

INTRODUCTION

The study of man-environment relationship in anthropology is almost a century old now and enough knowledge, both conceptual and empirical, has been generated to ensure the viability of a field of anthropology called Ecological Anthropology (Hardesty, 1977). The contribution of the Journal of Human Ecology towards this needs no emphasis.

Various approaches - ranging from environmental determinist to ecological - have been developed in order to deal satisfactorily with the complex issue of man-environment relationship in both time and space dimensions. Despite remarkable progress in this field, this relationship still continues to baffle both our understanding and predictability. Each time a natural disaster hits us we feel that we have not understood our environment or ourselves. We do sometimes tend to develop pretensions about knowing this subject but such pretensions have no meaning if we cannot give definite results.

Looking little more closely at the important and growing field of study, which is interdisciplinary, it appears that the relationship assumes significance in culturally, demographically, and environmentally extreme situations or in terminal stages where hazards to human health or survival are more. Thus we find such studies conducted mostly on tribal, forest or mountain/island societies or societies which are afflicted by the spread of certain genetic deformities

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usually sparsely populated due to the limitations set by the environment. The carrying capacity of the land is low, livelihood difficult, and opportunities for education and occupational diversification rare. Man-environment relationship in such societies and areas is perhaps more delicate and more easily amenable to research but that should not mean that similar research should not be conducted among peoples and places which may otherwise be considered normal.

'Development' being the magic word for the last fifty years or so in India, as in many other Third World countries, man-environment relationship has been pushed to the backyard. 'Environment' is conceived of as something opposed to 'development', thereby

implying that people could not have both. This also provided the moral justification for the plunder of our rivers and forests in the name of development. A few NGOs began to raise their voice from the 70s but their voice was either weak or not sure of themselves. Legislation in conformity with international conventions also came forth but there was little political will to enforce the same. Even the judiciary had to come into the picture to intervene despite the risk of being drawn into political controversies. With judicial activism there has been some arrest of the process of indiscriminate plunder of the forest.

MAN-ENVIRONMENT RELATIONSHIP IN A HILL VILLAGE

Some of the more successful works on this relationship have been carried out on small populations like the Eskimos by Franz Boas and the Tsembaga Marings by Roy Rappaport. While it is apparently easier to study a small population for understanding man-environment relationship the ideal unit of study or sample size for such a study has been a matter of much debate (Hardesty, 1977). Thus, to some ecological anthropologists the present discussion may suffer from the same (or worse) limitations which Steward's study suffered from. But it should be remembered that a larger unit of study is neither a guarantee of being an appropriate unit or in keeping with anthropological tradition. Ideally, for such a study, it is necessary to identify an ecological population. But is it really possible to identify such a population today? I personally do not think so.

This is not to justify the present discussion on man-environment relationship based on a single village. A village, as we all know, is more an administrative unit than a unit of social and cultural linkages. The people living in the periphery of the village would naturally be interacting more closely or merely with the people in the periphery of a neighbouring village and thereby create a core for themselves. Though physical distance is a limiting factor in relation to social interaction it does not necessarily preclude closer interaction between individuals and families at considerable distance than those nearby. Similarly

delineating an ecological zone without indulging in arbitrary selection of certain criteria is virtually impossible. Hence, let this essay be seen as an effort to understand the man-environment relationship within the given limitations.

Tanek is the name of a hill village where I grew up and did not leave it for any significant length of time until I was about 20 years old. This is also the village where I did my first fieldwork in 1980 for the degree of the doctor of philosophy. And since my parents live there I go there at least once during winter vacation and spend sometime with my parents, relatives, and friends as is usual for many persons like me who have left their villages in order to pursue their vocations elsewhere.

This village is located in Kalimpong subdivision of Darjeeling district. It is fairly large village with more than two hundred households (234 in 1980). It is situated about 5 kilometres away from the subdivisional town and the National Highway No 31A lies on the east and south of the village. The famous river Teesta flows on its western side a little below the Mangbar Reserve Forest that was clear felled by the West Bengal Forest Development Corporation about five years after its establishment on November 1, 1974. It was a prime forest with innumerable species of plants and animals and was one of the important sources of food, fodder, fuel-wood, recreation, etc. for the villagers. The altitude range of the village from the level of the river to the national highway that marks the uppermost boundary is 2000 to 2700 feet above sea level. Because of the low altitude a number of crops are grown here like paddy, maize, millet, pulses, ginger, vegetables, and flowers. More than one third of the cultivable land in the village is irrigated.

The village is today highly mixed with about 20 castes and communities living there though numerically the Lepchas and the Limbus are quite prominent. Only the members of the Lepcha tribe once owned the village. This is indicated by both memory of the old people and the place names within the village including the name of the village itself - Tanek - which in Lepcha language means a kind of fern that was plenty in the village once. The Lepchas of the village are today divided into two religions, viz., Buddhist and Christian and that has been a major cause of cleavage between them. There are other Buddhist groups also like the Tamang and the Sherpa. However, majority of the villagers is classified as

Hindus. There is only one Muslim household in the village.

When the reserved forest was cleared a number of consequences occurred in the lives of the people of the village and the neighbouring villages like Purbong and Tashiding situated on the eastern and southern boundaries of Tanek. These consequences have not been documented properly and I never had the opportunity to write on the same earlier. But when I think of those consequences after so many years I feel that they are worth narrating and the forum that could be no better is the *Journal of Human Ecology*. Though I can take a more detached view of the whole episode now a lot has also erased from my memory. Therefore, I will unfold the story as it occurs in my mind and not as it should perhaps be told.

One of the first consequences that come to my mind is on the cattle population of the village. The forest was the most important source of fodder because the village lands were under private ownership and under extensive cultivation in both wet and dry areas. The clear felling began in the winter when the dependence on forest for fodder was more as the undergrowth or surface grass would dry up or set on fire. The trees in the forest were the main, if not the only, source of fodder then. Since animals are stall-fed provision for fodder is important. When they were deprived of this source suddenly they fell back upon the broomstick bushes, bamboo groves, and the hay that was produced after harvest. Those villagers who sold hay in the winter took advantage of the situation and increased the price of it by many times. Prior to the clearing of the forest a man could hardly carry hay worth five rupees but after the price rise he could easily carry worth twenty rupees! Thus, many poor and land-less villagers had to sell off their cattle either to the butchers or to other villagers at a very low price. Those who continued to domesticate cattle were those who had sizeable amount of land for themselves. Ironically the Leftist government in West Bengal could neither visualize nor realize the pauperization of the rural poor.

Something that was closely related to fodder was firewood. The forest not only provided dry twigs for those who needed them for domestic consumption but also sustained about 10 per cent of the villagers' livelihood from selling firewood collected from there. While collection of grass was not so serious a crime collection of firewood was considered so. Hence, if

any villager was caught with axe and firewood he would be taken to the police station and released only after paying a bail fee of about two to five hundred rupees to earn which they needed to sweat the whole month by selling firewood at the rate of five to ten rupees for a bundle of about 30 kilograms! Sometimes when they heard that the forest guards were coming they left their valuable axe and the bundle of firewood and ran for their lives for imprisonment meant not only a huge financial loss but also being beaten up and humiliated. Their hands would be tied at the back and they would be spoken to as if they were confirmed criminals. Under such colonial system of forest administration which continues even today nothing better could be expected. How would the people forget such a long colonial administration and begin to participate in the management of the forest? Even in 1999 the villagers do not plant timber trees on their private land because they say that they would not be able to harvest it themselves and if they did they would be imprisoned or fined. The government has done practically nothing to allay the fears of the villagers in this respect.

The Corporation re-afforested the area but with teak and eucalyptus seedlings only. No fruit-bearing or flowering species was planted. The teak and eucalyptus seedlings took about 10 years to attain some size for harvesting. These ten years were crucial for the villagers for no viable alternatives were there. This was the time when smokeless *chulhas* were introduced and a large section of the villagers accepted them hoping that such *chulhas* would reduce the consumption of firewood and avoid the risk of developing respiratory system related diseases under the traditional system of cooking. But the villagers soon abandoned it for various reasons, some of which may be mentioned here. First of all those who had thatched houses ran the risk of catching fire from the pipe which is projected out of the roof for the smoke to go out. Such pipes got heated and even choked sometimes causing new kinds of danger for which the people were not culturally prepared. Second, the firewood for the purpose of use in such *chulhas* needed to be of a standard size to fit into the narrow space for firewood made so as to economise the use of firewood. On the other hand, the villagers had no source of good firewood. They had begun to cook their food with the help of dry leaves, corn covers as well as sticks, husk, dry broomsticks, bamboo, tapioca stems, hay, etc. Use of such fuels

in the smokeless *chulha* was difficult, if not impossible.

Alternative sources of fuel required more expenditure but those who lived near the National Highway switched over to coal, kerosene, and liquid petroleum gas. They were unhappy with these new media of cooking in the beginning. They said that the food cooked on kerosene or gas stove did not taste well or caused 'gastrik' (flatulence). But they had no scope for reverting to the use of firewood. These new media of cooking were not only more expensive but also some expenditure would be involved towards fetching them from the market whereas the firewood used to be delivered at home. This meant a higher cost of living without corresponding increase in their income. They also became more town-oriented than before.

The forest provided—besides fodder and firewood, innumerable other products. The villagers collected mushrooms of various types, vegetables, black and red berries, banana, various other wild fruits, leaves, fibres for making ropes, medicinal plants, and the like depending on the season and the need. Some young boys hunted porcupine, wild chicken, deer, monkey, etc. which were in plenty. The monkeys did spoil the agricultural crops sometimes but when chased away they did not return for a couple of days for they could get food in the forest itself. With the clearing of the forest all these sources of food, medicine, and recreation vanished forever.

The consequence of the disappearance of forest on agricultural crops was quite expected. With the predator birds not around insects and pests naturally increased. The increase in rat and crab population created a real havoc to paddy cultivation in particular. They made holes everywhere in the terraces making it difficult to hold the water on the terrace for paddy cultivation. If the holes are not plugged in on time the particular terrace or a number of terraces may break down causing a lot of damage to crops. The breaking down of terraces has become quite frequent in the recent past than it was so earlier. But for this the rats and crabs alone are not to be blamed. The entire village has become unstable after the forest at the bottom was cleared. The forest supported the village land and gave it the required stability for so many years. But without the forest there was no support at the bottom. That the land turned unstable is also evident from the fact that the walls of con-

crete and stonewall houses are cracking everywhere. Hence, the villagers are incurring a lot of expenditure towards repair of terrace walls, houses, and even cow-sheds during the last fifteen years or so.

Whereas a lot of these was not surprising something unexpected happened and the villagers were not really prepared for that. That was non-availability of sizable trees for making ploughs. The hill ploughs are much broader and longer than the ones used in the plains. The size of the tree for making ploughs must be large enough to allow for the slight bend in the middle. Trees of the required size were difficult to find after the forest was gone and even when the size was available the particular species of tree needed was not. It is clear that not any species of trees can be used for this purpose and given the fact that the village needed about 15 ploughs every two or three years, the magnitude of the problem was more severe than anticipated even by the villagers. Associated with this problem was to find seasoned timber for making yoke and the long wooden beam that connects it with the plough.

The villagers living near the forest were quite pestered by monkeys and bears, which destroyed their agricultural crops almost every year. They had the field houses constructed to take care of this problem. They set traps or beat tins to drive the wild animals away. With the forest gone there were no monkeys or bears to pester them anymore. But they also lost an important source of medicine in them: bear's spleen was considered a rare medicine for intestinal ailments and so was monkey's meat for tuberculosis patients. To see a monkey early in the morning was considered a bad omen but with the monkeys gone no good luck seems to have come, particularly with respect to agricultural production which is doing down. The soil had already lost its fertility to a great extent. When the pollinating agents and predators had to leave the forest the impact on agricultural production was quite devastating.

The period also coincided with the state government's special measures to popularise high yielding variety seeds and chemical fertilizers. Prior to that people cultivated local varieties of crops which were pest-resistant and which required less water. The only fertilizer they used was cow-dung, goat-dung, pig-dung, etc. and in the name of insecticides they used ash though they knew of DDT too. The high yielding variety seeds and chemical fertilizers

gave astonishing results in the beginning and the villagers were quite excited about the same. But this excitement was quite short-lived. After a couple of years of the use of these there was no supply of Urea in one of the years and the production fell drastically. Soon they found that the soil was growing harder and harder. The size of the earthen boulders after ploughing the barren field following paddy harvest was much larger and harder than before. Earlier, the back of a fork or spade was enough to break those boulders but after the use of the chemical fertilizers they needed heavier implements like axe or hammer for the same purpose. Moreover, ploughing the barren field without soaking it for a day was impossible. Lime powder was spread to treat such soil but lime was expensive and was bought by the villagers only once in a year to white-wash their houses before a major festival like Dasher or Christmas. And for that they just needed a few kilograms but for treating the soil they needed a lot more.

The brewing of malt and distillation of country liquor were some of the old practices in the village but they were seldom done for the purpose of "earning 2 paise", as the villagers put it. It was done to offer to the guests and visitors, workers in the field, and for special occasions like marriage and funeral or for domestic consumption. The elderly persons in the village normally filled up their bamboo containers with fermented millet at around 2 PM and sipped it through the supper time which was about 6 PM. While they allowed the millet to soak they did a lot of family chores. But after the forest was gone many women in the village began to brew or distill for the purpose of sale for not many sources of livelihood were left for the villagers. And in their desire to make the liquor stronger some of them are even reported to use chemical fertilizers.

The liquor may be for sale but they are not kept in display like very many other articles of sale. It is kept in a corner in a container. Depending on how much quantity a customer wants it is poured into bottles, which are of standard size or poured straight into glasses, which the customers take in front of the seller. The buyers in the village know where it is available and where it is good or where they must go as the last alternative only. They may take the liquor in the house where it is bought or take the bottle away. In the latter case, the bottle is not part of the deal and it must be returned in time failing which the buyer

may not get liquor from the same seller again. Unlike other articles on display in a shop the brewer or seller can safely say to a drunkard or defaulter in payment or returning the bottle that she does not have any in stock. Defaulters are many and they often put their 'prestige' at stake when they keep persuading the seller to give them at least a glass of it. Just as the consumers know who will succumb to such persuasions the seller also knows who will and who will not leave without a bottle or glass. Just as, again, the sellers have a comparative statement of the buyers the latter too have a comparative statement of the sellers. Though the market is not visible the buyers and sellers are, and rather too clearly. This new structure has been appended to the already existing structure after the forest has vanished though this might not directly be due to the disappearance of the forest.

Gradually the teak and eucalyptus seedlings began to turn into trees. Some of the villagers began to look back again to the forest though it was no longer the same forest nor were the villagers the same either. Certain processes set in motion about ten years ago did not stop and certain others, which had discontinued then, could not be started again. The secondary forest that has come up now is not the same forest that it used to be. Let me briefly distinguish between the two.

The earlier forest was a prime forest with many trees more than one hundred years old or fully mature. It was a mixed forest and trees of almost all varieties such as fruit-bearing, flowering, fodder, resin-giving, fibres-producing, and so on were there. There were a number of bushes giving fruits, grass or fuel-wood. The undergrowth was thick and rich in variety and they were perennial source of grass except for a short period during the winters. Then there were birds, bees, animals, and the like. The different parts of the forest had different names after some important landmarks or stories. When the villagers spoke of the forest they did not speak of it in general but in terms of its different parts which had names and which were easily identifiable. In other words, the forest was an integral part of the village social structure and above all it was a living forest until it was clear-felled.

The new forest that came up is not even a semblance of what it was. First of all, it was a mono or dual culture forest the demerits of which have been much discussed and well known. Both teak and cu-

calyptus are useless as fodder and they do not bear flowers or fruits. At least the teak is a good timber and many villagers find it lucrative to smuggle it out. But the other species has no value whatsoever for the villagers. Even if these trees grow big harvesting them will mean destruction of a large population of other seedlings belonging to these species as well as others, which are trying to regenerate themselves. There is one more thing in common between these two species: both have scanty undergrowth, the former because not enough sunlight is permitted due to its large leaves and the latter because the surface water is not retained near the same. They also do not have anything to offer to the bees, butterflies, insects, wood-peckers, other birds, monkeys, etc. I wonder how could such a folly take place in West Bengal, which is never short of people with vision. Or is it because Darjeeling is expendable like many of its colonies? The new forest is all right for firewood and timber. This is why organised felling and smuggling of timber took place during the Gorkhaland movement (Subba, 1992) and a part of its fund came from the teak. In fact, the teak trees never got the opportunity to grow fully and mature. Eucalyptus trees were, on the other hand, left free because the villagers were a little apprehensive about them because there was no accumulation of cultural knowledge about it.

The Gorkhaland movement petered out in 1988 but teak smuggling by the villagers did not. The present Member of Legislative Assembly from the Kalimpong subdivision is a person from the village. He chased the villagers with his gun from the forest a couple of times but that was neither legal nor practical. In some sudden police raids some unemployed villagers were arrested and imprisoned for many months for the near relatives had no enough money to bail them out. Such boys have now turned into anti-socials and their senior relatives are not in a position to control them. One of them even beat his mother and maternal grandfather in a spate of anger and incubation.

One sport in which many young boys of the village excelled themselves was climbing huge and tall trees to lop off dry branches or fodder for cattle while women would watch them with awe disappearing into the sky without any rope or implement except the Gorkha knife called khukuri slung on their waist. They were as agile as the monkeys in tree climbing and there was no accident known. This

is no more done for there are no such trees any more.

The hardest hit were the poor, landless, or marginal farmers in the village. So long as the forest was there it was a sort of a community forest where everybody had equal rights over the resources until otherwise chased by the forest guards. The 'rights' are still there for all of them but there are hardly any resources now. Even the 'good' grasses have vanished and in lieu of them are found weeds that are of no worth to the villagers. Those who own larger plots of land or were richer off had less difficulty in adjusting with the changed situation. As regards beliefs and practices related to the forest, such as worshipping of the monkey god, forest-goddess, hunter-god, etc. they have continued though sacred special-ists for this purpose are for some strange reasons becoming extinct. These continue to survive, as they do not seem to vanish as easily as the cover of the forest.

KEY WORDS Environment. Ecological Anthropology. Ecological Population. Tanek.

ABSTRACT This article deals with man-environment relationship in a hill village of West Bengal with particular reference to the consequences of clear felling of the Mangbar Forest nearby. The cultural options that the villagers had and exercised are also discussed here. Finally, a comparison is made between a prime and a secondary forest in the perceptions of the villagers.

REFERENCES

- Ellen, R.: *Environment, Subsistence and System*. Cambridge Univ. Press, Cambridge (1982).
- Geertz, C.: *Agricultural Involvement*. Univ. of California Press, Berkeley (1963).
- Hardesty, D.L.: *Ecological Anthropology*. A.A. Knopf, New York (1977).
- Rappaport, R.A.: Nature, culture, and ecological anthropology. In: *Man, Culture and Society*. H.L. Shapiro (Ed.), Oxford Univ. Press, New York (1971).
- Subba, T.B.: *The Quiet Hills*. ISPCK, Delhi (1985).
- Subba, T.B.: Forest Conservation in the Himalayas. *Himalaya: Man and Nature*, Aug-Sep (1985).
- Subba, T.B.: *Dynamics of a Hill Society*. Mittal, Delhi (1989).
- Subba, T.B.: *Ethnicity, State and Development*. Vikas, New Delhi (1992).
- Vayda A.P. and Mccay, B.J.: New directions in ecology and ecological anthropology. *Annual Review of Anthropology*, 4: (1975).

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Man-Environment Relationship
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