

Food Taboos and Eating Habits amongst Indigenous People in Ratanakiri, Cambodia

A STUDY CONDUCTED BY HEALTH UNLIMITED



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Introduction

In its work in Ratanakiri Province of Cambodia, Health Unlimited has come to believe that the nutritional status of the indigenous highland people may be amongst the poorest in the country. A recent survey of the nutritional status of children under five and women of child bearing age revealed that 40% of under fives are severely chronically malnourished and another 30% are moderately chronically malnourished (Sykes and Fisher, 2002).

Nutritional status is generally influenced by a number of factors, including food availability and feeding customs. Food availability relates to agricultural practices, income, transport and food security. Feeding customs may reflect knowledge, culture and tradition. Just as malnutrition is multi-causal, the solution to the problem of malnutrition in Ratanakiri can only come through the collaborative work of many different development agencies working in the province.

This study addresses one issue, that of feeding practices amongst the indigenous peoples. Most specifically, it describes the food taboos that may limit the range of foods taken, and which must be taken into account in any future health education. These taboos have been noted in previous anthropological studies (Jonsson, 1992; White, 1995; White, 1996). Certain of the dietary restrictions are explained by traditional stories related here. One of the stories related here was subsequently adapted to teach messages around good nutritional practices (see Appendix 4 - Story used in nutrition education, page 28). The finding of differing taboos in different villages was also taken up and used in teaching health educators the need for an adaptable, culturally appropriate educational approach.

Background

GEOGRAPHY AND DEMOGRAPHY

Ratanakiri is a remote, isolated province in the north-east of Cambodia, bordered by Vietnam to the east and Laos to the north. The Province is hilly and forested in contrast to much of Cambodia. The population of slightly more than 94,000 is widely dispersed, living in small remote villages of 100 – 300 people. In the provincial capital town of Ban Lung, the majority of the people are Khmer. In the rural areas, which account for over 80% of the population, the majority of the population, belong to the indigenous hill tribes. At least 8 different indigenous ethnic groups live in Ratanakiri, the largest of these tribes being the Tampoeun, the Jarai, and the Kreung. The languages, culture and livelihoods of these indigenous people differs markedly from those of the Khmer. The majority hold animist beliefs and practice shifting swidden agriculture. Rates of literacy vary widely from urban to rural and from male to female populations. In many villagers, few men and even fewer women speak Khmer, isolating them from education and information mainstream. Only 15.7% of the rural population is literate compared with 58.6% of those living in towns. The literacy rate of women living in rural areas is 8.5%. (All figures taken from National Institute of Statistics, 1999).

HEALTH AND NUTRITION STATUS OF THE INDIGENOUS POPULATION

The health and nutritional status of the people of Ratanakiri is recognised to be amongst the poorest in the whole of Cambodia. In the Cambodian Demographic and Health Survey 2000 (Barrere et al, 2001), Ratanakiri (together with Mondulkiri, its neighbouring province) had the highest under five mortality rate. Nationally, it is recognised that protein energy malnutrition contributes to around 75% of the under five mortality rates (Cambodian Nutritional Investment Plan, 2001). Ratanakiri has the highest rate of severe underweight in the under fives; the highest rate of severe anaemia in under fives and the highest rate of moderate anaemia in women of any province of Cambodia (Barrere et al, 2001).

Indicator	Ratanakiri and Mondulkiri	Cambodia	Range in Cambodia
Under 5 mortality rate	229.3	121.6	49.7 – 229.3
Severe underweight % (<-3SD W/A)	19.0%	12.6%	8.0 – 19.0%
Severe anaemia % 6 – 59 months	7.6%	2.0	0.0 – 7.6%
Moderate anaemia % Women	22.0%	12.7%	4.7 – 22.0%

Figures taken from the Cambodian Demographic and Health Survey 2000 (Barrere et al, 2001).

A national survey of micro-nutrient deficiencies in 2000 found high rates of vitamin A deficiency among children and women in Ratanakiri, with a prevalence of reported night blindness of over 6% amongst lactating mothers (Helen Keller International, 2001).

EXISTING KNOWLEDGE OF THE NUTRITIONAL PRACTICES

The highland people grow rice as a staple crop and supplement this with vegetables and fruit, either from their fields or foraged from the forest, according to the season. They keep animals, including cows, buffaloes, pigs and chicken, and also hunt forest animals but meat is generally eaten only at village feasts or ceremonies, which are held to honour or appease the spirits. Some, but not all, villages fish in the nearby rivers. In addition small animals, such as mice and lizards, may be roasted and eaten as snacks. Cows are not milked.

When rice stores run low, they may be supplemented by corn or tubers such as cassava, taro and vine roots. If nothing else is available, rice or potato is eaten with just garlic, chilli and salt or monosodium glutamate (Jonsson, 1992 and White, 1995).

Methods

RESEARCH DESIGN

Qualitative methods were felt to be most appropriate given the complex nature of the attitudes and beliefs under study (Bowling, 1997). Focus groups were used as they allow the inclusion of a wider range of participants and the exploration of a greater number of issues than would have been possible in individual interviews (Powell and Single, 1996).

THE RESEARCHERS

The study was designed by expatriates (Mick Sykes and Pip Fisher) who are experienced in community health and trained in research techniques. Field work was carried out by seven indigenous staff assisted by one Khmer. All of the field staff received training in focus group techniques. To avoid the villagers being influenced by the field staff to give 'good' answers, no training was given to staff in good nutritional practices prior to the research being carried out.

CONDUCT OF FOCUS GROUPS

Focus group discussions were held with women in six indigenous villages, including two villages each from the Tampoeun, Jarai and Kreung tribes. Discussion guides were used to ensure that all priority topics were covered, whilst allowing for the discussion to develop naturally where possible (appendix 1). The discussions were facilitated by two or three indigenous staff working as a team, and the data was tape recorded with the participants consent.

SELECTION OF PARTICIPANTS

Villages were selected by the indigenous staff. The only criteria for selection were that Health Unlimited had not been working in the village previously, and that the staff spoke the local language. As the sample size was necessarily small (due to time and resource constraints) it is recognised that the villages chosen may not be statistically representative of the whole.

On arriving in the village (and after speaking to the village chief) the indigenous staff invited local women present to participate in the discussions. In each village, three discussion groups were held, dividing the women participants according to age; young women with no children; women with small children; and older women (including traditional birth attendants in this group). The total number of participants in each village is listed in appendix 2.

DATA TRANSCRIPTION

Indigenous staff were asked to summarise in Khmer the main points from the tapes, including as much detail as possible in the explanations of why foods were deemed particularly valuable or taboo for certain individuals. They worked in pairs on this process. These summaries were then translated into English by one translator and checked for accuracy by a second translator.

It was recognised that, in relying on a summary, much of the depth and richness of the results would be lost, however full transcription was not felt to be possible given the constraints of time and resources available.

The stories explaining the food taboos were finally retold by the English researchers, and retranslated into Khmer for the indigenous staff to ensure that the retelling had not altered the original meaning.

Results

The results are presented in several sections. Firstly, the strength of the beliefs is discussed. This is followed by a presentation of permitted and restricted foods for people of differing ages and circumstances, with brief explanations of the reasons behind these preferences where available. Longer stories explaining particular food taboos in detail can be found in appendix 3.

TENACITY OF THE BELIEFS

No distinction is made in the results as to whether the beliefs came from the younger women, women with small children or the older women and traditional birth attendants. The reason for this is that the indigenous researchers felt that there was little distinction between the groups. It was, however, commented by staff that many of the taboos are now only followed by the older people or by certain families in the villages. Younger people may break the taboos if they feel that they will not be seen to do so. Breaking a taboo is generally punishable by a fine if discovered, since it is felt that this may bring bad luck (often in the form of illness) to the village.

Beliefs were found to differ between villages and indeed between families within one village. Where such differences were found this is made explicit in the following results.

FAMILY FOODS

Families are reported to eat three times per day. The food varies throughout the year, according to availability. In the good months, August to October, there are plenty of vegetables and rice. The end of the dry season and beginning of the rainy season are the hungry months for all the indigenous peoples. At this time rice may be supplemented, or replaced, in their diet by cassava, corn and sweet potato. This may be eaten with salt or chillies and, sometimes, green leafy vegetables. A wide variety of meat and fish was described as being eaten if available. Below the main dietary restrictions are described.

Tampouen

Restricted foods

A species of fish (kacheing); boa constrictor.

Certain families do not eat cuckoo - see story I. Other foods may also be restricted according to family name, including wild chicken (see story IV from a Kreung village), squirrel, and an-soung (a type of large forest lizard - see story III from a Jarai village). Eating forbidden foods is thought to bring bad luck, although in the case of eating an-soung there is the fear that the eater may himself turn into the animal.

Jarai

Restricted foods

Restrictions apply according to the family name:

Pout Toms and Poms do not eat beef and a species of parrot (sarika).

Ro-choms do not eat pork.

Pout Pouy do not eat the batenbong javenicus, a large cow like animal found in the forest.

The Klan family do not eat bull frog - see story II

The Phoy family do not eat an-soung (a large forest lizard) - see story III.

If these taboos are broken, those eating the restricted foods are likely to suffer fevers, skin lesions and pains all over the body. A buffalo sacrifice will be required to make them well again.

Kreung

Restricted foods

Tong Bling village

Wild chicken - see story IV for explanation.

Wild bamboo shoots - see story V from Kroloung village.

Those breaking the food taboos will become ill.

Kroloung village

Wild bamboo shoots; pumpkin - see story V.

Breaking these taboos is thought to lead to leprosy and other skin diseases such as ring worm.

NEW BORN BABIES

Tampouen

Permitted foods

Breastfeeding may commence **immediately** after delivery or may be delayed for several days, depending on the mother's condition and that of the baby.

If the mother is sick, the baby will be given porridge with sugar, rice soup or chewed rice.

If the baby 'does not know how to suck' it may be necessary to place certain objects nearby; a bangle or money for a girl baby and a bow and arrow for a boy baby.

Breastfeeding continues until the mother has the next child.

Other foods introduced after six months. No specific weaning foods were mentioned.

Restricted foods

Food restrictions may apply to the newly delivered mother.

Jarai

Permitted foods

Breastfed from immediately after delivery until the mother has the next baby.

Breastfed on demand

If the mother doesn't have breast milk, she will ask another mother who has breast milk to feed her baby, or she may give rice porridge and sugar water.

Other foods introduced after six months. No specific weaning foods were mentioned although rice porridge was described as a food for children.

Restricted foods

Food restrictions may apply to the newly delivered mother. If these are not followed the baby may become ill with an upset stomach, diarrhoea, fever or a rash all over the body.

Kreung

Permitted foods

Breastfed from immediately after delivery until the mother has the next baby, or until the child is two to five years.

Other foods introduced at six to eight months. Porridge and rice soup with squirrel meat, chicken or fish were described as the first solid foods.

Restricted foods

Food restrictions may apply to the newly delivered mother. Children starting solid foods should not be given mouse, eggs, walking catfish or wild pig. These foods are believed to lead to an itchy rash such as scabies, or ear infections.

CHILDREN

Children were said to be permitted a wide range of meats, including small animals such as squirrels, fish and crustaceans. They were recognised by all three tribes as being particularly fond of ripe fruits such as ripe banana, ripe papaya, and ripe jack fruit, despite some of these fruits being restricted for children by some of the villagers. There was also general recognition that children like sweet foods such as sugar cane, candy, biscuits and cakes. Again some of these items were restricted for children.

The Kreung villagers described feeding small children three times per day, the same number of meals as they described for the whole family. No special mention of the frequency of meals was made by the other villages.

One further comment that is worthy of mention came from Somkanning, a Jarai village. The villagers stated that they really wanted their children to eat enough food "as Khmer children do", but they do not have enough money to buy it.

Tampouen

Restricted foods

Kaleng village:

Tortoise, boa constrictor, rat, batenbong javenicus (a type of forest cow), banana flower.

These foods are thought to cause ear infections and wounds.

Children are not thought to like chillies.

Changra village:

Tortoise, one species of non-poisonous snake (Pours Tlan), eggs, sugar cane, ripe banana, chilli, honey.

Eggs in particular are believed to cause an itchy rash like scabies. Other forbidden foods are related to fever and an enlarged spleen.

Jarai

Restricted foods

Pok Touch village

Small skan fish is believed to lead to infection and death.

Sour foods, ripe banana and ripe papaya may cause illness that the child has recovered from to return.

Somkanning village

Mouse, musk melon, imbuing banana (a large green banana), papaya, lemon.

These foods are believed to cause itch and to bring on a recurrence if the child has previously suffered fever.

Kreung

Restricted foods

Tong Bling village

In cases of the common cold children will not be permitted to eat ripe papaya, sweet foods, chicken, and pig fat. Eating such foods is thought to cause recurrence of the illness.

Kroloung village

Food restrictions follow those of the mother and are felt to be necessary to avoid illness.

PREGNANT WOMEN

In addition to eating normal family foods (where permitted) pregnant women were believed to have a particular liking for sweet foods and also for sour foods, such as tamarind, sour mango, and pouching papaya.

Taboos were generally felt to be most important during the first pregnancy.

Tampouen

Restricted foods

Kaleng village:

Skan fish, walking catfish, crab, shrimp, newt, eggs, ripe papaya, ripe banana, ripe eggplant.

Restrictions apply only to the first pregnancy.

Eating forbidden foods is thought to lead to a difficult delivery. It may also cause the neonate to suffer an eye infection.

Changra village:

Red muntjac meat, crab, egg, ripe papaya, ripe jack fruit, sweet potato, oil.

Eating forbidden foods is thought to lead to prolonged labour and a difficult delivery, or possibly uterine prolapse.

Jarai

Restricted foods

Pok Touch village

Sander pangolin, tortoise, eggs, certain insects (ongkrong in Khmer), red muntjac, skan fish, sweet potatoes, taro and another tuber (trouy ptaiv in Khmer), green jackfruit, sugar cane.

Eating forbidden foods is thought to lead to problems such as a difficult delivery, uterine prolapse, severe bleeding and retained placenta.

Somkanning village

East Asian porcupine, sander pangolin, tortoise, eggs (both duck and chicken), certain insects, sweet potatoes, certain other tubers, green bananas, sugar cane.

Eating forbidden foods is thought to lead to problems such as a difficult delivery, uterine prolapse, severe bleeding and retained placenta.

Kreung

Restricted foods

Tong Bling village

First baby: Tortoise, walking catfish, crab, shrimp, bamboo shoots, sambour (a Khmer vegetable), green jack fruit, green banana, oil.

Subsequent babies: egg, walking catfish.

Eating forbidden foods is thought to lead to problems such as difficult labour and uterine infection.

Kroloung village

Tortoise, eggs, walking catfish, shrimp, certain insects, fat, green banana, ripe jack fruit.

Eating forbidden foods is thought to lead to problems such as difficult delivery.

NEWLY DELIVERED MOTHERS

In addition to eating normal family foods (where permitted) pregnant women were believed to have a particular liking for sweet foods and also for sour foods, such as tamarind, sour mango, and pouching papaya.

Taboos were generally felt to be most important during the first pregnancy.

Tampouen

Restricted foods

Kaleng village:

For the first five days after delivery the mother should eat only rice with salt. After five or six days other foods are gradually introduced such as squirrel or small fish.

Forbidden foods include walking catfish, fatty foods, very soft rice, and very hard rice,. These are believed to lead to fainting and headaches.

Banana, papaya, sugar cane, pumpkin, nnoung (a Khmer vegetable) and chilli are believed to lead to illness, particularly cough and tiredness.

Changra village:

For the first five days after delivery the mother should eat only rice with salt. After five or six days other foods are gradually introduced such as squirrel or small fish. These foods should be very dry.

Forbidden foods include walking catfish, red muntjac, snake, eggs and salamander. These foods are thought to lead to allergies or uterine prolapse.

Jarai

Restricted foods

Pok Touch village

For the first three days after delivery the mother should eat only rice with salt. After that, until the sixth day, she may eat rice with certain vegetables, kateiv leaf, trouy ptave, and trouy nnoung leaf. Subsequently she can eat most foods, but if she has fish it must be fried. Three to four weeks after delivery they can eat as normal.

Forbidden foods include most meats (specifically mentioned were beef, pork, red muntjac, buffalo, sambar - a deer like forest animal, chicken), skan fish and certain mushrooms. These foods are thought to cause the breastfed infant to become ill with an upset stomach and diarrhoea..

Somkanning village

For the first five days after delivery the mother should eat only rice with salt and certain green leafy vegetables. After five days most other foods are permitted..

Forbidden foods include red muntjac, beef and catfish. These foods are thought to lead to uterine infection, or to reduce the amount of breast milk produced.

Kreung

Restricted foods

Tong Bling village

The practice was reported to vary. Some women reported eating only rice with ginger and salt for between five and fifteen days after delivery. Others ate rice with fish, dry pork, chicken or the tip of the banana flower.

Forbidden foods included pumpkin, cucumber, bitter melon, string beans, ripe papaya and the bud of the kadav plant (Khmer name). Eating these foods was thought to lead to uterine infection.

Eating eggs was thought to lead to scabies.

Kroloung village

Women from Kroloung village report eating only rice with salt and ginger for between five and ten days after delivery. After that there are fewer restrictions.

Forbidden foods red muntjac, pork, chicken, red mouse, rat, walking catfish, another type of fish (treiy kontouy krohoum in Khmer) and truy nnoung (a green leafy vegetable). Eating these is feared to cause uterine infection or problems for the breastfed child such as a rash.

SICK PEOPLE

Tampouen

Permitted foods

Kaleng village:

The patient will be offered foods such as porridge with sugar, fish, banana, ripe jack fruit, papaya, and cake or biscuit.

Changra village:

Foods are restricted according to the presumed diagnosis.

Restricted foods

Kaleng village:

Sour foods are forbidden, as are ripe papaya and ripe banana. The reason for this is that these foods are thought to prevent traditional medicines from working.

Changra village:

In typhoid fever, hard rice, oil, chilli, milk (canned milk is sometimes given to sick people), sweet foods and sour foods are not permitted.

In malaria, sweet foods such as sugar cane, ripe papaya and ripe banana are avoided.

Eating restricted foods is thought to lead to recurrence of the illness.

Jarai

Permitted foods

Foods may include porridge, sugar cane, fried fish, fried chicken and soup with vegetables.

Restricted foods

Papaya, ripe banana, sour foods such as sour mango or tamarind, musk melon, cucumber, water melon.

Eating restricted foods is thought to lead to recurrence of the illness.

Kreung

Permitted foods

Rice with fish, squirrel, chicken and kateiv leaves.

Restricted foods

Ripe banana, ripe papaya, jack fruit, sugar cane, food that smells bad. Chicken is forbidden if the patient is cold.

Eating restricted foods is thought to lead to recurrence of the illness.

Discussion

The methodology of this study to some extent limited the information gathered. The results provide an impression of the foods that people like to eat or must not eat, rather than being a true observation of food habits. What is said is not always what is done. This was highlighted by the villagers' statements that babies are breastfed from birth. Health Unlimited midwives, observing practices in the villages, have reported that babies are frequently not breast fed for the first two to three days. In order to obtain a deeper understanding of eating patterns, either individual interviews or a long term anthropological investigation would be necessary. Nevertheless the information provided here gives some useful insights into the different taboos and restrictions that are likely to be met in discussions of nutrition in the hill tribes of Ratanakiri.

It is clear that making generalisations is difficult. Food habits differ between the different tribes, between different villages of the same tribe and between different families in the same village, although the stories explaining these restrictions are shared where common clan names exist between different ethnic groups. In this context, any health education programme must be flexible enough to allow substitution of one food for another of similar nutritional value as the message is taken from village to village.

A few areas where health education may be most valuable may be highlighted, notably infant feeding, and feeding during pregnancy and after delivery. These reflect periods of critical nutrition in the life of the child and its mother.

Specific weaning foods were not mentioned at all in the Tampouen and Jarai villages. The time around the introduction of solid foods for small babies is a period during which they are at particularly high risk of under nutrition, and require foods containing high protein, energy and vitamin and mineral content. It is still possible that mothers select, from their own diet, foods suitable for their young babies. In some cultures the mother may even chew food such as meat before giving it to the young infant. Indeed one of the Tampouen villages described giving newborns chewed rice if the mother has no breast milk. However use of this method for weaning was not described in this study.

Infants and small children should be fed more frequently than the rest of the family. Usually five times per day is recommended (King and Burgess, 1992). However, where frequency of feeding was discussed, villagers reported feeding children only three times per day. The comment that the villagers want their children to have enough to eat "as Khmer children do", but do not have enough money to buy it, is slightly ambiguous. It may refer to the *quantity* of food that is available to Khmers and reflect an awareness that Khmer children in Ratanakiri are generally better nourished than are indigenous children. Alternatively it may refer to the *types* of food that are more common in the Khmer diet than in the indigenous diet. This would include processed foods, such as noodles, bread or biscuits, that are available to those with money. This raises the worrying possibility that indigenous people may be tempted to sell their own crops to buy processed foods of less nutritional value, so impoverishing themselves further.

Good nutrition in pregnancy is considered essential both for the health of the mother and also for that of the baby. Malnourished mothers are more likely to suffer post-partum bleeding and are less likely to have sufficient reserves to survive such problems (King and Burgess, 1992).

Furthermore, malnourished mothers are more likely to give birth to low birth weight babies who have higher rates of morbidity and mortality (King and Burgess, 1992).

Villagers are undoubtedly very aware of the high morbidity and mortality surrounding pregnancy and delivery in Ratanakiri. Many of the food taboos are justified by them as an attempt to avoid obstructed labour. This raises certain difficulties for the nutrition adviser: Many of the foods that are restricted are the most readily available sources of protein, such as eggs or fish, or extra calories, such as oil. Both these types of foods would normally be recommended to the pregnant woman. Thus the health advisor must try to find some alternative that is both acceptable and readily available for the population.

In addition, it suggests the women of Ratanakiri are unlikely to respond positively to nutrition advice that promises them a big baby, the traditional encouragement given to women in the West. Mothers who are afraid of obstructed labour may prefer to give birth to a small baby, even if advised that small babies are less likely to survive. This has been highlighted elsewhere in Asia (Werner and Bower, 1982). Health educators must therefore concentrate on giving acceptable messages emphasising, for example, the mother's strength for the delivery.

Traditional practices after delivery are similarly tied to fears of post-partum complications. Some of these complications, such as uterine prolapse, relate to the high parity of the local woman; others, such as uterine infection, relate to poor hygiene during and after delivery. In both cases, the well nourished mother is less likely to suffer the problem and more likely to survive to receive treatment than is the malnourished mother.

Ultimately good nutrition in and around pregnancy cannot be separated from the need for facilities for safe clean delivery, including access to emergency Caesarean section and birth spacing to allow women to choose the number of pregnancies they wish to have. Only when such care is available will the fear of complications reduce and the nutrition advisor be likely to make an impact on deep seated beliefs regarding food at this time.

Whilst health education addressing feeding practices may be of some value in Ratanakiri, there are limitations to the improvements that are likely to be achieved. The very high level of malnutrition found in the recent survey, - 70% of under fives being moderately or severely malnourished (Sykes and Fisher, 2002)- is unlikely to be rooted purely in dietary restrictions. Further studies on food availability and food security are needed to determine the extent to which such problems limit food intake. Improved agricultural practices and income generation, to allow villagers to access basic ingredients such as cooking oil and sugar, must be essential components of any programme to deal with this issue.

Appendices

APPENDIX 1 – DISCUSSION GUIDE

Development:

The discussion guide was developed from questions suggested by the indigenous staff as being important.

Questions put forward by staff

1. What kind of food do you give newborn babies?
2. What do you give to your baby when it is six months old?
3. When do you stop breastfeeding your baby?
4. How many times per day do you feed your child?
5. What do you give your child to eat normally?
6. What does your child like to eat?
7. What foods should a child not eat?
8. What do you give your child when it is sick?
9. What foods should a sick child not eat?
10. When you are pregnant, what do you eat?
11. When you are pregnant, what kinds of food should you not eat?
12. After delivery what foods should you eat?
13. After delivery what foods should you avoid?
14. When someone is sick what foods should they eat?
15. What foods should they avoid?
16. What foods do your family normally avoid?
17. WHY?
18. What happens if you eat the restricted foods?
19. Can you tell us the story that explains why you restrict certain foods?
20. What kind of foods do you like?
21. Do you know what kind of foods make the body strong?
22. Are there times when you do not have enough to eat? Which seasons are they?
23. Can you compare how your body feels when there is not enough food to how it feels when you have good food?
24. What do you do to try to get enough to eat in the seasons when there is not enough food?
25. Have you heard health workers talk about nutrition before? What do you remember them saying?

From this list the important points were picked out and summarised.

Discussion guide

Who do we want to know about?

We want to talk about

- babies,
- children,
- adults,
- sick people,
- pregnant women and
- women who have recently delivered.

Permitted and restricted foods

We want to know:

- what people do eat,
- what they do not eat, and
- how many times per day they eat.

Why?

For all of these things we want to know WHY?

- Are there any stories which explain why they can or cannot eat certain foods?
- Who tells them which foods are good and which are not good to eat?
- What will happen if they do not follow these rules?

Times of plenty and times of scarcity

Is there a difference between what they eat in different seasons?

- What do they eat when there is plenty of food?
- And what do they eat when there is not enough food?

Health education

- Have health workers or teachers talked to them about food before?
- What do they remember?

APPENDIX 2 – FOCUS GROUP PARTICIPANTS

Village and district	Tribe	Age of participants	Approximate number of participants	Facilitators
Changra, Lumphat	Tampouen	14 – 20 20 – 45 45 + including TBAs	10 15 3	Ploeu Chantla
Kaleng, Lumphat	Tampouen	14 – 20 20 – 45 45 + including TBAs	9 10 2	Ploeu Yor Nary
Tong Bling, Ochum	Kreung	14 – 20 20 – 45 45 + including TBAs	10 9 5	Sophoeun Vany Yor
Kroloung, Ochum	Kreung	14- 20 20-45 45 +	6 5 6	Chantla Vany Sopheun
Somkanning, Oyadao	Jarai	14 – 20 20- 45 45 + including TBA	15 18 4	Kosom Ratana Nary
Pok Touch, Oyadao	Jarai	14 – 20 20 – 45 45 + including TBA	10 7 3	Kosom Ratana

Note: TBA = Traditional Birth Attendant

APPENDIX 3 – STORIES EXPLAINING FOOD TABOOS

STORY I



From Kaleng, a Tampoeun village, explaining why some families do not eat cuckoo.

Many years ago, two sisters lived in the forest far away. They always worked together, and shared the chores.

One day they went to collect vegetables together. When they came back, the older sister chopped up the vegetables and put them in the pot to cook. Then she went to take a bath whilst the food was cooking.

When she came back from bathing she saw that there was very little food left in the pot. She was very angry with her younger sister. “Why did you eat all my food?”, she shouted. Her sister replied “I didn’t eat all your food.” But the older girl was not listening. She still blamed her younger sister. She hit her and told her that she should leave the house.

So the two sisters parted. The younger sister left the house and went to live in the field of sugar cane in the forest. The young girl ate sugar cane every day. But the cane was rough. After several days of eating nothing but sugar cane, the girl’s cheeks were cut inside. The poor girl was very unhappy. Her sister did not like her. She could not live in the house. And now her cheeks were all infected and cut. She climbed up into a tree and began to cry.

Just then a cuckoo flew into the tree. It heard the young girl crying and asked her “Why are you crying? And why are you living in this field all alone?”

The young girl replied, “I had to leave my house because my sister was angry and hit me. So I came here to live all by myself.”

“How did your cheek get so infected?” asked the cuckoo.

“Because I have nothing to eat except sugar cane.” said the girl. “And the sugar cane has cut my cheek.”

The bird felt sorry for the young girl. So he turned to her and said, “If you promise never to eat cuckoo ever again, I will treat your cheek and help you get better.”

The young girl agreed with a tear. So the cuckoo took the thorn of an orange tree and stitched the cuts in the girl’s cheek. Soon her cheek was completely healed.

And since that time the family of the young girl have never eaten cuckoo.

STORY II



From Pok Touch, a Jarai village, explaining why the Klan family does not eat bull frog

Once upon a time there was a Jarai family called Klan. Like other Jarai families, the Klan family liked to eat rice. Every morning the little girl from the family would pound the rice to be sure there was enough ready for her mother to cook. One morning, when she was pounding the rice, the little girl noticed that it seemed to be taking much longer than normal. Without the little girl noticing a bull frog had jumped into the pot. It had been hit by the big pounding stick and died in the pot. That was why the rice took so long to prepare. Only when the little girl had finished pounding did she noticed the dead bull frog. Now it was too late.

A few days later the girl became very ill. Her family did everything they could think of to make her better, but she did not improve. In despair they went to the village teller. The teller said, "Because you pounded the rice without paying attention the bull frog died. That is why you are sick now."

The family were very worried. They discussed what had happened with other villages and agreed to kill a pig to appease the spirit of the bull frog. And they swore that they would never eat bull frog again. They did these things and the little girl got better. Since that time the Klan family have never eaten bull frog.

STORY III



From a Jarai village, explaining why the Phoy family do not eat an-soung

A long time ago, in one Jarai village many people were getting sick and dying. The villagers believed that the spirits were angry with them and were telling them that they must move to another place. So, after much discussion, they decided to move the village to a new site far away.

Every family in the village was very busy, packing all their belongings and carrying everything through the forest to the new site. Only old Mrs Phoy was not busy. She was very old, in fact she was the oldest person in the village. And she was sick. She couldn't help her children and grandchildren to carry all their belongings. So her children decided to leave her in the old house, whilst they carried everything to the new site. They would come back for her when the new house was ready.

The old lady stayed in bed, waiting for her children to take her to the new village. She waited for a long, long time. But nobody came. She waited so long that she thought that her family had forgotten her. So she decided to find her own way to the new village. She got up from her bed and took her pillow, blanket, bed-net, mat and her pot with her. And off she went.

But Mrs Phoy was very old. She could not see very well and she had not been out into the forest for a long time. Soon she lost her way in the forest.

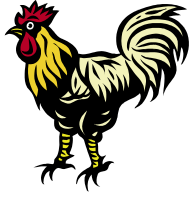
When her children finished preparing the new house they came back to the old village. They tried to find old Mrs Phoy. They called and called, and looked everywhere in the old village, but they could not find her. Eventually they had to give up and they went back to the new village feeling very sad.

Many months went by. One day the children of Mrs Phoy entered the forest to hunt. They killed a big an-soung and took it back to the village to eat. It was a very big animal and would make a good meal for all the family. When they cut open the an-soung, imagine their surprise when inside its stomach they found a pillow, a blanket, a bed-net, a mat and a pot. The family were very surprised, but they were so hungry that they did not stop to think. They went ahead and ate the an-soung anyway.

The next day everyone who had eaten an-soung meat was ill. They had infections in their mouths and on their bodies. Some had fever. Some had diarrhoea. And some had pain all over their bodies. Everyone was asking each other what had happened. Why were they all sick? Then one person remembered, "Everyone who is sick ate an-soung meat." Somebody said, "Maybe the an-soung was our grandmother". "We ate the an-soung meat even when we saw the pillow and blanket and all those other belongings. It is just as if we have eaten our grandmother."

The next day the family killed a buffalo to appease the spirit of their dead grandmother, and they swore never to eat an-soung again. Only after the whole Phoy family had sworn, did they start to get better. And since that day no-one in the Phoy family has ever eaten an-soung.

STORY IV



From Tong Bling, a Kreung village, explaining why some families do not eat wild chicken

Many years ago, there was a young girl who went into the forest to gather vegetables. But the forest was very big and the young girl soon lost her way. She walked and walked but she could not find the way home. Eventually she came to a big lake. She had been walking all day and she was very thirsty. So she walked to the lakeside to have a drink.

The little girl did not know that near the lake lived a big crocodile. When the crocodile saw the young girl he licked his lips. The girl would make a big meal that he could share with his friends. He jumped up and caught the girl and dragged her into his cave. He took her right to the back of his cave so that she could not escape. Then he went to find his friends so that they could come and join the feast.

Just then the young girl heard a scratching noise above her in the cave. It grew louder and louder until at last a hole appeared in the roof of the cave. It was a wild chicken, scratching in the ground above, trying to find some food.

The girl saw the hole the chicken had made in the roof and quickly climbed up. She climbed out of the roof of the cave to where the chicken was standing. As she bent down to thank the chicken, it said to her, "If it were not for me the crocodile would have eaten you. How will you thank me for helping you?" And the young girl replied, "Because you helped me, I promise I will never eat wild chicken again."

And since that time all the family of that young girl has never eaten wild chicken.

STORY V



From Kroloung, a Kreung village, explaining why the people do not eat bamboo and pumpkin.

Many years ago, there was a Kreung village which was surrounded by areas of tribal warfare. Nearby villages were always being raided by their enemies. But this one village was always safe. The reason for this was that this village was surrounded by thick groves of prouve bamboo shoots, srok bamboo shoots and pumpkin. The enemies tried to cut through many times, but they couldn't succeed. No matter how hard they tried, they always had to give up in the end. Eventually, after many attempts to cut through the bamboo and pumpkin had failed, the enemy, decided to go back home and promised not to come back again. The Kreung people were safe. From that day the villager decided not eat prouve bamboo shoots, srok bamboo shoots and pumpkin anymore. Because the prouve bamboo, srok bamboo and pumpkin had saved their lives.

If someone eats these restricted vegetables, the elders in the village will fine them. Villagers fear that if they eat this restricted vegetable someone in their family will fall sick or have a bad luck.

STORY VI



From a Kreung village, explaining why the people do not eat gour

Many years ago, Mr. Ong went to visit his friend in a neighbouring village. Mr Ong was Kreung and his friend was Loan, but that did not matter to their friendship. Mr Ong spend several days on his visit enjoying his friend's company.

One day, the Loan villagers were inaugurating a new house and Mr. Ong went to attend the ceremony. He was very impressed by the new building. He thought "If I measure the pillar of this new house and take a model for my house it will be wonderful". So he started to measure the pillar, but as he did so the owner ran out looking very angry and shouting. "Why are you measuring my pillar? Measuring my pillar like this means you look down on me.". Poor Mr Ong had not known that measuring a pillar was very rude for the Loan people. The angry house owner shouted at him, "Get out of our village." and began to chase him.

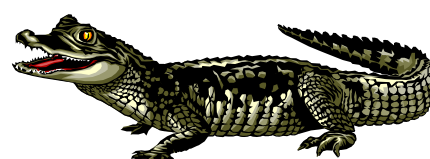
Mr. Ong ran away from the village with the villager still running behind him, sword in hand. Turning off the road, Mr. Ong escaped into the forest. The villagers pursued him, following him into the forest. But when they did, they could not see him. All they could see was a gour, (a large wild buffalo). They could not see Mr. Ong hiding quietly behind the big animal. And they could not imagine that a big wild gour would help a man to escape. So they decided to give up the chase, and go back to their village. Mr. Ong was safe thanks to the gour. Since that day Mr. Ong and his family have never eaten gour again.

APPENDIX 4 - STORY USED IN NUTRITION EDUCATION

The Young Girl and the Wild Chicken

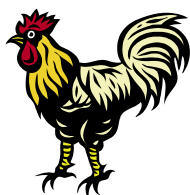


Many years ago there was a young girl who went out to look for vegetables in the forest. She walked so far in to the forest that she lost the road back to the village. She kept walking and walking through the forest until she came to a big lake. She was very thirsty, so when she saw the lake she walked to the lakeside to take a drink.



The young girl did not know, but, when she reached the lakeside, she was standing by the cave of a crocodile. Suddenly the crocodile came out of the water, grabbed the young girl and took her deep into his cave.

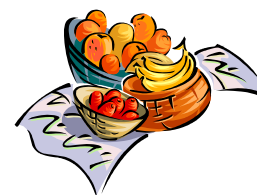
When the crocodile had put the young girl deep inside his cave, he set out to look for his friends. He, wanted to invite all his friends to eat the young girl, so he travelled all over the lake and the Forest to find them.



The young girl in the cave was very sad because she was lost. She was tired and hungry, and the crocodile and his friends were going to eat her. But while she sat in the cave and cried, she heard a noise above her head. The young girl looks up to see what was making the noise.

Up above the cave, a wild chicken was looking for food in the forest. It was scratching and digging in the ground above the cave. Soon it made a hole in the roof of the cave.

The young girl looked out from the cave and saw the wild chicken. She said, " Oh please wild chicken, help me because a crocodile is going to eat me." The wild chicken looked in to hole and told the young girl to climb out. But the young girl was too tired and too weak and too small to climb out, so she didn't know what to do.



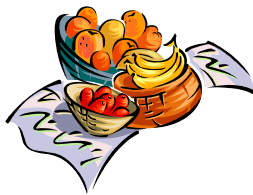
The wild chicken saw that the young girl was too tired and too weak and too small to climb out through the hole. So he said to her, " Don't worry, I will help you to get out of the cave. I will

bring you good food. I will bring you food to give you energy, I will bring you food to keep you healthy and I will bring you food to help you grow. I will bring this food every day. Then you will be able to climb out of the cave and escape from the crocodile." The young girl thanked the wild chicken many times, and she said, "Oh please, wild chicken, try to bring this good food to help me. Food to give me energy, food to keep me healthy and food to help me grow. But please remember that I am small, and I can not eat big meals. I am worried that I will not be able to eat enough to grow quickly or have enough energy." "Don't worry," said the wild chicken, " I know which foods contain the most energy. If I add a little oil or fat or sugar to your cooked rice, that will give you extra energy. And if I bring you food five-times a day, you will be able to eat enough food." The young girl thanked the wild chicken again and the wild chicken said, "I will bring you two or three meals with rice or root each day. The other meals will be a banana or some sugar cane, because it is difficult to find five meals every day."

Every day the wild chicken brought good food for the young girl. Some days, the wild chicken would bring her pumpkin for health, eggs to help her grow and he would add a little oil or fat to her rice to give her lots of energy. On other days the wild chicken would take different good food to the young girl. He would give her green leaves for health, a little meat to help her grow and maybe some honey mixed with a root to give her lots of energy. Everyday, the wild chicken remembered to give the young girl bananas and sugar cane and sweet potato and other fruit. So that the young girl could eat five times a day.

The young girl stayed healthy and had lots of energy and grew so well, because the wild chicken brought her the good food. So one day, the young girl was able to climb out the cave and escape. She thanked the wild chicken many times and said, "Oh wild chicken, you saved my life by bringing me good food to help me grow, food to give me energy, and food to keep me healthy. So I was able to climb out of the cave and escape from the crocodile."

And since that time, the family of the young girl does not eat wild chicken, because the wild chicken helped the young girl to escape the crocodile.



References

Bowling, A. (1997). *Research methods in health: investigating health and health services*. Buckingham: Open University Press.

Cambodian Nutritional Investment Plan, 2001. Cambodia: Ministry of Health.

Helen Keller International, 2001. The need for multiple strategies to combat vitamin A deficiency among women in Cambodia. *Nutrition Bulletin*; **2** (4): February 2001.

Jonsson, H. (1992). *Final report to Health Unlimited on health issues among upland groups in Ratanakiri Province, Cambodia*. Cambodia: Health Unlimited.

Barrere, B., Sao, S., Johnston, R. et al (2001). *Cambodia Demographic and Health Survey 2000*. Cambodia: Ministry of Health and Ministry of Planning.

Powell, R. A. and Single, H. M. (1996). Focus groups. *International Journal for Quality in Health Care*; **8** (5): 499-504.

King, F.S. and Burgess, A. (1992). *Nutrition for Developing Countries*. Oxford, UK: Oxford University Press.

National Institute of Statistics (NIS), Ministry of Planning, Cambodia (1999). *General Population Census of Cambodia 1998*. Cambodia: Ministry of Planning.

Sykes, M. and Fisher, J.P. (2002). *Indigenous women and children in Ratanakiri Province, Cambodia: a health and nutrition survey*. Cambodia: Health Unlimited.

Werner, D and Bower, B (1988). *Helping health workers learn*. California, USA: Hesperian Foundation.

White, J (1995). *Of Spirits and Services*. Cambodia: Health Unlimited.

White, J (1996). Highlanders of the Cambodian North-east. *Cambodia Report. Special Issue: Ethnic groups in Cambodia, July 1996*: 13- 16. Cambodia: Centre for Advanced St