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CULTURAL SYSTEMS AND ECOLOGICAL CRISIS IN NEPAL: TOWARDS BETTER COOPERATION BETWEEN ANTHROPOLOGISTS AND DECISION-MAKERS+

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The ongoing international discussion on problems of mountain environment in the Himalayas has brought to mind a number of important points:

First, the present ecological crisis in Nepal does not result from any single external or internal cause, but from a great number of social, political and economic changes which are characteristic of the country's development since the second half of the eighteenth century.

Second, whoever takes an interest in the nature of these changes and in the possibilities of planned development finds himself easily confused with almost countless and often contradictory recommendations, warnings and data presented by anthropologists and development experts. Thus, decision-making in view of the present crisis becomes a very difficult and ungrateful task.

Third, better guidance within the amazing multiplicity of experiences and perspectives is an urgent need felt by all those who share the responsibility for development projects. The question is, whether and how anthropological research can contribute to such a guidance, but also if and to what extend the practical requirements of development planning must be considered by researchers.

I am personally convinced that anthropological studies can - and very often did - contribute much to better development planning. I am equally convinced that the role of anthropological research may become even more important if anthropologists make efforts to understand better both the scope and the many constraints of daily decision-making in a development administration.

The purpose of the following note is to illustrate some possibilities of cooperation between researchers and decision-makers. For this purpose, I shall trace and briefly discuss the contours of a highly simplified cultural system allowing for better guidance of practitioners and anthropologists but also for a few conclusions pertaining to both fields of activities.

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In connection with the elaboration of proposals concerning conservation oriented development projects in the Himalayas, Hans Christoph Rieger has analyzed the physical mechanisms of "man-made erosion"[1]. His diagram (Internationales Asienforum 8 (1977), 86) is in fact an important means of guidance to decisionmakers in various technical fields. However, it refers only very briefly to anthropological factors of erosion such as "population increase" and human "mores". And yet, it is these factors that play an important role in the far reaching changes taking place in Nepal and resulting in the destruction of the natural environment. Therefore, it is necessary to complement Rieger's diagram and to visalize in more detail the social, economic and political dynamics of Nepal's ecological crisis.

In order to do so, I have picked - more or less at random - a paragraph from the introduction to A. Patricia Caplan's study of social change in a Hindu village of Western Nepal[2]. It seems to me that this passage illustrates perfectly the complexity of our topic:

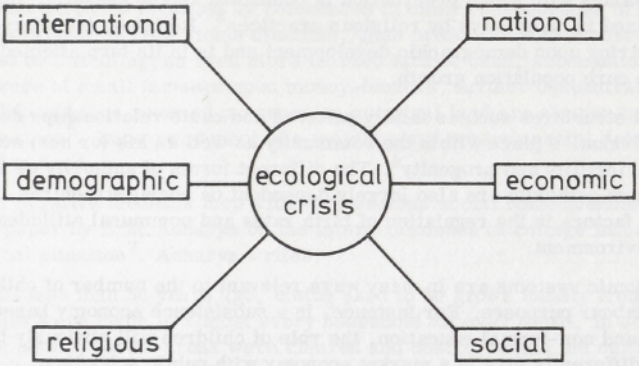
> "The static and unchanging nature of western Nepalese society before 1951 must not be overemphasized. It will become evident that change was already taking place at local levels prior to that date, mainly because of increasing pressure of population on land, which appears to have reached its crisis point in the first three decades of this century. Change was also the result of a chronic shortage of cash, needed for paying taxes and purchasing certain essential commodities which had to be imported. Those in a position to obtain cash - particularly the Brahmins, who received it from their clients - were able to become extremely wealthy and powerful. They lent money to members of other castes and took land on mortgage in return; they also bought land in the village. Much of the land which was sold and mortgaged belonged to untouchables, who had only limited access to cash. The latter became progressively poorer and more dependent upon the Brahmins for the wherewithal to make ends meet. The only way out of the vicious circle of indeptedness and landlessness was for untouchables to migrate to India for varying periods in search of unskilled work." (spaced type by R. H.)

Even from these few lines it becomes obvious that Nepal's ecological crisis (i. e. the consequences of "increasing pressure of population on land") is not a phenomenon apart of others, but is closely interlinked - both in its causes and in its effects - with other changes affecting the society. The crisis must be seen - at one and the same time - as an element of various contexts, which are in many ways interrelated. All of them are briefly referred to in the text of Caplan.

In figure 1, I have represented these contexts by rectangles and grouped them around a circle standing for the ecological crisis: cultural change and environmental stress are related to the pressure of population (demographic context), to certain prerogatives and functions of the Brahmins (religious context), to social inequalities inherent in the caste system (social context), to the shortage of cash and the indeptedness of lower-class farmers (economic context), to the obligation of paying taxes (national context) and to the possibility of importing goods and migrating to India (international context).

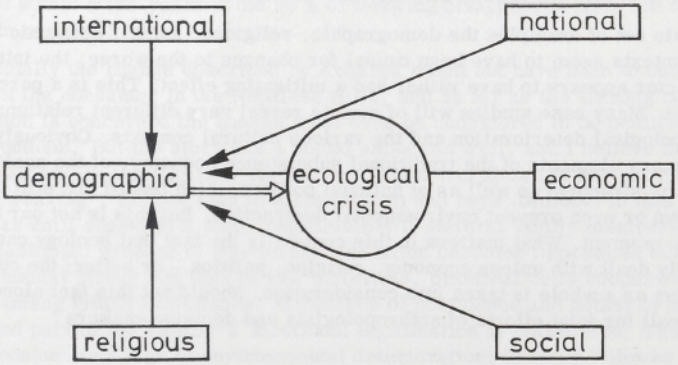
Very schematically, then, we have sketched the major elements of a cultural system which - as one whole - has brought about the present trend of "underdevelopment" and environmental deterioration in the Nepalese Hills.

Figure 1:



A rough idea about the dynamics of such a system can perhaps be obtained by focussing for a moment on the demographic context and its links with all other contexts within the system. Figure 2 may serve as a guide:

Figure 2:



First, population growth seems to have its own rationale rooted in very basic human aspirations and values: creating and caring for a large progeny is at first an expression of vitality and affection.

Second, the values with which procreation is connected are so essential that they are rationalized in many ways by religious practices[3]. Religion, therefore, has a definite bearing upon demographic development and is in its turn affected by all efforts to curb population growth.

Third, social structures such as family patterns and caste relationships determine the individual's place within the community as well as his (or her) attitudes towards sex, fertility and progenity[4]. The different forms of authority or the absence of such authority are also largely dependent on social structures. They are decisive factors in the regulation of birth rates and communal attitudes towards the environment.

Fourth, economic systems are in many ways relevant to the number of children desired for labour purposes. For instance, in a subsistence economy based on family units and non-formal education, the role of children will obviously be looked upon differently than in a market economy with public schooling.

Fifth, for Nepal as a nation state, founded by Prithvi Narayan Shah, an increasing population was synonymous with growing economic and military power[5]. Large scale immigration and population growth were therefore promoted. It is only in very recent times that from the national point of view uncontrolled growth of population is being considered with concern.

Sixth, the international context was and still is important for the two elements of cross-boundary commerce and emigration. Both have - among other effects - offered opportunities for cash income and better education thus pushing the natural limits to population growth into the "not-so-immediate" future.

While in this set of examples the demographic, religious, social, economic and national contexts seem to have been causal for changes to the worse, the international factor appears to have rather had a mitigating effect. This is a pure coincidence. Many case studies will of course reveal very different relationships between ecological deterioration and the various cultural contexts. Obviously, there are many elements of the traditional subsistence economy, of the social and religious structure as well as of national politics which tended and still tend to slow down or even prevent environmental destruction. But this is not our main point at the moment. What matters in this context is the fact that ecology cannot be seriously dealt with unless economy, religion, politics - or better: the cultural system as a whole is taken into consideration. Should not this fact alone suffice to call for joint efforts of anthropologists and decision-makers?

If the character and the extent of the ecological crisis are not only due to the growth of population and certain human mores, but also to many religious, social, economic and political developments, an inverse statement is of course equally true: the deteriorating environment bears heavily upon all sectors of social organization and activity. There are many feedback loops between cultural systems and the natural environment.

As an example of such a loop, we may recall the negative effects of dwindling forest resources upon the possible scope for cattle feeding and breeding - the diminution of manure production - the decrease of soil fertility and thus the mounting pressure upon agricultural or virgin land and forests. The vicious circle can easily be enlarged by references to other consequences of a decrease in cattle raising: if milk yields diminish, ghee production and export earnings will also be dwindling; an even more marked lack of cash, accentuated economic dependence of small farmers upon money-lenders, further concentration of land-ownership and thus renewed pressure on marginal land are almost inevitable consequences[6]. Impoverishment of a majority and environmental deterioration go hand in hand.

Another negative feedback loop with very serious social consequences emerges from a paper by B. M. Acharya on the interdependence of cottage industry and the ecological situation[7]. Acharya writes:

> "Until less than 50 years ago, cotton used to be grown locally from which clothes were made in almost every household all over Nepal. In order to grow cotton, forest areas were cleared and destroyed and the cultivation was shifted regularly. Thus in those days, cotton growing was also responsible for the destruction of the forests in many of the lower altitude belts in the mountain regions. As the population increased all the fertile land was necessary for producing agricultural crops, and also at the same time it became possible to import cheap cotton yarn from India. So the practice of growing cotton became less and less popular and eventually ceased. However cotton weaving remained for quite some time. Then textile mills were developed in India and the road and railway networks were constructed to connect the Terai with India. ... As a result of the onslaught of Indian clothes, the demand for local hand-loom clothes decreased rapidly and within a few years some 90 % of weawing disappeared from the mountain regions."

Financially the change described by Acharya might not have been to the disadvantage of the consumer in the Nepalese Hills, and as far as the shifting cultivation of cotton is concerned the change must even be considered to be positive for the environment. But the story has a social aspect as well, and I believe that it is of considerable significance. As Doreen Taylor has shown in her article on Tamang weaving[6], the teaching of girls (cotton) and boys (bamboo) in this craft is (or was until recently) a joint responsibility of several family members. But as the traditional process of non-formal education becomes impossible due to environmental stress and lack of raw materials, practical daily cooperation within the Tamang family diminishes. Structures of confidence and authority are loosened and part of the family's functional legitimation is obliterated. Thus, natural erosion (as a sign of environmental deterioration) is being followed by the erosion of human and social values, and this cultural erosion will again have negative effects on all efforts to preserve the natural environment: Nepal is losing - bit by bit - that social coherence hitherto preserved in families and communities, which it would need so badly to eventually overcome the present ecological crisis.

Summarizing what has been said about the many effects and side-effects of cultural change upon the ecological situation, I should like to underline a point which is very often neglected by both decision-makers and anthropologists: it is the high degree of ambiguity characterizing so many causal relations in the social, economic, political and ecological contexts, the absence of any preestablished order of causes and effects which makes development planning a never-ending, difficult task. It may be useful to provide some additional illustrations to this important aspect of socio-ecological systems.

In the short text quoted above, B. M. Acharya provides a striking example of such ambiguities. Recalling the penetration into Nepal of Indian factory-made textiles he points to the negative consequences such economic changes have had on local cottage industries. There can be no doubt, that by this trend Nepal's position at the periphery of the Indian economy was weakened and that - as we have shown - the change implied also other negative consequences for the environment. The opening of a small mountain country to the influences of a much bigger and stronger neighbouring economy seems to be detrimental to the development of traditional local forces within the limits of a given ecological capacity. But on the other hand, the import of Indian textiles was a precondition to the ending of cotton growing in the Hills, just as the import of Indian metal ware had permitted the termination of mining and processing of iron ore in Eastern Nepal[9]. The local production of both cotton and iron has had disastrous ecological effects, due to the practice of shifting cultivation in the first and to the consumption of tremendous quantities of firewood in the second case. How, then, does the planner of Nepal's development have to evaluate the country's growing dependence on Indian goods? What choices are to be made in view of the double need for economic development and environmental preservation? The ambiguity of so many causalities will always throw a twilight on whatever decision planners and politicians may take.

Another useful example is provided by different reports concerning the introduction of potato crops into Nepalese hill agriculture. According to Christoph von Fürer-Haimendorf[10] this innovation was a decisive cause of the rapid growth of population in the Solu-Khumbu during the last quarter of the last century. It therefore has to be considered as one element leading to the present environmental stress in that area. Near Dhor Patan (Western Nepal), however, introducing potatoes has helped - as John T. Hitchcock confirms[11] - to reduce the destructive practice of swiddening for buck-wheat cultivation without increasing birth rates or immigration. While one and the same innovation in agricultural production turns out to be detrimental to the ecology in one case, it proves to be very beneficial in an other. Change very often appears not only to be highly ambiquous, but quite unpredictable as well.

What does all this mean for the planner of conservation oriented development projects and for the anthropologist? There seem to be three main conclusions:

1. If Nepal's ecological crisis is not unicausal but rooted in a complex cultural system, the improvements we seek cannot be based on isolated technical measures. Sectorial development activities alone will hardly be of much

use either, and the same is definitely true of purely sectorial research. The integration of development activities in coherent programmes and well-balanced multipurpose projects is a must. Similarly, the integration of anthropological research into an analytical framework of Nepal's overall problems is a necessity. And it is an equal responsibility of all planners, decision-makers and researchers not to limit their attention to one specific and nicely defined topic or project, but to take interest in all constraints to practical programmes and in every side-effect practical measures will have.

2. But integration is not only a question of combining different technical and social activities. There is also the need for the intellectual integration of different perspectives. One of them is embracing the details, the individual cases and the special problems of each region and each community. Unless planning and research take such an individual approach, none of the ambiguities and unpredictabilities mentioned earlier will ever be solved. But there is an other perspective, too, which is equally important: it embraces the broad over-all problems of a whole country like Nepal, its prospects of rapid and irreversible ecological destruction, the danger of continued economic deterioration and the risk of immense human disaster. Whoever takes this perspective into serious consideration cannot possibly confine his interest and his efforts to the detailed work or research at the scale of the individual. He must realize that "small is not always beautiful"[12], but may sometimes be insufficient. Large projects like the construction of roads or power-stations, education programmes or irrigation schemes will prove indispensable if Nepal's economic and political foundations are to be preserved. It is true that all such big projects carry many dangers for the existing cultural patterns, but human dignity and ecological integrity will never be restored unless national problems like the increase of food production find their solution at the same time as social and individual problems such as the need for self-confidence, mutual trust and guiding authority.

   The problems of the Himalayas are too big to permit any exclusiveness in the efforts to solve them. An integrated approach means to study and to promote development and environmental protection at all levels - to take both the risks of aiming too low and aiming too high .

3. Finally: If one is determined to take these risks, it is at the same time necessary to minimize them as far as possible. One must try to understand and follow all the effects and side-effects of whatever is undertaken - big or small, research or action. This will be possible only if further efforts are made to bring together researchers and decision-makers. For it is the researcher who is in a position to direct the planner and the politician in at least parts of his activities, but it is the practitioner who must - by his specific questions - be a guide to the researcher and his work. Such a co-operation is not only indispensable at the preparatory stage of any project or large-scale plan, but also during the whole course of a given program. Built-in evaluation undertaken by researchers and decision-makers alike, regular reviews and open discussions between all those who are prepared to take their share of responsibility are necessary. This is the meaning of integration: joint action between those engaged in research and those engaged in practice.

Footnotes

1) Rieger, H. Ch., Zur ökologischen Situation des Himalaya. In: Internationales Asienforum 8 (1977), 81-109.

2) Caplan , A. Patricia, Priests and Cobblers, a Study of Social Change in a Hindu Village in Western Nepal, San Francisco 1972, Chandler Publishing Company, p. 1.

3) See e. g. Bennet, Lynn, Sex and Motherhood among the Brahmins and Chhetris of East-Central Nepal. In: Journal of the Institute of Nepal and Asian Studies, Vol. 3, special issue, pp. 1-52, Kathmandu 1976.

4) ibid.

5) Regmi, Mahesh Chandra, A Study in Nepali Economic History 1768-1846, passim, New Delhi 1971.

6) Caplan, op. cit., p. 35.

7) Acharya, B. M., Interdependence of Cottage Industry and the Ecological Situation. In: Mountain Environment and Development, a collection of papers published on the occasion of the 20th anniversary of the Swiss Association for Technical Assistance in Nepal (SATA). Kathmandu 1976, p. 74.

8) Taylor, Doreen, Tamang Weaving. In: Journal of the Tribhuvan University, Special linguistic Number, undated, pp. 57-79.

9) Schmid, Robert: Zur Wirtschaftsgeographie von Nepal. Dissertation, Zürich 1969, pp. 80-84.

10) von Fürer-Haimendorf, Christoph, The Sherpas of Nepal. London 1964/1972, p. 10.

11) Oral communication by John T. Hitchcock at the "Colloque international du Centre National de Recherche Scientifique", Paris, December 1976.

12) The expression refers to E. F. Schumacher's famous book "Small is Beautiful".