

Man-environment relationship and its impact on nature

In geographical study the relationship between man and nature has great importance. The relationship between man and environment to be an universal concern of Western thought, occupying a central place in Greco-Roman, Arab, and European mythology and philosophy. But now a days it has great relevance in other third world countries like India, Pakistan, Bangladesh etc. Modern attempts to characterize the impact of human activities on the earth include George Perkins Marsh's seminal work Man and Nature , which has been updated by major multidisciplinary efforts, including Man's Role in Changing the Face of the Earth and The Earth as Transformed by Human Action . During the 1990s, the public discussion over the threat of human-induced alterations to the earth's (e.g., 'global warming') has shifted from convenient to inconvenient and finally to widespread acceptance and debate over the details of where, when, and with what consequences such changes may occur.

The bulk of global change science remains dedicated to improving our understanding of the functioning of the earth's climate system, for example through the modeling of carbon dynamics. However, as the biophysical systems are better understood, greater attention has been focused on the human dimensions, including the major anthropogenic sources of global change, the consequences of that change in terms of the sustainability of livelihood systems, of the vulnerability of particular groups of people and places, and of the societal perceptions of and responses to change; see Human Dimensions of Global Change). These concerns require understanding the human systems—economic, political, cultural, and socio technical—associated with human activities at particular places and times.

Many human activities are known to cause significant disruption of global bio-geochemical cycles, particularly the combustion of fossil fuels. The modification of land cover is also a significant anthropogenic source of bio-geochemical disruption, especially the replacement of forest with grasslands and croplands, and the application of chemical fertilizers and pesticides to croplands. Other important questions driving global change research concern the reduction of biological diversity, both directly through species extinction resulting from human activities, and indirectly through the destruction of habitat. Here again a solid understanding of land use/cover dynamics is required.

These concerns are of more than academic interest; policy is actively being crafted to limit human impacts on the environment at both regional and global scales. The effectiveness of environmental laws and agreements depends on sound scientific understanding of the impact of land use practices, in order to target critical areas and to

monitor compliance. Accordingly, research programs have been developed at national and international levels, including the Land Use Cover Change (LUCC) Project, under the aegis of the International Geosphere-biosphere Programme and the International Human Dimensions Programme. Land use and cover change research constitutes a bridge between the understanding of the biophysical aspects of global change and the human dimensions of sustainability.