

INDIAN GEOGRAPHY : DEVELOPMENT, TRENDS & PROSPECTS

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CRITICAL APPRAISAL OF GEOGRAPHICAL RESEARCH IN INDIA :

It is difficult to evaluate geographical studies individually, however, the salient features of the recent body of literature are as follows : (1) there is ample evidence to show that during the past twenty years, development geography has established itself as a distinct line of enquiry focussing on regional and national planning, and the use of the map as a tool in regional analysis form the basis for the formulation of regional development planning (2) research work on the physical side is weak and theoretical contributions are few; (3) there is increasing use of descriptive, non-parametric, spatial and multivariate statistical methods of analysis and synthesis; (4) Geographical research evidences inability to move from the micro to macro level generalisations; (5) there is a lack of theory building on the basis of indigenous experience and knowledge is characterised by large scale adoption of models from Western countries to develop derivative theories; (10) methodology is weak; (6) an increased emphasis is seen on topical division; (7) knowledge regarding spatial organisation has been assumed to be the specific content rather than the identification of the inherent spatial approach; (8) static approach is emphasized at the cost of the temporal dimension; (9) heavy reliance is put on secondary rather than primary data; (11) very

little emphasis is placed on either systems or behavioural approach; and (12) to a large extent, work is done in isolation and in the traditional descriptive style without an adequate theoretical and conceptual framework.

RESEARCH DIMENSIONS AND FRONTIERS

The foregoing discussions and review of research lead to the following recommendations:

(1) **Historico-politico-socio-cultural studies:**

Serious efforts need to be made to make spatial studies related to economic, social, political and cultural developments in our country, although they may appear of little practical importance in contributing directly to the solution of contemporary societal problems, they nevertheless can be of great academic significance. Because of its chequered history, extensive geographical area and diversified cultural heritage our country provides a great opportunity for research in historical geography. There is tremendous scope for historical analysis of economic processes during the colonial period, detailed spatial analysis of the growth and processes of European colonisation in India, frontiers and boundaries, nature and size of states, political organisation of space, evolution of administrative boundaries in different regions, regional variations of Hindu Jajmni system, patterns of caste association, regional variations in the processes of

Sanskritisation, caste and territorial organisation, histogenesis of lineage distribution and dispersion, spatial organisation of marriages, historical migrations, and cultural diffusion and acculturation processes. These real Indian geographical problems and processes, if studied from the spatio-temporal dimension can, presumably, contribute to the development of indigenous theories which we strive for. Already a wealth of data lies buried in numerous socio-economic surveys, settlement reports, archaeological reports, religious texts, epigraphs, travel accounts, revenue records, classical geographies and statistical departments of state governments. Recently, the political economy approach has been increasingly used by Economists and other social scientists to unravel the influence of objective economic laws in the process of production, distribution, exchange, consumption of material wealth and has dealt with questions affecting the interests of different classes. Bardhan (1985) has examined the political and economic constraints on Indian development. Prasad (1990) and Rudra (1988) have discussed development processes and its disruptive impact on ecological stability. There is a need for Geographers to use political economy of space as an approach to understand the structurally heterogeneous nature of Indian economy, polity and society.

(2) Physical Geography : Studies in physical geography may be said to be yet in the initial stage. It is therefore suggested that physical geographers must now seriously devote themselves to both theoretical and applied aspects. Theoretical formulations are one of the most important and crucial tasks facing the physical geographers of today. In order to develop them it is essential to possess detailed knowledge of the landscape and environmental features and implications of natural processes at work in the environment. There is ample

opportunity to promote in-depth research on understanding genetic evolution of landforms, regional mapping of geomorphological facets, landform classification, drainage morphometry, slopes and slope forming processes, processes and parameters of coastal morphology, geomorphic characteristics and sand dunes including their source, direction and velocity of drifting, fluvio-glacial features of Himalayan morphology and Geography of Rann of Kutch, by the application of quantitative methods and airphoto interpretation. The identification of processes is usually done by making an inference from forms, and well-organised and comprehensive process studies in contrasting lithologic and climatic environments have yet to be taken seriously. Environmental climatology needs to be stressed as it occupies an important place in such diverse fields as agricultural production, animal husbandary and urban and industrial planning with special reference to atmospheric pollution. Water balances of different regions should be studied in relation to the growth and development of vegetation and hydrology. Drought climatology and satellite meteorological studies should be given priority for obtaining information on clouds and related parameters. Applied climatology with special reference to planing in agriculture and water resources development as well as remote sensing techniques should be given a prominent place. There is need to analyse change in the climate of the Himalayas. The destruction of forests in the quest for cultivable land, overgrazing and increasing pressure of population on land resources have brought modifications in the microclimate of the Himalayan valleys. But we do not know the relationships between forces of degradation and climatic change due to the limited efforts made in this direction. Fruitful work can be done only when modern techniques of field work, data collection and analysis are used.

(3) Structural and Ecological Studies : These studies may be both theoretical and applied, based on systems approach to understand the totality of the relations among complex variables. This also requires the application of quantitative methods for measuring the pattern of interaction. There is a great need for creating interest among young geographers to study agro-climatic regionalisation, regional agrarian system, land use intensity structure, spatial change of land use systems and consequences, identification of backward areas, industrial location and industrialisation in a regional framework, linkage pattern of industries and emergence of regional differences, mobility, analysis in migration studies, population resource regionalisation, structural changes in rural settlement with special reference to the impact of industrialisation on rural habitat transformation, functional and spatial organisation of rural settlements, housing structure in rural and urban areas, internal structure of cities towns, studies of urban household economy, informal sector in the urban economy with special reference to women's place and space, national or regional histories of urbanization, structure and function of settlement systems and subsystems, market place exchange systems, micro-geography of markets and market places, geographical problems associated with current urbanization processes, structural elements of transport network and traffic flows, spatial interaction process in spatial organisation, spatial dimensions of ethnicity, caste distribution and its regionalisation, patterns of caste association and interaction, space perception by different castes, social mobility, caste and settlement morphology with special reference to scheduled caste and scheduled tribe settlements in rural areas, caste and settlement dispersion, caste and primary production, distribution of tribes and their social, cultural and economic

parameters, geographic patterning of linguistic and dialectical groups, language as an element in regionalism, migration and redistribution of linguistic and dialectical groups, spatial manifestations of shifts in language, stability and fluidity in language affiliation, structure of centre-state relations, interstate boundaries and structure of voting behaviour. Instead of studying them as unique cases in unique areas, attempts should be made to discover nomothetic principles.

Another major field with a promising future is biogeography. At the present time, particularly when ecological problems are becoming more and more urgent, ecology should be given emphasis as it is related to geography which influences its development. Geographers have a particular role to play in developing a proper understanding of the functioning of natural ecosystems including its stability, diversity and equilibrium conditions. A Comprehensive range of scientific studies should be carried out on the impact of past and present land use practices on the stability of ecosystems. This requires geographers to develop expertise in ecosystem analysis to analyse ecological diversity. In recent years the process of development and public works has increased the activities such as road construction, irrigation systems and encroachment on agricultural lands etc. leading to environmental degradation. For this reason, it becomes more urgent to study the ecological consequences of various infrastructural works undertaken in the last forty years. Further, certain themes such as regional patterns of deforestation and ecological imbalance need to be studied in their spatial contexts. Deforestation always increases soil loss and soil reaches the plain areas at full intensity increasing flood hazard. Landslides, avalanches and other types of mass movements are the characteristic features of Himalayan slopes demanding thorough investigation and

mapping. These topographic degradations are the result of intense human occupation, developmental works, extension of cultivated, deforestation, mining and quarrying. A considerable amount of our effort has to be concentrated, therefore, on discovering the areal variations of ecological conditions and subsequent caution in the development of sensitive coastal, desert and highland areas. It is desirable that such studies are conducted with an interdisciplinary approach.

4) Understanding Regions and Regionalism

: A region is a pedagogic device for organising and explaining a complex world. The approach facilitates comprehension of spatial reality. The regional concept, which was until recently considered a sine qua non of the discipline, has lost its spirit due to increasing emphasis on ideographic approaches. But the importance of geography's traditional attachment to particular places and the people who lived in them is still great and invites our attention in understanding complex India. Geographers in this country have written very few regional monographs. More geographers should try to write them but most of our writings about regions have consisted of standard school and undergraduate textbooks. It is emphatically suggested that systems of formal and functional regionalisation should not be adopted rather top priority should be given to understanding the importance of values. Value systems differ from person to person, from group to group, and from region to region and so does behaviour based on those different value systems. People in different regions in India talk differently, dress differently, think differently and behave differently as they are motivated by different value systems. They are different and we must learn to respect the differences. It is further pleaded that regional geography in India can make an important contribution by helping students realize that different groups of people

in different places are really different and to understand them, the behavioural approach is important. It is argued that it is not a job of a month, or a decade to write a meaningful regional monograph but it is a life long commitment. It is the result of continuous fieldwork and personal experience of the region. One must tap a wide range of sources and must have a sense of feeling for the common and ordinary people living there. One must be familiar with its novels, poetry, dance, art, paintings and language. One should select a region in which one is interested and to which one can dedicate a major part of one's life so that one gets to know it intimately. Finally, regional geographers must learn to believe what their data tell them instead of trying to force the facts into a preconceived theory. Also, a regional geographer must learn to look at real India in addition to documentary sources.

India is a country of tremendous contrasts manifested in socio-economic variables such as caste, ethnicity, language, tribal divisions, economic disparity, occupational pattern, diversity of political institutions and attitudes and ethos of life. Regionalism reflects a consciousness of the customs and ideals of a section of the society as distinct from the rest of the country. It represents the regional idea in action, as an ideology or as a social movement. There is ample evidence that India is faced with serious problems of regionalism but it has been rarely approached from the geographical viewpoint. There is a need to study the geographical bases of regionalism, for instance, the factors that have led to the emergence of regionalism, how different geographical processes are impinging on the contours and dimensions of regionalism. It is further postulated that regionalism in India has developed through thousands of years. The origins can perhaps be traced back to the emergence of ancient janapadas, medieval

subas, sarkars and the parganas, centralisation of power during British colonialism, and religio-cultural -linguistic bases in contemporary India.

It can be hypothesized that regionalism has been increasing and widening in India and its growth has taken place within the matrix of differentiated geographical space. While geographical forces have contributed substantially towards the sharpening of regionalism, the distinctive core periphery framework has made no less significant contribution in this regard. Regionalism in the core may be the result of centripetal forces while in the peripheral regions it may be due to centrifugal forces and was possibly against the regional capitals. On this basis, it can be hypothesized that regionalism in India has diffused from core to periphery. It may be studied in historical depth selecting regional novels as the important source of gaining geographical insights into regional studies and regionalism.

(5) Environmental and Development Studies:

An analysis of problems confronting economic development points to the importance of environmental and development questions. It is needless to stress that environment influences development. Availability of food, clothing, energy, minerals, water, air and other natural resources are the principal indications of levels of living of any country. The per capita consumption of natural resources and, hence, the levels of living in our country are miserably low. Thus, there is a great need in our study for exploration, rational development and management of natural resources. In the field of natural resource evaluation, the geographer can play a significant role in determining the physical potentials of a given area, the methods of exploitation, and the most efficient use of available resources. In order to use our land, soils, minerals and water, forests and natural grasslands wildlife and fisheries, as well as

scenic or recreational resources efficiently, we must have adequate data regarding resource quality, quantity and distribution. An integrated approach to renewable and non-renewable natural resource development has been practically absent. Natural hazards like floods, droughts, cyclones etc. have particularly serious implications for resource development. But we lack comprehensive statistics on what has happened with regard to natural hazards. Research should focus on delineation of natural hazard areas, estimation of the extent of human occupancy of hazard area, examination of how people perceive the disaster and resultant hazard, examination of the processes and choosing damage reducing adjustments and estimation of what would be the effects of public policy upon human responses. Another important type of geographical research may be the study of scope and prospects for enhancing the environment as a prerequisite towards a harmonious relationship between nature and society. Information on spatial dimensions of environmental deterioration is required. It is also essential to identify areas where industrialisation has overtaxed the carrying capacity of the environment. There is an urgent need to study aspects of environmental pollution and evolve strategies for their preservation. The carrying capacity which implies the ability of the environment to provide the inputs for man, animal and plants must be evaluated as precisely as possible to formulate strategies of environmental management.

There is a need for reorientation of research themes in development studies in order to maintain the distinctiveness of geography as a field of knowledge and application. The priorities for rural development have provided a challenge to geographers to undertake integrated area development. A thorough survey of different categories of land should be taken up and maps prepared thereafter to

prevent misuse of first class agricultural lands. It should take into account the study of the distribution and utilization of wastelands in order to utilize them to increase food production. Emphasis should be laid on the study of behaviour of factors affecting food production, including rainfall uncertainties. Land has to be visualized as an asset to the nation and land development should be given due importance. Also necessary is the study of development of rural energy resources, rural housing and rural industries. The study of integrated Himalayan mountain development needs to be taken up in greater detail so as to evolve an economically and environmentally sound programme for the local population. This is an area where population pressure has exceeded the carrying capacity of land as traditionally used, with the result that forests are disappearing and the impoverished soil is increasingly subject to erosion and landslides. Many of these are spatially localized and thus of special concern.

(6) Socially Relevant Studies : Social Geography is another important subject which needs special attention from Indian geographers keeping in view the important complex social problems facing the country. Indian geographers must evolve some social bases of regionalization in India. The structural aspects of Indian society also need to be studied. Research should also focus on the study of social well-being as against the current emphasis on economic well-being. In this context crime, health, poverty, ageing, nutrition, gender and deprivation, employment, ethnicity, territorial disputes, social service allocation, and housing are certain important areas which need immediate research attention. A considerable proportion of our efforts need to be concentrated on the above social problems with a proper spatial analysis and mapping using latest geographic information systems (GIS) to analyse the spatial

trends. It is only then that we can actively participate in policy making.

(7) Decision Making and Spatial Policy :

A decision is a choice between two or more alternatives. Decision making includes all of the considerations that go into identifying a problem, reaching a conclusion and then taking appropriate action. Rational decision making is a process involving several steps that lead planners towards optimal solutions: the steps involved are (1) diagnosis of the problem, (2) analysis of the environment, (3) development of alternatives, and finally, (4) selection of the best alternatives.

Spatial factors in development strategies have regrettably been underestimated and remain peripheral although the impact of development on spatial issues has been enormous, and often anarchic. Consequently, spatial imbalances of various kinds have emerged over the last four decades. Now there is sufficient awareness to integrate these factors with the overall development strategies. Spatial patterns are intimately related to the distribution of economic power and resources and, hence, spatial planning requires integration with the overall system of development planning in India. A spatial policy in our development planning process is required because of the large size and diverse nature of the country which increases the problems of planning. Secondly, regions are unevenly endowed with natural resources. Thirdly, social and cultural practices tend to vary - so that it is not possible to assume that the same economic stimulus will produce a largely similar response throughout. Fourthly, market mechanisms cannot promote balanced regional development, and, lastly, physical factors such as land, soil, rainfall and temperature are neglected in planning and they vary in their distribution and incidence over space.

(8) Methodology : It is important to stress that a new book of geographical methods is called for in the light of new tasks in geographical research. It is time for us to seriously devote ourselves to evolving a methodology purely suited to conditions existing in our country. In other words, what is required is not only the further development and modernisation of our traditional cartographic techniques in geographical research but also the use of modern developments like automated observational equipment for experimental research, aerial photography, satellite imageries, Geographical information systems involving computers. These new methods involve not only comprehensive knowledge of the opportunities inherent in the new technical systems and of the most rational means of their utilization in geographical research, but also a command over the essential methods for data processing and cartographic modelling of diverse geographical phenomena on the basis of information obtained. Our prime duty should be to collect primary data based on field observation and a data bank should be created. We need more refined data, rather more reliable and valid, than is generally available. Last but not the least, it is suggested that while adopting approaches and techniques developed in the West, suitable modifications and adaptations must be made to ensure that they are relevant in the Indian context so that the analysis and interpretations are realistic, and conclusions obtained meaningful.

(9) Teaching of Geography in India : Post-graduate education in geography is a relatively recent development in India. Among the departments and faculties that provide teaching and research facilities, there is a great deal of variation in content and quality of course. The problem of teaching of Geography should be looked at three angles : (1) what we teach, (2) how we teach, and (3) what should be

taught? Many of the universities are still offering general and descriptive courses for the Masters degree while in others some degree of specialization has been attained. The second question how we teach deals basically with resources and infrastructural inputs. The textbooks used rarely originate within India and therefore do not reflect Indian concerns. There is the catching up syndrome with the West from which even the best departments are not exempted. University teaching within India hardly attracts good students. These observations have very serious educational-academic policy implications. Firstly, the courses taught need restructuring like the one provided in the Report of the Curriculum Development Centre in Geography (1989). Secondly, the courses offered should show theoretical and social concern so that both learning of theory and its application to solve problems of Indian society go together. Stress has to be laid on implications of theoretical development for decision-making. Thirdly, courses developed should have an employment-generating thrust so that Geographers of tomorrow can become consultants, policy-makers and planners. Fourthly, there should be regular workshops and teachers training programme at the Advanced Centres in Geography where some of the best minds could train youngsters to become better teachers.

(10) Textbook Writing : There can be no doubt as to the importance of good textbooks for tertiary education. It appears that Indian geographers feel shy of writing textbooks possibly because of lack of comprehensive and precise studies of the various macro-and meso-geographical regions. Here lies the greatest problem of macro generalisations from numerous micro-level studies made in our country. It is surprising that suitable textbooks are not available for graduate level courses on

physical, economic, social, cultural, agricultural and urban geography of India. It is now imperative that we turn our attention to compiling textbooks of a new type to help our young students in understanding complex India.

IMPLICATIONS :

To sum up, our fellow geographers, researchers, and students are reminded of three distinct conclusions obtained from the above short review: (a) let us try to understand Indian geographical regions which are full of inequalities, contrasts and differences, (b) we should attempt to build models and develop indigenous theories based on our own problems and experiences and (c) let us endeavour to develop sound, coherent and rational ecological-economic settlement - environmental systems.

We can justify the existence of geographers as consultants, managers, policy-makers and planners only when we make a concentrated effort to accomplish the above.

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