

CHAPTER-11

Population Pressure on Forest Resources in the Northeastern Region

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There is a growing concern in the North eastern region about the increasing degradation of the environment, particularly in the hills which cover about seventy per cent of its total area. It is being felt that much of the deterioration is due to indiscriminate felling of trees, shifting cultivation and mining. Thus the environmental challenges that the region is facing today are greater than at any other time in the history of the Northeastern region. Due to increased human activities towards massive utilisation of nationa/natural resources, the environment has been affected.

Population Pressure

Geographically the Northeastern region is a compact unit covering an area of 2.55 lakh square kilometre constituting approximately seven per cent of the total land area of the country. The number of people living in the region are increasing at an alarming rate. It has increased from 13.3 million in 1961 to 31.38 million in 1991, which is 2.5 folds increase within the three decades. Whereas the size (area) of the region, has remained constant. If the population continues to grow at the present rate, there will be more than 35 million men, women and children by 2000 AD occupying the same space and sharing the same natural resources. The region is already showing signs of severe problems of land degradation, water scarcity, food shortages, and depletion of natural resources particularly forest resource. Massive degradation of the environment due to population pressures has

already started. The daily struggle of the rural poor to obtain the basic necessities of life is taking a severe toll of the natural resources, particularly forest upon which depends their very survival.

Economy

The economy of the Northeastern region is dominated by agriculture, tea, oil and timber. Industries do not have significant impact on the economy of the region. There is no denying of the fact that sufficient finance has been allocated to the region but the pace of development has not been achieved. Moreover, resource and development have not fallen in line. It is interesting to note that education has outstripped economic development resulting in unemployment leading to resentment in the unemployed youth. Added to this is the pressure of population, which has nullified economic developments. The major cause of ecological imbalance is cutting of forests to meet the increasing demand for fuelwood, timber and raw material for paper industries. These demands are causing disaster to the forests. In Meghalaya, increased excavation of coal is becoming a major cause for soil degradation and air pollution. Table 1 gives an idea of the area under forest in the Northeastern region.

Table 1
Forest Statistic of Northeast 1984-85

(in Square Kilometre)

1.	Total Geographical Area	—	2,55,050
2.	Reserved Forest	—	4,56,45
3.	Protected Forests	—	9,211
4.	Unclassed Forest	—	81,122
5.	Other Forest	—	253
Total Forest Area		—	1,36,231
Percentage		—	53.41

Source : *Basic Statistic, 1991*, NEC

The consumption of forest products for timber and fuelwood is revealed in Table 2.

Shifting Cultivation : Shifting cultivation, which originated during the neolithic period, it still practiced in the tribal dominated areas of the Northeastern region. About four lakhs families practice shifting cultivation in the region, accounting for less than 6 per cent of the area

(NEC). Annually about 1.5 per cent of the area is under shifting cultivation. It has been reported that during the nine years period (1975-84) the area under shifting cultivation has been reduced by 10,556 sq. kilometres. Thus, the efforts to discourage shifting cultivation during the seventies and eighties have achieved positive results. Table 3 summarises the increase and decrease of area under shifting cultivation during 1975 to 1984.

Table 2
Consumption of Timber (1976-77)

(in 000 cubic metres)

	Timber	Fuelwood	Total
1. Arunachal Pradesh	172	36	208
2. Assam	457	895	1352
3. Manipur	45	144	189
4. Meghalaya	43	1	44
5. Mizoram	6	57	63
6. Nagaland	48	27	75
7. Tripura	30	286	310
8. Total	801	1440	2241
9. All India	8500	12456	20956

Source: Basic Statistic of Northeastern Region 1982.

Forest Resources

The 1989 and 1991 Forest Survey Reports have shown that the percentage of actual forest cover to geographical area in the Northeastern region is 65.1 per cent against 53.6 per cent reported in official documents. Actual forest area in official records vary by 2.95 million hectares. In terms of percentage the actual forest cover is 11.60 per cent higher than officially reported figures. This is true for all the hilly states of the Northeastern regions. In Assam and Tripura the officially reported forest cover is higher than the actual forest cover. The reasons for actual forest cover being higher than the officially reported forest is that in the hilly regions of the Northeastern region which are mostly inhabited by different tribal communities The Forest are owned by—village communities, religious groups, individuals (privately) and Forest Departments. A substantial proportion of the forests not owned

by state government has not been included in the official documents. Table 4 gives the details of the forest cover in the region and Table 5 gives the percentage of forest in the Northeastern region from 1961-62 to 1987-88 (Recorded).

Table 3
Shifting Cultivation in the Northeastern Region

State	Geographical area (sq. km.)	Extent of Forest Affected by Shifting Cultivation (sq. km.)		% Change in as 1984 Compared to 1975
		1975	1984	
Arunachal Pradesh	83590	7940	8521	(+) 7.3
Assam	78520	4160	7276	(+) 74.0
Manipur	22360	17770	13846	(-) 22.1
Meghalaya	22480	10240	6812	(-) 33.5
Mizoram	21090	16110	12442	(-) 22.8
Nagaland	16520	10970	10641	(-) 3.0
Tripura	10490	6220	3315	(-) 46.7
Total:	255050	73410	62854	(-) 14.4
Percentage	100.0	28.8	24.6	-

Alpine Pasture in the Northeastern Region : Alpines are those regions which are above coniferous forests and below line of permanent snow. In the Northeastern region 12,335 sq. km. is under alpines pastures. The entire area is in Arunachal Pradesh, constituting 7.1 per cent of the total area in the country and 14.75 of the total geographical area of Arunachal Pradesh.

Population Density and Forest

There is a positive co-relation between population density and forest cover in the different states of the Northeastern region. Increase in population is directly correlated with per capita decrease in forest area. Increase in population has shown significant decline in per capita availability of forest in all the states in the region particularly in Arunachal Pradesh, Manipur, Mizoram and Nagaland. Table 6 shows

per capita availability of forest in relation to population pressures during eighties (from 1981 to 1991).

Table 4
Forest Cover Assessment 1991

(Area in sq. km.)

	Geographical Area	Forest Cover Assessment		Total	Percentage of Forest Cover to Total Area
		Dense	Open		
Arunachal Pradesh	83743	54542 (61.5)	14215 (16.9)	69757	82.1
Assam	78438	15842 (20.1)	8909 (11.35)	24751	31.5
Manipur	22327	5309 (23.7)	12376 (55.4)	17685	79.2
Meghalaya	24429	3305 (13.5)	12570 (51.4)	15875	70.8
Mizoram	21081	4279 (20.2)	14574 (69.1)	18853	89.4
Nagaland	16579	3531 (21.29)	10790 (65.0)	14321	86.38
Tripura	10486	1825 (17.40)	3710 (35.3)	5535	60.0
Northeast	257083	88633 (34.47)	77144 (30.0)	165777	64.47

Source : State of Forest Report 1991

GOI (Ministry of Environment & Forest)

Figures in bracket indicate percentage.

Table 5
Percentage Area Under Forest in the
Northeastern Region (Reported)

SNo.	State	1961-62	1975-76	1980-81	1987-88
1.	Arunachal Pradesh	—	61.6	61.8	61.6
2.	Assam	36.6	36.4	39.2	39.1
3.	Manipur	27.3	67.7	67.8	67.7
4.	Meghalaya	a	38.0	38.0	37.8
5.	Mizoram	a	60.5	75.5	75.5
6.	Nagaland	a	17.4	17.3	52.2
7.	Tripura	59.6	59.9	56.4	59.9
8.	North-East	—	49.3	51.2	53.5

Source : Basic Statistic of North Eastern Region 1980-1990.
 Fertilizer Statistic 1990-1991.
 Forest Survey Report 1989 and 1991.

Table 6
Recorded and Actual Forest Cover, Population and per Capita
Forest Area in Northeast India

State	Population (in Lakhs)		Forest Cover (in sq. km.)		Per capita* Forest Area (in ha.)	
	1981	1991	Recorded	Actual	1981	1991
Arunachal Pradesh	6.31	8.58	51540	68763	8.15	6.00
Assam	198.96	222.94	30708	26058	0.15	0.13
Manipur	14.20	18.26	15155	17885	1.07	0.82
Meghalaya	13.35	17.60	8514	15690	0.64	0.48
Mizoram	4.93	6.86	15935	18178	3.20	2.32
Nagaland	7.74	12.15	8625	14356	1.11	0.70
Tripura	20.53	27.44	6280	5325	0.31	0.22
North-East	266.07	313.86	136657	166255	0.51	0.43

* Per - Capita based on Recorded forest area

Source : State of Forest Report 1989.

Table 7
Forest Cover in the Northeastern Region
1972 to 1989

	Geographical Area in sq. km.	Percentage of Population to the Country's (National) Average	Density of Population per sq. km.	Percentage of Dense Forest Cover to Area	Dense Primary Forest Cover (40 per cent density) in sq. km.		Open Forest Cover (10-35 per cent density) in sq. km.			
					1972-75	1980-82	1987-89	1972-75	1980-82	1985-87
Arunachal Pradesh	83,580	0.09	10	61.0	50,460	49,486	54,272	978	2,618	14,491
Assam	78,520	2.64	284	18.0	18,691	15,590	15,688	2,364	4,206	9,370
Manipur	22,360	0.22	82	20.0	13,678	N.A.	5,060	1,412	N.A.	12,825
Mizoram	21,090	0.08	33	19.0	13,206	11,155	3,883	654	816	4,295
Meghalaya	22,490	0.21	78	13.0	10,083	7,448	3,427	4,307	5,010	12,263
Nagaland	16,530	0.14	73	28.0	7,067	4,921	4,632	1,087	3,174	9,724
Tripura	10,480	0.32	262	16.0	5,972	4,554	1,214	350	629	4,111
Northeast	255,050	3.7	123	46.7	1,19,157	1,02,523	88,176	11,052	-	67,079
India	32,87,797	100	267	21.9	3,78,470	-	-	-	-	-

Source : Forest Survey Report, 1989.

Population Density Figure : Census of India 1991.

Dense and Open Forest Cover : As per the latest report on "the State of Forests 1991". The forest cover in the country stands at 19.0 per cent and for the Northeastern region it is 53.5 per cent (recorded). Both are short by the minimum standard recommended by the National Forest Policy. The National Forest Policy 1988 has recommended a minimum of 60 per cent for the hilly areas and 33 per cent for the country as a whole. As per the forest survey report the forest area in the Northeastern region has increased marginally. When individual states are taken into consideration, there is a marginal decline in the forest cover in Arunachal Pradesh, Assam and Manipur. While in Nagaland, Mizoram and Tripura the forest area has marginally increased. The decline in forest cover is significant in Meghalaya. An interesting feature of the forest survey report is a distinct difference between recorded area and actual area under forest. The difference between recorded forest area and actual forest area is highly significant. As indicated the difference between actual and recorded cover is that a substantial portion of forest cover in the hilly states of the Northeastern region is owned by private individuals, religious groups, village communities and other agencies other than forest department. Thus, only forests owned by the forest department have been shown as forest in recorded records. When forest area is classified on the basis of actual forest the entire forest area is taken into consideration (Table 7)

Discussion

Conservation of environment has been regarded important for development. Environment is a store house of resources. One of the most important resources are the forests. Forests provide the basic amenities of life, such as food, fibre, fodder, firewood etc. Excessive exploitation of the natural resources particularly forest may be detrimental to all living organisms. It has been revealed that the environmental resources are shrinking, particularly the forest. Going by the current figures approximately 1 to 1.5 per cent of the forest cover is lost every year in the Northeastern region due to deforestation. With the increase in population pressures the need for firewood is expected to increase which means cutting down trees faster than if can grow. Since 1972 the area under dense forest and open forest cover has declined. As per the 1989 forest survey report only 34.47 per cent of forest area is under dense forest cover (Table 4). Ranging from 13.5 per cent in Meghalaya to 65 per cent in Arunachal Pradesh. Open forest cover means, higher degree of soil erosion leading to silting in

the Barak and Brahmaputra, the two important rivers in the Northeast, indicating the effects of deforestation. The catchment area of the Brahmaputra, Barak and their tributaries have also shown sign of erosion. Rainfall in the Northeastern has been below the average during 1990, 1991 and 1992. Average temperature is continuously on the rise and there is scarcity of water. Associated with these are problems of dirty water, soil degradation, global warming, sewage disposal, polluted air, endangered species etc. leading to poverty. Increase in population has further aggravated the problem.

✓ In the hilly regions of the Northeast India trees are the most important natural resource but these are being squandered ruthlessly. There is a greater need now to protect them than it was two decades ago, for the economy is based on forest wealth. In the Northeastern region wood is the prime source of energy especially for cooking and this demand has to be met. The demand for forest products in the form of timber, and industrial needs will have to be curtailed, otherwise there will be forests with scattered trees. Temperature will continue to rise and rainfall levels will drop. The very survival of the living beings will be threatened.

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