

“Women and Children First”? A Review of the Current Nutritional Status in the Highlands.

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When a ship is sinking it is a long standing maritime tradition for women and children to be among the first assigned to the life boats. It is often remarked upon in feminist literature, that within disadvantaged societies women and children make up a further disadvantaged minority which makes rescue necessary in the first place. Is there a nutritional crisis developing in the highlands which requires that a rescue be mounted? What is the position of women and children?

Although a comprehensive survey of nutrition in the highlands has yet to be carried out, research by various anthropologists, medical doctors and development teams has so far pointed to endemic malnutrition among highlanders. Women and children appear to be the worst affected.

Highlanders are heavily dependent on rice as a source of nutrition but this is in critical short supply in some areas. Protein Energy Malnutrition (PEM) and Vitamin Deficiency are the most serious problems observed. More research is urgently needed.

At a workshop held recently in Chiang Mai, Dr Sorenson a Danish medical doctor and paediatrician, stated that the con-

sequences of a poor diet, if not corrected, could result in a population already disadvantaged politically becoming totally demoralised and eventually physically and mentally handicapped (Vryhied & Sorenson, 1986: 225-269).

A recent formal talk given by Dr Vichai Poshyachinda of the Drug Dependence Research Center, Institute of Health Research, Chulalongkorn University at the Tribal Research Institute emphasize that tribal people have for some time been facing nutritional problems, traceable in part to the impact of development programmes (see also Chupinit, Chapter 3). The establishment of rice mills alone has resulted in riboflavin deficiencies manifest in angular stomatitis.

These are serious charges made by professional people who have carried out fieldwork in the highlands. Their opinions must be acknowledged and examined carefully. Such observations cannot be ignored.

Even relatively brief and simple studies can highlight the seriousness of malnutrition and disease in the highlands. A pilot anthropometric assessment I conducted among Akha children in August, 1986, showed that only nine out of 53 children in the village of Mae Salaep were of normal weight for their age. All children between the ages of 1-60 months were measured, 53 altogether, 23 were found to be under weight while 19 exhibited acute levels of malnutrition and two fell into the chronic malnutrition bracket. Both were in a critical state.

Infants in their first year were the healthiest, 80 percent of these children showed no sign of malnutrition. The most disadvantaged group were children between one and five years of age. The majority of these suffered from first and second degree malnutrition. The most dangerous period for children occurs immediately after they are weaned.

The month after the survey, I learned that two of the children had died, a boy and a girl, both five years old. The boy had been suffering from chronic malnutrition. When I had interviewed the boy's father, the child was suffering from a high fever, looked pale and was occasionally shaken with muscular spasms. The spasms could well have been a manifestation of infection, bronchiolitis, as well as vitamin B deficiency. His paleness indicated anemia which could also have been caused by vitamin B deficiency and parasites.

There is a close relationship between nutritional shortfalls and infection. An inadequate diet greatly increases the risk of acquiring infection which in turn is more likely to intensify in those who have a poor diet. When children contract an infection during a critical phase of malnutrition, the effect is always very serious.

Protein deficiency

This is one of the most serious aspects of malnutrition in the highlands. One of the first studies of highlander diets was carried out by a team led by Dr Thatsanai Parsingha in 1976 among Akha and Yao communities in Chiang Rai for the Department of Public Welfare. In his final unpublished report he stated that the main nutritional problems faced by these people was that of protein deficiency. The hardest hit group were children between two and five years of age. He also found a high incidence of parasitosis.

In 1986, the Thai-Norwegian Church Aid Highland Development Project found evidence of PEM and vitamin A and B deficiencies in project villages but on the basis of superficial observations, a consultant, Miriam Krantz, concluded that the problems had not yet reached a severe stage.

Vitamin Deficiencies

The most commonly reported vitamin deficiencies are of A and B. Some of these shortfalls can be traced to overmilling

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of rice and inappropriate cooking methods. as well as general lack of food.

A survey of Hmong and Mien in a refugee camp in Nan province carried out by a team led by Dr Atireg Na Thalang in 1977 showed that while the weight and height of tribal refugee children were better than that of Thai rural children, clinical examinations found a high prevalence of vitamin A and B deficiency.

A more recent study of Lahu children in Chiang Rai province in March, 1985, by Vibon and Nithiya Rattanapanone showed vitamin A and B₂ deficiencies, as well as a high incidence of anemia and dental caries. It is well known that fat facilitates the absorption of certain vitamins, such as A, D, E and K, but the amount of fat eaten in hill tribe diets is low (Ralana Maneeprasert, 1978; CATAD, 1986). In the highlands vitamin A is readily available from green-leaf vegetables and many kinds of fresh fruit, such as papaya, grown in backyard gardens. One possible explanation of vitamin A deficiency is not the supply of the vitamin itself but the lack of fat.

Malnutrition Disorders

Goitre. There is no need for this to appear as an endemic disorder because it is easily avoided. Goitre, caused mainly by lack of iodine, is closely associated with PEM, vitamin A and B₁ deficiency, urinary bladder stone disease and malaria. People take this disorder for granted because the clinical signs develop slowly and the host becomes accustomed to the discomfort. People do not realise that it is an impediment to health.

Nutritional Anemia. This is a condition where hemoglobin levels are lower than normal. The normal hemoglobin level (HBAA) for adult Thais recommended by the World Health Organisation should not drop below 12 or 13 per

100 ml. (Aree Valyasevi, 1977:-186). As with many other disorders, nutritional anemia is prevalent in the highlands. Characteristic paleness is a common clinical sign easily identified and usually occurs in association with other disorders. The most common are parasitosis, PEM and vitamin deficiencies. Dietary factors are clearly the principal causes of nutritional anemia.

Beri-beri. This is a disease associated with polished rice. Generally, infantile beri-beri is found in babies of 2-6 months who are breast-fed while their mothers are suffering from a thiamin (B₁) deficiency. Viseshakul (et. al., 1978: 29) estimated that infantile beri-beri may account for up to 33 percent of hill tribe infant deaths in Mae Chan. But because tribal infants are usually breast fed and milled rice is used widely, it is highly likely that this problem is common. In some villages there is more than one mill. I found three rice mills in the Lua village of Pa Pae in the course of a survey carried out in 1981. By reducing the workload of women, mills can make a positive contribution to their standard of living but the overmilling of rice so that thiamin (B₁) and riboflavin (B₂) are polished off actually adds to their difficulties.

The Role of Rice

Rice is the staple food in the highlands, providing the main source of energy and protein, but is often in short supply for a variety of reasons, including lack of land and population growth. The situation in some villages is critical.

Rice is mainly cultivated for family consumption; corn is grown for feeding domestic animals and opium can provide a source of cash to meet shortfalls in the household production system. In the extended family, the rice and corn harvest is shared between all members but cash earnings from the sale of opium belong to those who managed the fields. Today opium is no longer a secure source of income even though many households still rely on it.

Where suitable land is available, rice is by far the most important crop. Surplus rice and corn may also be sold. Where rice cannot be grown then corn, potato, soya bean, sesame, cotton, garlic, chilli and tea may become the main source of income. Rice means security. The greater the harvest the greater the security. The principal objective of highland farmers is to satisfy their domestic needs in anyway possible rather than simply grow everything they need to eat.

Rice not only plays a significant role in nutrition but also provides the raw material for many other significant functions in daily life. Glutinous rice is used for making both liquor and a cake (*khaw pook*) served at ceremonies. Most ceremonies within the ritual cycle of all ethnic groups involve the use of rice. The Lahu Sheleh for example have nine rites for rice and four rites for opium poppy (Chantaboon Sutthi, 1982).

Duangmanee Viseshakul led a survey of an Akha village in Chiang Rai in 1982 and found that so long as rice was sufficient to cover calory needs then enough protein with respect to nitrogen and essential amino acids was also provided. When supplies of rice fell short, it was young children, pregnant women and lactating mothers who were most likely to suffer from deficiencies.

A nutritionist, Petra Windisch, working with a team from the Technical University of Berlin in a study of Wawi village, Chiang Rai, found that symptoms of malnutrition were more evident among women and children than in men. She noted that the situation could well deteriorate in the near future because of short supplies of upland rice, low consumption and associated nutritional problems (Schubert et. al. 1986: 102-121).

A paper prepared by Peter Hoare (1985) on Lahu communities in Chiang Mai and Chiang Rai provinces observed that rice provided between 59 and 95 percent of household energy

intake. Higher income households purchased both more rice and also other sources of protein from the market. Villagers did not buy any source of carbohydrate other than rice. His weight for height survey revealed that infants aged 0-5 years suffered from chronic malnutrition.

In a 1978 survey of Meo (Hmong) which I co-directed, it was found that highlanders ate 833 grams of rice per day per head as against 525 grams eaten by lowlanders although both highlanders and lowlanders ate much the same amount of meat (Ralana Maneeprasert, 1978). Hinton's figure for the Karen indicates a similarly high consumption of rice, 770 grams per day per man unit. Rice provides the additional calories required when hard work is undertaken. If highlanders have enough rice, it provides their protein and energy needs but exclusive consumption is not recommended for women and children who need a more adequately balanced diet of nutrients if they are to perform both field and domestic tasks (Duangmanee Viseshakul, 1976). Women breast feeding their children must be well fed themselves to ensure healthy growth rates for their offspring. PEM is much too high in tribal women and children to guarantee good health.

Although their home pounded rice contains a higher quantity of protein nutrients, 8.5 grams of protein per 100 grams compared to 7.4 grams in lowland milled rice (Ralana Maneeprasert, 1978), much of this advantage is lost in washing, rinsing and in the method of cooking.

The average yield of highland rice is about 20-40 *tang* per rai and for paddy field 50 *tang* (1 *tang* = 15 kilos). Typically, farmers at best produce enough to feed themselves for ten months (TRI, 1985). For at least two months they must cope with a shortfall. Food shortages are widespread and highland populations are growing at a faster rate than food production. Farmers expect to face, sometime during the year, a "hungry season".

Raised under healthy conditions where communities established in virgin forest have access to a wide range of food, children may, however, achieve better growth rates than lowlanders. A survey of hill tribe refugees in Nan who had recently arrived from Laos exhibited a better growth status than Thai rural children (Atireg Na`Thalang, 1977).

Food and Sexism

Highland women and children are regarded as second class citizens in their own communities. As a consequence they are sometimes ignored, perhaps inadvertently, when assistance is offered by outside agencies. In a very real structural sense they belong to a disadvantaged group within a disadvantaged population. In most highland societies the men eat first and women and children have what is left over. Where householders eat from a common bowl, young children often face fierce competition to get a fair share of the food. The household head and male members of the family are favoured with larger portions of available food especially meat. Such eating practices have a marked detrimental impact on the nutritional status of woman and children.

The status of girls or daughters is generally beneath that of male offspring; consequently fewer resources are invested in them including food, health care and education, because it is expected that on marriage they will leave the family. Sons are expected to look after their parents in their old age and by enhancing their economic position parents are ensuring their own future.

The study of nutrition in the highlands cannot ignore the structural matters which determine distribution of food among household members. In my experience the head of the family shows little awareness of the need to see that the nutrient intake of women and children is adequate, although it should be noted that women generally prepare meals. Extensive animal studies

have shown that malnutrition retards the development of the brain. If the socio-political position of women and children is lower than that of men, and if this group is denied enough food to ensure healthy maturation, then this deprivation may actually be structured into their physiology and adversely affect their ability to secure a good living. As their position deteriorates so does their ability to deal with it.

More research is needed into the structural position of women and children within highland societies with respect to the highlanders' overall nutritional condition.

Cultural Influences

Food is more than just a source of nutrients and there can be close associations between cultural practices and malnutrition.

In the course of a recent field trip to an Akha village I carefully observed the eating behaviour of three different families. Women and children did not share meals with us but ate on their own in a separate room or in the kitchen after the men. On the first day I ate with the men green mustard prepared in two different ways, as a boiled vegetable available at the season and as a home-made pickle.

The second day was the monthly holiday, rabbit day. Most people stayed at home. One pig was killed and butchered with pieces sold to neighbours. Two special side dishes of spiced pork were served. One was raw (c.f. Bernatzik, 1947: 88) and the other cooked in oil served with various fresh green vegetables.

Usually, the whole family eats together. An exception is made to this custom on holidays or if guests appear. On special days members of the family prefer to eat separately. Only men eat with outsiders. Children eat with their mothers.

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Rice is the main component of every meal. It is soaked overnight in water and steamed in a wooden steamer. The family with whom I ate had 11 members: nine adults and only two children. Every day 10 kilograms of rice are cooked, enough for three meals. This was done by the mother on the morning of the day I first visited her. She steamed the rice twice. The first time took an hour, the second about 40 minutes. The method of cooking rice differs from that described by the anthropologist Bernatzik some 40 years ago:

The Akha soak it overnight in water and boil it in the same water for about ten minutes. The excess liquid is then squeezed out with the hands and finally the rice is steamed in a wooden steamer until it is done (Bernatzik, 1947:88).

These methods are quite different from those used by the Hmong and are scrupulously clean. Wherever possible they pipe water into their kitchens. It is only when community workers attempt to change things that cultural barriers become evident. Hill tribe people are attached to traditional ways of preparing food. Food habits and methods of cooking are known to belong to their ancestors. Socialization is so effective people do not question the old ways.

The many different cultures in the highlands each have different ideas about how food should be cultivated, harvested, prepared, served and eaten. Culture determines dietary beliefs and practices at a very deep level. Cultural knowledge systems classify food into groups such as hot and cold, sacred or profane, medicinal or social, the last category being food that may only be consumed in the presence of guests.

Dog meat is eaten by the Akha. It is also used as a medicine as well as a social food. Mothers are known to recover their strength quickly after giving birth if they have enough dog meat.

Such meat is also served as a special dish to welcome visitors. Buffalo are very important in the funeral ceremonies of both the Hmong and Akha.

From a clinical perspective cultural influences may affect nutrition in two ways. First, people may exclude much needed nutrients from their diet by imposing a negative classification such as non-food or lower-class food or hot-food. Second, they may encourage the taking of certain food or drinks injurious to health by defining them as sacred or medicinal to reinforce social, religious or ethnic identity. These food categories can become confused or disposed of altogether. For example, when liquor traditionally used for religious purposes becomes a popular social beverage then problems can occur. It can be difficult for people to adjust to a new diet when forced to in times of change and environmental degradation.

Where Next?

The need for better data on nutritional problems in the highlands is evident. Surveys should firmly identify the importance of the main staple crops in their diet, their origin, their distribution and when the "hungry season" occurs. A wide variety of methods needs to be used such as anthropometric assessment, clinical examination and biochemical tests.

From this review of nutritional problems in the highlands it is clear that life is much more difficult for hill people than for the majority of lowlanders. This is not to say that lowlanders are immune to this problem so closely associated with poverty. The many Thais who have yet to enjoy the benefits of development should not be ignored for they also have their "hungry season". Highlanders, both Thai and those belonging to discrete ethnic minorities, demand our professional attention not only to establish the parameters of their deprivation but also to find out what can be done about it.

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There can be little doubt that the hill tribes are a disadvantaged population. Although women remain in charge of cooking, for reasons that are not clear, women and children are most likely to be the victims of malnutrition. This needs to be more firmly established. The itinerant eating habits of children and the unavailability in an impoverished environment of foods on which to snack may provide one explanation.

One possible way to reduce malnutrition among infants and children is to set up day care centres. Experiments in their use have already been mounted at Phra Bat Huai Tom, a Karen village in Lamphun. Dr Ousa Thanungkul has reported (1983) the direct benefits of providing supplementary foods which greatly reduced anemia and PEM among children there. However, as a solution on a wider scale, this strategy leaves much to be desired. Making welfare recipients of highlanders is no substitute for enhancing their overall ability to secure a living from the land by their own labour.

As to the future, all that can be said is that it looks grim. Lao Tsu has advised us in a moral, political strategy. "The wise ...rule by emptying hearts and stuffing bellies, by weakening ambitions and strengthening bones." Although we have much to learn before we can answer the question, "Is nutritional crisis developing in the highlands?" it is clear that our professional strategy must be to look first at the position of women and children.

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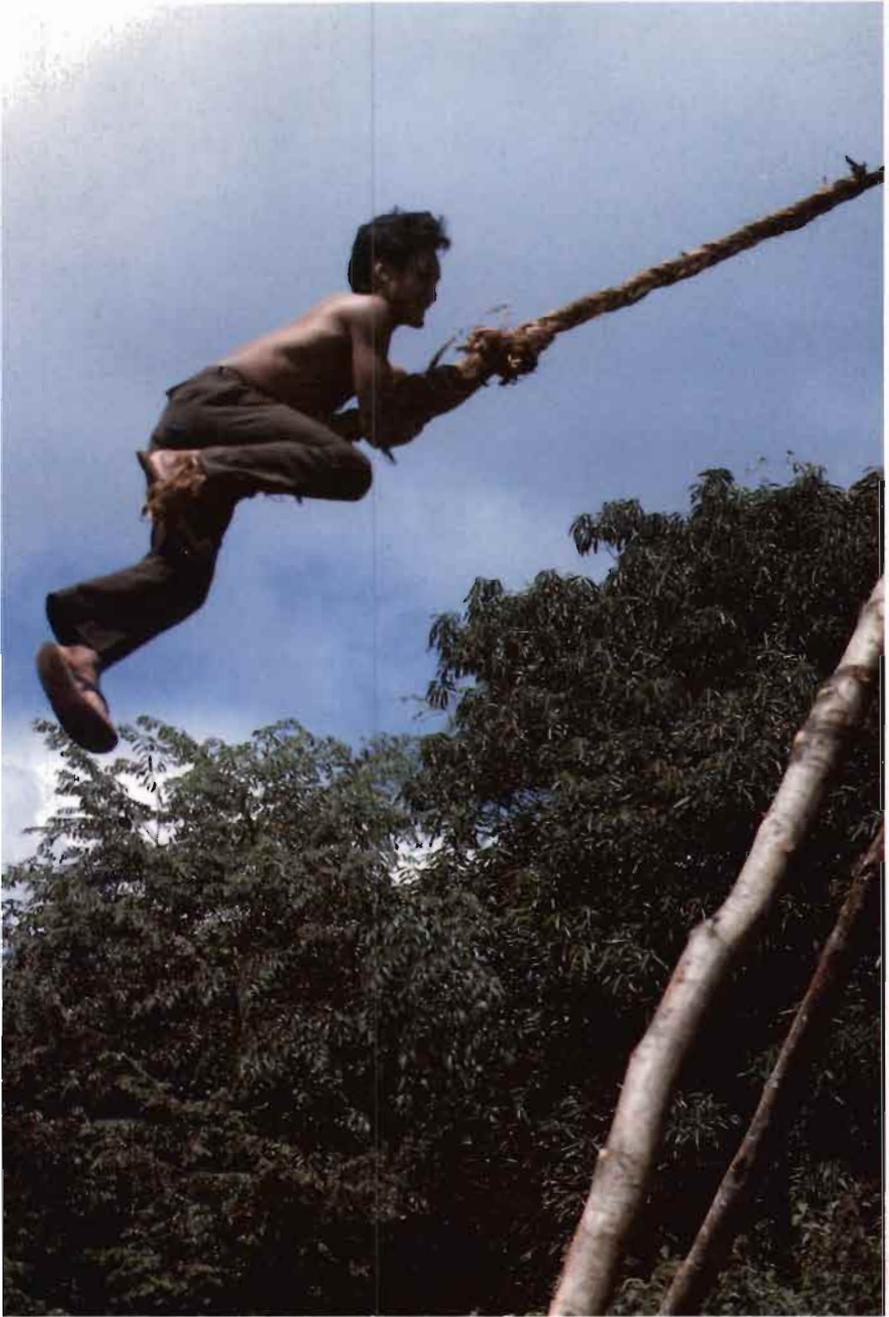
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31. Akha swing (Vienne)



32. Akha consulting liver (Vienne)



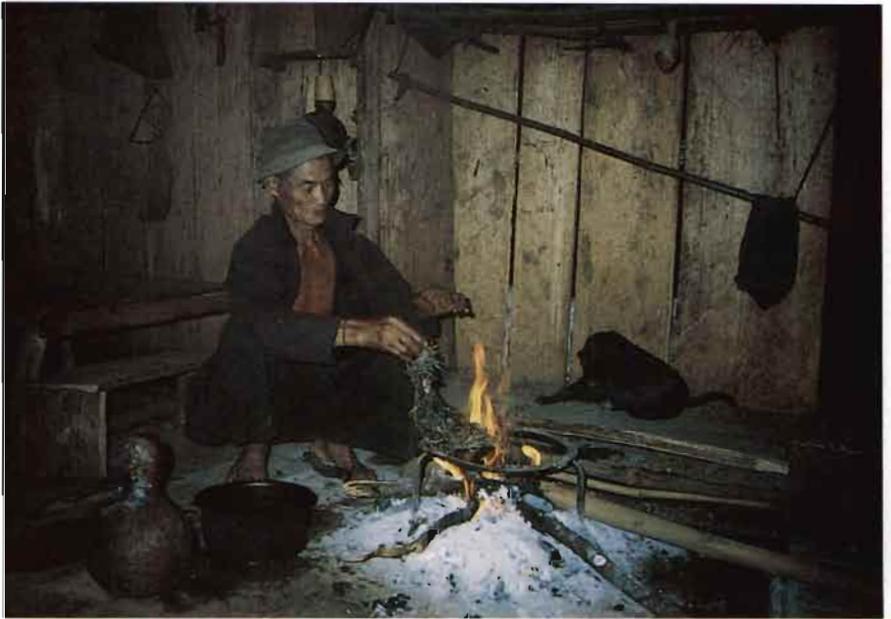
33. Akha ceremony (Vienne)



34. Lahu Sheleh ceremony (Supachai)



35. Preparing Akha cakes (Vienne)



36. Akha sacrifice (Vienne)



37. Burning forest (McKinnon)



38. Burnt-over garden (Hobday)



39. Cut swidden ready to burn (Connell)



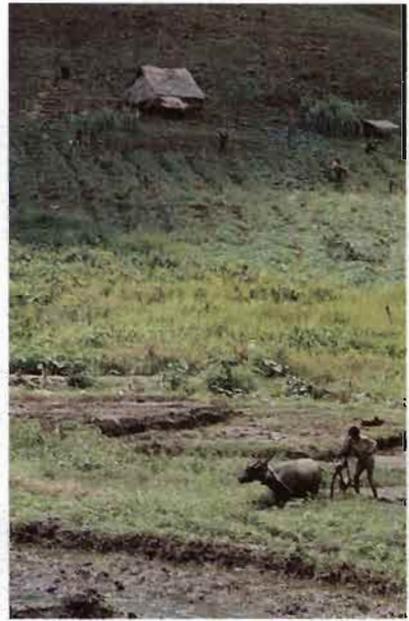
40. Wheat field (Connell)



41. Fields of Red Kidney bean (Connell)



42. Irrigated rice terraces (Connell)



43. Akha ploughing, Doi Chang (McKinnon)



44. Highland town, Doi Chang (McKinnon)



45. Doi Chang fields (McKinnon)



46. Akha land use, Mae Salaep (Vienne)



47. Grass strips, Doi Chang (McKinnon)



48. Tomato field; Doi Chang (McKinnon)