

INTERDISCIPLINARY NATURE OF GEOGRAPHY

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Introduction

Since the very beginning of modern geography, it has incorporated dichotomies and dualism. Focus of many geographers was concentrated on either physical geography or human geography and in other words either on systematic geography or on regional geography. Specialization in one branch of geography no doubt helped to enhance the depth of studies and thereby enriched the knowledge base. But such a segmented approach often fails to explain the cause and effect relationship of a phenomenon—be it natural or a social one initially. One cannot forget that geography as a subject has three major characteristics: determination of location and space, regionalization and explanation of man- nature relationship. None of its objectives can be fulfilled if some one strictly confines oneself only in the domain of physical or social geography.

Major areas of interdisciplinary research

In the context of contemporary trend of research in geography, it would be ideal to identify some burning issues which have haunted the human society and more specifically the academicians. The entire global population is apprehending climate change. While some kind of unanimous opinion has emerged regarding the factors responsible for such an incident, a debate is gradually being emerged on the possible ways and means to take necessary actions

for its mitigation or for adaptation with the changing situations. Date lines of snow melting in high altitude and high latitude areas, as estimated in the 4th IPCC report, have already been challenged by a section of the concerned scientists. Estimation of the possible impact of onslaught on the natural processes, on the biotic resources as well as on the cross-section of the human society is aiming towards futurology and coordination of scientific thoughts.

A rigorous exercise on Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) also requires expertise from various disciplines under the faculties of science, bio-science, technology and social science on one hand and exchange of ideas among the experts of physical geography and human geography on the other because of diversity of the projects undertaken and also for complexity involved in each case. Parameters chosen for impact assessment of big dams are likely to differ from that opted for urbanization or industrialization or for infrastructural development. Environmental considerations act as a rider on the traditional concept of regional planning and accordingly cost: benefit ratio needs to be calculated along with estimation of economic, social and environmental costs involved in each project. Without holistic approach with multidisciplinary mind-set such an exercise would be impossible.

Research on hazard or disaster, be it natural, quasi-natural or social, also demands better coordination among various specialized fields under the big umbrella of geography. Tectonic hazards like earthquake, volcanic activity as well as tsunamis though belong to the domain of knowledge under the earth science. Climatic hazards viz. cyclone, tornado, flood, drought and El- Nino normally deserve attention of the scholars dealing with atmospheric science, while geomorphologists are mainly concerned with hazards like river bank or coastal erosion and land slide. But the same school of physical geography would be unable to do justice to impact analysis of these natural hazards on the multi-layered class divided society and also on the biosphere as a whole; and therein lies the importance of the social geographers who are the right persons to estimate the loss and to suggest suitable measures to overcome the trauma of the aftermath and to initiate the task of reconstruction without any side effect on the physical and cultural landscape.

Impact of the different natural hazards cannot be the same on mankind. Instant victims of an earthquake are the dwellers of high rise buildings of the urban areas, while worst sufferers of a devastating flood are the rural poor people living in hutments. The area where the natural forces strike is affected directly, whereas the other areas also pay the penalty for it because of disturbance in the transport and communication system or due to of price rise of the daily necessary commodities. So the impact either on the physical space or on the social space, be it horizontal or vertical, is always differential and multi-dimensional. Social response to different types of natural hazards also cannot be

similar; so also the case of hazard perception, awareness and preparedness on one hand and administrative response to hazards in developed and developing countries on the other. Without an orchestrated effort of the various branches of geography, it is impossible to address such problems. Even social hazards like poverty, adult and juvenile delinquency as well as epidemic and pandemic phases of several diseases require attention of the various branches of human geography.

Another formidable area of interdisciplinary studies may be identified as development studies. Perception on development has been changed over the last two decades. It is no longer confined within the frame of economic development only. Issues related to human development are equally important now-a-days. Multi-level planning with participatory management at the grass root level not only requires better coordination between the bureaucracy and the people's representatives, but for developing flawless blue print of the plan right from agenda setting to budgeting and evaluation also. The entire process necessitates involvement of the experts from various branches of knowledge. Calculation of GNP, GDP, HDI, GDI, GEM and PI requires expertise in quantification on one hand and better understanding of relevant socio-economic parameters on the other. Network analysis, for transport and industrial planning, for location of cold storages and distribution centers of the agricultural products, for power grid and communication chain—all these require temporal and spatial data which can be efficiently handled by the geographers having adequate knowledge of geometry and statistics. Knowledge of statistics

seems to be essential for preparation of good sample design and effective sample size.

Studies having focus on a specific ecosystem remain incomplete until these deal with human ecological issues along with the physical parameters. Preservation of wetland and effective implementation of Man and Biosphere Programme (MAB) as well as International Biosphere Programme (IBP) necessitate concerted effort of the geographers working in the different branches of the subject. Amalgamation of knowledge on biogeography with that of anthropology is essential for the purpose. Studies on forest-society interface cover interesting areas like straying of wild animals, deforestation and reforestation, relevance of social forestry and agro-forestry, replacement of indigenous species by exotic ones, erosion of biodiversity, detribalization and critical appreciation of the forest policy. It is impossible to deal with such diversified and complex issues through specialization in a single branch of geography and hence the necessity of interdisciplinary nature of the subject.

National and international disputes like share of river water (e.g. Ganga and Cauvery disputes), inter-basin water transfer, ownership on newly emerged islands either on the river or on the delta head, boundary dispute due to shifting of river course and corporate hijack of water for metro cities, big industrial complexes and SEZs are some crucial issues which demands expertise in hydrology, fluvial geography, political and economic geography.

Concluding observation

Identification of the allied disciplines of geography also seems to be an important task. In the domain of social sciences, sociology and economics have definite role to play. Geology from earth science, botany/zoology from life science and statistics from mathematical sciences are the other disciplines which require attention of the geographers. These subjects may be offered as subject combination along with geography as honours or major in the under graduate level. That strong foundation will help them to get exposed to relevant knowledge bank of the allied disciplines in the course work for Ph.D. level.

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