



Changing Equation between Man and Environment in India's North East: A Sociological Analysis

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Abstract

The paper tries to look at the disruption of man- environment relationship in north eastern part of India. A Marxist approach has been attempted to understand the reason for such kind of disruption. The region is found to come under British Empire which gradually led to the degradation of its ecological set up. The paper also expresses the perpetuation of same policy in post independence period by the independent government of India which has led to the further deterioration of the situation.

Keywords: Environment, North East, Resource exploitation, Capitalism.

Introduction

The North East India popularly known for its pristine beauty, lush greenery and rich biodiversity is observed to suffer from a gradual degradation of its environment and shrinkage of genetic resources. The people of the region who live in close proximity with nature is seen to get alienated from nature and natural resources mainly the land and forest resources and experience a threat to its environment and livelihood associated with the nature. But the issue of environmental degradation of the region has not got sufficient attention in academic discussions which necessitate delving into the issue in minute details. Hence the paper tries to highlight on the gradual degradation of the environment in the region and strives to analyse the causes of such degradation.

A survey of literature brings various physical and social scientific explanations to such degradation. Much suited approach to understand such process of degradation is engraved in the writings of Marx. In the language of Marx, the industrialization and expanding domain of capitalistic system has created the basic disharmony between man and nature and capital and labor. As he maintains on various occasions - 'capitalism rends the unity of agriculture and modern industry, disturbs man's relation to the soil, wastes workers, and robs laborer and soil. Within its broader contour capitalism wastes and exhausts soil¹, deforestation of soil ruins workers health and soil fertility². Thus, capitalism has not only led to conflict between bourgeoisie and proletariat but also it has disrupted the harmony between man and nature.

Capitalism, thus developing as a strong force of production in Europe expanded as world system. The need to sell the finished products and get raw materials to make marketable products has led to the development of colonies outside its place of origination. The maximization of profit motive engineered the

drive to explore the most treasured land on this earth rich of natural and human resources.

The profit maximization thus led capitalism to initiate the process of globalization. It was this need which brought the world into a single system of production. Malcom Waters³ thus says "The expansion of capitalism as world system and peripherisation of the colonial countries has introduced the history of exploitation of nature even in far off countries. Capitalism is thus seen as the vehicle of globalization. The centrality of capitalism in the process of globalization is well expressed by Immanuel Wallerstein⁴ who argues that capitalism is so strong and powerful that it is difficult for nation states or people to get out of it. As he says.

While the motive to maximize profit has brought the world into a single system of production, leading to process of globalization in its turn, the subsequent disruption of natural harmony have led gradual degradation of environment not only at local level but also at regional and global level.

For Alan Millar, the capitalist mode of production provides the key to understand the nature of the existing global ecological crisis. It is the dependency relationships that exist between the rich nations and the poor nations that lies at the root of most of today's environmental problems⁵.

The risk of the entire world because of global industrialization has been maintained by Ulrich Beck⁶ when he says that modernity as the primary globalization force. What happens, as he says is that globalization travels the international boundary and therefore the risks of modernity travel without any international barrier.

The degradation of environment in the north eastern region of India thus can be attributed to such kind of growth of

disharmony between man and nature which started in large extent with the advent of colonial force in the region and continues with the further integration of the economy of the region in the post colonial global context. The following section tries to discuss the process of such degradation in greater detail.

India's North East and its Environmental degradation

India's North East falls under the eastern Himalayas, one of the two bio-diversity hotspots of the country, is known for its rare and exotic varieties of abundant flora and fauna. The rich and verdant rainforests spread over the hills and plains not only provides unique glimpses of nature's bounties they are also inseparably connected with the socio-cultural and economic life of the people. The region is the abode of different ethnic groups. About 25.81 percent of the region's population comprised tribal communities. In some states tribes constitute over 80 percent of the total population of the state. Many of these communities fall into what some describe as 'ecosystem people' who share symbiotic relationship with nature and depend on its bounty for their livelihood.

Interestingly, the North East with its diverse flora and fauna, mineral resources and subsistence livelihood is now facing a threat both to its environment and problem of livelihood of its people. The degradation of its environment is observed in terms of pollution of the environment, shrinkage of forest cover, demographic expansion, drying of wetlands etc. to get some of its glimpses certain issues can be consider for discussion. The issue of climate change can be the starting point for that. Though it is very difficult to give a final statement of climate change in the region there are certain marked instances which make even a lay person to worry about the manifestations of climate change in the region. The region shows certain marked differences in terms of its changes of temperature record. The rise in temperature in 2006 in Assam has crossed the record of last 25 years. Again a significant change observed in the region is that the city of Shillong does not experience snowfall anymore. The snowfall in the city has become the story for children. This gives a ready reference of manifestation of climate change in the region .Though the paper has its limitations to find out the details of such manifestations of climate change, but the fluctuations of temperature and the increase to it in the hill stations in the region are some of the indications of impact of climate change in the region. Besides this there are various changes which make it clear that the equation of man and environment in the region is equally at risk. This can be discussed first by considering the destruction of forest and shrinkage of genetic resources. While the region continues to be perceived by outsiders as full of greenery and thick forest cover, a look into the forest statistics talks about the dismal reality about the region.

An analysis of the status of forests and change of forest cover in the region reported in Forest Survey of India (FSI) report, shows

that in comparison to the other states of the country the region records a loss of 783 sq. km. of forest cover in the year 1995, where as the states of the rest of the country record a gain of 276 sq.km. altogether. The region also records loss of forest cover in the FSI report of 1997 and 1999 which is 316 sq.km.in case of former and 216 sq.km.in case of later.

While the region is harboured with tropical forest and rain forest, the bio-diversity of the region are in great threat. A number of species are becoming extinct day by day.

The environmental degradation can be noted in terms of soil erosion in the region too. Though geomorphological erosion on the surface of the earth has been continuously taking place since time immemorial. The soil erosion that is taking place today is an abnormal and undesirable process caused by human activities and subject to his control. Unchecked erosion is already exhibiting chains of undesirable natural calamities and if allowed to continue, the end result may be more deleterious than expected.

Soil erosion, silt deposition and rising of the river beds level have also been accelerated due to the changes taking place in the hills. Increase in population growth and its ever rising demand for basic necessities for survival as well as for other comforts of life necessitated expansion of jhum lands in the hills. Besides settled agriculture in the valleys, industrial growth, road construction, mining, urbanization etc, added to the problem. The decreasing jhum cycles, land slides, the hill features have started to take a new and unaesthetic and ecologically unfriendly look.

The significance of soil erosion and resultant siltation in the river beds is manifold. There is a vertical and a horizontal increase in river beds and increasing frequency and intensity of floods is the perennial problems of plains of north east.

There is a marked deterioration in the water quality, increase in turbidity or opacity, reduction in plant life at the bottom, qualitative changes in the physico chemical environment of the water, disturbance in the benthic environment of the river, disturbance in spawning / breeding areas of aquatic fauna and so on. Hence there is an overall depletion in the quantity and quality of aquatic life. It has been seen that before 1950, the rate of siltation was very rapid and it has been observed that within a few years, the river bed rose by three meters in several areas. The situation has been aggravated due to further cutting of trees in the catchment areas resulting into washing away of the soil to the Brahmaputra river.

Again water pollution in the region also shows a marked degradation of its environment. Water like air, is an indispensable and most precious natural resources on this planet. Though there is plenty of water, the quality of drinking water is deteriorating day by day. Especially in north eastern region, the number of water supply devices in comparison to

population is insufficient. The refineries, petrochemical industries, sugarmills, paper mills, are causing water pollution in the region. The Digboi refinery has been discharging its effluents without any treatment in the nearby rivers, thus polluting the biggest water sources of North East Region. The Noonmati Refinery and Assam Petrochemical Limited, at Namrup have been polluting many rivers which ultimately pollute the river Brahmaputra. Following an investigation by Assam Pollution Control Board in August 2006, it was found that the oil industries have been polluting the rivers of the state and destroying the rainforests. It says Assam produces 15 percent of India's onshore crude supplying crude oil to state-run Indian oil refineries. The investigation found refineries were discharging bio-chemical wastes such as oil and grease, phenolic compound and sulphide into the Brahmaputra river and its tributaries⁷.

The drainage of fertiliser plants at Namrup goes into the Dilli river that flows in to Disang in Assam, which has been causing destruction to the aquatic life and fishes in that river. The effluents of Jogigopa paper mill are directly drained to the river Brahmaputra. Similar is the case with Cachar paper mill, the effluent of which is polluting the river Barak and the Nagaland Paper mill discharges its effluent into Tipak Nala, which ultimately reaches to the river Brahmaputra. The Kamrup paper mill is also continuously polluting the river Brahmaputra. Apart from these, Spun silk mill at Jagiroad and other industries like Indian Carbon, Assam Carbon, Bokajan Cement, Dimapur Sugar mill and distillery situated in Bhutan are discharging their effluent in the tributaries of Brahmaputra which has direct impact on the water pollution in North East.

According to the Meghalaya State Pollution Control Board, water of the Ward's Lake (situated in a park at the centre of Shillong town) is chemically unsuitable for human consumption. Similarly the Umium lake is also extremely polluted. *The Shillong Times*, a regional newspaper, in its report in 1990 puts its water in class 'c'. Acid mine drainage from coal mines, besides other harmful effects, is also known to release various heavy metals into the ecosystems. Nath⁸ found that stream water in the coal belt of Jaintia hills, Meghalaya had high levels of Irons, Manganese, Chromium and Zinc.

Another significant deterioration of the environment in the region is seen in case of drying wetlands. The drying of wetland is a very commonly reported phenomenon in the region. Presence of wetland is a boon to ecology of an area for it helps in the specific transfer of energy and matter in the ecosystem through the interaction with the physical environment. The wetlands maintain ecosystem diversity, as they are the natural storehouse of valuable flora and fauna of an area. But the degradation and decline of the wetlands in the country and globally is an awesome problem to the environmentalist here. The wetlands are reported to get dried up and the water of the wetlands is getting polluted leading to the death of the diverse biota of the wetland. N Memma Singha and Zahid Hussain in

their work⁹ discussed how wetlands are facing threat to their existence. They discussed how the wetlands of Assam and those around Guwahati city are under threat. Two wetlands Silsako and Numalijalah wetland around Guwahati city are reported to suffer threat to their existence because of the encroachment by the people. It has been reported that in 1912-13 the original total wetland area of the Silsako was 17.5847 ha. and the total water spread and total wetland area have declined to 407.07 ha and 150.36 ha, respectively. It means that 23.15 percent of the total wetland area was left. In case of Numalijalah wetland the total wetland area and total water spread area has shrunk to 22.62 percent and 19.66 percent of the original respectively.

Why Degradation?: A Sociological Analysis

A sociological analysis of North East India's environmental degradation could unravel the continuous exploitation of natural resources, which started with the penetration of British capitalism and continued with the Independent India's growth oriented development policies as a major cause. A peep into the history of environmental degradation and its causes does establish the fact. The annexation of the region by the British after the treaty of Yandaboo in 1826 has led to the penetration of British in the region and the penetration of the British was the penetration of world capitalism and thus we can say in Beck's language, the penetration of risk¹⁰ in the region. The development of transport and communication to facilitate the transfer of resources yet led to the construction of roads and railways can be considered as the first attack on this undisturbed environment of the region. According to A.C. Sinha¹¹, the establishment of British Empire on the river Brahmaputra valley in 1826 has led to the distortion of regional economy. This is done through the control over forest products, organized tree plantation, import of labour from outside and introduction of cash transaction.

The strategic importance of the region coupled with its natural resources gradually pulled the British in the region. The British ousted the Burmese from Assam and steadily consolidated and expanded their presence in the North East. But their supremacy in the region was firmly established by the turn of the century. The penetration of the British was thus colonial syndrome as their prime motto was to establish colonies to get cheap raw materials for industries back home. The colonial commercial policy by encouraging the exploitation on the one hand and by imposing the British manufacturers on the other drained off the local resources and surplus of the region.

To set up colonial economy, the first need felt by the British was the deindustrialization of Assam. They dismantled the self sufficient economy of the region and shifted the balance of trade in favour of the company. The industry which suffered tremendously was cotton industry. In 1881 European yarn imported to Assam is 3925 while in 1885 it increased to 9467. During the second half of nineteenth century and in subsequent decades there was tremendous influx of cotton in

Assam while in 1881-1890 import of cotton yarn into Brahmaputra valley is 7996 and in 1906-1907 it is 20,485 maunds. It was observed that the cotton produced in Assam was of great demand for England. The manufacturers were settled in England who used these cotton to make the finished products back to Assam which got a ready market mainly among the tea garden workers. A similar picture was seen in case of export of silk from Assam. What is observed is that the region has been systematically brought under the British colonialism. This was spearheaded by the discovery of tea and venturing into the tea industry by the British. The expansion of tea cultivation required vast patches of land which was procured through some legislative arrangements as Waste Land Grant Rule of 1836. The grant envisaged three categories of land for tea plantation: These are: i. the first class, the forest and high waste land to be held rent free for five years; ii. the extensive high reed and grass for ten years; iii. the third class, the grasslands amidst cultivated lands to be held rent free for twenty years. Even after the above periods the rent was just nominal. The above provisions were revised in 1854 to permit a 99 years long lease on more liberal terms leading to what has been termed as the land grabbing and 'land-rush' all over the plains district of Assam¹². In this the extensive forested foothills in Sibsagar and Lakhimpur districts were allotted for tea plantation to begin with, which spreads to Nowgang, Cachar and Sylhet in the south and Darrang, Kamrup, Goalpara and then up to Darjeeling in the north on the eastern Himalayan duars.

The provision of special rules allowed the British to be the owners of almost seven lakhs acres of tax free land in Assam while the local Assam peasants paid two to three rupees per acre as land revenue to the British masters. Aspiring Assam planters were discriminated and discouraged from entering into competition with the British planters. Thus the grabbing of land for tea plantation was a step not only to grab the economy but also to grab the mother earth or to say to grab the ecological set up of the region.

Besides its impact on ecological set up tea industry also had an impact on demographic set up of the region. The British could keep the profit margin high paying abominably low wages to the laborers brought almost as slaves from the poverty stricken areas of Bihar, Orissa and Madras presidency. By 1905-06 the adult laborer on the plantations in Assam rose to 417,262 of which only a few thousand were local. By 1911, the tea garden laborer population exceeded 13 million.

Tea industry also proved to be the foundation for other industries and the conductor of industrialization in the region. This was observed mainly with the growth of communication and transport in the region which furthered industrialization in the region. For easy and faster transport of tea the construction of railways was needed. The British constructed the meter-gauge railway line in Assam in 1881 to facilitate the transportation of tea and troop movements whenever

necessary. The railways gradually started to appear magnanimously in the transport and communication map of the region. In 1891, there were only 114 miles of railways in the province, by 1902 it had risen to 1715 miles and after ten years it was extended over 870 miles.

It is not only the grabbing of land for tea cultivation, but also the introduction of a new system of cultivation and economy that required to clear out vast patches of land, not only destructing the forest cover but also destroying the biodiversity of the region.

The British did not stop simply by introduction of tea cultivation but also became further interested to penetrate to the forest areas to meet the demand of timber industry and gradually leaned towards the appropriation of forest resources by the process of reservation of forests. The reservation of forests became necessary mainly to supply timber for ship building, railway sleepers and other industrial and construction purposes. Thus in the second half of the nineteenth century they turned to forests as potential resource. It is to be noted that there was no reservation of forest or control of forest before British came. The British way of reservation brought vast patches of forest land under colonial control. The year 1911-12 showed 4321sq.miles of reserved forest in Assam which increased to 5186 sq. miles in 1932-33.

Though from the perspective of the British the reservation of the forest was the rational management of resources, for the indigenous people it was simply the encroachment into the right to nature and natural resources as land was periodically used by the tribal people of the region for their immediate requirement as fuel wood as well as to produce crops in the form of *jhum* land. This was the reason which caused the Garos of Garo hills to agitate against forest reservation which led the British to de-reserve 15,364 acres of land in the Garo hills. But it could not bring a halt to the process of penetration of British to the forest resources of the region. The process of reservation had continued till they reigned the region and incidentally this has been found to be carried by the newly reinstated state power of independent India.

The British did not stop by appropriating land for cultivation of tea and penetrating into the lifeworld of people by the imposition of reservation of forest, the systemic appropriation of land coincided with the exploitation of mineral resources. The discovery of coal and oil in the region had added to the success of east India Company in their commercial mission to the country. Thus besides its grabbing of land and forest resources it was the turn to grab the resources under the earth. By 1903 the total output of coal in Assam was 293,000 tons, about 5percent of the total output in India. Again when Assam Railways and Trading Company first struck oil at Digboi in 1889, it marked the beginning of an extensive industry in Assam. In 1901 the Digboi oil refinery was commissioned

with a refining capacity of 20,000 gallons a day. In 1907 the output of crude oil in Assam increased to 3,156,665 gallons.

What happened in Post Independent North East?

The exploitation of resources is not only associated with the exploitative motive of the British, it has a legacy in post colonial era too. The focus of government of India on industrialization countrywide has left enough scope for resource exploitation of the region. Though the country claims to be a welfare state, its continuing orientation to economic growth sometimes contradicts its approach. The country is not only having a vast chunk of people below poverty line but also shows a wide gap of income between poor and rich. Notwithstanding this it plans to become an economic superpower. The connection of the country to the world system of capitalism needs no proof, as it is well reflected in the literature of social sciences. To cater to the need of the growing economy it realized that the harnessing of resources of the region is the need of the hour. For accelerating the growth of an economy the availability of adequate and affordable power is the fundamental requirement. Hence emphasis is given on generation of energy. As India is seen to have a vast hydro-potential i.e., 150,000 MW out of which only 17% has been utilized. The emphasis is highly on energy generation from water resources. It is found that North East India itself has a potential to become the future power house. Mention may be made of Arunachal Pradesh which has a potential of 50,000 MW. A ranking study found 168 schemes in north east India have an installed capacity of 63,328MW. Out of these 149 were given ranks A, B, indicating higher viability¹³. These schemes were developed by the agencies like National Hydroelectric Power Corporation (NHPC) and North Eastern Electric Power Corporation (NEEPCO), the Brahmaputra Board and the State Electricity Board have developed these schemes. It is observed that a major portion of this power will be evacuated to other parts of the country. This emphasis on power generation has been anticipated to create a major environmental havoc in the region being seismically sensitive zone. The inter linking of river for optimum development of water resources envisaging inter basin water transfer from surplus to deficit areas has been another exploitative measure by the government of India which has received lot of criticisms from the environmentalists and hydrologists.

Besides the independent Indian state's approach toward resource exploitation there are other facets of exploitation of resource and the abuse of nature indirectly. It is interesting that the nature of the most industries of Assam viz. tea, oil, plywood is that of extractive enterprise based on the abundant supply of raw material available in the state. In fact industrially advanced powers invest capital in such colonies so that raw materials can be obtained for their industrialized countries. There is hardly any industry in Assam that has been created by indigenous capital. Both oil mining and tea plantations were undertaken by British capitalists and even today a major share of the Digboi oil refinery and the tea plantations in the state represent foreign

capital. After independence surplus capital has been exported to Assam in the form of investment in tea and plywood by the Indian big bourgeoisie which has attained monopoly control over these industries. This can be understood very easily for the branding of Assam tea by Tata tea company, a national company which makes the nexus very clear. Since the region has very few manufacturing industries, Assam became the ideal market for manufactured goods from industrial parts of India and new industries and jobs have been created in cities outside Assam.

While the exploitation of coal, oil and hydroelectricity shows the manifestations of the integration of the economy to the world capitalism and its scar on nature, the import of foreign goods in the region is a marked feature which also talks about the integration of the region's economy to the national economy as well as world economic system. The capitals of the cities are flowed by foreign goods which are not only used by the *nouvau* rich class but also the average middle class people. Not only it is observed in terms of electronic goods but also in terms of food products and dresses. A vast chunk of the youth are brand frick and are habituated to wear dresses made up not by the traditional looms but imported from outside. Thus it can be seen that while the resource exploitation links the region to the national and international capitalist order, the manufactured good sold in the market of north east integrates further to this system of production.

Conclusion

Thus it can be seen that the pristine north east is continuously attacked by a system of production foreign to it. It distorted the economy and the ecological set up which began to take place vehemently with the entry of British to the region and continues with the post independent Indian state's resource exploitative path of development.

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