

# health services and some cultural factors in eastern nepal

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The intent of this paper is to describe certain aspects of illnesses and of health facilities on a comparative basis between geographical regions in East Nepal. The focus will be on diseases whose remedies have implications for changes in socio-cultural conditions. The impact of health services as they presently exist will be discussed from the points of view of doctors, administrators, health workers and villagers. The data were collected in interviews and by observation in Solukhumbu, Dhankuta, Jhapa and Dhanusha districts in the months preceding the nation-wide integration of basic health services. We are not therefore so much concerned with, for instance, actual incidence of diseases in the respective areas or with statistical records of achievement so much as in experiential perception of them by people working in the field.

Following the establishment of integrated health services, considerable improvement in the nation's health is anticipated by the end of the fifth "Five-Year Plan". The project formulation for these services meticulously details the broader outlines of the national plan, which has not failed to identify any of the problems raised here. The plan is based on the policy of providing minimum health to the maximum number of people. The concept of minimum health is bounded first by the decision to use paramedical staff in health posts with more sophisticated training than health workers travelling village to village could provide, and secondly by the gradual assumption of the goals of the vertical programmes as integration evolves in delineated stages. The vertical programmes consist of malaria eradication, which has consumed annually more than half of the health department's total budget, family planning and maternity - child health care, now the unqualified priority of the plan, smallpox surveillance, tuberculosis and leprosy control. Maximum number means as many as possible within the constraints of present scarce resources and regionally balanced establishment of health posts, whose staff will include junior auxiliary health workers responsible for regulated home visits to all residents of the post's constituency. The target aimed at is one health post per 15 - 25,000 people. Changes which are expected to be most marked will be discussed here. It is hoped that this modest study of conditions in 2032 may serve as a useful record for comparison of changes by 2037.

Starting in Solukhumbu, it must be mentioned that part of this district already represents a special case compared to other mountainous areas of the kingdom owing to what is referred to there as the "miracle business" of tourism and mountaineering. However, conditions there provide interesting indications of the way behavioural and environmental modifications emerge as a result of the exploitation of economic opportunities. We take it as axiomatic that such an economic boom constitutes the single most effec-

tive wedge for breaking the cycle of related factors that inhibit development in any one field. Here, only its implication with regards to health are considered.

Solukhumbu got its first permanent government doctor this year, stationed in Ansyalakarka. Because of its location at the extreme southern end of the district, its surrounding ecology and the nature of diseases there, this health post will be discussed together with the health services in the hill district of Dhankuta. The other health post in the district is in Namche, which occasionally has a resident doctor. By 2037, thirteen more health posts will have been added to the existing two and will serve approximately 106,000 residents of the district, ten of the fifteen in mountainous areas. However, as a direct result of tourism, Khumbu itself, with a resident population of just over 3,000 has at certain seasons more doctors per capita than any other part of Nepal: Kunde boasts an 11 bed hospital which the Himalayan Trust helped sponsor; the Tokyo High Altitude Research Institute and the Himalayan Rescue Association each has a doctor to cater for tourists in Pheiche but who, together with the latter's nurse in Namche, treat residents in emergencies; the Everest Hotel's doctor in Syangboche also provides emergency treatment. Finally, the new 16 bed hospital in Phaphlu in the centre of the district, built by the Himalayan Trust with local contributions of money and labour, will become a government hospital serving 20,000 people within one and a half days' walk and 60,000 within three days' walk.

Solukhumbu north of Salleri is not a special case compared to other districts solely on account of this apparent wealth of medical personnel and facilities. These endowments are qualified first by the distances over rough terrain between settlements and secondly by very limited out-reach from health posts. In Khumbu this has entailed some training of teachers as health aides for education on hygiene, dental care and the value of iodine and BCG vaccinations conducted from the hospital, as well as some antenatal care, although hospital deliveries are still rare. Rather, the area is special because initiatives and changes following the tourist boom bring in their wake autonomously generated preventive remedies to many endemic health problems. The foremost of these problems mentioned by doctors is TB which still has a higher proportional incidence there than in hill districts, in many of which a BCG programme has been underway for many years. Doctors working in Khumbu argue that poor hygiene and close living conditions contribute to its spread.

Sherpa houses are usually two story constructions built out of local stone and timber with slate roofs. Livestock is kept on the ground floor and all the family members of three or more generations live in unpartitioned space upstairs. The livestock generates heat in winter and their manure is mixed with human night-soil to be spread on fields which would be practically unproductive

without it. Small attention to insulation keeps the house well ventilated. Compared to many houses in the hills, they are free of smoke from two kinds of fireplace design. One design is the open hearth with a quadrupod for cooking vessels; the other is the enclosed stone and clay fire with two or three outlets. Bamboo brought from "down-valley" is used with grass and bracken for insulation and harbours rodents. Water storage has not been practised in the past and bathing is minimal. House design has therefore been dictated by economical use of available resources and has been in consonance with the open social relationships prevailing amongst Sherpas who, in contrast to Hindu communities, do not stress social divisions by age and sex. The implications for health have, on the one hand, been exposure to hazards that are unnecessary given the availability of new resources and techniques, and on the other, post-infantile hardiness, a high resistance to cold and a reduction of the threat of infections. (Respiratory diseases other than TB are ranked considerably lower than in hill or Terai regions). Doctors also argue that traditional child rearing practices allow for unusually neurosis-free psychic development. Overpopulation has not in the past been a problem, while nutritional surveys have concluded that a traditional diet provides sufficient calories, protein and vitamins except for the latter during some of the year.

Residents of the area say that their fields have been less productive in the last six years. Amongst the reasons for this is increasing neglect as more time is spent on catering for tourists. Similarly, tourist consumption and Namche's thriving bazar means that the area now imports a mass of grain and other foodstuffs as variegated as food to be found in Kathmandu. The assistant zonal commissioner has estimated that Rs. 300,000 is earned annually from tourism, of which Rs. 12,000 is spent on grain. Over or undergrazing is a function of the climate, so it is uncertain whether there is less livestock farming. Below 10,000 Sherpas have so quickly adopted fruit trees and vegetables that the agricultural office cannot keep pace with demand for seeds and seedlings. Indigenous consumption patterns have changed accordingly and a well-balanced diet all the year is in prospect for all inhabitants of the mountain. There is professional optimism that the frequency of peptic ulceration, ranking fourth with gastritis on the most commonly treated complaint list, may decline. The problem of iodine deficiency, second to TB in Khumbu, may subside the same way, although iodized salt supplies will need to be abetted by iodine inoculations for some time yet. One degenerate effect of new wealth and new foods has been the deterioration of teeth, but there is more sophisticated dental work to be seen in Khumbu than anywhere else in Eastern Nepal.

Modification of many features in this broad outline are now beginning to appear in the homes of the vanguard of those benefiting from the "miracle business". The observations that follow presently apply to parts of Khumbu and the main trekking route to

Namche. If it is true, as local community leaders claim, that as many now benefit from tourism as formerly benefitted from the salt trade, then these changes will be seen to extend out regardless of government initiatives. If they are not seen to, then the truth of the claim will be questionable and in matters of health, it will require all the curative and outreach facilities of coming health posts to bring outlying village health standards in line with the standards of those presently benefitting, who have the concomitant opportunity to adopt modifications that forestall the risk of some endemic illnesses.

Aside from spending on new business ventures, homes in Kathmandu, wirelesses, manufactured clothing and livestock, new wealth is going into building, of which there is a conspicuous amount. The range of what is considered economical has become vastly extended despite very high transport costs, especially of cement. The growing shortage of the suitable "biotite schist" rock and even timber, for which engineers come from as far as Okhaldhunga, will balance the deterrent factor of these costs which are likely to stay high for at least twenty years. Glass in windows (though no double-glazing yet) is common-place, as are curtains. New houses may no longer reserve the lower floor for animal use. Charcoal is beginning to be burnt for heat. There is awareness, partly engendered from the buildings constructed by the Himalayan Trust or by SATA in Jiri, of rubble foundations with trapped warm air, of more complete weather-proofing such as corrugation under the slates, of plywood for insulation and of the uses of cement: for floors instead of scarce timber and for filling cracks in the dry stone walls against rodents and draughts. Either the means or the inclination do not yet exist for adopting whole plumbing units, copper or galvanized piping, stoves, home water storage and heating units. However, most homes now use tins for food storage, many have rubber water pipes coming inside from panchayat drinking water systems. The sources of these systems are not often surveyed in collaboration with sanitation experts, but it can be said that their water is uniformly purer than that formerly tapped. This is a consideration of relatively less importance in mountain districts than hill and Terai, where abdominal diseases are more widespread. A few homes now have chimneys, often designed to filter through latrines. As the means arrive to build better insulated, weather-proof houses, so the cooking hearth becomes less essential for heat and chimneys easily adapted from the stone and clay model can be expected to spread. Even now, the latter fireplace may be more popular than the open model in areas of diminishing forest resources where careful conservation of fuel in private houses is conspicuous. This modification could reduce the incidence of eye diseases (glaucoma and conjunctivitis) as well as ear and skin diseases, respectively sixth, seventh and eighth in frequency. Doctors interviewed in the hills treat the latter more often than any other complaint. That it should occur less in the mountains of Solukhumbu where the cold inhibits bathing, can partly be ex-

plained by the cold itself. In this context it is worth mentioning a hill villager's comment on a behavioural modification of the Sherpas who have been coming down to his village market since tourism raised the demand for grain. He remarked that as tourists have increased, so has Sherpas cleanliness as they succumb to catering to foreigners' prejudices on the subject.

Injuries from accidents requiring surgery are hardly mentioned in a Khumbu doctor's casebook except for extraordinary events such as a bear attack. "Down-valley" cases of accidents to children at home while parents work in the fields are far more common. There is a peculiar number at Ansyalakarka, for example, where general injuries occur third to skin diseases and worm infections. In the Terai there is also a higher proportion of accidents, ranking seventh in one doctor's experience. This contrast may be due in part to differences in child rearing and in part to the fact that land actually cultivated above 9,000' may be less rugged than at lower altitudes. A transition to a more business-oriented economy from one based on subsistence agriculture need not of itself change child care practices, although doubts are being expressed that this transitional phase may upset the proverbial well-balanced psyche of Sherpas. Modifications in their house designs are not affecting social relations to the extent that new Western style houses in Kathmandu are upsetting the domestic convenience and order of some middle class households. The architecture may impose eating arrangements, for example, which require either an extensive range of modern conveniences or servants to be comfortable, neither of which may be available, and which confuse other family members unfamiliar with the style. The loss to Sherpas from their new house designs may be less resistance to cold, but this may be compensated by less hazards to eyes, ears and skin.

Ansyalakarka is a hill community marginally benefitting from the tourism further north. Its health post is presently understaffed and can claim only to have affected the health of bazar residents and the nearest fraction of the 80,000 people it tries to cater for in seventeen panchayats. Cases requiring surgery are referred to a hospital two days' walk away in Okhaldhunga. There, as in several district hospitals, health workers report skeptically on the condition of surgical facilities and their maintenance and supply problems.

In this area, the only environmental modification significant to health is a drinking water system. There are occasional clean up campaigns as in most bazar towns, organized by Jaycees or the panchayat. Family planning billboards and slogans have not yet penetrated this far north. Although a surplus grain-producing area, population pressure and land fragmentation into uneconomical units is becoming acute, with ensuing cases of malnutrition, especially amongst Rai families with several children close in age. Recent data from health post records reveal that this "spacing"

problem may not be as great nation-wide as was once thought. Diarrhea is the major single cause for high infant mortality rates and health staff will focus on introducing the concept and practice of rehydration in place of the popular but fatal "drying-out" treatment. This will be augmented by reemphasis on the importance of breastfeeding particularly in areas of western culture contact where unhygienic bottle feeding is apt to replace the more protein-rich milk of the mother. At present health post staff feel impotent to remedy malnutrition cases beyond dispensing vitamins. They recognize a large communication gap between themselves and villagers who fear any doctor's censorship of their child-rearing practices. The gap is often compounded by wild rumours about the effects of inoculations.

Doctors can only diagnose clinically for lack of laboratory equipment, but their curative services are for cases beyond the scope of traditional healers, jhankaris and dhamis. Nonetheless, the latter already feel their livelihoods threatened and may at present contribute to communication difficulties. A decision on incorporating jhankaris into government institutional services awaits the results of a study. Cooperation and the fostering of good relations is enjoined on all health staff in their dealings with local practitioners. There is to be a respectful interchange of information between the two with a view to ending any sense of competition. The problem of too precipitous government advances in this direction without time for a holistic education to engender more than personal gain motivations were revealed by an experiment in Nepalganj: jhankaris were invited to a few weeks' training and issued certificates, but when they returned to their villages, tended towards upsetting monopolistic practices on the strength that only they were certified by the government. The traditional relationship of the hill villager to jhankari may however help to explain less health service problems regarding payment expectation than in the Terai. There, the untrained practitioner is often more mobile and may dispense inappropriate drugs to make an impression, whereas the jhankari has a more fixed and stable relationship with his clientele who know what they are getting and know they must pay for it. This relationship is closer to that which health posts are striving to institutionalize. The Terai doctor's task is made more difficult by the need to explain a foreign system of taking prescriptions to a chemist and paying for drugs there, whereas the hill health post is often the only source of drugs.

All health staff interviewed in the Terai agreed that migrants from the hills were more health conscious than mahadeshis. Mobility correlated with innovative enterprise in other respects too, but it does not explain why they should also be more receptive to inoculations and to the stark and foreign experience of laprascope and vasectomy operations. The hill doctor or compounder, whose inoculation needles, for example, may be less delicate and

therefore more painful than any cossetted Western patient would expect, also meets less resistance to necessary but unpleasant treatment. Hardy upbringing must favour this reception as well as the belief that only bitter tasting medicine is effective. The ideology surrounding traditional curing fosters the concept that there is a price to pay for healing: momentary pain to overcome or offset mysterious and lingering trouble. Health services may complement the idea of atonement for illness more satisfactorily in the hills than in the Terai, but in neither is there a deeply institutionalized notion of free health service as some doctors argue. However, many communities require a baidya to conduct a puja at smallpox vaccinations. There is a possibility that this social requirement will be suitably incorporated into vaccination programmes which encounter varied social responses and therefore need flexibility. Amongst Suttars, whose social organization centres around a traditional powerful man, no programme is successful unless that leader is persuaded to take the initiative. Rajbansis do not want their infants inoculated until they are one year old and despite tactics such as primary demonstration on hill policemen, it is not unusual to see mothers bringing their children to hospitals after the inoculating team and supplies have moved on. Integrated services will assure more thorough follow-up after the initial campaign has produced the acceptance gestation period. Social organization will be especially complemented by the new plan for midwife services. As has been mentioned, even where hospitals have been established for several years, doctors and trained midwives may only handle deliveries with complications. In the Terai, experienced women of the sweeper caste (sudhinis) attend births. They and similar women in other areas will be sought out to be given supplementary training and a special relationship with health posts.

Hospital doctors now feel they have good relations with baidyas in the Terai and point out that itinerant quack doctors may serve to spread word about health facilities. There is reason to doubt this function. In one village in Jhapa regularly visited by a chandchi, a forty year old man had been wasting away for two years from stomach trouble. Bhadrapur hospital, a morning's walk distant by fair weather vehicle road, was unknown, while a small dispensary three hours' walk away was identified as the hospital. Villagers elsewhere had lost interest in hospital services because they were unable to negotiate the administrative side of admission to the doctor despite three or four successive visits. A chandchi is a man who has learnt his skills from his father. The other kind of unqualified practitioner is somebody with a few months' experience in a health post who sells drugs and vaccines. They both may provide quick relief for symptoms, acquiring a reputation and business, but their patients develop resistance to those drugs that doctors might administer on the basis of a diagnosis. The law now prohibits unauthorized sale of drugs in Nepal, but there is weak enforcement of drug controls across the border. These

practices have not moved to hill areas where, by contrast, doctors may only get patients with illnesses in late stages plus complications. An expensive drug is then needed where a weaker would have been effective earlier, particularly since most patients have not formerly been exposed to any drug. Present competition with local healers in the hills is less dangerous than in the Terai, although it too has complications which improved communications can resolve.

The southern end of Solukhumbu, like most of Khotang and many other places in Nepal, is more isolated at this stage of development than other geographically remote parts of the country such as Khumbu. Health there in the long run is dependent on the success of more directly productive programmes, (industries associated with fruit and sheep for instance) and on transport. Location of health posts in the next five years recognizes this special criterion of remoteness. As a service, health facilities do not have to agglomerate around growth centres.

Dhankuta bazar is a growth centre with one of the oldest hospitals in the country. There are now five health posts and three family planning clinics. Four more are scheduled so that nine will be serving a population of about 130,000 in thirty-eight panchayats. In villages where a clinic already exists, there were hopes for expanded facilities, whereas a health post is seldom mentioned amongst the needs of those villages where none is yet established. This phenomenon of the supply preceding awareness and demand is more pronounced in the Terai. Every health facility in the district is understaffed which is a problem dependent in the Institute of Medicine's training programme. Training and staffing is complicated by trainees' ambitions to become doctors as soon as possible, leaving gaps at the intermediate levels of service. Minor surgery can be performed at the 15 bed hospital, but compared to the Terai, it is not burdened by more patients than facilities nor by a drug supply problem. Regardless of demand, all 15 bed hospitals are issued the same amount of drugs. Government facilities are supplemented in this area by other agencies such as the Britain Nepal Medical Trust's hill drug scheme, clinics provided by agricultural stations, Gurkha pensioner welfare offices, and tea estates and industries, of which there are more of course in the Terai. TB clinics here have now reached the stage where a specialist doctor is redundant for curative work. A laboratory assistant can perform all necessary duties and still be underworked.

It is only in bazars, however, that health consciousness exist and where building designs are being modified. Tiles are practically no longer being made in Dhankuta, but are being replaced by more weather-proof corrugation. Elsewhere, the shortage of wood, two days' supply of which may require a day to collect, is critical and respiratory diseases are second only to skin and abdominal complaints in number. Increasing numbers of panchayats

are getting water systems, but no village in this district or in Dhanusha provided an exception to the rule that the most valuable land is that closest to homes; in other words that land best fertilized by humans living in close proximity to livestock. (Jhapa was exceptional because much land is newly deforested.) The courtyards and interiors of most Brahmin, Chhetri, Rai and Limbu homes are kept immaculately clean. No authority interviewed was definitive on whether cleaning techniques are hygienically sound but hypothetically, abdominal problems would occur less often amongst these four groups than, for example, amongst many Magar, Thami, Kami or some Maithali castes who give less attention to house cleaning. In Jhapa, one doctor thought that thirty per cent of his cases were abdominal problems. It is noticeable there how quickly some drinking water wells have deteriorated for lack of protection, but new systems are rapidly increasing. Cement houses stand out there because every village boasts one or two, while the rest are constructed either of wood and tile or of mud and straw, neither of which are fully rodent or weather-proof. Associated with this is the estimate that twenty per cent of doctor's cases were respiratory in nature. Corrugation is not used because it causes unbearable heat in summer. A Terai house requires new thatch every two or three years, compared to ten or twelve in the hills. Given transport facilities and economic opportunities, the hill ecology would appear to be more favourable for architectural health protection measures than the Terai ecology.

Family planning workers admit to a very slow start in Dhankuta. Now there is increasing response following door-to-door visiting, pre and post-pregnancy examinations, radio education programmes and protein and vitamin handouts to mothers. Workers' experience underscores the correlation between education and acceptance, Limbu communities lagging in this regard. The popular perception of children is to see them as the only possible luxuries in a couple's life, as well as necessary for their economic contribution. This is likely to prevail until money-making opportunities other than unappealing employment in Terai industries appear, or subsistence farming can develop into business ventures. In the Terai, births are often thought to be subject to God's will alone. Amongst Rajbansis family planning measures are offensive to ancestors. A change to the more pragmatic attitudes of hill people may depend on how successfully the infant mortality rate can be reduced. Family planning workers in Dhanusha hold that its high rate reduces their credibility and the programme's effectiveness.

Flexible eating habits amongst Rais and Limbus have persuaded health staff that the district, although presently a grain deficit area, has a low incidence of malnutrition. There are anomalies such as occasional scurvy despite a vast surplus of fruit. This is a question of taste and consumption habits rather than taboo. Some Rais will not eat lentils with maize or millet porridge, but taboos like this can have little effect on nutrition standards.

Protein consumption is high compared to the Terai where milk products and goat may be the only, but expensive, form of it consumed. Correspondingly, illness associated with deficiency are reckoned to account for 50% of a doctor's cases in Jhapa and as much as 75% of another's in Dhanusha. Tharus are seldom treated for malnutrition because their fishermen regularly distribute their day's catch to their section of a Tharu village. There is optimism that fish consumption is becoming more pervasive, but its spread as well as that of other development crops to the most needy may yet take time. In Jhapa, the agricultural office calculated that its extension efforts have reached barely 5% of the district's farmers so far. The health department is concentrating on supplementary foods for infants, recognizing that the Nepali population as a whole is more flexible about eating habits than may once have been thought. For instance, black dahl, which is unpopular in India, is more easily grown than other varieties in hills and so its consumption is held to be more suitable for cold climates.

Malnutrition is the problem par excellence of poverty, enmeshed in a network of economic and population factors, each object to its own cyclical delimitations. Forty-two per cent of Dhanusha's population is under fourteen years old, which means there is a high proportion of family members unable to take part in primary productive work. In some families the ratio of productive to non-productive members is lower than two to ten. Gastroenteritis and hookworm head the list of specific abdominal illnesses, both of which lead to anaemia and then to malnutrition and so into the cycle of less agricultural or other productivity, and higher fertility to compensate.

There is presently a corps of sanitation workers who believe that health education can be the only effective wedge into this cumulative cycle, and so reduce a typical Terai doctor's work-load from over two hundred patients in five hours to manageable limits. Most of these sanitation workers now work on vaccination programmes or have switched to other jobs. The causes of their dissatisfactions and frustrations are three fold. Up till now only a miniscule proportion of the health budget has gone specifically into public health programmes. Doctors themselves are not supportive of such spending and collectively have sufficient weight to see that their own priorities take precedence over field-oriented work and the creation of dynamic rather than mechanically functioning village health posts. Typically, sanitarians point out that it is doctors who are invited to advise a nagar panchayat on public latrines, which do not get built or maintained to the minimum standard that a field expert would impose. Doctors in fact have a peculiarly powerful relationship to villagers too. Whereas other government offices may be subject to complaints, often on spurious or inter-necine grounds, the peasant farmer has no sense of a right to a doctor's service. The doctor can always fall back on private practice, although some argue that if their salaries were increased for government service they would be happy to be free of the greater

demands on their time in private. Thirdly, they perceive small promotion opportunities and small recognition of their training and its value. However, from this year 70% of the approved budget will be devoted to preventive programmes (including malaria eradication) with public health inspectors in every district.

Unfortunately the preventive measures that health education would lead to are often too expensive to be adopted by these who recognize their value. This applies to shoes and private stores of bandages and disinfectant to treat cuts, both of which would protect against hookworms. Even panchayats, which are beginning to protect water sources have no resources to deal with health hazards like flies. Protection against them would require capital outlay to adopt new techniques for preserving, drying and cooking foods, apart from radical changes in waste disposal. It is arguable that defecation habits are a cultural manifestation of the supremacy of religious ideas, not a matter of material contingency. The design and use of sanitary latrines would need to be planned accordingly, with more options than simply ladies and gentlemen. Drinking boiled and therefore safe water and washing food in boiled water, on the other hand, is an economic question dependent on the availability of cheap fuel. In the long run the issue can be circumvented by concentrating on safe water supplies. More compost pits for animal wastes are to be seen in the hills than in the Terai at present, but the use of soap for washing is spreading faster in the latter. This may partly explain why skin diseases like scabies and pyoderma rank higher in the hills. They also occur more frequently in Dhanusha than Jhapa, perhaps on account of the existence of more ponds in the former. Static ponds are a medium in which skin diseases can spread to all who bathe in them. Although it is preferred that drinking water comes from a flowing source, this does not apply to bathing water.

This paper has given the impression that conditions of health are worse in the Terai than in the hills and mountains. This may or may not be the case. The impression is gained partly as a consequence of the fact that there are more modern health services in the Terai. There is therefore more awareness of local health problems as well as increasing use of facilities by local people. Jhapa has an expanding twenty-five bed hospital, two ayurvedic and eight other health posts and five family planning clinics, serving over 250,000 people in forty-four panchayats. Two more posts are scheduled by 2037. However, there now exists a treatment vacuum whose causes are deeper than the supply or non-supply of health posts and raise the fundamental issue of developing health posts in consonance with socio-cultural conditions. It can be illustrated by the experience of Red Cross staff in Jhapa. Their duties include the distribution of food which may for example be sold by parents instead of being given to their babies. Small handouts lead to expectations that the government supply everything free; staff begin to feel exploited and tempted to use coercion in place

of persuasion. These inflated and unrealistic expectations are symptomatic of a transition in villagers' world-view towards an inadequately assimilated one that incorporates faith in the scientific rationality upon which modern health facilities have been based. They are likely to persist until the people who staff them make two concessions: first, that traditional treatment and the world view that sustains it, about which they are inclined to be so deprecatory, have their own rationality and are satisfying in as much as there is no gap between delivery and expectation; and secondly, that modern medicine itself has limitations, its history of discovery notwithstanding. It is understanding of its limitations that fosters a healthy relationship between a system and those who benefit from it. Without this reciprocal understanding, health posts themselves may act like foreign bodies in the social organism, actually engendering sickness while forcing individuals to undergo a long and painful transition period in order to assimilate them.

Dhanusha has an expanding twenty-five bed hospital, seven health posts and six family planning clinics for a population of over 330,000 in 104 panchayats. Doctors face problems of bed, staff, transport and equipment shortages and sometimes language difficulties. One outcome of staffing shortage, also to be found in Jhapa, is that an auxiliary nurse midwife may never be able to be "off-duty". Despite the provision of lodging, she may find it hard to live on her salary of Rs. 200 per month. Supply, supervision and functioning of health posts are still felt to be inadequate and unable to meet villagers' expectations. Transport is relatively good in the district and by 2037 no villager will need to go more than six miles to a health post. Walking conditions in the monsoon are especially difficult for women. However, there is still inter-village politicking about health post locations. Health aides are often absent and a single misfortune such as a supervised still-birth costing a family Rs. 250 or private dealing in drugs can damage future initiatives from a health post.

These are amongst the problems that the new health plan is tackling during the next five years. It will bring more regional balance of services and more uniform, decentralized administration. There is a major effort to find compatibility between traditional practices and procedures advocated in modern text-books. For example, there will be no effort to alter the usage of post-natal isolation for mothers and babies whose benefits in present conditions outweigh text-book critique.<sup>2</sup> One of every health posts' two auxiliary workers will be charged with preventive duties, aided by six preventive field workers carrying iodine tincture, rehydration packets and vitamins during home visits. They are provided with daily and travel allowances and sleeping gear, lack of which has inhibited enterprise in the past. Disease does not strike rich and poor equally, but these perks will help to assure that their visits will not be dictated by the human factor of ex-

tending services primarily to those who can provide meals. Their experience will provide more specific data on local health practice and their consonance with modern methods. The health plan's strategy is in part based on awareness that the incidence of most diseases is associated with socio-cultural factors. The success of those vertical programmes that are not related with these factors is still dependent on taking account of them. Health services are in a state of transition from a situation where curative facilities have just been sufficient to prevent an irriversibly downward trend. There is an analogy in health service development to the search for a solution to the spread of the banmara weed: chemical and biological control has been tried with "curative" insecticides and natural predators. These may now be supplemented by cultural control employing mass compost campaigns.

FOOTNOTES

1. I would like to express my thanks and indebtedness to all the people with whom I talked during this time, too many to list by name.
2. Dr. Rita Thapa, untitled paper presented to Seminar on Medical Education Suitable for Developing Countries, Kathmandu, Nepal, 1975.

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