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ITINERARY REPORT

UNICEF/INMU NUTRITIONAL ADVISORY MISSION TO THE STATE OF CAMBODIA

9 - 30 December 1991

Submitted By

JINTANA YHOUNG-AREE, M.S., M.C.N

URAIPORN CHITTCHANG, D.Sc

Institute of Nutrition

Mahidol University

Phutthamonthon 4 Road, Salaya,

Nakhon Pathom, 73170 Thailand

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Nutritional Advisors from the Institute of Nutrition at Mahidol University, Thailand.

1. Miss Jintana Yhoung-aree M.S (Nutrition), M.C.N (Community Nutrition),
2. Mrs. Uraiporn Chittchang D.Sc. (Nutrition),

Cambodia Counterparts :

1. Mrs. Janetta Kwatia, UNICEF/FFP Programme Officer, Phnom Penh, Cambodia
2. Workshop Organizers from the Central Intersectoral FFP/CBN Working Group (see Annex 1, page 26)

1. BACKGROUND

In 1986 1988, severe drought struck several provinces in the State of Cambodia which prompted UNICEF to launch an emergency Family Food Product (FFP) project. This project's main objective was to assist local people in seven provinces by helping approximately 2,000 families assure sustainable food supplies. Specific objectives included the distribution of seed, seedlings, pesticides, fish harvesting equipment and gardening tools. While the project was originally conducted in cooperation with the Ministry of Agriculture, its success encouraged other involved sectors such as the Ministries of Health and Education as well as the Women's Association to request that the program be implemented in their responsible areas as well.

By the end of 1991, the FFP had assisted about 17,000 families in ten provinces, 135 schools in 13 provinces, and 34 RINE Centres in 12 provinces.

Up to that point, however, no quantitative evaluation of the project's effectiveness had been conducted, even though the project's geographic and population coverage was extensive. No hard data was thus available to confirm the initial assumption that improving the food and nutrition situation of the Khmer people was due to the FFP intervention. Moreover, weaknesses were also suspected in a number of areas including technical interventions to combat poor soil, animal disease treatment and prevention, and technical staff shortages. Consequently, the additional impact on the health and nutrition situation of the people was questionable.

As in other countries, UNICEF is playing an important role in improving Cambodia's health and nutrition situation. Furthermore, UNICEF has recognized the importance of integrating multi-sectoral and community based approaches for strengthening the on-going FFP project. Out of reviews of prior programs and their needs, UNICEF has now introduced new strategies and approaches within its newer Community-Based Nutrition (CBN) program which complements the FFP project. Together, these two programs now comprise the FFP/CBN project which centers on intersectoral action for problem solving. Under this new project, malnutrition's pertinent causal factors will be identified, interventions planned, and activities implemented and evaluated through the multi-level efforts of individuals, households, communities, districts, provinces and the nation. Special emphasis, moreover, is being placed on training.

From 27 May - 25 July 1991, the UNICEF/FFP program officer in cooperation with the Institute of Nutrition at Mahidol University (INMU), Thailand, organized a training program entitled **Community Nutrition for Cambodia's Health, Agriculture, Education and Women's Association Delegates.** This program, held at INMU, comprised twelve trainees who have been actively involved in the FFP project and will be continuing their

work under the FFP/CBN project. After the course, these participants returned to Cambodia and have acted as the central intersectoral working group for the FFP/CBN project. Their major roles are to train and supervise the project's activities at all levels.

2. OBJECTIVES

The adviory mission had four overall objectives.

1. To assist the intersectoral FFP/CBN Committee in organizing a national nutrition workshop from 17-21 December 1991
2. To provide lectures on three workshop topics, namely :
   (a) experiences of community-based nutrition in Thailand,
   (b) the protocol of community assessment, and
   (c) growth monitoring : method and record system.
3. To conduct the group discussions during the workshop.
4. To develop tools for community diagnosis (pretesting of the questionnaire).

3. MISSIONS

Mission 1 : Preparation of the National Workshop for Grass-Root Level Community-Based Nutrition (CBN) Project.

This workshop was held from 17-21 December 1991. Participants were given instruction in several topics such as an overview of the food and nutrition situation in Cambodia and its main problems, community diagnosis, and program planning for nutritional problem-solving activities. The workshop was divided into two main parts comprising lectures/presentations and a field practicum. Presentations were given by resource persons from Cambodia, INMU and UNICEF. Specific topics are noted in this report's annex (Annex 3, page 28-30), while those of INMU are as follows.

Topic	Resource person(s)
1. Experience of CBN in Thailand	Jintana Yhoung-aree
2. Protocol of community Assesment	Jintana Yhoung-aree
3. Growth Monitoring : Method, Interpretation and Reporting System ; Planning Nutritional Intervention Activities	Uraiporn Chittchang
4. Field practicum : Topics for small group discussions (1) Types of health and nutrition problems, their causes and contributing factors within the villages of Banh kong kiep and Cham kar rath. (2) Planning for solving problems, with special emphasis on : a) available resources including manpower, management and budget ; b) strategies for solving the problems. (3) Do participants think that the four sectors can be integrated within the FFP/CBN project? If yes, how? If not, why?	Members of the Organizing Committee, Jintana Yhoung-aree and Uraiporn Chittchang
5. Workshop Evalution	Jintana Yhoung-aree and Uraiporn Chittchang

Articles on all topics were prepared in Khmer as well as key field practicum questions for community assessment. The idea to develop the guideline came about from a preliminary field visit to Banh kong kiep, Kampong Speu on 13 December, 1991.

Mission 2 : Lectures and Small Group Discussions

The nutrition advisors' lectures aimed at guiding participants in learning basic concepts of community diagnosis and action program planning. The objective was to strengthen each participant's ability to feasibly apply such knowledge within Cambodia's community contexts.

Topic 1 : Experiences of Community-Based Nutrition in Thailand

This presentation entailed a case study analysis of a research project conducted in rural Northeast Thailand and entitled A Model for Integrating a Nutrition Improvement Program into Rural Community Development. This project was founded on the premise that good health and nutrition would enhance food and agricultural production, while integrating vocational training would improve income generation. As a result, families and communities would increase their economic standing. This project's implementation and management involved several sectors including health, agriculture, education and community development. It also fit within the nation's primary health care and community development infrastructure.

The lecture aimed at sharing experiences, both good and bad, in implementing CBN programs in Thailand. The principal lessons are highlighted as follows, and they are also applicable to Cambodia's situation.

(1) Nutrition is the responsibility of all sectors, not just health and social welfare. Therefore it needs multi-sectoral cooperation and coordination.

(2) This community-based nutrition intervention program was not a ready-made program. These often fail because they cannot fully foresee all intervening and confounding factors and circumstances. Rather, this project was flexible and dynamic to that it could fit itself into each community's context, instead of vice versa. Special attention was given to mobilizing

community resources and participation in order to improve the project's potential sustainability.

(3) A national policy with a well-defined program goal was very important. It required an effective organizational structure as well as efficient management at all levels.

(4) Positive political commitment contributes greatly to improving people's nutritional status.

Topic 2 : Protocol for Community Assessment

Community assessment is essential for initiating, developing and permanently maintaining nutrition programs. This presentation provided participants with practical tasks and methods for helping communities improve their food and nutrition situation effectively. The major component required for assessment include : (1) the nutritional status of the target population, (2) determinants of malnutrition and its effects, and (3) community resources available for action.

Topic 3 : Growth Monitoring : Method, Interpretation and Reporting Systems

Growth monitoring has two major objectives -- (1) the early identification of growth faltering (due to inadequate food intake or other contributing factors) and (2) the facilitation of health worker-mother interactions and nutrition education. What activities come under these objectives largely depend upon a given area's current nutritional situation. In many nations, growth monitoring activities using weighing and growth charts have become a crucial part of many CBN programs. Within communities, health workers, trained villagers and/or parents are responsible for growth monitoring activities. Once a child is born, he/she should be weighed and monitored every three months. Health workers usually interpret results for parents and provide nutrition education. Consequently, problems can be identified early on and appropriate

home-based interventions can be taken by parents. Children with moderate and severe degrees of malnutrition should receive special care including monthly home visit by health workers.

Mission 3 : Tool Development

(1) Questionnaire Formulation

Preliminary visits to the villages of Banh kong kiep and Cham kar rath familiarized nutrition advisors and organizing committee members with key features of rural Cambodian community life. Thereafter, a common conceptual framework (Annex 2, page 27) was used to identify critical variables and questions. Information to be gathered was divided into three main levels : individual, household and community.

Three main data categories served as the focus. The first entailed **nutritional status** which was to be assessed for preschool and school aged children, pregnant women and lactating mothers. Assessment techniques included anthropometry, nutritional deficiency signs, morbidity history and food frequency measurements. The second category comprised the **determinants and effects of nutritional problems.** Common determinants associated with social, education, economic and agricultural aspects would be surveyed. Lastly, **community resources** would be investigated including such areas as manpower, skill levels, social mobilization and financing. These would be necessary for designing an effective strategic plan to ultimately improve health and nutritional status.

(2) Questionnaire Pretesting

The questionnaires were pretested in two villages. i.e., Kam nap, Ang pol pel commune as well as Prey khes, Prey vihea commune. Both villages are located in Kong Pissey district of Kampong Speu province. The revised questionnaire are included in Annex 4, Page 31 to 58 of the report.

Mission 4 : Rapid Nutritional Assessment in the Communities of Kam nap and Prey khes, Kampong Speu province.

The cross-sectional survey on the nutritional status targeted preschool children and their families. Measurements and variables included anthropometry, nutritional deficiency signs, food frequency, demographic and socio-economic variables. Tools and techniques comprised questionnaire forms, structured key questions for observation and informal discussions. For anthropometric measurement, the Salter scale, an L-shaped measuring board, and tricolor insertion tape were employed to measure the weight, height and mid upper arm circumference respectively. Chittchang's interpretation cards were used to interpret the nutritional status.

Results :

Kam nap and Prey khes are classified as rural areas. Both have been involved in the FFP project since 1989 and 1991, respectively. Generally speaking, the communities are similar in terms of food production, health and mutrition as noted by the following general information. In conducting the survey for Kam nap and Prey khes, 15 and 18 mothers, 29 and 61 children from these respective villages were interviewed and measured. The coverage rate for children in the villages was 100 percent for Kam nap and 75 percent for Prey khes. Among the mothers, they were clssified as pregnant and lactating and mothers of preschool children.

1. General information

Category	Kam nap	Prey khes
Distance from province centre	37 km by bicycle	10 km by bicycle or motorcycle
Distance from Phnom penh	63 km by motorcycle or bus	80 km by motorcycle or bus
Road conditions	dusty, poor condition	dusty, poor condition
Electricity	none	none
Village school	none (2 km away)	none (1.5 - 4 km away)
Village organizing committee	7 members	7 members
Number of households	37	69
Population size	169	348
Family size	3-11	1-12
Main occupation	rice farming	rice farming
Secondary occupations	palm sugar making labourers, traders	palm sugar making palm thatch and basket making
Average cultivate land	0.72 hectares	0.91 hectares
Crop grown	cassava, sweet potato, mungbean, pumpkin, raddish, longbean, Hawaiian chilli water melon	cassava, sweet potato, corn, mungbean, groundnut, cucumber, raddish, longbean, coconut, and jackfruit
Farming technology	decomposed fertilizer	decomposed fertilizer, chemical and pesticide
Agricultural problems	infertile soil, inadequate water pest, disease, market distance	infertile soil, inadequate water pest, disease market distance

(continue)

Category	Kam nap	Prey khes
Product marketing	via middleman	not enough for sale
Food source	natural (e.g., frogs, snails, crabs, fish)	same as Kam nap
	market (e.g., lard, meat)	
	outside vendors	
	family produced	
Food preservation	none	none

These two communities have received migrants as part of resettlement activities, and it may take time for them to cope with the new environment. An essential information system also does not exist in either village. For instance, birth registration is nonexistent, and many mothers do not know their children's exact birth dates which complicates nutritional status interpretations.

2. Agricultural Production and Family Food Supply

The main crop of these two villages was rice. The area of land allotted to the villagers ranged from 0.2 to 1.5 hectares depending on the family size. only 1 out of 15 and 3 out of 17 households in Kam nap and Prey khes, respectively, could produce rice for year-round consumption. The remaining families suffered rice shortages for two to six months of the year. The FFP project was crucial for it supplied families with vegetables and animal protein as well as income for some villagers. The FFP project also taught villagers improved agricultural techniques, however they need more technical support in such areas as soil improvement, water resource improvement and knowledge about appropriate farming technologies. Some villagers complained that while they could get a good price for their

agricultural products, the market is too far away. Many also mentioned that they lacked investment power. As a result of such limitations, villagers received low yields and a limited family food supply. Nevertheless, some community members understand existing problems and limitations and are willing to work for their improvement.

3. Education

Education is one key means for allowing people to understand and deal with persistent problems. Unfortunately however, over half of Kam nap respondents had no education. While 10 out of 17 mothers in Prey khes finished primary school, all of them still could not read. Many children of school age in both villages also were not attending school due largely to poverty, distance and road conditions.

4. Income

Agricultural production is the main source of income. Less commonly, income could be generated through wage labour, tricycle driving, sale of palm sugar and basket weaving. Subsidiary crops produced under the FFP project were also an additional source of income. These included watermelon, Hawaiian Chili, vegetables, cassava, sweet potatoes and domestic animals.

5. Food Preparation, Consumption and Feeding Practices

Food preparation largely involves rice and vegetable cooking. Generally, respondents wash rice many times which reduces vitamin levels, especially riboflavin. This situation was further supported by information gained from a respondent suffering from angular stomatitis. Vegetables, however, were often washed before cutting.

Regarding food consumption, villagers acquire foods from nature, markets or through home production. Fish was a common source of animal protein, and fermented fish is an important food source during both dry and rainy seasons. During the latter period, natural food sources are exploited through the gathering of such common foods are frogs, snails, crabs and fish. Animal protein (eggs, chicken, pork, beef) were purchased from town markets approximately twice a week. For fat and oil consumption, all respondents stated that they seldomly consumed lard or coconut milk. Although vegetables were abundant during the rainy season, families consumed smaller amounts during the dry season.

The food practices of the vulnerable target groups were also explored. For infants, breastfeeding was very common, but mothers generally began breastfeeding three days after delivery. Colostrum was commonly squeezed out since it is clear and mothers felt that it was not the best milk. Although some mothers knew about colostrum from radio messages, they did not clearly understand its benefits. When a child reaches about 2 weeks of age, he/she is given mashed rice, sweetened porridge, and boiled rice. Eggs are viewed as a nutritious food for children, but mothers stated they did not have enough money to buy them. At one year of age, children are assimilated into the family dietary pattern.

For mothers, pregnancy was not considered a crucial time to watch their diet and food intake. During the first month after delivery, however, mothers began to be aware of their food consumption practices. Fresh vegetables, beef and pig heads were not allowed. Women believed that fresh vegetables contained parasites and insects ; beef caused dizziness and blindness ; while consuming a soup made of a pig's head would be fatal. Alternatively, community members did recognize several foods which could improve maternal health and milk production such as dried fish soup, green papaya and pork hock with pumpkin. Some elderly women, however, still believed that only salt and pepper should be eaten for a month after delivery. Persons suffering from measles were allowed to eat only rice and

dried fish. In cases of diarrhea and fever, several foods were restricted including fats, sweets, chicken, beef and scaleless fish. These foods were thought to make diarrheal and fever episodes more severe. The consumption of boiled vegetables instead of fresh ones was also preferred.

6. Health Aspects

Major health problems include diarrhea, fever from unknown causes, malaria, upper respiratory tract infections, and skin diseases. The most common mode of treatment was self-medication. Traditional healers and birth attendants were important village health providers. These persons were usually elderly and they combined herbal medicine with psychological treatments. An official health worker was also available, but she was responsible for more than one area. A mobile team was also employed every two months to give important health services such as child immunizations. An ante-natal clinic opened for pregnant women at the RINE centre and district health office. However, many mothers did not come to the clinic because of an inconvenient travel. Oftentimes, mothers did not take their children for immunizations because they felt that the vaccine would cause abscesses. Among mothers, 15 out of 17 did not receive tetanus toxoid vaccinations since they believed that it might harm the fetus.

Infant mortality was high in the communities. Five out of seven respondents revealed that at least one of their child had died. They stated that the major cause of death was fever. Personal and environmental hygiene was also quite poor. Sanitary latrine coverage was too low, and this may be causing a high prevalence of diarrheal disease and intestinal worms. The government has encouraged birth spacing instead of family planning. While women were willing to have only 2 or 3 children, large families still predominate in both communities.

Villagers also commented that not enough health personnel were available to meet existing demands. They also revealed that if there could

be good cooperation between official health personnel and traditional health providers, then services might be better. Moreover, community members generally appreciated traditional health providers more because these persons were elderly and were perceived to have greater treatment skills.

7. Nutritional Status

The nutritional status of preschool children was assessed through anthropometry and the detection of nutritional deficiency signs. The results are summarized as follows.

7.1 Clinical Assessment and Morbidity History

Twenty-seven preschool children in Kam nap and 61 in Prey khes participated in the clinical check-up. Physically, children were generally thin with a protruding stomach. Pale conjunctiva, a clinical sign of anemia, was evident in 44 percent of Kam nap children and 10 percent of Prey khes children. Common infections were conjunctivitis, otitis and scabies. Diarrheal history was also highly prevalent with rate of 93 percent for Kam nap and 75 percent for Prey khes. Regarding upper respiratory tract infections, 37 percent of Kam nap children and 52 percent in Prey khes had suffered from URI within two weeks prior to the survey.

7.2 Anthropometry

Anthropometric measurements were conducted by RINE Centre personnel, Kampong Speu province, under the supervision of Dr. Uraiporn Chittchang. The materials and methods include the following.

(1) Salter scale :

A circular dial spring hanging type scale, calibrated for every 100 grams (measuring up to 25 kg). A bamboo basket was attached to hold the child during weighing.

(2) Measuring board :

This involved a locally made measuring board comprising a simple L-shaped wooden board with a fiberglass measuring tape along its middle and for the length of the board. A board was laid down horizontally to measure the length of children who were aged up to 2 years. Children over 2 years were measured in a standing (vertical) position.

(3) Mid-Arm Circumference tape :

A Zerfas insertion tape (1) was combined with a Shakir tricolor arm band type (2) to become a Mid-Arm Circumference tricolor insertion tape for immediate interpretation.

(4) Interpretation Card :

This entailed two sets of Chittchang's interpretation cards for age-dependents indicators ; weight by age and height by age were used for immediately assessing nutritional status without age-calculation (3). Each set contains two pieces of separate sex growth charts, and one piece for the graph plotter. These growth chart cards are specially designed for use with an age-calculator scale on the graph plotter.

(5) Method of interpretation :

As recommended by a WHO working group, the United States National Center for Health Statistics (NCHS) (4) was used as a reference for evaluating nutritional status. Three nutritional status indicators - - weight by age, height by age and weight by height - - were presented by age group. Normal nutritional status was differentiated from malnutrition at a - 2 SD cut-off point. Malnutrition severity was classified in terms of moderate degree (under - 2SD to - 3 SD) and severe degree (over - 3 SD).

The mid-arm circumference tri-color insertion tape differentiated "severe" (red = under 12.5 cm) from the apparently "normal" (green = over 13.5 cm). A small yellow band (12.5 to 13.5 cm) noted "moderate" thinness or underweight (5).

For detailed malnutrition characteristics (acute, chronic or acute on top of chronic), Waterlow's classification was utilized to show the magnitude of each malnutrition type. Results of anthropometric measurements are shown in Table I through VI.

Table I. Distribution of preschool children by sex and age group.

Age group (months)	Kam nap				Prey khes			
	number			% of children	number			% of children
	boy	girl	Total		boy	girl	Total	
0-5	1	2	3	10.3	6	6	12	19.7
6-11	1	2	3	10.3	2	4	6	9.8
12-23	4	3	7	24.1	8	6	14	23.0
24-35	4	2	6	20.7	6	6	12	19.7
36-47	2	3	5	17.2	9	7	16	26.2
48-60	3	2	5	17.2	1	0	1	1.6
0-60	15	14	29	100.0	32	29	61	100.0

All of the children in Kam nap were assessed, but only about 75 percent of children in Prey khes came to the measuring site. Most of the absent children may be in the last age group (48 - 60 months). The majority of the Prey khes sample were infants aged 0 - 11 months.

The prevalence of underweight, stunting and wasting is shown in Table II, III and IV.

Table II. Prevalence of underweight children classified by weight by age based on the NCHS reference.

Age group (months)	Percent prevalence for each age group							
	Kam nap				Prey khes			
	Normal	Underweight			Normal	Underweight		
		Moderate	Severe	Total		Moderate	Severe	Total
0-5	100.0	0	0	0	91.7	8.3	0	8.3
6-11	100.0	0	0	0	83.3	16.7	0	16.7
12-23	57.1	42.9	0	42.9	64.3	21.4	14.3	35.7
24-35	16.7	50.0	33.3	83.3	25.0	50.0	25.0	75.0
36-47	60.0	40.0	0	40.0	12.5	62.5	25.0	87.5
48-60	20.0	80.0	0	80.0	0	100.0	0	100.0
0-60	51.7	41.4	6.9	48.3	49.2	36.1	14.8	50.8

Underweight appeared in about half of preschool children in both villages. Kam nap had only two severely underweight children, while in Prey khes nearly one-third (9 children) were severely underweight. For the infantile period (0 - 11 months) which is within the breastfeeding period, no Kam nap children were underweight. Two infants in Prey khes were underweight, however.

Table III. Prevalence of stunted children classified by height by age based on the NCHS reference.

Age group (months)	Percent prevalence for each age group							
	Kam nap				Prey khes			
	Normal	Stunting			Normal	Stunting		
		Moderate	Severe	Total		Moderate	Severe	Total
0-5	100.0	0	0	0	66.7	33.3	0	33.3
6-11	100.0	0	0	0	83.3	0	16.7	16.7
12-23	28.6	57.1	14.3	71.4	28.6	50.0	21.4	71.4
24-35	33.3	33.3	33.3	66.6	33.3	33.3	33.3	66.6
36-47	60.0	20.0	20.0	40.0	18.8	43.7	37.5	81.2
48-60	0	80.0	20.0	100.0	0	100.0	0	100.0
0-60	44.8	37.9	17.2	55.2	39.3	37.7	23.0	60.7

Stunting reflects chronic malnutrition. Both villages reflected a high prevalence of stunting. Similar to the pattern for underweight, about one-third of stunted children fell in the severe degree range (5 and 14 children in Kam nap and Prey khes, respectively). The under-one year age group was the least affected population segment, while the most affected group was the 24-47 month age group.

Table IV. Prevelence of wasted children classified by weight by height based on the NCHS reference.

Age group (months)	Percent prevalence for each age group			
	Kam nap		Prey khes	
	Normal	Wasting	Normal	Wasting
0-5	100.0	0	100.0	0
6-11	100.0	0	100.0	0
12-23	100.0	0	92.9	7.1
24-35	83.3	16.7	83.3	16.7
36-47	100.0	0	81.2	18.8
48-60	100.0	0	100.0	0
0-60	96.6	3.4	90.2	9.8

Wasting reflects acute malnutrition. Acute moderate degrees appear in 3.4 percent and 9.8 ercent of Kam nap and Prey khes, respectively. When this indicator was combined with height by age (chronic malnutrition), the magnitude of each type of malnutrition is presented in Tables V and VI.

N.B wasting – 12-23 mth. wt/ht
stunting – 24-59 mth. ht/Age
Under weight 0-4 years wt/Age.

Table V. Nutritional status of children under five in Kam nap using by Waterlow's classification.

Weight/Height \ Height/Age	% Normal (n)	% Stunting (n)	% Total (n)
% Normal (n)	44.8 (13)	51.7 (15)	96.5 (28)
% Wasting (n)	0 (0)	3.4 (1)	3.4 (1)
% Total (n)	44.8 (13)	55.1 (16)	99.9 (29)

Table VI. Nutritional status of children under five in Prey khes using by Waterlow's classification

Weight/Height \ Height/Age	% Normal (n)	% Stunting (n)	% Total (n)
% Normal (n)	37.7 (23)	52.5 (32)	90.2 (55)
% Wasting (n)	1.6 (1)	8.2 (5)	9.8 (6)
% Total (n)	39.3 (24)	60.7 (37)	100 (61)

From Waterlow's classification, most wasting cases were the acute on top of chronic condition. Pery khes village showed a higher magnitude and severity of the malnutrition problem than Kam nap, but both villages are faced with the same problem - - chronic malnutrition.

Mid-arm circumference (MAC) reflects stores of calories and protein. In healthy 1 - 5 years old children, 16 cm can be used as a reference level. This methods is suitable for quick screening where the precise ages of children are unknown. According to survey data, the average arm size of children 1 - 5 years old in Kam nap and Prey khes were 14.8 $\pm$ 0.9 cm and 14.1 $\pm$ 0.9 cm, respectively. No child in Kam nap had a MAC of less than 13.5 cm, while 25.6 percent (11 children) in Prey khes had a MAC below this level. Among these children, two (4.7 percent) had a MAC at the level of 12.5 which is the cut-off point for the severe degree. MAC data thus confirmed the poorer nutritional situation in Prey khes compared to Kam nap.

The magnitude of the problem in Prey khes is comparable with that of Vietnam in 1986 which showed 51.5 percent, 59.7 and 7.0 percent prevalence of underweight, stunting and wasting respectively.

4. COMMENTS

The national workshop and the development of the tool in the State of Cambodia were very fruitful endeavors. They provide a deeper understanding of socioeconomic, lifestyle and cultural conditions as they impact upon manutrition in rural Cambodia. In essence, malnutrition in the survey communities stems from both health- and nutrition-related causes. Moreover, major contributing factors also include poverty and the psychological/emotional pitfalls of migration and resettlement. Despite efforts by the Cambodian government and UNICEF, local villagers have a limited and undiversified food supply. As a result, malnutrition (especially protein-energy malnutrition), anemia and related diseases are debilitating problems among the rural Khmer. In summary, the condition can be highlighted as follows.

1. Family sizes are large and women are subjected to many childbirths. Hence, repeated reproductive cycles have led to maternal nutritional depletion. The burdens of stress and limited time also hinder a mother's ability to care for herself and her family.

2. Mothers lack proper knowledge concerning child feeding and nutritious foods. Villagers usually learn about feeding through traditional socialization practices rather than through formal learning. Accessibility to health and nutrition knowledge via official health workers is rare. Apart from family members and neighbours, traditional healers and traditional birth attendants are the main sources of health knowledge and services.

3. Official health services generally emphasize curative rather than preventive measures. Perhaps the major contributing factor to insufficient health services is the lack of manpower and the heavy workload placed on current health personnel.

4. Food production is limited in a number of ways. Villagers have access to only small parcels of poor quality land. Inadequate rainfall and inappropriate farming technologies also contribute to low levels of productivity. Villagers also suffer from a lack of investment power which could go towards improving production.

5. Poverty controls every life condition for the rural Khmer.

5. RECOMMENDATIONS

Out of these limitations, both short- and long-term recommendations can be made.

Short-Term Recommendations

1. Health and Nutrition Education

Increased health and nutrition knowledge would help villagers to cope with problems caused by improper food habits while at the same time promoting acceptable (and currently adhered to) beliefs and practices. Greater awareness of health would guide them in participating in activities which would eventually solve individual and community health problems. These activities, moreover, must meet the constraints and existing resources of each village and be meaningful within the community context.

2. Growth Monitoring

Growth monitoring is crucial for detecting growth failure due to inadequate food intake as well as a forum for providing nutrition education. To be effective, though, growth monitoring requires appropriate tools, such a growth charts and measuring scales, and an effective reporting system (particularly birth registration). In addition, well-trained workers are needed to interpret results to the mother and provide nutrition counseling as quickly as possible.

3. Supplementary Program

For children suffering from malnutrition (especially second and third degree), a supplementary food program should be started to stem potential adverse effects. This program should be implemented along with growth monitoring activities.

4. Health Promotion Program

Health promotion program, and particularly those concerning breastfeeding and family planning, should go hand-in-hand with nutrition programs, and all should be a part of an integrated promotional effort. Breastfeeding, for example, is a temporary measure to increase birth spacing and decrease the fertility rate, in addition to a proper child nutritional practice.

5. Promotion of Protein Energy Rich Food Production

Since PEM is the most important nutritional problem in these areas, it is suggested that the existing FFP project emphasize the production of protein and calorie rich foods.

6. Research and Training

Research is important to direct community program planning, since nutritional problems stem from a network of multiple causal factors. In order to solve problems effectively, model development for nutrition and health needs essential research in order for interventions to fit within existing sociocultural and economic contexts. Providing training to all levels of personnel will also enable them to understand health and nutritional problems, as well as their causes, more systematically. Training should come from a number of specialists, not simply nutritionists. For example, participation of an anthropologist in all training and research steps will help personnel to understand people's behavior in a more holistic way.

7. Information, Recording and Reporting Systems

If effective and efficient, these systems can accumulate accurate data. the development of a simple, yet accurate, recording and reporting system is highly recommended, particularly since the interpretation of nutritional status information requires accurate age for age-dependent indicators. Increased information obtained through an effective management information system will also play a role in convincing

policy-makers and planners to react to persistent, yet realistically solvable, problems.

8. Political Commitment at the Grass Roots Level

Since the State of Cambodia has an autonomous governing system, policy-makers at the grass roots level are the immediate decision-makers concerning community development. Hence, their commitment is essential.

Long-Term Recommendations

For long-term changes, commitments must be made by central level policy-makers and planners. A nutrition research institute should be established in order to strengthen the capacities of personnel involved, develop and implement appropriate technologies as well as to monitor key food and nutrition situations nationally. Information gained from the institute would be of value to all governmental sectors as well as university researchers. A food and nutrition curriculum also needs to be set up for educational institutes at all levels.

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ANNEX

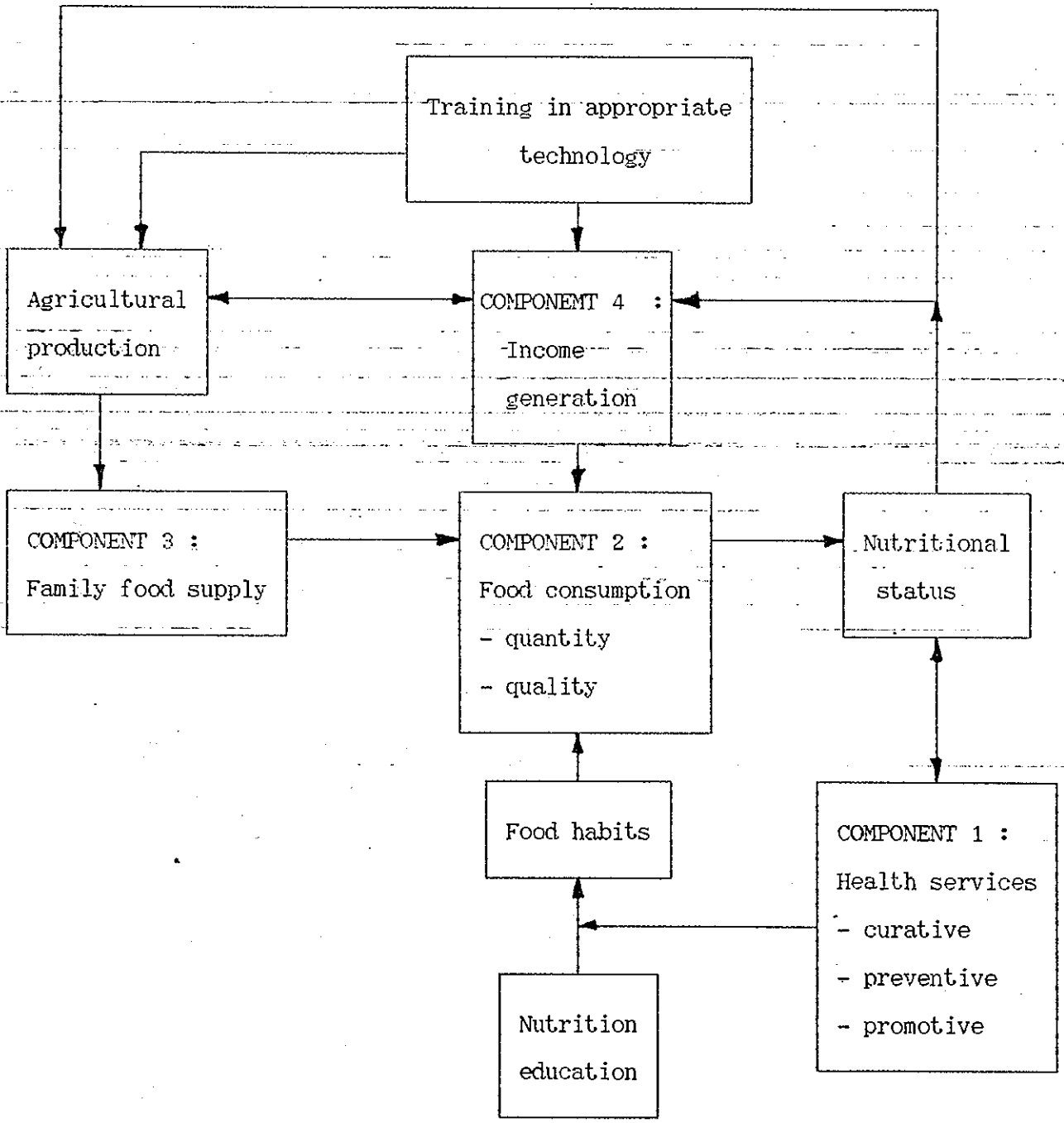
ANNEX 1.

LIST OF INTERSECTORAL FFP/CBN WORKING GROUP

1. Mrs. Ros Sivanna	Sub-Chief of the International Department of Women's Association Committee, Vice-President of the Family Food Production Committee of Women's Association.
2. Miss Oum Rin	Officer of the Family Food Production Team of the Women's Association of Cambodia
3. Mr. Sary Chan	Medical Doctor, Ministry of Health
4. Mr. Touch Dara	Registered Nurse, Mother and Child Health Centre,
5. Mr. Kim San Long	Cadre of the Ministry of Agriculture
6. Miss Prak Chandara	Member of the Mobile Team of Family Food Production Committee, Ministry of Agriculture.
7. Mr. Norith Ma	Officer of the Ministry of Education, Department of Teacher Training
8. Mr. Ly May	Officer of the Ministry of Education.

ANNEX 2.

CONCEPTUAL FRAMEWORK



ANNEX 3.

AGENDA

THE WORKSHOP ON COMMUNITY BASED NUTRITION,

17-21 December 1991

****

Tuesday, December 17, 1991

08.00 - 09.30	Openning session
	Openning speech by Vice-Minister, Ministry of Agriculture
	Keynote address by UNICEF Representative
	Mr.Bernard Gilbert
	Mrs.Janetta Kwatia, UNICEF FFP/CBN Program Officer
09.30 - 09.45	Refreshment
09.45 - 11.00	Presentation :
	- Conceptual framework of nutrition in Cambodia, by Mrs.Ros Sivanna, WAC
14.00 - 16.00	- Overview of nutritional status of infants in Cambodia : problems, magnitude, causes, and consequences. by Chief Department of PMI, and Dr. Sary Chan , Ministry of Public Health
16.00 - 16.15	Refreshment
16.15 - 17.30	Food availability and FFP in Cambodia, by Mr.Sin Niny, Vice-president of FFP Committee, Ministry of Agriculture.

Wednesday, December 18, 1991

08.00 - 09.30	The experiences of CBN in Thailand, by Jintana Yhoung-aree, INMU
09.30 --09.45	Refreshment
09.45 - 11.00	Food habit of pregnant and lactating mothers, weaning food practices and supplementary feeding for infant in Cambodia. by Mrs. Ros Sivanna, WAC
11.00 - 14.00	Lunch break
14.00 - 15.30	Protocol of community assessment by Jintana Yhoung-aree, INMU
15.30 - 15.45	Refreshment
15.45 - 16.30	Presentation (continue) and discussion

Thursday, December 19, 1991

08.00 - 11.00	Growth monitoring : method, recording system and interpretation. by Dr. Uraiporn Chittchang, INMU
11.00 - 14.00	Lunch break
14.00 - 16.00	Planning of nutritional activities by Dr. Uraiporn Chittchang
16.00 - 16.30	Refreshment
16.30 - 17.00	Orientation for field visit

Friday December 20, 1991

07.00	Leaving to ; Group 1 : Banh kong kiep Group 2 : Cham kar rath Kampong Speu province
11.30	Lunch
14.00 - 17.00	Group discussion at Health Office of Kampong Speu province.

Saturday December 21, 1991.

08.00 - 09.00	Presentation : FFP experiences and program follow up by Mr. Jayantha, UNICEF/FFP Assistant Program Officer
09.00 - 10.00	Group discussion (continue)
10.00 - 10.30	Refreshment
10.30 - 11.00	Group discussion (continue)
11.00 - 14.00	Lunch break
14.00 - 15.30	Report of Group 1 & Group 2 and discussion
15.30 - 15.45	Refreshment
15.45 - 16.30	- Report of 5-day workshop activities by Ros Srivanna - Evaluation of the workshop by Jintana Yhoung-aree and Uraiporn Chittchang - Conclusion speech by Janetta Kwatia - Close.

****

ANNEX 4.

FORM A : Village Data

Name of village ..... Commune ..... District .....

Province ..... Date of collection .....

Collected by .....

Respondent ( ) Village leader ; name ..... age ..... year

( ) Village committee ; name ..... age ..... year

Note : If there is no data of any question, please request the village leader perpare it

1. Distance :

(1) distance from commune authority ..... Km

go to commune by .....

(2) distance from district authority ..... Km

go to district by .....

(3) distance from province authority ..... Km

go to province by .....

2. Number of population :

(1) infants 0 - 12 months .....

(2) children aged more than 12 months to 5 years, 11 months .....

(3) children aged 6-15 years, 11 months .....

(4) number of children aged 6-15 years, 11 months but not go to school .....

(5) adult over 16 years ; number of male .....

number of single women .....

number of married women .....

number of widow .....

(6) Total population (sum up the above figures) .....

3. Number of total households in the village .....

Number of women headed household .....

Family size ; smallest ..... persons biggest ..... persons

average family size .....

4. Existence of school in the village :

(1) preschool (kindergarten, child care centre) ( ) yes ( ) no

(2) primary school ( ) yes ( ) no

if not, which primary school do children attend?

(a) name of school ....., ... Km away from vill.

(b) name of school ....., ... Km away from vill.

9. Land :

(1) size of communal area ..... ares or ..... hectare

(2) total cultivated land in the village ..... hectare

(3) total housing area in the village ..... m x m

or ..... ares or ..... hectare

(4) average size of land given to each household ..... ares

or ..... hectare

(5) Total area of the village ..... hectare

NOTE : 1 hectare = 100 ares = 10,000 square metre = 2.471 acres

FORM A

10. Types of crop growed in the village :

Type of crop	Rainy season	Dry season
Total area for rice	..... hectare	..... hectare
Total area for subsidiary crop	..... hectare	..... hectare
cassava	( ) yes ( ) no	( ) yes ( ) no
sweet potato	( ) yes ( ) no	( ) yes ( ) no
sugar cane	( ) yes ( ) no	( ) yes ( ) no
corn (maize)	( ) yes ( ) no	( ) yes ( ) no
mung bean	( ) yes ( ) no	( ) yes ( ) no
groundnut	( ) yes ( ) no	( ) yes ( ) no
soy bean	( ) yes ( ) no	( ) yes ( ) no
cucumber	( ) yes ( ) no	( ) yes ( ) no
water convolvulus	( ) yes ( ) no	( ) yes ( ) no
water lily	( ) yes ( ) no	( ) yes ( ) no
pumpkin	( ) yes ( ) no	( ) yes ( ) no
white raddish	( ) yes ( ) no	( ) yes ( ) no
tomato	( ) yes ( ) no	( ) yes ( ) no
longbean	( ) yes ( ) no	( ) yes ( ) no
wingbean	( ) yes ( ) no	( ) yes ( ) no
green leafy vegetables specify	....., ...,	....., ...,
	....., ...,	....., ...,
	....., ...,	....., ...,
	....., ...,	....., ...,
watermelon	( ) yes ( ) no	( ) yes ( ) no
banana	( ) yes ( ) no	( ) yes ( ) no
pineapple	( ) yes ( ) no	( ) yes ( ) no

FORM A

10. (Continue) Types of crop growed in the village :

Type of crop	Rainy season	Dry season
ripe papaya	( ) yes ( ) no	( ) yes ( ) no
jack fruit	( ) yes ( ) no	( ) yes ( ) no
mango	( ) yes ( ) no	( ) yes ( ) no
Other fruits ; specify ..	....., ...,	....., ...,
	....., ...,	....., ...,
	....., ...,	....., ...,
	....., ...,	....., ...,

11. Farming technology :

(1) Households using decomposed fertilizer ..... households

(2) Households using chemical fertilizer ..... households

(3) Households using pesticide/insecticide ..... households

(4) other farming facilities, ... households

.... households

.... households

12. Animal raising ; total number/village :

(1) Number of ox male ..... female .....

(2) Number of buffalo male ..... female .....

(3) Number of pig male ..... female .....

(4) Chicken (at the time survey done)

( ) yes ..... heads ( ) none

(5) Duck (at the time survey done)

( ) yes ..... heads ( ) none

(6) fish pond ; ( ) yes ..... pond (s) ( ) none

(7) others, ...

13. Whate are the problems (limitations/constraints) of agricultural production? please prioritize in ( ) and describe ...

( ) soil .....

( ) water .....

( ) fertilizer .....

( ) insect destroying rice .....

( ) insect destroying vegetables .....

.....

( ) disease of plant .....

.....

( ) disease of animal .....

.....

( ) distance from the market .....

( ) others, ...

.....

14. Number of village shop ..... shop/village

15. Other information from observation

.....

.....

.....

.....

.....

.....

.....

.....

.....

FORM B : Village Health Data

Name of village ..... Commune ..... District .....

Province ..... Date of data collection .....

Collected by .....

Respondent : (*) Health worker ; name ..... age ..... year

( ) activist ; name ..... age ..... year

( ) TBA ; name ..... age ..... year

( ) Traditional healer ; name ..... age ..... year

NOTE : the information gathered by this form refer only to the information of the village named above.

1. Number of official health worker ..... persons

   (1) No. of official health worker(s) stay in this village ..... person (s)

   (2) No. of official health worker(s) from outside ..... person (s)

2. Qualification of these health workers (e.g., number of year training)

   .....

3. Number of activist ..... persons

4. Qualification of activist (e.g., year of training)

   .....

5. How many time a year the health worker officially visit this village during the working time ? ..... time (s) year

   or ..... time (s)/month

6. Number of traditional healers ..... person(s)

7. Number of traditional birth attendants (TBA) ..... person(s)

   Among them (1) No. of trained TBA ..... person(s)

   ( ) No. of not being trained ..... person(s)

FORM B

8. Delivery data during last 1 year

(1) Total number of delivery ..... cases

(2) Total number of giving birth at home by TBA ..... cases

(3) Total number of giving birth at home by primary midwives ..... cases

(4) Total number of giving birth at district health centre ..... cases

reason of delivery at district health centre .....

.....

reason of not delivery at district health centre .....

.....

(5) Total number of delivery at provincial hospital ..... cases

reason of delivery at provincial hospital .....

.....

reason of not delivery at provincial hospital .....

.....

9. What are the common diseases/illnesses in this village ?

	Rainy season	Dry season
Children 0-5 years	1. ..... 2. ..... 3. ..... 4.	1. ..... 2. ..... 3. ..... 4. .....
Children 5-15 years	1. ..... 2. ..... 3. ..... 4.	1. ..... 2. ..... 3. ..... 4. .....

FORM B

9. (continue) What are the common diseases/illnesses in this village ?

	Rainy season	Dry season
Adult (above 15 years)	1.	1. .....
	2.	2. .....
	3.	3. .....
	4.	4. .....
	5.	5. .....

10. How many people died due to health problem(s) during the last period of 1 year ?

Age of death	number of case	causes (illness)
0-1 year	.....	.....
2-5 years	.....	.....
6-15 years	.....	.....
16-50 years	.....	.....
over 50 years	.....	.....

11. In the last i month, number of children and adult who suffered from ...

(1) diarrhea ..... cases

(2) upper respiratory tract infection (URI) ..... cases

(3) presentation of parasite in stool ..... cases

(4) others, ... cases

.... cases

12. When people get sick, where do they go for treatment ?

(1) minor symption : ( ) stay at home

treated by .....

because .....

( ) other, ...

treated by .....

because .....

(2) severe symptom; treated by .....

because .....

.....

13. Is there any mobile vaccination team ? ( ) yes ( ) no

If yes, how many time during last 1 year period the team came ?

..... time (s)/year

14. Vaccination coverage :

(1) BCG

a. number of children aged 0-5 years ..... children

b. number of children aged 0-5 who <u>did not</u> get BCG ..... children

c. number of children aged 0-5 years who <u>received</u> BCG ..... children

d. BCG coverage = $\frac{c}{a} \times 100 =$ ..... %

(2) DPT/OPV

a. number of children aged 3 months to 5 years ..... children

b. number of children aged 3 months to 5 years who <u>did not</u> get DPT/OPV ..... children

c. number of children aged 3 months to 5 years who <u>received</u> DPT/OPV ..... children

d. DPT/OPV coverage = $\frac{c}{a} \times 100 =$ ..... %

FORM B

(3) Measles

a. number of children aged 10 months to 5 years ..... children

b. number of children aged 10 months to 5 years who did not get measles vaccine ..... children

c. number of children aged 10 months to 5 years who received measles vaccine ..... children

d. Measles coverage = $\frac{c}{a} \times 100$ = ... %

15. Number of household having latrine ..... households

16. Drinking water available during dry season ?

( ) plenty ( ) adequate ( ) inadequate

17. Sources of drinking water during dry season :

( ) rain water

( ) open well

( ) artesian pump

( ) river/lake which is ..... Km away from the village

( ) natural pool which is ..... Km away from the village

( ) communal pond which is ..... Km away from the village

( ) pagoda pond which is ..... Km away from the village

( ) family pond

( ) others, ...

FORM C

FORM C : School Profile

Name of School ..... Located in village .....

Commune ..... District ..... Province .....

Date of data collection ..... Collected by .....

Respondent : ( ) Headmaster ; name ..... age ..... years

( ) Teacher ; name ..... age ..... years

1. Location of the school :

( ) located in the village of FFP/CBN Project

( ) located outside which is ..... km away from the FFP/CBN 's village

2. Number of children from the FFP/CBN 's village attend this school ?

..... children

3. How many hectares of cultivated land in the school ? ..... hectares

4. How many hectare of rice field in the school ? ..... hectares

5. Is there any poultry house in the school? ( ) yes ( ) no

6. Does the school raise the following animals?

(1) pig ( ) yes ( ) no

(2) rabbit ( ) yes ( ) no

(3) fish pond ( ) yes ( ) no

If yes, how big of the pond ? ..... m x m

7. Tools for agricultural activity in the school?

(1) hoe head ; number .....

(2) water bucket ; number .....

(3) sprayer ; number .....

8. Does the school have latrine? ( ) yes ( ) no

9. Is drinking water adequate for consumption in the school ?

( ) yes ( ) no

10. Total number of pupils ; male ..... female .....

Number of fatherless pupils ; male ..... female .....

Number of motherless pupils ; male ..... female .....

Number of orphan pupils ; male ..... female .....

10. Number of teachers in this school? male ..... female .....

FORM D

FORM D : Household Data

Group no. ..... Family no. ..... Village ..... Commune .....

District ..... Province .....

Date of data collection ..... Recorded by .....

Name of household head/husband .....

Respondent : ( ) Pregnant woman name ..... age ..... years

( ) Lactating mother name ..... age ..... years

(Lactation = 0-12 months)

age of her bady ..... month (s)

( ) Mother of preschool school (age of children over 1 year)

her name ..... her age ..... years

( ) other, specify (name, age) .....

1. Land ownership :

(1) size of the land for rice growing

..... m x m or ..... ares or ..... hectare

(2) size of the land for other crop which separate from the rice field.

..... m x m or ..... ares or ..... hectare

(3) size of housing area.

..... m x m or ..... ares

2. Varieties of crop growed?

(1) What variety of rice do you grow?

( ) IR 64 ( ) IR 36 ( ) IR 42 ( ) short term rice

( ) medium term rice ( ) long term rice

(2) Yield of rice last year ..... sacs which equal to ..... Kg

(3) Do you have enough rice for the year round consumption?

( ) yes ( ) no ; not enough for ..... months

FORM D

Group No. .....

Family No. .....

(4) If rice is not enough for consumption, how do you solve the problem of family rice shortage?

.....

.....

.....

(5) Beside rice, what kind of other crops do you grow ?

1. ..... 2. ..... 3. .....

4. ..... 5. ..... 6. .....

7. ..... 8. ..... 9. .....

10. .....

3. Apart from agricultural activity, do you have other job ?

(1) making palm sugar ( ) yes ( ) no

(2) raising the following animals for income,

cow	( ) yes	( ) no
pig	( ) yes	( ) no
chicken	( ) yes	( ) no
duck	( ) yes	( ) no
fish	( ) yes	( ) no

others, specify .....

(3) weavings

cloth	( ) yes	( ) no
basket	( ) yes	( ) no
mosquito net	( ) yes	( ) no
plam roof	( ) yes	( ) no

(4) handicraft ( ) yes ( ) no

(5) others, ...

FORM D

Group No. .....

Family No. .....

4. Water sources : data of the previous 1 year

(1) water for rice cultivation ;

(a) rain water ( ) adequate ( ) inadequate ( ) drought

( ) others, ...

(2) water other ( ) adequate ( ) inadequate ( ) drought

( ) others, ...

(2) water for other crops (not rice)

a. rain water ( ) adequate ( ) inadequate ( ) drought

( ) others, ...

b. water form dam/reservoir

( ) adequate ( ) inadequate ( ) no dam existed

( ) others, ...

c. water from river, pond, well

( ) adequate ( ) inadequate ( ) no river, pond and well existed

( ) other .....

(3) water for washing and drinking

( ) pond ( ) well ( ) other

5. Animal raising ;

( ) number of cattle male ..... female .....

( ) number of pig male ..... female .....

( ) number of adult chicken male ..... female .....

( ) number of adult duck male ..... female .....

( ) do animals get infection? ( ) yes ( ) no

If yes, decribe the symptom of disease

( ) cattle symptom .....

number of death ..... heads

( ) chicken symptom .....

number of death ..... heads

FORM D

Group No. .....

Family No. .....

( ) duck symptom .....

number of death ..... heads

( ) other .....

(6) Did you give poultry vaccination? ( ) yes ( ) no

(7) Do you have fish pond? ( ) yes ( ) no

If yes, its size ..... m x m

what kind of fish do you raise .....

.....

6. Distribution of agricultural production ?-

production	consumption	sell	seedling	exchange	other
rice	( )	( )	( )	( )	.....
cassava	( )	( )	( )	( )	.....
sweet potato	( )	( )	( )	( )	.....
sugar cane	( )	( )	( )	( )	.....
corn (maize)	( )	( )	( )	( )	.....
mungbean	( )	( )	( )	( )	.....
soybean	( )	( )	( )	( )	.....
groundnut	( )	( )	( )	( )	.....
Ivy gourd	( )	( )	( )	( )	.....
pumpkin	( )	( )	( )	( )	.....
raddish	( )	( )	( )	( )	.....
longbean	( )	( )	( )	( )	.....
wingbean	( )	( )	( )	( )	.....
tomato	( )	( )	( )	( )	.....
Hawaiian chili	( )	( )	( )	( )	.....
cabbage	( )	( )	( )	( )	.....
lettuce	( )	( )	( )	( )	.....

FORM D

Group No. .....

Family No. .....

6. (continue) Distribution of agricultural production ?

production	consumption	sell	seedling	exchange	other
water convolvulus	( )	( )	( )	( )	.....
cucumber	( )	( )	( )	( )	.....
wax gourd	( )	( )	( )	( )	.....
bottle gourd	( )	( )	( )	( )	.....
watermelon	( )	( )	( )	( )	.....
banana	( )	( )	( )	( )	.....
mango	( )	( )	( )	( )	.....
pineapple	( )	( )	( )	( )	.....
chicken	( )	( )	( )	( )	.....
duck	( )	( )	( )	( )	.....
egg	( )	( )	( )	( )	.....
fish	( )	( )	( )	( )	.....
.....	( )	( )	( )	( )	.....
.....	( )	( )	( )	( )	.....
.....	( )	( )	( )	( )	.....

7. Where do you get the following food items

Answers used to fill in the space below :

Sources of food :

a. market b. vendor from outside c. village shop

d. self produced e. natural source

Mean of receiving :

1. buying 2. exchange 3. credit 4. borrow

5. hunting/gathering

FORM D

Group No. .....

Family No. .....

Food item	Rainy season		Dry season	
	Source	Mean of receiving	Source	Mean of receiving
pork	.....	.....	.....	.....
beef	.....	.....	.....	.....
fish	.....	.....	.....	.....
chicken	.....	.....	.....	.....
duck	.....	.....	.....	.....
egg	.....	.....	.....	.....
snail	.....	.....	.....	.....
crab	.....	.....	.....	.....
frog	.....	.....	.....	.....
lard (pig fat)	.....	.....	.....	.....
vegetable oil	.....	.....	.....	.....
groundnut	.....	.....	.....	.....
cabbage	.....	.....	.....	.....
longbean	.....	.....	.....	.....
cucumber	.....	.....	.....	.....
water convolvulus	.....	.....	.....	.....
Others, ...	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

8. Do you preserve food? ( ) yes ( ) no

If yes, what kind of food is preserved? and how to preserve?

.....

.....

.....

FORM D

Group No. .....

Family No. .....

9. Education of the mother :

(1) Educational level

( ) primary school ; number of years in the school ..... yr

( ) secondary school ; number of years in the school ..... yr

( ) higher education ; number of year in the school ..... yr

( ) literacy class

( ) non schooling

(2) Can you read? ( ) yes ( ) no

(3) Can you write? ( ) yes ( ) no

10. What type of the family do you want?

( ) 1-2 children ( ) 3-4 children

( ) 5 children ( ) more than 5 children

11. Total family members .....

Number of pregnancy ..... Total number of children died .....

Total number of children alive .....

Among those who alive ; number of less than 1 year ..... persons

number of 1-6 years ..... persons

number of 7-13 years ..... persons

number of over 13 years ..... persons

Among those of 7-13 yr but not go to school ..... perpons

12. During the last pregnancy; did you received tetanus toxoid ?

( ) yes ; ..... time(s) from whom ? .....

( ) no

13. Where did you delivery your last children

( ) at home by TBA ( ) at home by primary midwives

( ) at health centre ( ) others .....

FORM D

Group No. .....

Family No. .....

14. Did you restrict food during pregnancy? ( ) yes ( ) no

If yes, what were the restricted foods? and why?

.....

.....

.....

.....

.....

15. What kind of food did you eat during the first 3 days after delivery ?

.....

.....

16. What kind of food you did not eat during 1 month after delivery ?

.....

.....

17. When did your let your newborn start suckling breast milk ?

( ) within 24 hour after delivery ( ) one day after delivery

( ) two days after delivery ( ) three days after delivery

( ) other .....

18. Did you sqeeze out colostrum ?

( ) yes, because .....

( ) no, because .....

19. Did you feed your newhorn on the first day after delivery with the followings :

( ) none ( ) sugar water ( ) boiled water

( ) sweet condensed milk ( ) traditional medicine

( ) others, ...

20. How long did you breastfeed your youngest child? ..... months

If still breastfeeding, when do you plan to stop breastfeeding

..... months old (age of child)

FORM D

Group No. .....

Family No. .....

21. When do you start or plan to start feeding the following foods

(1) rice soup ..... months old

(2) rice pounding ..... months old

(3) cooked rice ..... months

(4) meat, fish ..... months old

(5) vegetables ..... months

22. Who takes care your baby when you work outside ?

( ) bring baby with mother ( ) older sister/brother

( ) older person at home ( ) other, ...

23. Over the past 2 weeks did your youngest child have diarrhea?

( ) yes ( ) no

If yes, treatment given?

( ) medicine ( ) ORT only ( ) ORT + medicine

( ) traditional medicine ( ) ORT + traditional medicine

( ) private treatment ( ) no treatment

( ) others, ...

24. If your child get sick, where to get treatment?

( ) dispensary at commune ( ) buy medicine from market

( ) TBA ( ) traditional healer

( ) district health centre or hospital

( ) private treatment

( ) others, ...

25. Do you boil water for drinking? ( ) yes ( ) no

If yes, for whom? ( ) all family members ( ) children only

( ) elderly ( ) sick person

( ) others, ...

26. Do you use latrine ( ) yes ( ) no

27. Generally how many meal a day? ..... meals/day

FORM D

Group No. .....

Family No. .....

28. In each meal, does your husband eat together with the children?

( ) yes ( ) no

If not, how do you serve food for your husband ? why ?

.....

.....

.....

29. Generally, do you eat fried/saute food ? ( ) yes ( ) no

If yes, how often ? ..... times/week or ..... times/month

What type of cooking oil do you use?

( ) lard (pid fat) ( ) vegetable oil

30. What type of fuel do you use for cooking?

.....

31. What kind of the job your husband work?

.....

32. Does your husband or the family members help you to do ;

(1) house work ( ) yes ( ) no, because .....

( ) not applicable (no husband)

(2) farm work ( ) yes ( ) no, because .....

( ) not applicable (no husband)

(3) income activity ( ) yes ( ) no, because .....

( ) not applicable (no husband)

(4) take care children ( ) yes ( ) no, because .....

( ) not applicable (no husband)

Form E : Household food frequency

Name of Respondent ..... Family No. ..... Group No ..... Village .....

Commune ..... District ..... Province .....

Date of data collection ..... Collected by .....

Food item	Rainy season					Dry season				
time per ==>	week			month		week			month	
	5-7	3-4	1-2	1-2	never	5-7	3-4	1-2	1-2	never
1. Animal and protein source										
Fish - fresh	...	...	...	...	.....	...	...	...	...	.....
- dried/smoked	...	...	...	...	.....	...	...	...	...	.....
- fermented	...	...	...	...	.....	...	...	...	...	.....
Beef (cow/buffalo)	...	...	...	...	.....	...	...	...	...	.....
Pork	...	...	...	...	.....	...	...	...	...	.....
Chicken/Duck	...	...	...	...	.....	...	...	...	...	.....
Eggs	...	...	...	...	.....	...	...	...	...	.....
Frog	...	...	...	...	.....	...	...	...	...	.....
Snail	...	...	...	...	.....	...	...	...	...	.....
Crab	...	...	...	...	.....	...	...	...	...	.....
Snake	...	...	...	...	.....	...	...	...	...	.....
Groundnut	...	...	...	...	.....	...	...	...	...	.....
Mungbean	...	...	...	...	.....	...	...	...	...	.....
Soybean	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....

FORM E

Food item / time per ==>	Rainy season					Dry season				
	week			month		week			month	
	5-7	3-4	1-2	1-2	never	5-7	3-4	1-2	1-2	never
2. Starchy foods										
Noodle - white	...	...	...	...	.....	...	...	...	...	.....
- instant	...	...	...	...	.....	...	...	...	...	.....
- fermented	...	...	...	...	.....	...	...	...	...	.....
Cassava	...	...	...	...	.....	...	...	...	...	.....
Corn/maize	...	...	...	...	.....	...	...	...	...	.....
Sweet potato	...	...	...	...	.....	...	...	...	...	.....
Yam	...	...	...	...	.....	...	...	...	...	.....
Taro	...	...	...	...	.....	...	...	...	...	.....
Others, specify										
.....	...	...	...	...	.....	...	...	...	...	.....
3. Fat and Oil										
Lard (animal fat)	...	...	...	...	.....	...	...	...	...	.....
Vegetable oil	...	...	...	...	.....	...	...	...	...	.....
Coconut milk (In curry/sweet)	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....

FORM E

Food item	Rainy season					Dry season				
time per ==>	week			month		week			month	
	5-7	3-4	1-2	1-2	never	5-7	3-4	1-2	1-2	never
4. Vegetables										
Ivy gourd	...	...	...	...	.....	...	...	...	...	.....
Cabbage	...	...	...	...	.....	...	...	...	...	.....
Water convolvulus	...	...	...	...	.....	...	...	...	...	.....
Mustard green	...	...	...	...	.....	...	...	...	...	.....
Lettuce	...	...	...	...	.....	...	...	...	...	.....
Spinach	...	...	...	...	.....	...	...	...	...	.....
Cucumber	...	...	...	...	.....	...	...	...	...	.....
Longbean	...	...	...	...	.....	...	...	...	...	.....
Wing bean	...	...	...	...	.....	...	...	...	...	.....
Wax gourd	...	...	...	...	.....	...	...	...	...	.....
Bitter gourd	...	...	...	...	.....	...	...	...	...	.....
Bottle gourd	...	...	...	...	.....	...	...	...	...	.....
Hawaiian chili	...	...	...	...	.....	...	...	...	...	.....
Tomato	...	...	...	...	.....	...	...	...	...	.....
Pumpkin	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....

FORM E

Food item / time per ==>	Rainy season					Dry season				
	week			month		week			month	
	5-7	3-4	1-2	1-2	never	5-7	3-4	1-2	1-2	never
5. Fruits										
Water melon	...	...	...	...	.....	...	...	...	...	.....
Banana	...	...	...	...	.....	...	...	...	...	.....
Guava	...	...	...	...	.....	...	...	...	...	.....
Mango	...	...	...	...	.....	...	...	...	...	.....
Papaya (ripe)	...	...	...	...	.....	...	...	...	...	.....
Pineapple	...	...	...	...	.....	...	...	...	...	.....
Custard apple	...	...	...	...	.....	...	...	...	...	.....
Orange	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....
.....	...	...	...	...	.....	...	...	...	...	.....

FORM F : Individual Child Data

Name of child ..... Name of Father ..... Name of Mother .....

Family No ..... Group No. ..... Village ..... Commune .....

District ..... Province .....

Date of Data collection ..... Recorded by .....

1. Birth date of a child (day/month/year) ...../...../.....

   Or born in month ..... year .....

   Age = ... years and ..... months

2. Sex : ( ) male ( ) female

3. Weight : ..... kg (one decimal)

4. Height : ..... cm (one decimal)

5. Nutritional status by weight for age :

   ( ) above the line ( ) under the line

6. General physical appearance :

6.1 Hair ;	dyspigmentation	( ) yes	( ) no
6.2 Face ;	moon face	( ) yes	( ) no
6.3 Eyes ;	dryness	( ) yes	( ) no
	conjunctivitis	( ) yes	( ) no
	pale conjunctiva	( ) yes	( ) no
	night blindness (kwamonh)	( ) yes	( ) no
6.4 Mouth ;	angular stomatitis	( ) yes	( ) no
	bleeding gum	( ) yes	( ) no
	carries	( ) yes	( ) no
6.5 Ears ;	otitis	( ) yes	( ) no
6.6 Thyroid enlargement ;		( ) yes	( ) no
If yes, degree of enlargement		( ) lemon size	( ) orange size
6.7 Skin infection ;	scabies	( ) yes	( ) no
6.8 Abdomen ;	pot belly	( ) yes	( ) no

6.9 History/presentation of the following illness during the last 2 weeks ;

fever	( ) yes	( ) no
convulsion	( ) yes	( ) no
diarrhea	( ) yes	( ) no
URI (bronchitis, pneumonia)	( ) yes	( ) no
others , ...		
.....		

7. Please observe personal hygiene (nail, hands, hair, body etc.)

.....

.....

.....

FORM G : Village 's Nutritional Status of Underfives

Village .... Commune .... District .... Province ....

Name of collector ....   Date of measured ....

ID #	Name of child	Family No.	Group No.	Sex	Date of Birth day/mo/yr	Age month	Weight kg.	Height cm.
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —
— — —	....	— — —	— — —	—	—/—/—	— —	— — . —	— — — . —

ANNEX 5.

ADVISORS' ITINERARY SCHEDULE

December 9, 1991	- Arrival of Phnom Penh - Jintana Yhoung-aree
	- Discuss the terms of reference
	- Discuss the draft of the workshop's schedule
December 10-11, 1991	- Discuss with the Workshop Organizers on - the schedule and activities of the workshop - the topics to be presented in the workshop - documents preparation and translation,
December 12, 1991	- Continue the discussion and preparation
	- Identification of Workshop's small group supervisor
December 13, 1991	- Visit rural village of Banh Kong kiep, Kampong Speu Provinee for getting the idea to develop the tool and document for participants
December 14, 1991	- Information received from Bank Kong kiep was used to finalize the document prepared for participants. especially food practices beliefs and taboos.
December 15, 1991	- Complete the checklist of all documents for the workshop.
December 16, 1991	- General discussion with central intersectoral working group about FFP/CBN Project.
December 17-21, 1991	- The national workshops on community based nutrition for the officer at grass root level
	- Arrival of Phnom Penh - Uraiporn Chittchang
December 22, 1991	- Holiday

December 23, 1991 - Discussion on the plan of pretest : villages preparation and key informants identification
- Revision of the questionnaires for pretest i.e., Form A, B, C, D, E and F

December 24, 1991 - Pretesting the questionnaire Form A to G in the village of Kam hap, Khum Ang pol pel, Kong Pissey District, Kampong Speu Province

December 25, 1991 - Analysed and revised the pretested forms

December 26, 1991 - Pretesting the revised Form A to G in the village of Prey Khes, Kong Pissey District, Kampong Speu Province

December 27-28, 1991 - Analysed and revised the re-pretested forms

December 29, 1991 - Finalize the questionnaire forms

December 30, 1991 - Depart for Bangkok

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