiosity for sociologists leading to several researches which contributed a lot to firmly establish the discipline (Dunlap and Catton 1979).

A close scrutiny of literature relating to emergence of environmental sociology in India reveals that Patrick Geddes was among early pioneers who showed sensitivity to the relationship between humans and their environment and contributed a lot in urban environment planning. According to him,

technological advancements and urbanism have profoundly altered social relationships. When in 1920s, west began conducting researches in 'human ecology', 'social ecology' was the term coined by Radhakamal Mukerjee in his quest for an alternative to European path for development of Indian (Asian) societies, that corresponds to Asian conditions as well as traditions. In this endeavour, he puts forward the institutional framework of the Indian villages relating to property structures in land and other village commons such as irrigation channels, pastures and cremation grounds and a culture of mutual aid and reciprocity.

For Mukerjee, social ecology is a sociological method which gives us the 'region' or 'ecological order' as natural frame of reference for classification of social phenomenon and cultural processes. He wrote, any human group must be considered in relations not merely to temperature, humidity, sunshine, attitude etc. but also to their indirect effects on nature through various activities specific to region and region is at once an ecological aggregation of persons, an economic framework and a cultural order. He studied the impact of natural region on work, economic institutions, property structures, culture, character and diet. Observing the fact that ecological condition of a region determines its socio-cultural arrangements, Mukerjee wrote that in almost all long settled peasant cultures, the ecological imperatives of water and land management worked with cultural factors to foster community solidarity (Mukerjee 1942).

According to him, development and change taking place in rural community, depends upon the resource pattern, mode of land utilization and ownership and proper behaviour of one social class to another as these are the factors responsible for community's progress or failure. In a given natural setting, society gradually develops a legacy of culture and a hierarchy of norms and values. Evolution of a social structure is not simple outcome of physical condition and natural resources. Between the physical world and human activity, there is always a middle term, a collection of specific objectives and values, a body of knowledge and belief: in other words, a cultural pattern (ibid).

Drawing attention of scholars towards fading impact of Mukerjee's social ecological premise, Baviskar comments that he has, tried to synthesize ecology and sociology and introduced social ecology in Indian context for the very first time, but with time, his contribution has faded away (Baviskar 1997). Besides, Mukerjee, Geddes, Verrier Elwin and Kumarappa are other early scholars who presented ecological analysis of society and Guha (1992) in his essay 'Prehistory of Indian Environmentalism' highlights their works.

After Mukerjee, Guha, a social historian receives the credit to revive and firmly establish the discipline. 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, however, in many instances social facts can only be properly understood with reference to the natural environment within which humans like any other species live survive and reproduce. "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. Role of traditional institutions, caste, class and village in regulating use of natural resources, perception of nature by different sexes, and impact of depleting natural resources on village autonomy are some research issues (Guha 1994:5).

'Social ecology', then, rests on the awareness of the interdependence of the biophysical and socio-cultural domains. Juxtaposing the ecological infrastructure to the economy, polity, social structure and culture gives us the following five-fold schema; culture (the arts, religion, ideology), polity (relations of power, law and state), social structure (family and kinship, caste and community), economy (forces and relations of production, trade), ecological infrastructure (soil, water, forests etc.). The task of an environmentally oriented sociology-or social ecology- is the study of reciprocal relations between ecological infrastructures on the one hand and culture, polity, economy and social structure on the other. An ecological perspective can considerably enlarge the scope of sociology and social anthropology as social ecology draws upon sociological theories of power, ideology, social organization etc, as well as the concepts and findings of scientific ecology (ibid).

Besides Mukerjee and Guha, empirical attempts have also been made by various other scholars (Mencher 1994; Karve 1969; Gadgil and Malhotra 1994) to understand the complex and persistent interaction between ecology and social structure. Mencher (1994) conducted a comparative study of Kerala and Madras to explore the influence of ecological setting on the social structure. She argued that differences in the ecological setting played significant role in development of at least certain social institutions of the two areas. Like Mencher, Karve has also discussed at length the institutional aspect of ecology in Maharashtra villages and observed that settlement pattern and economic activities are decided by its natural resources (Karve 1969).

Despite such attempts made in ecological studies in India, according to Guha, the first decades after independence were an age of 'ecological innocence', a circumstance that helps explain why environmentally-oriented thinking found such little resonance in intellectual and political life. We had to wait till the 1970s for a systematic development of environmental sociology (Guha 1997:345). Similarly, Baviskar preferred the term environmental sociology over social ecology. "Environmental sociology' allows us to retain the disciplinary orientation of the social sciences, and focus on social relations and processes as they affect and are, in turn, affected by the biophysical world in which social beings live" (Baviskar 1997: 194).

II

1970s onwards, environmental sociology in Indian context has gained currency as it is found by scholars more grounded in sociological theoretical tradition involving sociology of development and movements. The discourse

over 'environment and development' in India started in 1972, when at a conference in Stockholm, Indira Gandhi articulated a belief that poverty is the biggest polluter and this flamed a debate between development and environment. Environmentalists were accused of being anti-development as poor country like India; fulfilment of basic needs was its prime concern. It was asserted that environmentalism is a west imported notion and subsequently pro-development strategies gained support. However, 'elitist environmentalists' could create pressure on government to conserve nature through establishing parks and sanctuaries. Meanwhile, 'State of India's Environment: A Citizen's Report' from 'Centre for Science and Environment' further promoted environmental activities in India as 'non- elitists environmentalism' leading to emergence of Ecological Marxist view which argued, "India's development policies had failed because they had not fundamentally changed the patterns of control over the means of production. The concentration of the means of production in the hands of the state bureaucracy, the industrial elite and the rich peasants had skewed technological choices, production decisions and income distribution. Ecological crises grew out of the inequities of control over, not only industry and land, but also other productive resources such as water, forests and pasture's" (ibid: 197).

Scholars (Sethi 1993; Baviskar 1995, 1997; Munshi 2000; Dev 1997; Shiva etal 1991; Guha 1994; Dwivedi 2006) observed that development achieved was at the cost of environment altering ecological balance. Arguing for similarities in environmental sociology and development sociology, Baviskar states "Both environmental sociology and development sociology share a common orientation in that they emerged as responses to a sense of wrong. In the case of development sociology, the problems of newly-independent nations preoccupied the minds of planners, both economists and sociologists, leading to a focus on what was wrong and what needed to be done. In this problem-solving approach lay the beginnings of development sociology, where the central concern was how can a new nation, impoverished by colonial rule and mired in tradition, achieve its ambition of modernization, industrialization and urbanization? So also with environmental sociology" (ibid: 198).

Emergence of such views led the researchers to locate environmental problems earlier in colonial state interventions and later in development approach of the state which was euro-centric. Social and environmental consequences of colonial state interventions, its effect on the indigenous social, cultural institutions and practices of resource management; and social protests over control of resource, were articulated in sociological writings (See Guha 1989; Rangarajan 1996; Arnold and Guha 1994; Whitcombe 1971; Tucker 1979; Grove 1995). The depletion of natural resources in the contemporary context, the changed use and management of these resources and their effect on local communities, and the need for an alternative system of resource management have been the subjects of many studies conducted by social

scientist in general (See Jodha 1986; Chopra et al. 1989; Fernandes and Menon 1987; Nadkarni 1989; Agarwal and Narain 1985). There has been some discussion on gender and environment and on the notion of ecofeminism in recent times (Shiva 1988; Agarwal 1991, 1997; Venkateswaran 1995).

In development discourse, political economy is identified as major critical perspective to analyze development process in west (Frank 1966; Baran 1967; Amin 1976; Hoogvelt 1997) and India (Bardhan 1984; Shiva 1988; Nadkarni 1989; Bagchi 1991; Pandian 1990). Social scientists adopted this perspective to critically investigate internal and external forces in development of societies. The roots of political economy framework go back to the much known economist Adam Smith and David Ricardo. Thereafter, it was developed and introduced in Sociology by Karl Marx. For him, political economy refers to the way social and power relations (class relations) affect and organize the economy and in turn are organized by economic forces. Mode of Production debate occupies main core of Marxian political economy perspective (Pandian 1990; Hoogvelt 1997).

In general, political economy is a dynamic tradition which studies the interrelationships between political and economic institutions and processes; it analyses and explains the ways in which various sorts of government affect the allocations of scarce resources in the society through their laws and policies as well as the ways in which the nature of the economic system and behaviour of people acting on their economic interests affects the form of government and development policies. The issues involved in the understanding complex contemporary public problems are more interactional and cut across strictly economic or strictly political variables and also involve other kinds of variables—demographic, ecological and cultural.

In stratified and coalited societies like India, different social groups like Industrialists, rich landowners and professionals including bureaucrats form a heterogeneous coalition of dominant interest groups with multiple veto power and with no interest group powerful enough to hijack the state itself influence state's developmental policy. Through expressing their claims of contributing in country's progress they modify state's ventures of taxes, subsidies and investments in their favour (Bardhan 1984). Although he does not extend this analysis to use and abuse of nature but this model can be applied to understand how these three ruling sections selectively channelize land, water, forests and other natural resources for their own benefit, at substantial cost to the environment and disadvantaged social groups.

Amiya Kumar Bagchi adopted this framework to analyze underdevelopment in third world countries including India through Marxist framework of class struggle. Contradictory class interests acquires main core to his analysis of underdevelopment. He traced out the roots of underdevelopment in third world countries in colonialism and retarded capitalism. Since, class is not the only base for stratification in Indian society and caste is another significant one, there exists a kind of overlapping between these two. There are

caste conflicts among these castes over access to land and other public resources, political patronage over jobs and credits. Presence of overlapping twin hierarchies, there exist conflict between various classes as landlords and rich peasants belong to superior caste (Bagchi 1991). Commenting on state's role in development, Bardhan (1984) opines that role of the state has been regulatory rather than developmental while Bagchi (1991) questions state's development strategy which is oriented towards marginalizing local people, through erosion of rights to control and use of resources and calls for significant role of state to ensure development of backward and marginalized people.

Nadkarni (1989) through his study of forest use and management argues for evolving alternative institutional forms involving local poor peasants and the landless in forest management (Nadkarni 1989). Extending this analytical framework to irrigation development, Tushar Shah highlights the concept of irrigation surplus including benefits of increased farm income, appreciation in the value of land due to improved yields and access to irrigation and increase in farm labour opportunities. He states "much of the politics of irrigation concerns the generation, manipulation and distribution of this surplus" (Shah 1993).

Political economy discourse of development also embraces dependency paradigm which finds rationale of underdevelopment in third world countries in development of European capitalism. Baran, Amin and Frank argue that underdevelopment in third world is primarily the result of expansions of western European capitalism and subsequent imperialism and colonialism. They see development and underdevelopment as two interconnected processes and development of centre (West) takes place at the cost of underdevelopment of periphery (non West). There exists a chain of exploitative relationships between developed metropolis (centre) and underdeveloped countries satellite (periphery) (Baran 1967; Frank 1966). These links of metropolis-satellite are observed not only at global level but also at culturally specific societal level such as relations among various classes like landowner and peasants (Frank 1966). In terms of resource use, the similar analysis can be extended to understand how those at centre or higher status in hierarchy accumulate surplus and benefits by depriving those who are at periphery or occupy lower status in society.

III

Uneven development originated from state developmental policy has led to emergence of relative deprivation among those who are poor, and marginalised resulting in ecological/ environmental movements. These protests and movements across the globe were discussed in new social movement paradigm in Sociology as scholars identified them more concerned with social justice and civil liberties, driven by autonomy than state power and led by middle class. The development of 'green politics' from the early 1980s boosted the formation of green networks all over the world including India (Guha 1994). It is argued that scholars saw environment degradation in developing societies as reflections of western political economic activities. Claus Offe presented a

critique of further modernization in the advanced industrial societies in the west. This critique is based on major segments of the educated new middle class and unconventional, informal and class unspecific mode of action of this class (Offe 1985).

Scholars dealing with such issues in India also attributed these protests to the imprudent development policy. Baviskar argues that the model of development established since independence has fundamentally altered the way in which different social groups use and have access to natural resources. The changes brought by the independent state have created conflicts over competing claims to the environment. These conflicts range from the incessant battle between the forest department and local communities, to the war raging between mechanical trawls and traditional fishing boats in India's coastal waters, to the controversy over the Dunkel Draft and rights to genetic resource. They also involve different world views, one driven by the desire to dominate and exploit nature and humanity; the other moved by empathy and respect, sometimes reverence, for the two (Baviskar 1995).

Since 1970s the country has witnessed a huge range of protests, movements and collective action over natural resources. Scholars of various protests such as NBA (Baviskar 1995, Dwivedi 2006) and Chipko and other forestry protests (Sunder 2000, Bandopadhyay and Shiva 1988) draw our attention towards flawed state development policy or political-economic interventions by classes who control natural resources, be it land, soil, water, forests, minerals or air. Ecology movements in independent India have increased against 'predatory exploitation of natural resources to feed the process of development' which is dominated by market force. Now there is growth of a new language, a language which perceives natural resources as rights and elucidates the manner and ways in which these rights have been eroded and abused.

Conclusion

Thus, based on above discussion it can be argued that after emergence of Sociology, issues regarding natural resource use and abuse have occupied its place in sociological theories under these sub disciplines; Environmental Sociology, Social Ecology, Sociology of Development and Social Movements. However, over the course of time, in relation to issues of environmental crisis and ecological imbalance, Environmental Sociology gained preference over Social Ecology over the globe and India. Moreover, Political Economy of Development has been popular among the scholars to address the issues of natural resource use and abuse. It is argued that any of the social phenomena is context specific therefore; theoretical framework can never be determined ignoring socio-cultural context of the locale of the study. However, all four theoretical frameworks are interlinked and lead a researcher from one paradigm to another while analyzing any such issue in sociological perspective and finally leave him to arrive at the best suited perspective for the particular study in accordance with its social context.

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