

A People's History of India, Vol.-36, “Man and Environment : The Ecological History of India”. By Irfan Habib. Aligarh Historians Society, Tulika Books, New Delhi, ISBN: 978-93-82381-63-1, 2015 (Fourth Edition). pp. 161, Rs. 340, Paperback.

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Book Review :

The climatic changes in the present world has made it necessary to study the history of environment and very specifically the history of ecology. The area of ecology is much wider. It is a discipline which discusses human relationship with all species and their physical surroundings. Ecological history raises few basic questions such as, whether the environmental problems which we are facing in the present society were present in the past? If these problems were present in the past then how did our earlier societies or our ancestors responded or addressed to these problems? Whether they solved these problems properly or failed to do it? If they solved these problems then how did they do it? If failed to do it then what were there mistakes? Learning from the history can lead us to make a better future. Many historians have taken responsibility to unveil India's ecological history. The first major work in this respect is ‘*The Fissured Land: An Ecological History of India*’ (1992) by M. Gadgil and R. Guha which paid attention to pre-colonial India. Some other major works in this field are ‘*Nature, Culture, Imperialism*’ (1995) by David Arnold and Ramchandra Guha; ‘*Environmental Issues in India: A Reader*’ (2006) by Mahesh Rangarajan; ‘*India's Environmental History: From Ancient Times to the Colonial Period*’ (Vol. 1) ; ‘*Colonialism, Modernity, and the Nation*’ (Vol. 2) edited by Mahesh Rangarajan and K. Sivaramakrishnan (2012) etc. But major limitation of the available works is non inclusion of variety of topics on climatology, zoo-archaeology, natural, ecological or environmental history at the same place in a chronological & sequential order. From this perspective Irfan Habib, professor emeritus at the Aligarh Muslim University, has taken initiative to write ecological history of India from the prehistoric times up to the colonial rule in India titled as “*Man and Environment : The Ecological History of India*” under the series of ‘A People's History of India’ (Vol.-36). This work not only represents an elaborate discussion on the said topic, but also includes a systematic analysis on interrelationship among man, animal, vegetation, natural events etc. on a larger historic time frame.

The present book under review is divided into five chapters and each chapter of this work is subdivided into sub themes or subsections. The major arguments in this book have been ingrained in the subsections. The five chapters are as follows -

1. The environment in the period of the evolution and diffusion of the human species.
2. The natural environment, the Neolithic Revolution and the Indus Civilization.
3. Ancient times: c. 1500 B.C. to 700 A.D.
4. Medieval India: c. 700 A.D. to c. 1750 A.D.
5. Ecology of the period of colonial rule.

The first chapter of this book discusses on the physical changes of the climate, vegetation and animal, evolution and gradual diffusion of human during the Pleistocene age. The Pleistocene age witnessed a number of Ice ages. The author has marked geological as well as earth's rotational factors as the major reasons for the climatic changes in the Pleistocene age. The formation of ‘thermafrost’ or permanent ice had resulted fallen into sea level. During the Pleistocene age, 11 times sea level had fallen to 75 metres than the present sea level. It resulted in the formation of Kashmir valley which was originally a lake in the past. In the beginning of the Pleistocene age major species of vegetation and animals had come into existence. The archaeological discoveries reveal that during this time due to the failure of adaptation in the climatic changes (mainly aridity) many animals in India had extinguished like Hippopotamus, Wild Horses, Spotted Hyena, different species of

Elephants etc. The author has acknowledged Africa as a region for the origin of human species. Taking advantage of fall in sea level in Ice age, Homo Habilis and Homo Erectus spread outside of Africa into the regions like Jordan valley, Caucasus mountains, China, Pakistan, India etc. The author has suggested that Acheulian stone tools were the signature of the arrival of early humans in Sohan valley and Kashmir.

In the second chapter, the Neolithic Revolution and natural environment of the Indus Civilization have been discussed. The author has supported V. Gordon Childe's proposition on the Neolithic Revolution. Irfan Habib has argued that recent archaeological discoveries reveal earlier traces of agriculture and animal domestication which belong to the subsequent of the Ice age. During this time temperature had gradually fallen below then the temperature of the Ice age. In the matter of the Indus Civilization different statistical information, diseases, food habits etc. of that time have been highlighted. The author has opined that the hunter-gathering culture was transformed into food production by about 8000 B.C. The fertile Indus river basin became a major region for the rise of the first civilization and by the mature Indus phase cattle-rearing had become a major supplement of agriculture. The author has refuted the climatic reasons for the decline of the Indus Civilization. According to him climate of the Indus region were largely similar to the present day. The author has pointed out that the heavy rain or aridity were not the main reasons for the fall of the Indus Civilization in or around 2000 B. C. In this respect he has argued that around 2000 B. C. agriculture was much developed for the cultivation of seasonal crops like *Rabi* or *Kharif*.

In the third chapter, different aspects of ancient India such as domestication of animals, forests & wildlife, environment, religion and society have been depicted. For the study of this period the author has emphasized mainly on the archaeological sources. By 1000 B.C., the diffusion of plough and ox-cart from north-western India to other parts resulted agricultural development. Improved irrigation was also the reason for agricultural development. New varieties of crops, fruits, nuts etc. developed. The uncertainty of monsoon resulted famines. Animal husbandry got new heights. Animals like Horse, Ass, Camel, Elephant, Pig, Hen etc. were domesticated. Destruction of forest was in vogue for the extension of agricultural land. The forces of nature and fierce animals created fear among men which created religion, rituals, priests etc. The Vedic priests indulge in large scale killing of cattle and other animals for sacrificial rituals and consumption of beef. Its reaction promoted *Ahimsa* - causing injury to living things. The author has argued that the concept of *Ahimsa* dissuaded the killing of animals. Buddhism and Jainism had emphasized much on *Ahimsa*. Both the Jainism and Buddhism attracted the peasant and merchant classes who became the supporters of these two sects. Following these sects Brahmanical sect also emphasized on *Ahimsa*. For example, *Arthashastra* had given importance to the conservation of Elephants.

The fourth chapter is about the interrelationship between man and nature in medieval India. Physical geography of India hardly changed in medieval India. Famine, epidemic and natural disaster, changes in shoreline or river courses were common in this period. But modest population growth were there. The author has accepted that in 1801, population of India was 207 million and annual rate of population growth was 0.2% (1601 to 1801). The introduction of various new agricultural techniques such as *Saqiya* (The Persian wheel) had flourished the agriculture. The use of different domestic animals led to the economic growth of this time period. The author has pointed out that before the Mughal period, exact extent of forests were unknown. Forests had much to do with the Mughal economy. Due to the political reasons deforestation took place in this period like the deforestation of Doab region in the fourteenth century. Royal hunting had abolished wildlife species especially the Cheetah. The author's discussion on the Nile flood data from 622 A.D. - 1520 A.D. can be a major new area of research for the medieval history in India. The author has emphasized on biological expansion, botanical imperialism and interchange of different diseases between the east and the west.

In the last chapter, the author criticizes Kingsley Devis's opinion on higher rate of population increase in India : '*European Influence*' and '*lessened warfare and banditry*'. Here the author has opined that low rate of population growth previous to 1921 was due to a very higher death rate. The author has criticized Viceroy Lord Dufferin's (1888) remark on India's overpopulation as the reason for all miseries. Statically Habib has proved that in 1881, there was on average 63 person per square kilometre and in 1891, it was just 68 compared to 340 today in the whole subcontinent. The author has represented that colonial governance for their political, economic and personal gain destroyed Indian forests. During this time, huge destruction of forest took place due to the extension of agricultural land and commercial use of timber. In the name of preservation of forest they restricted access to the local people into the forest and assaulted wildlife which drastically reduced its population. Species like One-horned Rhinoceros, Tiger, Lion, Leopard, Nilgai, Dolphin, Wild Ass became rare

ones. But the species like Cheetah become absolutely extinct. Colonial indifferent and faulty policies were responsible for the miseries of common people of frequent famine, epidemic, cyclone, earthquake, invasion of microbes etc. They inflicted injury to the nature. During this time degradation of soil was common. There was a crisis in the animal husbandry and a progressive deterioration in the quality of livestock due to declining areas of grazing. The author has discussed a large number of natural disasters during this time. Colonial rule had a great impact on Indian natural resources. The author has further pointed out some major areas should be emphasized by the researchers such as food scarcity, let diseases rage, degradation of soil, crisis in the pastoral sector, transformation of forests into commercialized reserves, decimation of wildlife etc.

The work is very vivid, elaborative and informative. Selection of words and sentences are simple. This book has been written using bibliographic notes at the end of each chapter which highlights major publications in that particular field. Footnotes or numbered references are not given in this work. But this work includes notes on main areas of debates and meaning of particular terms. Some specific areas of a chapter have been elaborated as extracts. Extensive extracts from sources have been provided in this work. Chronological or sequential arrangement of major events, elaborative maps, pictorial depiction and figures on different objects have made this work a lucrative one. There are special notes on ecology, climatology, zoo-archaeology, natural history and forestry. But it has some shortcomings like over emphasis on the extract portion, non inclusion of water history and not too much detailed on each chapter or time period etc. This book may be recommend to anyone who is interested in environmental or ecological history since the Pleistocene age to the colonial India.