

---

---

# **THE DETERMINANTS OF VILLAGERS' CONSUMPTION BEHAVIOR OF VITAMIN A RICH FOODS : A CASE STUDY OF THE NORTHEAST OF THAILAND**

---

---

**YOTHIN SAWANGDEE  
PIMONPAN ISARABHAKDI**

DECEMBER 1988

ISBN 974-586-497-8  
PUBLICATION No. 128  
INSTITUTE FOR POPULATION  
AND SOCIAL RESEARCH  
MAHIDOL UNIVERSITY

THE DETERMINANTS OF VILLAGERS' CONSUMPTION BEHAVIOR  
OF VITAMIN A RICH FOODS:  
A CASE STUDY OF THE NORTHEAST OF THAILAND

<b>CONSULTANT :</b>	<b>Associate Prof. Boonlert Leoprapai, Ph.D.</b>
	<b>Assistant Prof. Benja Yoddumnern-Attig, Ph.D.</b>
<b>INVESTIGATOR :</b>	<b>Yothin Sawangdee</b>
	<b>Pimonpan Isarabhakdi</b>
<b>RESEARCH ASSISTANT :</b>	<b>Sarit Pongpaew</b>
	<b>Piyasakdi Butsingkorn</b>

This project is supported by research grant of  
the Institute of Nutrition, Mahidol University



## ACKNOWLEDGEMENT

The investigators should like to acknowledge with thanks the support of the Institute of Nutrition, Mahidol University in financing this research project. In particular gratitude is owed to Prof. Dr. Aree Valyasevi and Prof. Dr. Sakorn Dhanamitta, the former director and current director of this Institute respectively whose support made this research possible.

The investigators are also sincerely indebted to Associate Prof. Aphichat Chamratrithirong, Director of the Institute for Population and Social Research for his encouragement and moral support, to Associate Prof. Boonlert Leoprapai, Assistant Prof. Benja Yoddamnern Attig, Assistant Prof. Dhara Viriyapanich and Dr. Yongyuth Kachonpadungkitti for their substantive suggestions and pricious guidance, as well as to Ajarn Suttilak Smittasiri for her useful suggestion and well coordination of all relevant efforts of this study.

Recognition also is due to all informants of this research, i.e., the villagers in Ban Nong Bua Chaiwan Ban Pakbung, Ban Burapa and Ban Nong Tow, Amphoe Kantharom, Changwat Sri Saket, for this willingly donated time and effort from their work to provide us with the data and experiences necessary to complete this project.

The investigators are grateful indeed to Mrs. Somying Suwannavat, Mr. Narongsakdi Piew-on, Mrs. Sujitra Nilbodi for their diligent typing of this report and also to Ajarn Aurapan Hunchangsit, Head of the Office of the Director, for her facilitation of this work.

Lastly we would like to express our gratitude to Assistant Prof. Chanya Sethaput and Ajarn Kulwaladda Singha for their untiring translating the transcriptions from Thai to English.

All deficiencies that may arise will be totally borne by the investigators and properly revised.

Yothin Sawangdee  
Pimonpan Isarabhakdi



## CONTENTS

	Page
<b>ACKNOWLEDGEMENT</b>	
<b>1. SIGNIFICANCE AND SOURCE OF THE PROBLEM</b>	1
<b>2. OBJECTIVES OF THE STUDY</b>	1
<b>3. RESEARCH METHODOLOGY</b>	2
<b>4. SELECTED VILLAGES</b>	3
<b>5. THE RESULT OF THE STUDY</b>	7
5.1 General Food and Nutrition	7
5.2 Consumption of Food Contained Vitamin A	11
5.3 Pregnant Women and Nutrition	17
5.4 Food and Nutrition of Post-natal Women	21
5.5 Nutrition and Infant Health	28
5.6 Nutrition for Children Aged 13-24 Months	31
5.7 Nutrition for Children Aged 25-60 Months	33
5.8 Knowledge on Eye Sickness	37
5.9 Media for Knowledge on Food and Nutrition	38
5.10 Other Medias: Poster, Radio, Movie and VDO	41
<b>6. ANALYSIS AND DISCUSSION</b>	44
6.1 General Nutrition	44
6.2 Nutrition of Pregnant Women	48
6.3 Nutrition of Post-partum Women	49
6.4 Nutrition for Children Aged 0-12 Months	51
6.5 Nutrition for Children Aged 13-24 Months	53
6.6 Nutrition of Pre-school Children Aged 2-5 Years	54
6.7 "Kalum" (taboo), Belief and Abstinence of Food Consumption in Relation to Consumption Behavior	55

	<b>Page</b>
<b>7. METHODS OF PROVIDING KNOWLEDGE OF FOOD WITH VITAMIN A CONSUMPTION</b>	<b>59</b>
7.1 Factors Affecting the Consumption of Food with Vitamin A	59
7.2 Media and Guide for Promotion of Vitamin A Rich Foods Consumption	64
<b>8. CONCLUSIONS</b>	<b>66</b>
<b>APPENDIX A: Guidelines for Discussion</b>	

**THE DETERMINANTS OF VILLAGERS' CONSUMPTION BEHAVIOR  
OF VITAMIN A RICH FOODS:  
A CASE STUDY OF THE NORTHEAST OF THAILAND**

**1. SIGNIFICANCE AND SOURCE OF THE PROBLEM**

Institute of Nutrition, Mahidol University is planning to promote the more consumption of Vitamin A rich food in the people of lower Northeastern villages. Amphoe Kanthararom Changwat Sri Saket is the target area of this project. In order to implement this project effectively, the insight information and over all circumstances of this target population have to be scrutinized and analyzed. The methods of information dissemination, and of changing in consumption behavior have to be precisely determined. Consequently, the main objective of this study is to find the most suitable method of communication to foster the change in consumption behavior of the target group.

Unless their attitude, belief and behavior in consumption of Vitamin A rich foods are prudently studies and certain beliefs as well as abstinences of this sort of food are clearly categorized, the subtley strategic campaign to surmount this problem cannot be attained. Hopefully, the result of this study will also provide the answers to various problems concerning the information and communication development, the suitable mean of communication and the content of campaign that will help reach this projects goal.

**2. OBJECTIVES OF THE STUDY**

In search of strategies to develop public relation media and scrutinize the appropriate media for disseminating information on usefulness of vitamin A consumption, this study is aimed to:-

- 1) study on knowledge, attitude and behavior concerning vitamin A consumption among sample mothers.
- 2) study the factors e.g., taboo or restriction which affect the lack of vitamin A consumption among target groups.

3) search for the most appropriate media for campaigning.

### 3. RESEARCH METHODOLOGY

In order to obtain rational and sound data, the investigators decided to use qualitative method in collecting and analyzing data. Focus group discussion is selected.

The informants are divided into 4 groups. The informants are residents of three villages in Amphoe Kanthrarom, Changwat Sri Saket. Two of selected villages are medium size, i.e., Ban Nong Bua Chaiwan in Tambon Nonesung and Ban Pakbung in Tambon Jan. The rest is small size-Ban Burapa Tambon Jan.

The characteristics of discussants in 4 groups are:-

1. Pregnant Women (Pregnant Group)
2. Women who have children aged 0-12 months (0-12 Group)
3. Women who have children aged 13-24 months (13-24 Group)
4. Women who have children aged 25-60 months (25-60 Group)

In Ban Nong Bua Chaiwan, 4 types of discussants are studied. In Ban Pakbung only women in 1-3 categories are grouped for focus discussion. The last group (4) is arranged in Ban Burapa. They are 8 groups together.

Here are the guidelines of the focus group discussion

1. General food and consumption
2. Vegetables
3. Oily Food
4. Pregnant women and nutrition
5. Food and baby's health
6. Media and strategy for promoting vitamin A consumption
7. Poster, radio, movie and V.D.O.
8. Knowledge on eye sickness
9. Food for baby aged 0-12 months
10. Food for pre school children

These topics are raised to talk among focus group discussants.

Before data collecting, the investigators have tried to arrange group discussion so as to they can test their guidelines at least 2 times. In the first time a group of the Northeastern wives who moved with their husband to work in Changwat Nakorn Prathom was pre-tested. After improving the guidelines of discussion, the research team went to Changwat Sri Saket and arranged focus group discussion at Ban Nong Tow, Tambon Muang Noi, Amphoe Kanthararom, Changwat Sri Saket. Women who joined in the group had children aged 13-24 months. Again, the guidelines were adapted. After that they have been used in the focus group discussion among target population in selected villages.

#### 4. SELECTED VILLAGES

The investigators have chosen three villages where people speak Thai-Laos, i.e., Ban Nong Bua Chaiwan in Tambon Nonesung, Ban Pakbung and Ban Burapa in Tambon Jan. Ban Nong Bua Chaiwan and Ban Pakbung are medium-size villages and number of households is nearly equal. Ban Burapa is a small size village. Ban Nong Bua Chaiwan is separated from other studied villages but the villagers commute to the District conveniently. Ban Pakbung and Ban Burapa are adjacent, about 1.5 kilometres distance. People of these two villages commute frequently. These two villages are far away from Ban Nong Bua Chaiwan about 20 kilometres so that people here and there do not communicate with each other.

4.1 Ban Nong Bua Chaiwan has 182 households and 1,143 population, 576 males and 567 females. The distance from the village to the market in Amphoe Kanthararom is about 8 km. By means of communication, they have laterite road which is separated from the paved road of Kanthararom-Ubon Rachthanee for only 1 km. To go to the market, people use motorcycles, bicycles and bus which commutes between changwat Sri Saket and Ubon Rachthanee.

Information on population economic status is given by the headman, village health volunteer and village committee. They said that the economic status

of most families is middle to low. By average, each family owns about 10-12 rai. About 10 households are landless.

Electricity came into Ban Nong Bua Chaiwan in 1981. The effect of having electricity is increased number of radios, tape recorders, black and white televisions and colored televisions in the village.

Food source is naturally available. In this village there are 7 stores where sell some foods such as canned fish, eggs, Ma-Ma(instant noodles), Pla Ki Ko (dried fish), sodium glutamate, vegetable oil, lard and packed sweet meats.

Geographically and ecologically speaking, the village is situated on two marshes i.e., Nong (marsh) Bua and Nong Chaiwan which is 1200 metres far from Moon River. Water in two marshes is never dry so it is natural source of food for the villagers. Vegetables grown in marshes are morning glory, duckweed and water hyacinth. On the side of the swamps, villagers grow some vegetables such as mustard green, chinese kale, chinese cabbage, and chinese morning glory etc.

In Ban Nong Bua Chaiwan, there is no health center. Villagers go to Nonesung Health Center which is about 4 kilometres far from their village for health service. The transportation is convenient because there is a paved road from the village to the health center.

In terms of agriculture, their rice production in each year is average because the weather is not so dry and a waterway is nearby the village.

**4.2 Ban Pakbung** It is the medium-size village which is rather underdeveloped. The communication with other village or the district is not well especially in the rainy season. It is because the village and the district market is connected by a mud and laterite road.

There are 208 households and 1,247 populations consisted of 611 males and 656 females. The village is far from Jan Health Center about 6 kilometres. The distance to Kanthararom District Hospital is about 14 km. There are buses passed by the village to the

district 7 round trips a day. The first trip begins at 6 o'clock in the morning and the last one is at 6 o'clock in the afternoon. The fare for round trip is 10 Baht.

The main occupation of the population here is rice farming. The second occupation is jute planting. About 50-60 per cent of the villagers especially the youngster have ever moved to work in other provinces. Mostly they have ever been laborer in Bangkok.

The agricultural production in this village is rather low. The rice cultivation is not good. Some year it is so dry that they can not grow rice. There is no waterway. Their agriculture is much depended on nature. According to the viewpoints of the headman, VHV and village committee, the economic status of the villagers is low because of low production as well as low income.

People here mostly eat glutinous rice (60%) The rest (40%) eat nonglutinous rice.

About 80 per cent of households have radio while only few can have television. In this village electricity has started to generate on 23 July 1988. There is no reading place as well as broadcasting chamber. The temple's amplifier is a channel of disseminating news.

Geographically and ecologically, the village is surrounded by rice fields, brackens and swamps. The swamps are so small that they are less useful for agriculture. They are somewhat natural source of foods in the dry season. If it rains heavily, the flood will destroy the rice fields.

There are 7 small shops in the village and not many things to buy. Most of the goods are indispensable kinds e.g. fish sauce, canned fish, sugar, salt, sodium glutamate, vegetable oil, lard, eggs, and dried fish. No vegetables and fresh meats are on sale. However, there is mobile market in some days. Mostly it comes in the dry season because during this time foods are not plentiful and roads are good for communicating.

Concerning health utilization, the people prefer going to the District Hospital to Jan Health Center. Though the distance to District Hospital is farther, it is more convenient because there is bus from village to Amphoe. If people want to go to health center, they have to walk, ride bicycle or motorcycle because there is no bus from village to health center.

**4.3 Ban Burapa** It is a small-sized village with 59 households. There are 430 people - 219 males and 211 females. The village is located far from Jan Health Center about 8.7 km., and from District Hospital about 11.5 km. The communication in the rainy season is not so convenient. There are buses passing the village all day, from 6 am. to 6 pm., 7 roundtrips. The bus fare for roundtrip is 8 Baht each.

The main occupation is rice cultivation. The second job is jute and cassava planting. The poor villagers earn their lives as wage labors in the village. The wage is 20-30 Baht per day. The village's agricultural production is at low level because it much depends on nature thoroughly. If the weather is not good, the production of that year will be low.

The key informants say that the economic status of the villagers is likely low. People like to go outside the village for work, particularly going to Bangkok.

People in the village eat both glutinous and nonglutinous rice but most of them prefer glutinous rice. Though Ban Burapa is a small village, there is a community hall where people meeting and read. There is not yet electricity in the village.

Around the village, there are 3 swamps i.e. Nong Munpla, Nong Tu and Nong Tathong where filled up with water all year. But people do not make use in agriculture from the water resources, but as natural source of foods. About 2 km. to the south, there is waterway which can be used for cultivation.

There are 4 stores in the village where goods are on sale including fried foods such as canned fish, dried fish, fish sauce, instant noodles and eggs.

Vegetables and fresh meats are not available in the stores. However, there are some foods sold by the mobile market such as chicken bone, mackerel, eggs, vegetables and other goods which are not obtained naturally. The mobile food market usually comes in the dry season. For foods are not as available as in rainy season. The other reason is the road condition in dry season is better than other season.

More people go to Kanthararom District Hospital than to Tambon Health Center. By means of communication, to go to the District is more convenient because there are some buses commute. Accordingly, to go to the health center must take own vehicle or walk.

## 5. THE RESULT OF THE STUDY

In presentation of the research findings from the focus group discussion, topics on general food and nutrition, vitamin A consumption, belief and vitamin A consumption, knowledge on sickness caused by lack of vitamin A and awareness of information on health are included and described in detail.

### 5.1 General Food and Nutrition

It is found in this study that the Northeastern people cook their food 3 times a day. In each meal they have only one or two dishes depending on the kind and quantity of food available. In some case, if they cook a lot of food in the morning, they will separate some for lunch. The separated foods are mostly boiled baked or ground ones. The fried and stirred food is usually eaten up in each meal. They do not reserve for the next meal, except fried eggs. The reason for this is this kind of food is easily rancid. Asking about the sort of food eaten daily in the family, the discussants answered that the amount and sort of food were depended on natural surplus which varried seasonally, the availability of mobile market and economic status of the family. In addition it is found that people usually take ground fermented fish (Pon) and vegetables.

Excluding ground fish and vegetables, the discussants usually fix their meal in various ways such as to grill, to make soup, to stir, to steam or to fry. The selected way is depended on the amount of raw

materials they can find. If they can get such amount they divide raw foods and fix different dishes. For example, if there are many fishes, some fishes are boiled, some are grilled and some are grounded. In other case, if they have small amount of food, they will fix only one dish. For example, if they have one or two frogs, they will cook only "Om Kob" (frog curry). In our discussion, the quantity of cooked food and household's consumers are thought over.

Boonliang : "If I find a small amount, I will fix ground fish. If I can find many, I will make curry, Suppose I make curry with little raw material it is not sufficient for everybody."  
 (Age 26, 25-60 Group, Ban Nong Bua Chaiwan)

Jamnian : "I think it over whether it is enough for making curry or not. If not, I will cook ground fish. some families eat soup and curry with vegetables."  
 (Age 27, 25-60 Group, Ban Nong Bua Chaiwan).

Talking about food, the discussants in every group said that they cook fish, frog, shrimp and small green frog by boiling, grilling, stirring or steaming. It is because those kinds of food are available in their communities and neighborhood. The other kinds of meat such as chicken, pork are not then natural food. They cook them on some occasion mostly owing to the want of household members or "crave". A family who raises chicken and craves chicken curry, they will cook it. The family who want to eat "Lab Ped" (ground hot duck) thus kill duck and fix it. Even they have to buy meat, if they want to eat, they will do. According to other viewpoint, people change to eat other kinds of food because they get bored of their daily-foods" (grounded, baked and boiled foods). They would cook fried or stirred foods, as they said:

Somtian : "If there is curry very often, I get bored of it." I change to cook fried food-fried fish. If I eat fishes very often I get bored of it. I sell fishes and buy other things".  
(Age 22, Pregnant Group, Ban Nong Bua Chaiwan)

It is found in the study that any kind of food is cooked everyone in the family eat it. They eat same dish because they have no choice due to their economic status and limitation of food source. They get used to eating their native foods cooked by steaming, stirring, smoking and boiling, obtained from natural sources. The villagers have not known much how to fix their food in other styles. They assume that this particular food can be cooked for particular dish. In their opinion, eating is for working energy and survival. Eating is believed to protect hunger and death and fulfill their stomach. That is why they are not choisy in cooking. They say that:

Sida : "If I don't eat, I'll die quickly. I eat because I don't want to be tired. I don't know about the usefulness but I want something to eat. That's enough."  
(Age 22, 25-60 Group, Ban Nong Bua Chaiwan)

Thongmuan : "My stomach is filled up. That's enough for each meal."  
(Age 22, 0-12 Group, Ban Pakbung)

Noi : "I eat in order to be strong enough to work. I serve my life each meal. If I don't eat I will have no energy for work."  
(Age 22, 13-24 Group Ban Pakbung)

Other than natural foods they can earn, some families kill animals they raise and cook as their food. Some buy from the store in the village where some foods are sold such as canned fish, mackerel, dried fish etc. Some buy from mobile market which come into the village about 4 times a week. (They come once in two days) If it rains, they may not come. The foods sold in mobile market are chicken bone, sausage, mackerel, mustard greens, pickled mustard greens, orange, banana, sour fish, tomato, yambean, pumpkin, noodles eaten with sweetened coconut milk. Concerning meat, the informants said that there were sold in some mobile market only. They buy it once in a while because meat is not available in the village. They have to go to buy at district market or wait until it is sold in a mobile market. The answer is found in discussion.

Sommai : "If it rains, they won't come. When they come, there are only chicken bone and mackerel, chicken legs, eggplants, chili, chicken fingers"  
 (Age 25, 25-60 Group, Ban Burapa)

Yothin : "What else do they have? Why don't you specify meat or pork?"

Wilai : "They don't bring with them. They afraid that our villagers have no money. They only have chicken bone, egg plants and chicken spirit".  
 (Age 28, 25-60 Group, Ban Burapa)

Yothin : "How do you cook chicken bone?"

Wilai : "Fry it with flour or make hot soup. If I cook "Lab" (ground hot food), I chop in pieces. Mostly I buy mackerel, mustard greens,

chili and eggplants. It depends who likes it or not."  
 (Age 28, 25-60 Group, Ban Burapa)

Boonliang : "They usually bring cheap things for sale. The goods are like something they want to throw away".  
 (Age 26, 25-60 Group, Ban Nong Bua Chaiwan)

## 5.2 Consumption of Food Contained Vitamin A

### (a) Vegetables and fruits

From the study, their are various kinds of green vegetables. However, most are suitable for eating with ground hot fish. Some go well with curry. They are not suitable for frying or stirring. Those vegetables are morning glory, Pak Tiw, Pak Kadone, Katurai, horse tamarind, ivy gourd, spinach, acacia, Pak Wan, Pak E-lert, Pak Meg, Pak Paw, Pak Ngo-ngiew, and Pak Pye. Among these vegetables only morning glory and acacia are good for frying. They say that:

Boonma : "I fry morning glory without meat but fish sauce, sodium glutamate, lard or sometime vegetable oil".  
 (Age 20, 18-24 Group, Ban Nong Bua Chaiwan)

Some vegetables are grown by the informants because they can not be obtained naturally. These are sweet basil, onion, garlic, basil, mustard green, chinese kale, chinese cabbage, cabbage, coriander, string bean, ash pumpkin, ivy gourd, cucumber, muskmelon, pumpkin, yambean, yam, mustard green etc. However, some group say that they grow vegetables in rainy season and after harvest. Vegetable can not be cultivated all year due to shortage of water resource. It is said that:

Sa-nnga : "The vegetables such as chinese kale, mustard green, Pak Kajon, Pakkad teenmee, celery cabbage, ivy gourd, Hua Siang Kai, cabbage, string bean,... are planted

in winter, after harvest. We buy them in summer because they are not available. .... The ones who do not grow must buy. They earn some money to buy food.

(Age 27, 25-60 Group, Ban Nong Bua Chaiwan)

Noogree : "Mustard green, celery cabbage, corriander, onion, red onion, garlic, cabbage, chinese cabbage are grown in winter. I rarely buy them. If I want to eat, I buy them sometimes. I buy the ones I do not grow."

(Age 39, 0-12 group, Ban Pakbung)

They eat some fruits which contain rich vitamin A such as ripe papaya and pumpkin but not often. They eat pumpkins more often than ripe papaya because pumpkins can be differently cooked. They can eat pumpkins with rice and or make desserts.

Somjit : "I eat pumpkins very often. It's cheap. I pay only one or two Baht. I can make curry or dessert."

(Age 24, Pregnant Group, Ban Nong Bua Chaiwan)

With reference to ripe papaya, the villagers answered that there were few ripe papaya left behind. Comparing ripe papaya with papaya salad (Somtum) which consists of raw papaya, they prefer papaya salad because, it is more delicious.

Thongmuan : "There aren't many ripe papaya for us to eat...I rarely eat. It isn't delicious. Papaya salad is more delicious. If there is a papaya, I immediately make papaya salad."

(Age 22, 0-12 Group, Ban Pakbung,

Some people regularly take ripe papayas and they realize the usefulness of ripe papayas.

Sripatum : "Ripe papaya.. is good for pregnant women.... vitamin A rich... sugar.. I eat many times. Yesterday I took two."  
 (Age 19, Pregnant Groups, Ban Nong Bua Chaiwan)

**(b) Meats**

The discussants in every group inform that they obtain some kind of meats from natural source. Meats are abundant in the rainy season and less in the dry season except some kinds such as skink, Kapom (a kind of lizard). Meat foods which can be obtained naturally are snakeheads, cat fish, climbing fish, eel, small fry, shell, frog, gouramy, small green frog, pawn, chameleon, bull-frog etc. In cooking these foods, they usually boil if they gain a lot. If there are less they make them ground. The principle of cooking is to make most because there are many people in the family and foodstuffs are scarce. The villagers also consume other kinds of meat they buy from market such as pork, beef, chicken, mackerel, canned fish, chicken liver and pork liver. Some families do not have to buy because they raise some animals.

All group say that they rarely eat the type of meats such as chicken, pork, beef or liver because they are not available. On some occasion such as making merit or going to the district market, they buy some. If a mobile market come into the village and they eager to eat, they will buy some. The discussants told that meats are not sold every time the mobile market comes. However, they are on sale in the district market which is far from the villages. And it is not easy to get there because it takes time and money. A discussant says:-

Buaphan : "For merit making, people kill buffalo and cow, so I can eat. I pay 10 or 20 Baht. I eat beef at time of merit making. If you have no money, you eat nothing."  
 (Age 21, Pregnant Group, Ban Pakbung)

## (c) Fat Rich Foods

It is found in the study that oily foods are not popular among villagers. One reason is fried foods need some ingredients such as lard, sodium glutamate, vegetables, garlic, fish sauce, pork and other protein rich foods. Talking about fried foods, people usually think of meat to put in. They view that if they do not put some meat it will not delicious. They say that:-

Mai : "To fry is to put many things. For fried hot dish I put galingale, garlic, onion and lard."  
(Age 34, Pregnant Group, Ban Pakbung)

Wilai : "I like fried foods. If I have lard and Pak Kana, I'll fry with pork. If there is only vegetable it isn't delicious."  
(Age 28, 25-60 Group, Ban Burapa)

Buasorn : "Talking about fried foods, to fry pork with cabbage is delicious."  
(Age 29, 0-12 Group, Ban Nong Bua Chaiwan)

Other than reasons cited above, materials for frying are limited because pork is rare and expensive. Concerning fried vegetables, the informants told that they use their cultivated vegetables or buy some from the market. The said vegetables are celery cabbage Kana, cabbage, chinese cabbage, pumpkin, cucumber, string bean etc. These vegetables are planted after harvest. In other seasons, they have to buy. However, the discussants say that if they want to eat, they buy them. They say that:

Sommai : "I fry eggs or meat. If I want to eat I go to the market to buy it."  
(Age 18, 0-12 Group, Ban Pakbung)

Urai : "I fry cucumber with egg and put tomato. Some time I fry morning glory. It is easily found and cheap. I eat oily food. It is dispensable."  
 (Age 24, Pregnant Group, Ban Nong Bua Chaiwan)

Tun : "If there is nothing, I fry morning glory.... It is because I have no oil, I rarely cook it. Yes it is plenty at the market. But I have no money I can't go. It is far. Only 10 or 20 Baht is not enough."  
 (Age 33, 0-12 Group, Ban Pakbung)

**(d) Eggs and Livers**

Eggs are popular and sold in the village. The families who raise hens and ducks, they have eggs to eat. Eggs are boiled or fried depending on the eaters' taste. Eggs are mostly cooked for children because children can not eat same kinds of food as adults. People say:-

Somjit "Small children can't eat hot stuff. I cook other thing for them, such as mild taste foods. I fry eggs for them separately. Parents eat curry or soup. Children eat fried eggs. When I go to the market, I buy eggs. I fry eggs for children. I like fried eggs. Boiled eggs are tasteless."  
 (Age 24, Pregnant Group, Ban Nong Bua Chaiwan).

Buarian : "I like fried food. It's more delicious than soup. It's oily. I put some onion in it. It's delicious."  
 (Age 22, Pregnant Group, Ban Nong Bua Chaiwan).

Urai : "Eggs..." It depends. If I feel like to eat, I'll buy. I like boiled eggs. Eggs give vitamin."  
(Age 24, Pregnant Group, Ban Nong Bua Chaiwan).

Maliwan : "I like fried eggs. It is not as odour as boiled."  
(Age 30, Pregnant Group, Ban Nong Bua Chaiwan)

Tongmuan : "If there is no egg. I'll buy some. I fry or boil them. Some people make egg curry."  
(Age 22, 0-12 Group, Ban Pakbung)

Liver is less consumed either by adult or children. For it is not for sale in the village. People eat liver when animal is killed. In general, liver is given to children because it is easily eatable and boneless. It is easy to chew. They prefer grilling liver to boiling because it is convenient and quick. Answers are as follow:-

Buakai : "I rarely eat liver... I eat frog's liver fish's liver... pork's liver... It is distributed over the village. Each gets a little bit. I give chicken liver, if it is killed, to my kid. It's delicious so that I want my kid to eat. I want to but I refrain from it. If a hen is not killed, liver is not eaten."  
(Age 21, Pregnant Group, Ban Pakbung)

Tew : "I eat liver somewhat... poultry's liver. People buy pork liver or cow's liver... If I want to eat I'll buy it, 3 piles for 10 Baht..."

Sometimes I buy chicken liver. Sometimes I kill chicken. It isn't delicious to eat fish everyday. If I feel like to eat, I kill animal. Liver is given to my kid mostly. I love my kid, I give it to my kid... I preserve for my kid. Parents eat meat."

(Age 30, 25-60 Group, Ban Nong Bua Chaiwan)

Nopparin : "I do not eat liver often. I have no money. I have chance to eat during the feast. They kill cattle, so I have liver for eating. I went to market and saw livers, but I have no money... I eat chicken liver if a hen is killed."

(Age 25, 13-24 Group, Ban Pakbung).

### 5.3 Pregnant Women and Nutrition

The informants in two villages told that pregnant women could eat what they wanted. In their point of view, foods of pregnant women are not different from the others. With few exception, pregnant women do not eat hot, tasteful and fermented foods. They believe in the elder's sayings that it is dangerous to the fetus and it cause difficult delivery.

Mai : "I don't eat hot food. Galanga or sweet basil are abstained. The old person prohibit. They say that it is so hot that it could be aborted. I want to eat eveything. I eat as same as other persons eat."

(Age 34, Pregnant Group, Ban Pakbung)

Kumpan : "I eat as same as the others... No difference. Others eat something, I can eat the same."  
 (Age 25, Pregnant Group, Ban Pakbung).

Referring to vitamin A related foods (vegetables, and oily foods-coconut milk sweets etc.) The discussants spoke that some were prohibited by the elder. The reasons of abstinence are hard delivery, oily and big newborn. Example of reason:-

Mai : "They told not to eat much coconut. They let me eat coconut water only. They're afraid that the newborn could be tallow and hard delivered. Boiled sweet potato is also prohibited. I hid and ate because I would like to. My parents did not see."  
 (Age 34, Pregnant Group, Ban Pakbung)

Sripatum : "Baked rice, eggs are not allowed as well as sweets. They're afraid of difficult delivery. But I never miss eggs.... oily food sweets... coconut..."  
 (Age 19, Pregnant Group, Ban Nong Bua Chaiwan)

From the study, "Kalum" (taboo) is somewhat unbelievable. Some explanations are:-

Kong : "The old people forbid to eat sweets and coconut milk. They say that it causes difficult delivery. I asked the doctor. He said I could eat without holding "Kalum"... I am not afraid of "Kalum". I am delivered by the doctor. I am strong and healthy. It's O.K. I like sweets. The "Kalum"

(taboo) of pregnancy period is not to eat tamarind. It is said that it cause stomachache periodically. It is forbidden to eat oily and fried foods including coconut milk. It will be hard delivered. I go to see the doctor. I am fine."  
(Age 35, 25-60 Group, Ban Nong Bua Chaiwan).

Mai : "The old ones forbid to eat hot foods, galingale and sweet basil. They say that hot foods can cause abortion during the first month. During the second month, I was not appetizing except tamarind. In the third and fourth month I wanted to eat everything. Coconut was an exception. I could only drink coconut water. For it could become oily and caused difficult delivery. Also boiled sweet potato was not allowed, but I hid behind my parents' eyes. They ordered to abstain lard but I like fried foods I ate fried rice and fried frogs. I did not eat papaya salad. If the old people saw I was eating, they cursed me immediately. They said it was so hot that could make hard labor."  
(Age 34, Pregnant Group, Ban Pakbung)

Although oily, fat foods, sweets and some vegetables are prohibited by the old people, the discussant say that they do not take it seriously because it is out of date. Formerly child delivery had to use traditional birth attendant. Nowadays, if it can not be delivery or the baby is too big, they can go to the district hospital. The other reason is, there is variety of foods. When they see the foods they want to eat.

Every time they desire they will cook without listening to parents' warning. In other case, pregnant women have gained some knowledge during prenatal care. The public health workers suggested that they should eat vegetables and protein rich foods e.g., pork, beef, fish as nutritive for baby. Pregnant women eat forbidden foods because they believe in the recommendation of public health workers more than that of the elders. Other than cited reason, some informants said that they used to see other women eating and they were not against "Kaboon" and "Kalum" So they dare to eat.

Sida : "In terms of crab and fish, formerly they were forbidden by parents. They said that there were worms. Now nothing is forbidden. Formerly, new mother was not allowed to eat fish because it has allegedly worms. Only rice and salt was served to the newly delivered mother. Now if I want to eat, they allow to. If I desire sweets or oily foods though the elders prohibit I don't listen to. There are many doctor. I am not afraid. Sometimes I hide to eat. I am not afraid of difficult delivery because there are a lot of doctors. I believe somewhat. I can't stand."  
 (Age 22, 25-60 Group, Ban Nong Bua Chaiwan).

Lawan : "Lard is oily so it affects easy delivery. It is not abstained. Coconut oil becomes cold. The old ones say that it causes difficult delivery. I did not stop. I ate all if I wanted to. Only papaya salad was prohibited."  
 (Age 24, 25-60 Group, Ban Burapa).

Even though women do not refrain from eating "Kalum" foods, it is found in this study that they eat less vitamin A rich foods (e.g., beef, pork, liver and fried foods) due to the limitation of cooking knowledge and source of foods.

Few kinds of fried foods are indicated only fried egg, fish, frog and morning glory. And only better-offs can eat fried foods every time they want to. According to their opinion, someone dose not eat liver because they are afraid of high blood pressure.

Jandaeng : "When I was pregnant, I was afraid to eat liver. I was afraid of high blood pressure."

(Age 19 0-12 Group, Ban Nong Bua Chaiwan).

#### 5.4 Food and Nutrition of Post-natal Women

##### (a) Vegetables

From the focus group discussions, there are many kind of foods which people "dare not" to eat because they believe in rumor and the old saying. They are suggested that they should not eat or cook. If they do they will be against "Kraboon" and fatal. The forbidden period is during their lying near an open fire (Yu Kum) which lasts 2-15 days, varied by one's intention and health. Some newborn's mothers have stayed by a fire for 2 days, 7 days, 10 day or 12 days. However, most women agree with lying near a fire after giving birth. During this, they drink hot water which make them sweat and uterus become normal. During discussion on post-natal nutrition, some informants disagree with consumption on rice and salt, garlic and baked foods. They indicate that refraining from some foods effect physical health. It should not refrain.

Forbidden vegetables for newborn's mothers are acacia, string bean, sweet basil and Pak Kayang. They are cited as follows.

Buasorn : "Pak Kadone and Pak Meg are forbidden. It is said as- tringent and dregs. Children could have gallstone ....."

(Age 29, 0-12 Group, Ban Nong Bua Chaiwan).

Ngai : Acacia... it is against "Kraboon". Sweet basil is also forbidden."  
(Age 21, 0-12 Group, Ban Nong Bua Chaiwan)

Thasee : Acacia is said to be against "Kraboon". If it is against, there would not be milk for baby."  
(Age 24, Pregnant Group, Ban Nong Bua Chaiwan).

Somjit : The prohibited vegetables for newborn's mothers are Acacia, Pak Kayang, Pak E-hum."  
(Age 24, Pregnant Group, Ban Nong Bua Chaiwan).

Vichit : "To omit water melon... and cucumber"  
(Age 21, 0-12 Group, Ban Nong Bua Chaiwan).

With reference to food taboo, it is found that village traditional birth attendant as well as parents play an important role. After giving birth, the traditional birth attendant will recommend the newborn's mother about refraining from particular foods. Some newborn's mothers believe but some do not, especially the young mothers and ones who used to migrate. Some explanations are given:

Umpaiwan : "The elder prohibited me. I just listen to her. She is nearly 100 years old. I don't believe in the old one because I crave for food. The experienced mother said it would be difficult delivery, but I never got it so I don't believe it. I will be delivered by the doctor. I rather don't believe. To be delivered by the doctor, it will be O.K."  
(Age 20, have pre-natal care at the district hospital.

She used to work in Bangkok as maid in a veterinary clinic. She has first pregnancy, Ban Nong Bua Chaiwan)

Rumpai : After birth, the traditional birth attendant told me to drink much hot water so as to have much milk. She told to eat rice, salt, and garlic. She did not say about child rearing but refraining from some foods or "Kalum". My mother said that I should be delivered at home. I have no money. During lying by a fire, I I did not eat fish. It smells bad. I can't touch it. It's against "Kalum". I believe it."  
(Age 21, Pregnant Group, Ban Pakbung)

#### (b) Fried Foods

It is said by group discussants that during lying by a fire, the elders permit to eat all fried foods which are not consisted of meat. They say that fat from meat mixed with vegetables and oil, which stenches, makes uterus wet (uterus recovers quicker) and effects easy reproduction. If the newborn's mother really wants to eat, it should be broiled. Broiled food is assumingly dried according to the belief that eating dried food make uterus become normal quickly. After lying by a fire, mothers can eat every kind of food.

Mai : "Smell foods; fish, frog, chicken make uterus wet. They allow to eat only grilled rice and salt. After lying by a fire, you can eat all."  
(Age 34, Pregnant Group, Ban Pakbung).

Tun :

I ate grilled chicken during my lying by a fire. To eat fish, it is said, smells bad. I am not allowed to eat... but after lying by a fire I can eat. During that time fish and buffalo meat are not allowed."

(Age 33, 0-12 Group, Ban Pakbung)

Nevertheless, there are prohibition of consuming stinking foods or some vegetables, some informants do not take action. They explain that they saw others eating and nothing happened. They have prenatal care with the doctor who suggest that not to abstain any food. Experience from Bangkok testifies that it is not necessary to refrain from some food. One who gives birth at the hospital does not abstain. The doctor says she can eat everything. In addition to their desire, women think that foods could generate their strength quicker and lesser they stay by a fire. Discussing the topic of eating savory could make uterus wet and get pregnant earlier, most women argue that it is not necessary today because widely contraceptive practice.

Noogree :

"I have heard that to eat good food to get pregnant easily... If you don't take pill, actually you get pregnant. If you give birth at the hospital, you need not lying by a fire. If one has IUD, she never get pregnant. Someone take pills, they aren't afraid. The doctor says you can eat everything without any exception. In fact I don't want to stay by a fire, but I must. My mother ordered me to do. If I didn't believe her, she would blame me if something's wrong. After delivery, if one does not have injection, she should take "an abstinence".

She drinks hot water and she won't be dizzy. The doctor told me to eat fried food. I have eaten fried foods at home."

(Age 39, 0-12 Group, Ban Pakbung)

Kong : "After delivery, I ate everything string bean, fried foods. I eat good foods. Today it is not easy to get pregnant. I am not afraid of it. There are a lot of contraceptive pills".  
 (Age 35, 25-60 Group, Ban Nong Bua Chaiwan)

**(c) Eggs and Liver**

From the findings, eggs are not prohibited for post-partum women except during their stay by a fire. Women eat only rice and salt during that time. Liver is not eaten at all because it is assumed to be savory. except it is grilled. However, liver is rarely available in the village.

Somjit : "We can eat eggs. The old one do not prohibit".  
 (Age 24, Pregnant Group, Ban Nong Bua Chaiwan)

Kumprox : "They don't prohibit eating fried eggs or grilled pork. I can eat fried eggs during my stay by a fire. I can eat grilled pork and liver. It doesn't matter".  
 (Age 22, 0-12 Group, Ban Pakbung).

**(d) Breast-feeding Nutrition**

Data collected from group discussion reveals that they refrain from particular foods while the mother or child gets sick. Every group believes that foods taken by mother affect milking. If the child has diarrhoea, the mother will not eat sour foods such as

tamarind, mango or papaya salad. If the child gets cold, the mother will not eat dessert cooked with sugar and coconut milk and cold foods, e.g. ice-cream. For the child will have snort. According to their saying, someone believe that if the mother eat desserts cooked with coconut milk during breast feeding period, the child will have eyewinker, as they say.

Somjit: "If I take desserts, sweet and oily such as coconut milk my child will have eyewinker. It really is. If you eat, the kid has eyewinker. But it doesn't matter with lard."  
 (Age 24, Pregnant Group, Ban Nong Bua Chaiwan)

If the mother is sick, she can eat everything. Nothing is wrong with the mother's illness. It is understandable that food consumption will recover the mother's health. Their explanations are:

Jamnian: "During breast feeding, if the mother is sick, she has to abstain such foods - papaya salad, bean, dessert, banana, coconut milk, ripe mango and melon."  
 (Age 21, 25-60 Group, Ban Nong Bua Chaiwan)

Banjong: "When I was sick, though I did not abstain, seemingly I did. Because it was tasteless, it was not delicious. Either I get fever or cold, I eat like this... Nothing is prohibited. I can eat desserts and pumpkins. If I get cold during breast feeding, I eat all. I eat all when I am ill because I will recover soon."  
 (Age 35, 13-24 Group, Ban Pak Bung)

From the transcription, the prohibited foods during child's sickness are somethings cooked with sugar and coconut milk. The other things such as yam bean or sweet potato cooked without sugar or coconut milk are permitted. Women in some groups refrain from oily foods during their breast feeding time but some do not.

Buason: "When my kid is sick, I have to temperate desserts, fermented foods because it is not good. Sugar and coconut or other sweets are refrained. If I did not refrain from eating, my kid could become worse...But the doctor did not prohibit... I myself tolerated. If the child gets cold, the mother can't eat sweets. She can have oily things but not lard, coconut milk or coconut."  
(Age 29, 0-12 Group, Ban Nong Bua Chaiwan)

Tun: "If the child is sick, the mother should not eat sour foods. It is not good for the child. It affects the mother's milk. The mother eats, it seems the child eats also. Papaya salad, tamarind are told not to eat... I dare not to eat stinking food such as fish curry when my child gets diarrhoea. I dare not to eat ground fish or meat."  
(Age 33, 0-12 Group, Ban Pakbung)

Jamnian: "When my child was sick, he was with the doctor. When he was with the doctor he was fed. I wasn't afraid.

When he returned home, I abstained. I am afraid that if it's wrong and worse I can't go to see the doctor on time. My house is far from health station... I am afraid of going to see the doctor and having no money."  
 (Age 21, 25-60 Group, Ban Nong Bua Chaiwan)

Wilai: "If my child is ill, I don't eat fried eggs or other fried foods. I tolerate. If it's wrong it is "Kalum" (taboo) also."  
 (Age 18, 25-60 Group, Ban Burapa)

### 5.5 Nutrition and Infant Health (0-12 months)

Considering foods and nutrition for baby, it is informed that newborn babies are fed with chewing rice by some mothers. They have been fed since 2-3 days after delivery. The mothers assume that crying babies are hungry. They believe with old sayings and their parents' suggestion that a baby cries because he is hungry. If a baby is full, he will sleep well. It saves time in taking care of the baby if he sleeps. Mother could work. They also believe that the baby who eats rice, can pass fecal matter well. The fecal matter is in chunk.

Pun: "Two days after delivery, I fed him. He lied in winnowing basket and cried. I tried to breast fed but no milk. He cried for milk I had not so I fed him with chewing rice."  
 (Age 27, 13-24 Group, Ban Pakbung)

Thongma: "After delivery, I chewed rice for my baby while I stayed by a fire. I chewed and baked rice for the baby.

The old ones said they did not want to clean fecal matter. I fed him at once."  
(Age 36, 13-24 Group, Ban Pakbung)

Kumpan: "Ten days after delivery, some babies are fed with chewing rice. Some newborns are fed when they are only 3-4 days old. They cry so they are fed with chewing rice. After taken a lot, they are full, they stop crying."  
(Age 25, Pregnant Group, Ban Pakbung)

Some discussants started feeding their children when they were 3 months old. They have given banana, boiled rice with ivy gourd or boiled rice with pork and fish. Their reason is because the health officials suggest to them. By this way, children will grow up strongly and healthy. If newborn baby is fed with chewing rice, he becomes flatulent. However, there are some informants who dare not feed their children with eggs and fish or other meats because they believe that these foods create parasites and decayed tooth.

Somtian: "I have fed banana to my child since he was 3 months. I have never given chewed rice to him. I give him boiled rice. I used to feed chewed rice and baked rice, he did not eat. I boil rice and put some eggs in it. He eats banana and yolk."  
(Age 22, Pregnant Group, Ban Nong Bua Chaiwan)

Somjit: "During the first 3 months, I had breast fed only. After that I gave boiled rice and banana. after 6 months, I have fed boiled rice, vegetable and ground yolk.".  
(Age 24, Pregnant Group, Ban Nong Bua Chaiwan)

Some mothers have waited until their children can sit so that they give protein foods to them. During this age, children have some teeth. The mothers know that their children can chew.

Boonma: "When my child can sit, I have given him grilled fish, pork or chicken. About 5-6 months old, our children can sit."  
 (Age 20, 13-24 Group, Ban Nong Bua Chaiwan)

Noogree: "The old ones say that if the baby gets diarrhoea don't give eggs to him because he will not stop passing excrement. It smells bad. Also fish is not allowed because it is stinking. The child will suffer from diarrhoea. I think that we should give eggs and livers to the baby aged 3-4 months. It'll make him healthy. Give Vitamins to him. It can help."  
 (Age 39, 0-12 Group, Ban Pakbung)

Giving protein and fat foods to the children aged 0-12 months are objected by the old persons as mentioned by members of group discussion. The elders are afraid of "Sang" (a disease of children). However, the informants say that they believe in the suggestion of health workers.

Sommai: "The old people ever told that children under one year old should not eat fish because they could be "Sang". Sang is shown by having tainted pimples, fever and coughing. The child who gets "Sang" very often, he is not given sweets. After 6-7 years old, children have no more "Sang".

Though some mothers realize child nutrition, they can not cook protein and fat rich foods for their kids due to cash shortage. The most they can do is to cook rice and fish sauce.

Kumpan        "From 6 months to 2 years old, I have given boiled rice and fish sauce. The reason why I did not put other foods because I have no money. If I have, I will do it."

(Age 25, Pregnant Group, Ban Pakbung)

#### **5.6 Nutrition for Children Aged 13-24 Months**

The findings in the study indicate that mothers give fish, frog, chicken and pork to their children after having teeth. They assume that having teeth, children can chew meat. Foods for early childhood are only chewed rice, mother milk and water. When the child can sit, he can eat other foods which are mild taste and not hot. Most of them are soups. In some families, special foods are prepared for their children, for example, boiled rice with pork or fish, grilled chicken. The mothers of latter group are ones who had prenatal care and migrated to Bangkok.

Buakong:        "I gave fish and soup to the child when he was 8-9 months. If there is no food, I'll buy egg. When my child is grown up and he can eat by himself. I let him eat fish, frog or chicken. My child can't eat hot food but parents can eat "Jaew" or ground fish..."

(Age 25, Pregnant Group, Ban Pakbung)

Noi:

"From one to two years old, my child ate what I took. I never separated except hot foods. We eat fish curry, soup etc. If I have money, I'll buy chicken or pork. If no, I don't eat. I cook fish and separate some (without pepper) for children. Just put only lemon and onion. It tastes sweet and sour, children can eat all."

(Age 22, 13-24 Group, Ban Pakbung)

Concerning abstinence of some foods for children at this age, it is found that it is only sayings but not practices. For example it is said that if a child eats chicken liver or pork liver he becomes stubborn and naughty. Or if a child eats fish, he could get parasite, said by the old ones. Nevertheless, the informants say that they have their children eaten. Their reason is if children have worms they can have purgative to get rid of worms.

Boonma : "Our children at one years old, they can eat all. But the old ones forbid eating fish at this age. They are afraid of intestinal worm. But I do give him some. Nothing happens. Nothing to eat so I give fish to him. If he has parasite, I'll buy medicine for him.

(Age 20, 13-24 Group, Ban Nong Bua Chaiwan)

Even though the mothers have knowledge on nutrition, they can not cook useful foods for children regularly because of monetary shortage. They cook some useful foods when children are sick. They think that

if the child is not strong, he becomes worse. They understand that foods are important for nourishing body and getting recover sooner. They cook "good foods" for children.

Buasi : "When my child is ill, I'll buy pork and liver and boil them and put in rice, egg and ivy gourd. The adults not eat. If the child is not sick he does not eat either. He is sick. I am afraid that he is malnourished so I feed him, he'll recover soon".  
 (Age 29, 13-24 Group, Ban Nong Bua Chaiwan)

### 5.7 Nutrition for Children Aged 25-60 Months.

At this age, children have already weaned. They can eat same kind and type of foods as adults do except some children can not take hot food. If they can not eat hot food because they never get used to it, they have separated kind of dishes such as grilled fish or frog or soup (without pepper). If there is only "Jaew" or ground fish, the mother will prepare fried or boiled egg for her child. Eggs are available and sold in small shop in the village.

People have chance to eat livers whenever animal is killed. If a chicken is killed, its entrails are kept for children because they are easily chewed. Entrails are boiled with salt or boiled with chicken. Liver is a delicious kind of food in the mother's feeling. Accordingly, she gives liver to her child because of love. In addition the mother thinks that liver is good thing it should be kept for the child.

Boonthun : "When I boil chicken, I take liver part for my child. I love my child. I want him eat good thing, the boneless thing... is inside, it is

good and clean. At this age (2-5 years old) children can eat boiled rice, so they can eat liver. If frogs have big legs, I reserve for my child. I cook frog legs for my child."

(Age 35, 25-60 Group, Ban Burapa).

Mai :

"The mother can eat "Jaew" or other kind of food. Some time I have no food but "Jaew". My child does not eat, he cries. I have to buy egg or mackerel for him. If there are many eggs, we also eat some. If there are less, I'll keep 3-4 eggs for my child. If there are more than 10, parents eat eggs with "Jaew"."

(Age 34, Pregnant Group, Ban Pakbung).

In searching the cause of child's intelligence, the informants view that it is because of childcare and teacher's ability. Also, it is caused by nutrition.

Sudjai :

"Talking about child's intelligence, urban children are better. They enter school earlier. At 3, they go to school but our children go to school when they are already 5. The transportation is convenient. They are modernized. Foods are plentiful and abundant. The study is good. The teacher takes good care. In our village, there is no food for children, only rice."

(Age 26, 25-60 Group, Ban Burapa).

Ran : "Urban children are different from our children, Their brain and body are perfect and active. We our villagers do not eat sweets but rice. I would like to feed my child as the urban do but I have no money. I have even no time to cook because I have to work. If I had money, I would do like that. I would buy liver, egg, meat and dessert for my kid. They boil rice and put meat, pork, egg in it. I boil rice I put only salt in it. Sometimes I have money but nothing to buy... Our children are both intelligent and not intelligent but they can't compete with urban children. Some are taken goodcare but some aren't. No food for child's intelligence here. It depends on the child himself. Our intelligent child is taken good care by his parents. Well being child is intelligent. To feed enough foods, children are strong, active, cheerful, fresh and bright."

(Age 19, 13-24 Group, Ban Pakbung)

Every group agrees that the children's growth are related with nutrition, mother's milk and heredity. They say that if the child eats good foods such as egg chicken, pork and liver, he becomes intelligent, active healthy, cheerful, and strong. Physically, they believe that heredity is important for the size of a child. According to their point of view, if the mother nourishes her fetus the baby would be big and healthy in the later time. Comparing to urban children, they mention that:

Kumpan : "Children are not equally big because they are not fed well... The quicker they wean, the smaller they become. The child who weans later, becomes bigger because the mother has much milk. Otherwise, the mother gets pregnant again, the child hasn't enough milk to drink.... Some mother takes good care of her child. She searches good thing for her child. Heredity is important. Some are small, some are fat."  
(Age 25, Pregnant Group, Ban Pakbung).

Vichit : "The reason why children who are born simultaneously are not grown up equally because some child is not healthy... some is malnourished... some is not. Another reason is depending on the mother's milk. If the milk is sweet, the child is healthy. The milk is sweet because the mother eats good food... During pregnancy, it is important for whether the child is healthy or not."  
(Age 21, 0-12 Group, Ban Nong Bua Chaiwan).

Pun : "If the parents are big, and the mother nourishes herself during pregnancy, the child is big too. If the parents are small, so is the child. It depends. Some child drinks powdered milk, he is healthy as well."  
(Age 27, 13-24 Group, Ban Pakbung).

According to data collected, the concept of heredity and nutrition are paralleled. The informants add that though the child is nourished, he is still short if his forefather is short. Everyone sees the importance and relevance of foods and growth. They relate the ideas of sweet mother's milk with the child's health and good food with sweet milk. From this issue, the informants rate the first priority of "mother's milk" and "chewed rice" is the second. Other foods are also said to be important for children's growth. Nevertheless, there is no source of food and source of fund.

#### 5.8 Knowledge on Eye Sickness

From 8 focus groups, the discussants know diseases related with eyes as - conjunctives, cornea ulcer, squinteyed, blindness, and partially blindness. Most of them have never heard of night blindness. One who knows explain that she can see at day but after sunset she walks and collides with wall. It is not the symptom of blindness. She used to see the doctor. The doctor gave some medicine and vitamin. Now she is normal.

**Somjit:** "Yes, night blindness . I have heard of it. One can not see at night."  
(Age 24, Pregnant Group, Ban Non Bua Chaiwan)

**Buakong:** "Conjunctives and night blindness are caused by lack of vitamin. I went to see the doctor. He said that night blindness is as caused by lack of vitamin..... One can see at day but can't see at night. ...One can see light in electric bulb. When he walks he can't see any. I have heard like this. There is also cataract in the eye."  
(Age 25, Pregnant Group, Ban Pakbung)

**Sudjai:** "Cornea ulcer, pink eyes, partially blind, squint-eyed...Partially blindness..

at night one can't see, he walks and collide with things. He went to see the doctor. The doctor gave some medicine. But I have never heard of "dry eye disease". (Age 26, 25-60 Group, Ban Burapa)

Asking about foods that cure eye sickness, most of them have no ideas about it. They just heard of eating morning glory helps bright eyes (beautiful eyes).

Somtian: "Eat a lot of morning glory makes one's eyes sweet." (Age 22, Pregnant Group, Ban Nong Bua Chaiwan)

Ratana: "Morning glory is good. It is said that it helps good sight." (Age 25, 0-12 Group, Ban Pakbung)

Lawan: "When I was in Bangkok. I heard that morning glory is Vitamin A rich food. I ate everyday... To eat lot of morning glory, your eyes are bright." (Age 24, 25-60 Group, Ban Burapa)

#### 5.9 Media for Knowledge on Food and Nutrition

Asking about source of knowledge on foods and cooking, some discussants told that they watched TV programmes on "Love your child in the right way" of Channel 7 and advertising of vegetable oil. They have heard spots about canned fish. Women who had pre-natal care know from health workers and posters at health center. Every group of Ban Pakbung have known and seen movie about infant and child rearing from disseminating unit of nutrition. The movie was called "Food For Beloved Child". It was shown 6-7 years ago. The ones who remember the story said that they could not follow the recommendation because it was costly and complicated in cooking supplementary foods.

Noogree: "As far as I know, there's only "Food For Beloved Child" which taught about child rearing. No doctor comes here. That movie was shown many years ago. At that time the assistant distributed baby-food sheet. Now none comes. It's good to have it come. We bought baby-food. They educated parents. We knew about the principle of nutrition. One who was not interested because her child did not eat like this. The interested one wanted her child lovely so she bought some food."

(Age 39, 0-12 Group, Ban Pakbung)

However, most informants discuss about the story in the film that cooking is rather complicated. There are many ingredients. For convenience, it should be packed by bag. They may buy some for their children because they have not much time to cook.

Tun: "No one is interested in cooking "Dear child food". There are a lot of ingredients - vegetables, peanut, soybean, pumpkin, papaya, string bean, banana etc. Though a film is shown, no one is interested in cooking because it is too complicated and difficult. We have nothing. We have to save money to buy ingredients. It can't do that. If it is packed I'll buy it. To cook as it is shown in the film we are not able to. We can't follow the sample."

(Age 32, 0-12 Group, Ban Pakbung)

Regarding to the role of village health volunteer (VHV), most people say that VHV has never suggested about nutrition and child care. He only informs that the mother should bring her child to have vaccination and weighting. He also suggests about big jar and latrine. In addition, VHV usually enumerates list of persons he is told to do as well as distributing contraceptive pills. In Ban Burapa and Ban Pakbung, VHVS have advised few people about nutrition and child rearing mostly ones who stay in their neighborhood.

Sida: "VHV stays home. He does nothing. I saw him attend the meeting once a year. He used to tell me to bring my child to weight and vaccinated. If doctors tell us, we believe because they are educated. VHV used to be trained, if he informs us, we trust him but he never tell us."  
(Age 22, 25-60 Group, Ban Nong Bua Chaiwan)

Bausorn: "VHV never recommends about childrearing or cooking. He just talk about big jar and latrine."  
(Age 29, 0-12 Group, Ban Nong Bua Chiwan)

It is noticed that there is no broadcasting tower in studied villages. Asking about representative who can advise on nutrition and consumption in the village, the discussants suggest that they should be educated men and good propagandist. They can be either male or female. Concerning media production, the villagers suggest that actors should be villagers because the audience could understand and believe. They also advise the moderator that there should be panel discussion among resource person and audience. Sometime, they want to ask and discuss. Sample show is good for them.

Jamnian: "The persons such as public health officials and village committee are respectable - namely, Suwichai Malai, this guy is very capable. He studied a lot I believe him because he talks principally. He is trained. He is good trainer. He dare to talk. I believe in studied man. The old one finished only Grade 4."

(Age 21, 25-60 Group, Ban Nong Bua Chaiwan)

Lawan: "Only talking is not believable. There should be VDO and description together."

(Age 24, 25-60 Group, Ban Burapa)

Nopparin: "The believable man is headman. People trust no one. The headman and his assistant will suggest about childrearing and nutrition. I realize what is good or bad for children but I have no money. The selected man should not have little child because he'll have time. Mr. Satian used to work. He has no kid. He is believable and talkative. He can persuade neighbors to trust him."

(Age 25, 13-24 Group, Ban Pakbung)

#### 5.10 Other Medias: Poster, Radio, Movie and VDO

Asking about popular programme on radio, it varies according to one's taste. Someone like music, the others like drama. TV. programmes are watched mostly on Saturday and Sunday when Thai movies are shown. People who have no television watch their neighbor's during day time. In Ban Pakbung, villagers used to see a film called "Food for Beloved Child"

shown by a mobile agent. Every group have ever seen or read posters and leaflets which are available at health centers. Other sources of information come from children's vaccination books. Villagers listen and watch sometimes radio and television but do not pay much attention to those media.

Noogree: "I have heard of children-sing on radio, but I did not pay attention to it. I just listen to it but I didn't get any content. I don't know the name of programme. I just turn on television and watch. They advertise that mother's milk is better than powdered milk. I listen to music and drama on radio. If anyone introduces childrearing programme, I will curse him. I don't like it. It's better to show on television because people can see with their eyes. They see nothing on radio but on television. Using mobile agent as "Food for Beloved Child," there are many audience but few followers. The old ones say it is costly. It should choose easy and cheap things. For posters, people read but do not pay much attention. The film is widely seen but it is not applicable. Our villagers are sharp. They know better than doctor. On the film, these are small children called Kob and Saman."  
(Age 39, 0-12 Group, ban Pakbung)

Kong: "I have heard of child rearing from the doctor.... He told me how to bring up healthy child. I listen to

radio but I am not interested in it. I can't remember the programme. I prefer listening to music. I feel happy. If you introduce childrearing programme as an intermission of drama, and it takes time. I would not like. May I turn to other station."

(Age 35, 25-60 Group, Ban Nong Bua Chaiwan)

Information on nutrition, infant and pre-school child rearing is disseminated through radio advertising. Villagers can recognize the information and they buy advertising medicine for their children. It is noticed that villagers trust in "medicine" and "vitamin". For example, if the mother is not strong and she has much milk for her baby she will buy some vitamin to nurture her milk as it is advertising. Or if the child is flatulent, the mother will buy some medicine. The popular advertisement is that a tonic called "Babe...." cure flatulent baby. Or a tonic called "...." help curing flatulence from newborn to 3 years old." If one wants to promote the right way of child feeding, the advertisement should be reversed as follows.

"Feed chewing rice when your child is 3 months old, he is not flatulent and you need not buying medicine".

In case the child gets sick of "Sang" (malnutritient) the mother buys some medicine which she believes that it could remedy quickly. Though she knows that the natural food for "Sang" remedy is chameleon she does not give it to her child because it takes time to find and to get well. So the mother likes to buy a tonic for her child, that she saves time. The mother like to buy a tonic called "....Fatty" because she believes in advertisement as follows "If your baby gets Sang, big belly, big head, lean buttocks, give.... "Fatty "to him."

To promote Vitamin A. rich foods, the advertiser should use a slogan such as:

"Give fried foods to child, "Sang" will evade"

"Give egg or liver to your child, no "Sang" at all"

"After 3 months, feed your child with pork, he'll never get "Sang" etc.

## 6. ANALYSIS AND DISCUSSION

### 6.1 General Nutrition

From data collected in the study, it indicates that villagers in the Lower Northeast have much depended on natural sources of foods. Their natural foods are frog, small frog, fish, shrimp, shell, bamboo shoot, mushroom, vegetables, sweet potato etc. They can eat unnatural foods if they raise e.g. duck or hen or they grow i.e. mustard green, chinese cabbage, pumpkin, cucumber, ivy gourd, cabbage, melon, string bean etc.

Their daily foods are ground fermented fish and vegetables. On some occasion, they eat curry and soup. Cooking is depended on type, kind and quantity of available materials. During rainy season, they mostly make curry and soup because frog, small frog, fish and mushroom including natural vegetables are abundant. In other seasons, they make curry and soup if materials are enough. However, kind of dishes depend on the desire of household members. In this study, the decision makers on each meal are housewife and head of household.

Concerning food consumption, villagers nowadays, prefer buying foods from shops and mobile market. The reasons are the availability of food and mobile market in the village in accordance with the decrease of natural source of food caused by the increase of population. Whenever they get bored of curry and soup they change to fry food or other kinds such as chicken soup, hot ground beef pork or duck etc. The latter type of food is depended on the desire for eating.

People crave for such thing because they have ever eaten that kind of food or they have seen materials. They say that when a mobile market comes, they will go to see what are on sale. After that they reconsider what they will cook before they decide to buy. Some-time they think it before. Suppose they think of mushroom curry today. Tomorrow, they will get up early to pick up mushrooms. In some case, husband consults with his wife that he wants to eat fish curry. On the next day he will go fishing. Only few people obtain materials before thinking of dishes. The way of obtaining food is cited as follows.

Noi: "I crave for food, I walk, I take so I can eat."  
(Age 22, 13-24 Group, ban Pakbung)

If they do not go outside to find food, they will buy eggs and fry or boil some. Eggs are mostly given to children because they can not eat hot pepper sauce (Jaew) or hot ground fish. From this point, to promote the consumption of Vitamin A rich foods among the Northeastern people, it is necessary to make available source of Vitamin A rich foods in the village. For example, in a mobile market, there should be livers, pork, chicken, beef and green vegetables which can not gathered naturally on sale. When there is food variety, people feel like to eat and buy some.

The discussants give detail on fried vegetables that they have to grow or buy because they are not naturally obtained. Especially, chinese morning glory which contain rich Vitamin A, people have to buy or grow by themselves. Some other vegetables can be obtained naturally so that they need not to grow them. In case of wanting to eat particular vegetables, they can buy from the market because they are not expensive. Though they grow some vegetables, e.g. onion, garlic, mustard green, cabbage or chinese cabbage in their kitchen garden for their consumption, they also sell these vegetables. The money gained is spent for cloth, health service, tuition and fee, agricultural debt and even other foods which can not obtained naturally. Villagers say that they are sometimes bored of natural foods so they like to taste other foods. In this study, they buy fried sausages, chicken bone to make sour soup, canned fish, pork to fry with vegetable or even they kill chicken.

Although some families raise hens and ducks, people rarely eat the kind of protein rich foods because they intend to sell or breed. When a mobile market comes in, they buy chicken bone to make soup or fried dish.. They call chicken bone that "chicken spirit". It can be analyzed that villagers want to eat chicken but they do not want to kill chicken of their own. It is because the Northeastern people are not extravagant in eating. They raise chicken for sale.

The indispensable ingredients in every family are fish sauce, fermented fish (Pla Ra) and sodium glutamate. People like to use sodium glutamate because they think that it would make food delicious. The restaurants in general use sodium glutamate (as they observe). They believe in the advertisement that sodium glutamate generates delicious foods. According to the investigators' viewpoints, the lower Northeastern housewives like to use sodium glutamate because they really have no knowledge on cooking. The reason why they know how to cook ground fish, soup, curry, grilled or fried foods because they are accustomed to them. They also get used to consuming these kinds of foods. They do not think that they can transform natural foods into other things. (Some know how to do but they think that it costs much and uses many ingredients. Someone want only to full their stomach and have energy to work. That is enough). Villagers suppose that buying foods from the market are extravagant. They buy some in case of they really want to eat. The investigators would like to suggest that in order to promote the consumption of Vitamin A rich foods among villagers, the promoter should inform and make understand about various foods and methods of cooking. Another way is to apply materials available naturally to fix different dishes, for example, introducing fried frog with garlic and pepper or chicken soup in coconut milk. Villagers should be informed that it is not necessary to put sodium glutamate to make foods delicious. In addition, the villages should learn to cook livers other than boiling. They can make fried liver with sweet basil, fried liver with garlic and pepper etc.

Villagers have eat some oily foods. They mostly cook fried cucumber with egg, oily morning glory, fried mustard green with pork, fried chinese kale with pork,

pumpkin and egg, string bean with pork or cabbage with pork. Frying vegetables, the cook has to buy many things. For example, she has to buy pork and oil or lard. In this eyes of Northeasterners, fried foods mean pork or meat and egg with vegetables. This could be analyzed that villagers could not have fried food often because beef or pork are not available (sale) everyday. Though they want to eat fried food but they can not cook because of lack of materials. Sometimes, they have fried morning glory (without meat) or cucumber with egg. Other reason for the Northeastern people who eat glutinous rice is that fried foods are not matched with their rice. In this study, this concept is found among the older generations who are used to eating hot ground fish, hot pepper sauce, grilled food. Among the discussants, they say that they eat fried foods with nonglutinous rice, except some families who eat with glutinous rice.

The consumption of sweets cooked with coconut milk is depended on the desire to eat if this kind of food is available or sold in the community. A woman says that she wants to eat noodles eaten with sweetened coconut milk, when a mobile market come, she buys it. If they want to eat sago, they buy some from small shop in the village and cook with sugar and coconut milk. The other one says that she wants to eat pumpkin in sweetened coconut milk, she will buy pumpkin from mobile market. If at mobile market, there is "Krong-krang" (a kind of desserts) on sale, she will buy it.

In the study, the investigators try to think of natural foods available for making desserts. It is found that there is only "Mun Nog" (a kind of potato). Natural vegetables that can be fried are morning glory and acacia. The other fried vegetables are not natural, e.g. mustard green, cabbage, chinese morning glory, string bean, pumpkin, cucumber etc. These vegetables are planted or bought from the market. People who do not grow or buy them do not cook them.

Other than "Mun Nog" which can be cooked as desserts, villagers have to grow other vegetables and fruits as materials for desserts. The said ones are pumpkin, sweet potato, melon etc. If they do not grow, they must buy from mobile market. If no mobile market, they have less chance to eat because villagers rarely go to town. In the village's shop, fresh foods are not sold. Only canned fish, fish sauce, vegetable oil, instant noodle, dried fish and children's sweets are

sold. In this case, it can be indicated that source of food plays important role in determining type of cooking. The limitation of consuming fried foods and coconut milk which are fat rich foods is caused by their availability and accessibility. To promote this programme, mobile market and small shop in the village should sell such foods as vegetable and meat. This means that people can be accessible to foods easier. Lard and vegetable oil are already available in the village. In addition to distribution of materials, information on cooking fat foods using available materials should be disseminated. If source of foods is available, and cooking technique is known both can be determinants of the desire to eat of people.

## 6.2 Nutrition of Pregnant Women

Some women in this study still believe in abstinence of particular foods during pregnancy. The omitted ones are coconut milk, fat, sugar, fish, pork, meat, Pak Kayang (a kind of vegetable) sweet basil etc. They say that if they take prohibited foods, the baby is so big that be difficulty delivered. Sweet and oily foods creat fat on baby's body. However, most of them rarely restrain from such foods. They eat what they want to, because foods are available and they know how to cook. They cook without thinking of the elder's prohibition. Some women think that if giving birth is difficult at home they can have delivery at the hospital with safety. (This concept appears in the young mother group, under aged 22). To probe the determinants of being against "Kalum" (taboo), one thing is modernization. The old ones are considered out of date or not modern. The experience on migration and prenatal care, has influence on pregnant women. They rely more on health recommendations. Moreover, there are sources of foods and they know how to cook, they do not pay much attention to "Kalum". They decide that they want to eat, if they are sick they can go to see the doctor.

During meal time, members of family in the Northeastern join eating together. Same foods are served (except some are reserved for the absentee). Everybody eats same kind of foods, no separation for pregnant or not pregnant women. Some food is classified as "Kalum" (taboo) but it appears in the meal. The

pregnant woman feels like to eat, she can do that. No one watches to find fault with pregnant women. (Even though they are extended family, the senior plays less important role but modern man). Pregnant women eats first, nothing happens. So she can eat next and cook what she wants to eat. "Kalum" is still held by pregnant women concerning sour, hot and fermented foods which are in accordance with medical and health principles.

However, some women strictly hold "Kalum" or abstain eating oily, fat foods or meat. Most of them are poor. They want to eat but they dare not. They are afraid that if baby is too big to give birth naturally they have to go to the hospital. They have to pay for delivery. "Kalum" helps easy delivery so they can give birth at home with a traditional birth attendant. At home, they are closely surrounded by relatives, and they pay nothing. From this reason, we found that economic status is a determinant for belief on "Kalum". Even though women want to eat but they are afraid of some effects later on.

### 6.3 Nutrition of Post-partum Women

From discussions, nowadays, post partum women have tendency to disregard "Kalum" (or abstinence of some foods). During lying by an open fire, the parents suggest that they should eat only rice and salt or dried foods. Savory (boiled and fried foods) cooked by meat, e.g. frog, small frog, fish, beef, pork, rabbit etc. are not allowed. Post partum women are prohibited to eat fried and oily foods, some kinds of vegetables such as acacia. If they do not obey they may be dead because it is against "Kaboon". The modern women realize that at time of weakness if they eat only rice and salt it takes time to recover. That is why they cook what they want to eat, even though they are afraid of "Kalum". However, they think that they will not die because of modern technology of medicine. Comparing to delivery at hospital, post partum women can eat everything and they are fine, so that most women do not hold "Kalum" or abstain particular foods.

To investigate the disregard of "Kalum" arrange post partum women, it relates to the concept of uterus's condition. The old people say that eating savory and wet foods makes uterus wet (which causes

easy pregnancy). Dried food, rice and salt make uterus dry and be normal. This concept is against the knowledge and health service. Contraception is widely practiced among women who do not want baby. Moreover "Ya Dong" (medicine spirit) for post partum women during staying by a fire, is sold widely in the village or the district. By this way, post natal women need not to hold "Kalum".

Another point of view concerning lying by a fire, studied women understand that it is traditional for former generation. Lying by a fire is not modern but lagged. The period of staying by a fire is shortened. The post-partum women want to recover as soon as possible, if they abstain some foods, their body will weaken. So they are not interested in "Kalum". This viewpoint is evident among women who had prenatal care and given birth at district hospital.

Only some women who stayed by a fire after birth obey the suggestion of parents and midwife. They abstain some foods such as acacia and savory. In the mean time, the duration of being by a fire "is shortened from 15 days to 12, 10, 7, 5 or 2 days according to their belief and knowledge on post partum care. The women who experienced working in Bangkok or having prenatal care at health center or giving birth at the hospital are likely not follow the prohibition of parents. Someone eat "Kalum" foods in front of their parents. They said that their parents just protested, some time they were indifferent. In this case, the informants say that while eating prohibited food and anyone protests it is against "Kaboon". It is because these women are not certain. Their belief and their desire are opposite. They eat and are worried that they are wrong and they get headache. Once, the elders do not protest because they know that if they do, their daughter would be worried and psychological sick. Some informants say that, "Eat what you want. Don't worry. Let it be. Lot of doctors". Without "Kalum" (taboo), there will be an increase of Vitamin A consumption.

From issue discussed above, it can be concluded that information on postnatal foods should be disseminated in order to promote nutrition. Post partum nutrition will help the mother recovered and healthy. Their children are also healthy and unrestless. Being healthy, the mother can go back to

work in the field and at home in shorter time. It should be suggested that the old people had their own reasons for "Kalum" or taboo. Formerly, rural people had to rely on themselves. Medical and health service were not widespread to the community. Giving birth was due by traditional birth attendant and herbal medicine was used. There should be some abstinence. As it was said, "More to eat, bigger to a baby and hard to be delivered or to eat coconut milk and oily food, fat will stick to baby" etc. This saying was proved by phenomena. Some woman died of difficult delivery because the baby was so big. This rumor was accepted so some prohibition is invented. Now, the mothers agree that they are not afraid of carrying big baby. If they can not give birth by normal labour, the doctors will take caesarian operation. However, it appears that some mothers still believe in "Kalum" during pregnancy. In reality they are not afraid of death or giving birth but they are scared of operation. That is why they still hold "Kalum". The reason why the doctors allow to eat should be also explained to the mothers. Knowledge on abstinence of some foods during pregnancy and post-natal period (including breast-feeding) should be provided. (Is it necessary to refrain from some food while the child or mother is sick). "Kalum" is necessary or not for today. Advantages and disadvantages of it should be described in detail.

In order to persuade the post partum women consume suitable foods, they should be educated on usefulness of foods and cooking technique as well as introducing variety of foods supplementing unnatural foods.

#### **6.4 Nutrition for Children Aged 0-12 Months**

It is discussed in the study that babies are given chewing rice since they were born. The mother thinks that her baby cries because of hungry. If the baby is full, he will stop crying. On the other side, feeding with milk costs such for example, the mother must buy some bottles. In terms of protein and fat foods, only few persons give to children according to the recommendations of health workers. Even some mother has prenatal care at the hospital, she still feeds her baby with chewing rice. She believes that

her child is hungry as well. Nevertheless, she starts feeding fish, pork, boil ivy gourd when her child is 3 months.

Differently, ones who have not prenatal care begin to feed their children with other foods when they can sit or have some teeth. The latter believe that children who eat egg or fish sooner they would have decayed teeth and worms. Considering the reasons of rural people in the Lower Northeast concerning late feeding protein and fat foods to their children are as follows:

1. They have no idea about when they should give meat, egg, pork, vegetable and fish to children. They get used to feeding chewing rice, mother's milk and water. They assume that children can take only these.

They think that children do not know how to eat chunky foods. They suppose that chewing rice is sweet enough so it is not necessary to have other ingredients. When the child is full, he will sleep well.

2. They think that only children who already have teeth can eat supplemented foods. They wait until their children can sit or about 6-8 months. Children who can sit, are able to grasp for rice. Parents think that their children are hungry so they feed them.

3. The foods recommended by the doctor for 3 months old children such as pork, liver, beef, chicken or egg can not be naturally available. They have to buy some. Someone are accustomed with traditional childrearing. They suppose that the grand parents' way of raising are the same. They need not to follow the advice of health worker. Moreover, it is expensive for them. An exception is for new mother who has personal view that principle of nutrition is modern for her.

4. The food searching and earning of villagers affect their nutrition. To investigate food and cooking, it is found that they search food for adults and children (2-5 years old), but not for baby. For example, when they obtain some fish, they boil, grill or ground and separate some (without pepper) for children. Food for baby (0-1 year) is the responsibility of the mother i.e. chewing rice. They do not think that children are able to eat fish or

pork. The exception is found among who has knowledge on child care and mother who ever had prenatal care or delivered at health center.

5. Vegetables are given to baby (0-12 months) later than they should be. In addition to the ignorance of the mother, source and type of vegetables are limited. Only few kinds of vegetables can be cooked for baby, (e.g. morning glory, spinach and ivy gourd). In some area those 3 vegetables are not available. Other vegetables such as white morning glory or red morning glory are found in water resource. Morning glory found in rice field is suitable for eating with papaya salad. Ivy gourd is not enough for eating otherwise it is planted as fence. Adults eat spinach with hot ground fish because they ignor that children can eat. Other kinds of vegetables such as Kadone, Tiew, Meg, Hyacinth etc. assumingly fit for savories eaten along with drinks. The limitation of vegetables is another things that delay vegetable feeding. Some informants opine that they want to feed children with vegetables but they have no time. If vegetables are available and accessible, people can adapt to cook for 0-12 months old baby. People in this area give priority to work not to eat. But during work they find something to eat (fish and vegetable) altogether.

#### 6.5 Nutrition for Children Aged 13-24 Months

The study shows that all mothers prepare separated food for children at the age over one year old because the children at this age cannot have hot food. these specially arranged foods are grilled fish, fish meat (derived from soup or mild taste curry), fried egg or boiled egg. Although sometime they have the chicken killed, the children will have chicken liver for their food. When they have nothing to prepare for children, they will buy egg and fry or boil for their children because they believe that "Jaew" (hot pepper sauce) or ground fish is not suitable for children at this age. They are too hot and suitable for grown up people only. This finding is concluded from the common response of most mothers that "any days we have nothing to cook for children we will buy some eggs and boil for them. Jaew (hot pepper sauce) and ground fish will do for parents. Children cannot have hot food".

Regarding food for children at this age group, children will have all the same sorts of food as the grown up people have with the only difference in taste i.e., not being hot for children. Whenever the parent prepares any foods for family the children will certainly have the same kind of foods different taste. Parent will allocate a part of that cooking food for children before flavouring it into the grown-up people preferable taste. For instance, parent may prepare boiled fish she will allot a portion for children before putting in chili lemon and more fish sauce. If they cook boiled chicken they will take out chicken liver for children first for understanding that it is easily eating and being good food because of being the inner part of chicken without bone. Surprisingly, they do not know the intrinsic fact that liver is the best food for children with respect to its nutrient value to both children body and brain.

The above discussion explicitly shows that mothers in lower part of Northeastern rural area have some knowledge and understanding about food preparation for children 13-24 months old group. They believe that children at this age cannot have hot food. Other sorts of food that the household prepare which relate to vitamin A will also affect the food consumption of children at this age. For instance, if mother prepares such a fried food her children will in turn have that food. Hence, if the sources of food are more available in this area and the housewives realize their benefits and values and also know how to cook as well as diversify them into many new dishes then the pattern of food consumption of children at this age will be greatly affected.

#### **6.6 Nutrition of Pre-school Children Aged 2-5 Years**

The finding of this study can be discussed and analyzed as follows. The children over 2 years old can have the same food as grown-up people even though that food is somewhat hot. The main reason for that practice is the familiarity of consumption pattern together with the limitation of choice. For some families, mothers specially allocate food for children at this age for belief that the children still cannot have hot food. However, other families may specially prepare food for children differently from parents.

Economic status of the family determines the sorts of food for children at this age. During the period of food scarcity, response from mothers who have children at this age from all groups discussed give the views that, parents can have "Jaew" (hot pepper sauce) or ground fish. If that is too hot for children the egg will be bought and fried or boiled for them. In case that a small fish is fortunately available, a boneless part of it will be fried for children and the rest will be ground for parents. In short, we can say that parents' love and care of their children is a very important ingredient in food preparation for their children. The main reason for buying egg for the children is having no other food except Jaew (hot pepper sauce) or ground fish. In addition, egg is easily acquired and generally available at small village grocery or general poultry raisers and also inexpensive (Baht 1.25 or Baht 1.50 each up to the area) in comparing with the price of canned tuna fish which cost about Baht 4-6 each. Moreover, the familiarity of having more rice than other food at each meal make it more suitable to have egg than other choices because a boiled egg or an omelet with rice will satisfactorily fill the children each meal.

Egg stands as a favourable choice of food because it is plenty and easily acquire. If other sorts of food are available in the village at a negotiable price to the villagers the choices for food consumption in relation to vitamin A will be opened wider because the finding explicitly shows that additional sorts of food presented always arouse the desire for consumption.

#### 6.7 "Kalum" (taboo), Belief and Abstinence of Food Consumption in Relation to Consumption Behavior

From group discussion, the sample informants from all groups have a digressive knowledge of "Kalum" (i.e., some hardly know and some do not believe in it). Some informants of 35 years old or over can discuss "Kalum" in more detail and name many kinds of food that the elders forbid them to have. However, the informants at this age do not follow all the "Kalum" because they believe that some are not necessary. They will have fatty foods such as fried meat, coconut meat or milk, food that cook with sugar both during pregnancy period and after delivery period. Only some of "Kalum"

are practiced by the informants in this age group such as refraining from having hot food, strong taste food, strong smell food like acacia as well as pickle or fermented food during pregnancy period while the rest of them are totally disregarded. The knowledge of "Kalum" of the group of informants aged between 24 down to 17 years old is different from the previous age group. They scarcely hear about "Kalum (taboo)" or abstinence. They are not interesting in this out-of-date belief. For mothers aged between 25-34 years old, "Kalum" is only the parents' advice and the hearsay. Some are believable and some are not. They follow some "Kalum" but not seriously only to satisfy their parents and the elders' desires.

The analysis of food consumption pattern in relation to "Kalum" explicitly shows that elders especially mother of the new born mother and traditional birth attendant are the main source of information on "Kalum". Husband has no influence on wife's "Kalum" at all because he has to find food and work in the field and leave all the cooking responsibility to his wife. So the husband pay less attention on "Kalum". Moreover, his love and care for his wife especially during her pregnancy period makes him find any foods that his wife wants for her regardless of "Kalum". This is also true during his wife staying beside fire after delivery. Consequently, one can conclude that change in the concept of "Kalum", i.e. disbelief in "Kalum", is resulted from the change in food consumption behavior which is in turn derived from the increment of choices of food. The choices of food increment may arise in the form of increase in sources, kinds and cooking method which is different from traditional one. New kinds of food such as fried food or using different sorts of seasoning ingredients may produce more tasty food which arouse appetite such that one cannot refrain to have. Limitation of choice caused by having less sorts of food from natural sources can also bring about less practice of "Kalum" because one must eat anything available at a time for survival.

Another reason for "Kalum" becomes less important to new generation of mother is because there are more food information from health personnel and other indirect sources such as radio and television programmes. Some informants have seen TV. programme "LOVE YOUR CHILD PROPERLY" and some video programme

concerning food for pregnant women during their visit hospital for prenatal care. So "new generation mother" or "modern mother" should be called the mother in any promotional programmes of food and food consumption for woman in pregnancy and after delivery period.

Also, more explanation should be given to the new mother on certain "Kalum" so that some "Kalum" cannot be disconcerted to omit. As the result, protein (such as fishy food and fried food) can be easily accepted by new born mother during right after delivery period or staying beside fire period. The new mother should clearly know the reason behind the "Kalum" of fried food and fishy food such as fish, frog, beef, pork and chicken etc. that these protein foods will make the womb resilient which will be easily conceived. Some informants know this reason well and one of their explanation is as follows:

Sa-nga : "In the old day, some say that new mother must refrain from having good foods such as meat chicken and fried food during staying beside fire because these foods will make womb resilient and easily get pregnant. If one have only dry food at the fire period, womb will be dry and hardly conceived. So they advise the newly born mother to stay beside fire at a longer period".  
(Age 27, 25-60 Group, Ban Nong Bau Chai-wan)

In fact, the resilience of womb brings about the other easy pregnancy is the self explanation of the value and benefit of protein such as fried food to newly born mother of her health recovery. In former time, there is no other easier method of family planning than 'Kalum'. But at present there are many alternative methods of birth control available so "Kalum" is unnecessary. So quickly health recovery and womb resilience which newly born mother can contributes her labour to her farm can be easily accomplished by convincing her to consume more fried food. If the target group is convinced to accept this fact, the

consumption of protein and Vitamin A food of new mother during staying beside fire will be increased.

Regarding the change in community environment and life style, the study shows that population in community with electricity become acquainted with talcum and soap along with TV commercials. Their life style has changed from rural idealism to urban materialism and can be easily observed from electric fan, television, radio and tape recorder in this community. Some households have colourful window curtain, wardrobe as well as show cabinet. All these sorts of material represent the new generation of owners. Some pregnant women also wear special mother robe which show that they are the modern mothers. Again, the word "new generation mother" or "modern mother" should be emphasized in any means of nutrition promotion for new mother because they would have a lot of psychological effect on women who is going to be new mother or being new mother. Such the effect of being called modern mother will be followed by other women in the nearby area. All those changes and their effects will be the explanation for the elders to realize why "Kalum" is less appreciated and come to accept new method of birth control. At the same time, new pattern of food consumption is to be introduced to such the same value as birth control. The sample of motto to introduce the change in food consumption pattern are:

"Modern mother always has food cooked with coconut milk and never forgot sweet but can give birth normally and surely get good health afterward".

or

"Kalum is not bad if it is timely applied"

or

"Modern mother begin giving food to children at 3 months old".

However, "Kalum" become less and less important to the mother now if the sources of food and the method of food cooking are still limited the goal of vitamin A consumption promotion will not be satisfactorily attained. Hence, the knowledge of cooking method and benefits of various sorts of foods should be given to all women in more detail.

## 7. METHODS OF PROVIDING KNOWLEDGE OF FOOD WITH VITAMIN A CONSUMPTION

### 7.1 Factors Affecting the Consumption of Food with Vitamin A

From the aforementioned information, analysis and discussion, the factor affecting the consumption of food consisting of Vitamin A of population in Northeastern rural villages can be reviewed as follows:

1. People in Lower part of Northeastern rural villages are still lacking of understanding on the benefits of various foods and group of food. They have the thought of food as the only subsistence and acquaint with natural food or only being simply cooked with less cost. They are the simple people accepting the poverty and disregarding the importance of value and benefit of food to their health. To them, food can alleviate their hunger and can satisfy their physical need. If they realize that food has both benefit and detriment to their bodies, their food consumption behavior will change. Because they will know that having useless food will bring about a weak health and easily contagious which cost more medical expenses and may unfortunately cost their lives finally. This sort of behavior change is confirmed by the suggestion of Mahidol University's Institute of Nutrition that Pak Meg and Pak Kadone can easily cause calculus to the consumers. Most of the informants report that they avoid to have these vegetables even though they are easily found because they are afraid of calculus. Similarly in the campaign on understanding of the benefit of having food with Vitamin A, the people should be educated in various topics such as the sorts of food, the methods of food preparing and the choice of having food with Vitamin A in particular. At the same time, the adverse effects of having food with vitamin A deficiency such as blind in the dark should be emphasized. In addition, the reason for this kind of campaign is launched in only the Northeastern area must be clearly perceived by the target population. Then the change of food consumption behavior can be reached.

2. The limitation of knowledge on food preparation is found to be one of factors affecting the less consumption of food with vitamin A in the population of lower Northeastern rural area. These

people tend to prepare their food in conventional dishes such as ground, grilled, boiled, fried and etc. If they know other different ways of cooking beyond the aforementioned ways their consumption behavior may change. This sort of effect can be seen from the behavior of housewife who do not believe in "Kalum". This group of housewives have more skill and experience in cooking and can do many different kind of dishes. They will cook whatever their craving will dictate. The promotion of cooking knowledge to the housewives will simultaneously create their craving and arouse them to prepare that food for their family finally. However, for the best practical result, promotional cooking knowledge should be to the full extent relied on food from natural resources. Yet, if that resulted cooking method or that dreaming new dish can get along well with glutinous rice then the promotional knowledge will be widely accepted.

3. The limitation of food from natural resources within the area the consumption of food with Vitamin A is almost impossible. Most vegetables that can be easily acquired from the nature are only suitable to have with "Jaew" (hot pepper sauce) and ground fish. Only some of them like morning glory, ivy gourd and acacia can be used as flavour or can be cooked as fried food. Other vegetables that are more suitable for fried food such as sweet basil, basil leaf, cabbage, string bean, pumpkin, cucumber, mustard green and etc. have to be bought from the market in town. For all sorts of meats such as fish, frog, small green frog, chameleon which are suitable for fried food, they are not popular to the housewives because the cooking is rather complicated and require extra ingredients such as lard and flavor vegetables as well as some special cooking utensils like pan. Some common cooking utensils to other people are regarded as the extravagance to the poor family of this area. Poor families may have only a pot for parboil sticky rice, a set of mortar, a pot for boiling other food, some plates and spoons and some pieces of stone to replace stove which they reckon them as necessary cooking utensils. With this limitation, both ingredients and tools, they have no choice but prefer the cooking methods of only boil and grill.

Beyond the said nature provided foods, other foods such as pork, beef, pig liver, chicken liver and other fresh vegetables are not available in village

market. The possible ways to have these food are either to grow or raise them within the village or to buy them from the market outside. Hence, the market system is another factor that can help promote the change in consumption behavior to more food with Vitamin A.

Another obstacle to promotion of food with Vitamin A consumption beyond limitation of nature provided food is unavailability of many kinds of food which contain Vitamin A. Most wealthy informants who possess luxurious items such as colour or black & white TV., radio and tape recorder, electric fan, motorcycle, etc., report that they cook their food nature provided food within the area. For eggs, they have to buy from the market or get from the self raising fowls. If they crave for some special food they will go and get it from the outside market or coming in vending pickup truck. Obviously, the rich in this area is still stick to conventional dish and cooking method because there is no other choices open to them. Market inaccessibility and time consuming occupation together with their belief in their undriven food that provided by the nature cause malnutrition to the children of wealthy families here. The most suitable direction for promotion of the sources of food in rural area are:

3.1 To coordinate with shop keepers in the village in bringing meat, livers and vegetables for sale in the small shop. The shop is arranged as grocery and food market at the same time.

3.2 To ask for cooperation from mobile market in bringing some foods such as beef, pork, chicken, livers, fresh vegetables and Vitamin A rich food, which are not naturally available, for sale in the community. It should come once in two days. This could create desire for food among consumers. For when they see foods available in mobile market, they can think in advance which food they want to eat, and how to cook. They could save some money to buy in the next day. This is open for villagers to think and prepare themselves.

3.3 To arrange the mobile market by your own. In the mobile market, all Vitamin A rich foods, savories, sweets or vegetables are on sale. It is found in the study that rural people like to eat food which is not naturally available or which is new for them. For they are tired of ordinary food, they buy sausage, mackerel and chicken bone. Though chicken bone is a part of chicken which contains less meat, they still buy it because they want to eat boiled, grilled or fried chicken. If there are pieces of chicken, chicken liver and limbs, costs 3 piles 10 Bahts as they are sold in the market, certainly, people want to buy.

3.4 To cooperate with the District Office to ask for village headmen meeting. In the meeting, information on shortage of Vitamin A among Northeastern people is disseminated. It should be explained that the cause of it is the unpopularity of consuming fried foods, sweets cooked with coconut milk and "Kalum" (taboo). The danger of Vitamin A shortage is apparent by eye sickness. To educate and make headmen understand the value and importance of this kind of food. Gaining knowledge from the meeting, the village headmen will recommend villagers later on. It could affect changes in consumption behavior into eating a lot of fried food, egg and liver.

3.5 To promote kitchen garden, for villagers have eaten vegetables all year. This suggestion is limited by water resource and soil quality. Poultry and other domestic animals such as frog, fish and, small frog, should be suggested to raise. People can kill and eat without buying other foods.

3.6 To group village committee and villagers in establish demonstrating shop where Vitamin A rich foods are sold everyday and every meal time.

4. According to discussion above, belief in abstinence some food or "Kalum" plays an important role in halting pregnant and post partum women (sick mother and child) from eating Vitamin A rich foods. They believe that they could be fatal or seriously ill if they take some particular foods. Or they could pay much for curing. Considering "Kalum" as a belief, few serious and elders pay much attention to it at present. In the mother group, most believe the rumor except some cases whose parents tell to abstain. One woman

says that "I ate and they (parents) saw it. They were different." It means that one who holds "Kalum" and believes that it is true as rumor, she could be like that. The old person and traditional birth attendant play less role regarding this belief. Some mother who was delivered by the traditional birth attendant said that she ate "taboo foods" because she felt like to. If villagers know how to cook and learn about the usefulness of food related to their health, it is believed that they would pay much attention to choose food to cook.

Mothers in the study feed supplemented foods later than it should be. The recommendation on this is to build media to explain how lack of Vitamin A rich food affects baby's growth and health. For example, if a child is fed with meat, egg, liver and vegetable later than 3 months, how he could be his figure, fitness, eye, head, belly, buttock etc. Surely every mother loves and cares her child. If she understands about child nutrition reasonably, she will change her way of rearing into principles with love and care. The mother realizes that today is not yesterday. Though someone still resist that their children can grow by traditional method. In producing this media, the difference of two rearing methods should be clarified. An example for this is a VDO showing a well-shaped head of a child whose eyes are bright and whose ears are expansive. The healthy, active and cheerful child is compared with the traditional child physically and psychologically.

5. One important factor affects the consumption of Vitamin A rich foods is poverty-stricken experience of their ancestors. So the Northeast people are thrifty and stingy. They save money to buy what they have never had. They buy goods but not foods for their household. They think that they can survive with ordinary foods. Moreover, they get used to eating natural foods, they have no idea to cook other type of foods except hot ground beef, chicken and duck which are the best for the Northeast people. Referring to fried food, whenever they crave for it, they will make it. It interprets that if they do not want, they will not cook it. The desire for food is aroused by seeing variety of food, tasting some food and knowing cooking technique. Their desire to buy merchandises such as TV, electric fan, refrigerator and other facilities is dominant. These things are their prestige,

modernization, prouddness, and independence. Their children have not to watch the neighbor's television. But they are not interested in nutrition. They regard that it is each family's business. One who wants to eat, can cook what he wants. Food are obtained naturally and cooked as usual. Villagers give less importance to nutrition. A family who have many modern goods still eat traditional foods. One reason is because of unaccessibility to foods and ignorance of cooking method. Another reason is their frugality as well as their idea on full stomach is enough.

6. The last factor affects the Vitamin A consumption is economic and financial status of a family. Viewing their daily foods, most are naturally gained. Only some time they buy some egg, mackerel or chicken bone. Their reason is because they have no food (natural food) so they buy egg for their children. They want to eat chicken, they buy chicken bone to make soup. If there is variety of foods for choices, the poor should turn to consume more Vitamin A rich food. As it is said, if they want to eat, food is available and they know how to cook, they will buy though they are poor. They can be employed as labor in the field and in community and earn some money. An informant says that for example, if she gets bored of ordinary food, she will buy some other thing.

#### 7.2 Media and Guide for Promotion of Vitamin A Rich Foods Consumption.

Some villagers have ever heard of infant and pre-school child rearing. Their sources of knowledge are health workers, posters at the district hospital, "Supplemented Food for Beloved Child" mobile team of Institute of Nutrition, Mahidol University. Other else are radio and television to which they pay not much attention.

To probe the knowledge on food and nutrition, it is found that people in this region have not yet known about Vitamin A rich food. They eat vegetables regularly with hot pepper sauce and ground fish. Some explain that vegetables have Vitamin especially green vegetables. Or they just know that morning glory makes ones' eyes sweet. Only one woman can answer that morning glory consists Vitamin A but she does not understand whether morning glory is useful to human body.

The investigators would like to recommend education media for consumption of Vitamin A rich food. The usefulness of Vitamin A relating to human body should be described. Or why people eat vegetables but they do not get Vitamin A? Or what kinds of food nourish much Vitamin A? Why do people need not take "Vitamin A medicine"? With these principle, we would like to suggest that:-

1. A disseminating mobile team should be arranged. Media such as movie, poster, leaflet, flip chart are prepared. In addition, there should be cooking demonstration. Back to a film called "Food for Beloved Child" was shown 6-7 years ago, people still remember. Though they say that it is difficult to cook because it needs many ingredients. If it is applied to rural way of life, it will be popular and easily understandable.

To produce media, e.g. movie, VDO or flip chart, it is recommended that a real life of rural people should be copied. With an explanation about way of life which causes shortage of Vitamin A. Actors are rural persons with the background of the Northeast living. Guidelines for solving problems caused by not consumption of substances which absorb Vitamin A.

2. In producing media for campaigning Vitamin A rich food consumption wording used should be easy and understood. For example, "little child drinks delicious food, baby drinks much milk, healthy child well urinates, a child who has limpid urine is strong because his urine is good also is his fecal matter," or using the word "Vitamin" (because the villagers think that all medicine have vitamin), the words "fatty, big head, big belly, small buttock, not fidgety...."

Villagers visualize that medicine is more important than food. If they feel weak they go to ask some tonic and vitamin from the doctor. It is found in the study that "if the mother has less milk, buy some tonic to nourish milk." Few people realize that nutrition could nourish milk. Most just know that to nourish milk is to eat the edible inflorescence of a banana plant soup or hot water. When a child is flatulent (aged 0-3 months), the mother will buy some medicine as she sees the advertisement. Moreover, people like to buy purgative for children. It can be seen that rural people pay for medicine because of advertisement. The investigators recommend using propaganda for correct nutrition for example:

"Children are flatulent because of early chewing rice. Feed them after 3 months, you pay nothing for medicine"

Or other wording:

"Save money paid for purgative to buy liver and egg instead".

3. Advertising wordings for post partum women are blood transfusion, nourish with feed food, status quo of uterus etc.

4. The qualification of village health volunteer should be fairly educated man, but not teacher or government official. He/she should experience principally childrearing or used to help social work in the village. Villagers trust him. To invent faith in the community, there should be training concerning this issue. The village health volunteer who takes part of it feels' proud and voluntarily continue working.

5. Owing to disregard of villagers on radio programmes, there should be cooperation among announcers in Surin, Sri Saket and Ubon Rachthamee helping introducing the value of Vitamin A rich food. It could be introduced as prelude or at the end. Sample spot, "Don't forget to give liver to your kid, for he'll have clear urine" or "Modern mother feeds vegetables to her kid at 3-4 months". The strategy of cooperation from announcers is to arrange a seminar on asking a favor.

6. One of good medias is broadcasting tower. For everyone hears the news simultaneously. The weakpoint is the programs which sometimes bore the audience. The best way is to disseminate information from mobile market.

## 8. CONCLUSIONS

The main objective of this research is to investigate guidelines and strategies for developing communication and campaign on consumption of Vitamin A rich foods among the target population. Focus group discussion technique is used as data collecting tool. Discussants are devided into 4 groups in 3 studied villages of Amphoe Kantharom, Changwat Sri Saket. The characteristics of informants in group discussions are:

Group 1 : Pregnant Women (or Pregnant Group )

Group 2 : Women who have children aged 0-12 months (0-12 Group)

Group 3 : Women who have children aged 13-24 months (13-24 Group)

Group 4 : Women who have children aged 25-60 months (25-60 Group)

Eight focus group discussions are arranged. Each characteristic covers 2 groups. From group discussions, it is found that the Northeastern people have to earn their living. They have no time for cooking. Their concept on food consumption is to eat for energy and survival. They have limited kinds of consuming foods due to the shortage of materials which are much depended on the nature. For each meal, they have only one or two dishes which are simply cooked.

Their daily meal are soup, curry, grilled and ground fish. Indispensable food is vegetable eaten with "Jaew" (hot pepper sauce) and papaya salad. Other kinds of dish such as Lab, Koi (ground beef) and fried foods are cooked whenever they crave for.

The lower Northeasterns especially the old generation do not like oily or fried foods or foods mixed with coconut milk. The "modern" men like to eat such foods but it is rather complicated in cooking. For they have to buy many ingredients - oily and meat. Natural vegetables are not suitable for frying. If they want to fry some vegetables they have to buy from the market or to grow by themselves. The most edible coconut milk mixed food is dessert which is on sale in mobile market.

While natural sources of food are decreasing, villagers get bored of ordinary foods. So the role of mobile market is increasing. Villagers likely to buy foods from mobile market because they can change into other types of foods.

The Vitamin A rich foods such as green vegetables, and fruits (ripe papaya and pumpkin) are widely consumed by the rural Northeasterns. But they

usually eat fresh or boiled vegetables with pepper sauce. The problem of Vitamin A consumption is not concerned with quantity but how to make body absorb Vitamin A and make it useful to human body.

Yolk and liver are source of rich Vitamin A which often taken by villagers but not in high quantity. People are accustomed to eating much rice and less condiments. Eggs are easily available and inexpensive. Cooking eggs is simple especially for children fried egg is the best way.

Once in a while, people eat liver of big animals. They take it if they go to the market in town or during merit making. Cattle are killed at this time but they are shared among villagers. Chicken's liver is not rare and expensive. However, chicken's liver is reserved for the old persons and little children because it is regarded as "good food"

Comparing egg with liver, eggs are more popular because they are available and inexpensive. To promote liver consumption is to make liver available in the community with low price.

Concerning "Kalum" (taboo) of pregnant women, some informants are still serious with abstinence of particular foods such as oily, sweet foods and also foods cooked with coconut milk. They believe that the baby would have fat and be difficulty delivered. They also refrain from hot and spicy foods such as galanga, sweet basil. For they are afraid of danger to baby or abortion. However "Kalum" or abstinence of some foods during pregnancy is rarely practiced. Pregnant women especially ones who have pre natal care eat as same as other women. These women are advised by public health workers. They are modern and up to date. They are not afraid of difficult deliver because they trust the doctor. Experience gained during their migration, in addition to their desire, women nowadays pay less attention to "Kalum".

The Kalum believers mostly are poor. They have no pre-natal care. Though they crave for eating they have to abstain because they are afraid of difficult delivery. If it happens they have to go to be delivered at hospital which is costly for them. Once, economic status of family is a determinant of belief in "Kalum".

Many Northeast women stay by an open fire "Yu Kum", after giving birth. They practice seriously. During this time, they have to abstain all foods except rice and salt. They are afraid of being against - "Kaboon". If they want to eat meat. Only dried (by broil or bake) meat is allowed. It is believed that it helps uterus becoming normal earlier. To eat good foods is not good for uterus because it could make uterus healthy and become pregnant easily. Nevertheless, timing of being by a fire of the Northeast women is shortened from 15 days to 5-7 days or 2 days at present.

Women who gave birth at the hospital generally do not stay by a fire. They consider that it is old fashioned and unnecessary. That is enough for them who have taken medicine and injection. This group disbelieve in "Kalum" concept they argue that contraception is efficient.

During breast-feeding, the mothers believe that their taken food affect their milk. So the newborn's mothers are cautious with their diet when their child is sick. This shows their love and care for their children.

In every group, there are some informants who ever feed chewing rice to their newborn baby. They understand that baby cries because he is hungry. If baby is full he will sleep well and do not disturb his mother. In general, women who ever have prenatal care and been delivered by health worker have some knowledge on infant feeding. In reality, they cannot practice rightly. They start feeding food to their child at 3 months. In practice, meat, egg and vegetable are delayed because the mother waits until her child has teeth which is about 6-8 months or when the child can sit.

Children over one year old eat same food as parents. Their food is separated by their mother before putting some spice. Children over 2 years old can eat like the adult except some cases who can not eat hot stuff. The mother will fry egg for her child who can not eat "Jaew" (hot pepper sauce) and "Pon" (hot ground fish).

Considering from baby and child foods, it is indicated that rural Northeasterners have no idea to adapt materials or foods for children. They do not know that what foods are suitable for children and when they are feed. They assume that children are able to feed themselves can find something to eat or cry for it. Economic constraint force the Northeast people to think of earning more than eating. While working, they also find something to eat but they do not separate child food from adult's.

Normally, pre-school children do not eat liver. If there is some, the mother will keep it for her child because she views that liver is soft (easily chewed), good and rare thing.

Eventually, villagers food are depended on natural sources. Natural vegetables which are suitable for children in villagers eyes are ivy gourd, morning glory and spinach. In fact these vegetables are limited in some villages. In addition, the economic constraint and the ignorance about cooking and usefulness of vegetables for children growths, the Northeasterners are not interested in cooking vegetables for their children. They let their children eat vegetables if they want to.

Considering with data collected, the investigators would like to present some recommendations here for a campaign to promote the villagers' consumption of Vitamin A rich foods.

1. The shortage of source of protein and Vitamin A rich foods limits the consumption of villagers. It is not convenient to go to market because it takes time and money. There should be accessible source of food in the community, either mobile market or village market where a variety of foods are sold.

2. Due to the applied knowledge on cooking of the lower Northeasterners is limited, they know only to ground, bake, grill, fry, boil stir some particular foods. To educate technique of cooking available natural foods is useful for changing their food habit into the desired direction.

3. To wipe out the belief in "Kalum" (taboo) is reasonably possible, by explaining the necessity of holding "Kalum" in the old days. At present, it is technological age. "Kalum" is no more necessary. Information on usefulness of foods taking everyday or during pregnancy and breast-feeding should be disseminated.

4. The villagers believe in educated men. They will practice if they learn about pros and cons of such thing. To promote the consumption of Vitamin A rich foods, information on the advantages of these foods should be educated. Villagers should know how to adapt their way of consumption which benefits themselves and their family especially their children.

5. Media for public relations should be visible, e.g. film, VDO, posters. Media should picture the real life of rural people, use easy wordings, and stress the benefit of consuming Vitamin A rich foods.

6. Radio may not be good media because villagers' interest are various. They are not interested in propaganda but the entertainment. Radio could be used if it broadcasts from many stations and covers widely.

7. Broadcasting tower in the village should be useful if it disseminates news in the morning when most villagers listen to. It is notices that programmes broadcasting should not be boring.

8. Recommended qualification of a volunteer is as follows, somewhat educated, village resident and trusted by villagers. Village training should be held to make villagers believe in volunteer.



**APPENDIX A :**

**Guidelines for Discussion**



**The Determinants of Villagers' Consumption Behavior  
of Vitamin A Rich Foods:  
A Case Study of the Northeast of Thailand**

---

**Guidelines for discussion among the mothers.**

**Overture**

- Moderator introduces himself and the objectives of the research project.
- Tell the group that discussion will be tape recorded.
- Ask everyone give free opinion and attitude.
- Begin with warm-up questions.

**Warm-up questions**

1. Who comes from other villages? Where are most people born?
2. Have you ever lift for work? Where? For what reason?
3. How do you know who are grown ups - young woman and young man?
4. When do children become young man and woman? And how?
5. What is a newly delivered mother called?
6. How long has she been called so? Until the child is how many years old?
7. What is a child aged (Item 6) called in the nature language?
8. If a child is older (than one in Item 7) what is he called? Why?
9. If a child is older (than one in Item 8) what is he called in nature language? Why?

**A. Food and nutrition**

- A.1 : What is your breakfast?
- A.2 : How many times you cook daily?
- A.3 : Generally, what is consisted with your breakfast?
- A.4 : What is composed of your lunch, in general?
- A.5 : What is your dinner normally?

A.6 : What is the main course? What type of food vegetables or meat? How are seasonally different?

A.7 : Do the family eat together or separately? Who eat first or later? Why?

A.8 : For what reasons do you eat? (For strength or growth).

A.9 : What is good food? (Expensive foods?)

A.10 : In your family, who decides what to eat today? (Parents, husband, children or yourself). Why?

A.11 : Do you cook special dish for anybody? How? And why?

A.12 : Do you eat yolk? How is it useful? During pregnancy, is it prohibited? Do little children eat it? Why?

A.13 : Do you take liver? How is it useful? Do pregnant women and babies take some?

A.14 : Do you eat fruits such as tomato, sweet potato, yambean, pumpkin regularly? How are they useful?

A.15 : Are you forbidden to eat during pregnancy? Why? Do little children eat fruits? Why?

A.16 : Which is more delicious-ripe papaya or papaya salad? Why?

A.17 : Is it true "Good food, get easy pregnant"?

A.18 : If the children are the same age, why aren't they equally big? Why?

B. Vegetables

B.1 : What do you think about the usefulness of vegetables? Why do you eat vegetables?

B.2 : What are natural vegetables that you gather in your village?

B.3 : What are natural vegetables you eat often?

B.4 : What are vegetables villagers plant? Are they available all year?

B.5 : What vegetables do you buy in the market?

B.6 : How do you cook vegetables-boil, dip in hot water or fry?

B.7 : Do you take (name of vegetable) regularly? Do you know its usefulness? Are you prohibited to eat during pregnancy. Why? Do little children eat it? Why?

B.8 : The food such as... (give an example of vegetable fruit and meat which contains vitamin A such as morning glory, ivy gourd)... is it useful? What sickness can it cure? (according to your opinion)

B.9 : Do you think what vegetables pregnant women should eat?

B.10 : Among many vegetables - chinese kale, ivy gourd, morning glory or spinach should a newborn mother (or child) eat first? How is it cook? Why?

B.11 : What type of vegetables is useful? How do you see?

B.12 : What is vitamin? Are there any vitamin? Do you know vitamin A?

B.13 : What kind of food can you find vitamin A?

B.14 : As a rule, who finds food in the Northeastern family.?

B.15 : Is there any mobile market in the village? How often? Do you buy regularly? What do you buy most?

B.16 : Buying food show that you are modern, is it true? Why?

B.17 : Which is most delicious, food you buy and food you find naturally?

C. Fat

C.1 : Do you fry any food?

C.2 : How many times in a week do you fry?

C.3 : How often do you cook coconut milk curry? Why?

C.4 : Suppose you have plenty of coconut milk and lard, will you cook oily food or food mixed with coconut milk?

C.5 : Do you make desserts with coconut milk?

C.6 : What is the soup of vermicelli? What is its ingredients?

C.7 : How do you cook eggs? Why?

C.8 : What is most cooked dessert? Why don't you do the sweet? Do people here like sweet with coconut milk?

D. Food for 0-12 months child

D.1 : What time are you careful about food - prenatal or postnatal period? Why?

D.2 : Do a newly delivered mother nowadays and in the old days eat differently? Why?

D.3 : Have the elder ever forbid the newborn's mother about some particular food? What is the reason of each? And how to cook?

D.4 : Do you think how many mothers listen to and practice seriously?

D.5 : How is a person who obeys the prohibition?

D.6 : What is the characteristic of the disobeyer?

D.7 : Do you believe it? Why?

D.8 : Have you ever eaten forbidden foods and you got sick as it was said? How was your symptom? How long did it take?

D.9 : Who is better, the heavy newborn baby or the light one? Why?

D.10 : As you know, what are useful foods for newborn's mother?

D.11 : What do villagers call the first yellow drops of milk?

D.12 : Did you give the yellow milk to your baby?

D.13 : How long do you breast-feed your child?

D.14 : When did you start feeding food to your child?

D.15 : When did you begin giving vegetables to your baby? (If less than 3 months probe it?)

D.16 : Why don't you give vegetables to baby (0-1 year) earlier?

D.17 : When do you give eggs to your kid? Why?

D.18 : When does your child commences eating liver? Why?

D.19 : Is it good to feed oily food (or fat) to children? Why?

M. Food and health of infant and child (Group 2,3,4)

M.1 : How are children's health in the village?

M.2 : How do you know which one is in good health?

M.3 : How do you know that your child is appetizing? Why?

M.4 : What are common sickness of children here? What is its cause?

M.5 : If a child can't eat, what do you call this sickness?

M.6 : When you bring your child to see the doctor, What does the doctor ask you?

M.7 : To whom does health worker recommend on nutrition?

M.8 : If your child is sick (devided by age) did the doctor forbid you and your child eating any food? What did he tell you?

M.9 : While breast-feeding, the child is sick, do you have to abstain from some food? Why?

M.10 : If you are ill, do you breast-feed your child? Why?

M.11 : While breast feeding, the mother gets sick, what food do the mother abstain? Why?

M.12 : At time of sickness, what food does a child stop eating? Why?

M.13 : If your child gets diarrhoea, does mother stop eating any food?

M.14 : If your child gets diarrhoea, does he exempt any kind of food? Why?  
Are forbidden food the same among little child and older child?

M.15 : If your child gets diarrhoea, can he eat fruits? Why?

M.16 : If the child catches cold, any food can be eat? Why?

M.17 : If a child is sick, should he eat sweet? Why?

M.18 : Do you think a prohibition excluding some food for newborn's mother is good or not? Why?

E. Media and strategy for promotion the consumption of vitamin A.

E.1 : Is there any group in the village?

E.2 : What do you do on your free time?

E.3 : Have you ever heard of childrearing?  
Where?

E.4 : Is there any village health volunteer in the village?

E.5 : What is his/her duty?

E.6 : Do VHV and VHC visit you?

E.7 : When they visit you, what do they talk?

E.8 : Have they talked about nutrition of pregnant women newborn baby, child (3-5 years old)?  
And do you follow their advice?

E.9 : Suppose there is someone protest that your child rearing-including what is taught by your parents is the wrong method. And he'll teach you the new method of child care, will you accept? Why?

E.10 : If one comes and talk, will you believe him? If you will, why?

E.11 : If I want to promote the nutrition of (each group) but I can't do all by myself, is there anybody represents me? The one that makes people believe?

E.12 : Which is better - listen to the elder's speaking on nutrition or discuss it among you? Why?

E.13 : Do you disagree with your parents (concerning childrearing)?

E.14 : If disagree will you follow their ideas or yours? Why?

Media, poster, radio, film, VDO

E.15 : Where can you find books to read in this village?

E.16 : Is there any broadcasting tower in the village? If there is, where is it? During broadcasting does anybody listen to it? Is it useful?

E.17 : What time do villagers turn on radio?

E.18 : Early in the morning what program do you listen to?

E.19 : What station do you like to listen to? What program? Who is announcer? What time do you prefer. Can you remember what announcer talks about?

E.20 : Do you believe the advertisement on radio?

E.21 : Have you ever practiced as it suggested on radio?

E.22 : If I want to disseminate information on nutrition (of a particular group) what should I do, besides talking to you?

E.23 : Which one could you memorize, between watching TV or film or listening to radio and reading books?

E.24 : If childrearing and nutrition are intermitted in your popular drama, is it good? Why?

E.25 : Which generates more knowledge - movies or posters? Why?

E.26 : If I produce a film on nutrition (for each group) what should appear in the film?

E.27 : Who is the most suitable actor of the film the actor who makes people believe and obey?

E.28 : Have you ever read posters or booklets at health center? Can you understand them? It is really useful?

F. Knowledge on eye sickness

F.1 : What are called eye sickness?  
F.2 : Have you ever heard of "dried eyes"  
Where? What is its cause?  
F.3 : How to care "dried eyes"  
F.4 : Have you ever heard of blindness in the dark? What is its cause.

G. Food for children

G.1 : What is food for children age 13-24 months in general?  
G.2 : When do children eat with adults? Why?  
G.3 : What food the elder forbid children eating? What is the reason of prohibition?  
G.4 : Who takes care of your kids in the day time?  
G.5 : Why are urban children and rural ones at some age different in terms of study and mental growth? Do you think why?  
G.6 : Is there any food in your village which generate intelligence?  
G.7 : On what intelligence of children is based? Why?  
G.8 : What kind of eatable fruits that makes a child sick? What do you call the illness (caused by eating such fruit)?

H. Pregnant Women and nutrition

H.1 : How long do you know you get pregnant after your menstruation stops?  
H.2 : When you realize that you are pregnant, what are your careful with?  
H.3 : Do general woman and pregnant woman eat differently? Why? Is there any food that pregnant woman can't eat but normal woman can?  
H.4 : When you know you get pregnant, are you cautious about your nutrition (cooking, selecting food, taste and cleanliness)?

H.5 : Is food separately cooked for pregnant woman or for whole family?

H.6 : How old is pregnancy, when do women eager to eat more food than usual? Why?

H.7 : What kind of food they desire? Why?

H.8 : While you are pregnant, what special food you eat? Why? .

H.9 : Should you eat a lot, during pregnancy? Why?

H.10 : Is nutrition of pregnant woman today and in the old days different? Why?

H.11 : Do the elder prohibit any food for pregnant women? Why?

H.12 : How many people who obey the prohibition?

H.13 : What is the characteristics of the obeyer?

H.14 : What is the characteristics of the disobeyer?

H.15 : Do you believe the prohibition? Why you do or why you don't?

H.16 : Did you see anybody who violated and got sick as it was said? How was the symptom? How long?

H.17 : If there is no prohibition, should you take anything you want? Why?

H.18 : Have you ever been suggested concerning nutrition of pregnant women by the others (excluding your parents)? Or where do you read? Do you follow the suggestion? Why?

H.19 : As you know, what are useful food for pregnant woman?

#### I. Food for children (aged 3-5 years)

I.1 : What is food for children aged 3-5 years. in this village?

I.2 : When are they permitted to eat with adults? Why?

I.3 : What kind of food do the elder prohibit to eat for these children (age 3-5)? Why?

I.4 : Who takes care of kids while you work outside (eg. transplanting)?

I.5 : If they are born at the same time, who is more intelligent, urban child or rural child? I mean his mental growth. Why?

I.6 : Is there any food which makes children clever?

I.7 : What is the cause of good or bad learning? Why?

I.8 : What are eatable fruits which make children sick? What do you call the sickness (due to eating such fruit)?

