

PD-AAW-561

INTERNATIONAL NUTRITION UNIT
(INU)

TECHNICAL REPORT SERIES



OFFICE OF INTERNATIONAL HEALTH
PUBLIC HEALTH SERVICE
U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
ROCKVILLE, MARYLAND 20852

PD-AAW-561

52704

STRENGTHENING GROWTH MONITORING AND
NUTRITIONAL SURVEILLANCE WITHIN PHC:
OPERATIONS RESEARCH WITHIN THE
NUTRITION DIVISION OF THE MOH

THAILAND TRIP REPORT
JANUARY 31 - FEBRUARY 18, 1986

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Prepared under a Resources Support Services Agreement (RSSA), funded by the Office of Nutrition, Bureau for Science and Technology, Washington, USAID, with the Office of International Health, USDHHS, through a subcontract with Logical Technical Services Corporation.

ACKNOWLEDGEMENTS

I would like to express appreciation to the following people whose special efforts might usually go unrecognized during these intensive periods of technical assistance: Miss Boonta Kiriyanand, Regional Nutritionist stationed in Nakorn Sawan, for efficiently arranging the field trips and site visits in the mountainous District of Nakorn Thai and serving as interpreter, pretester and translator; Mr. Manas Kamseemek, Central Office Nutritionist, who suffered through malaria, the cold and dusty rear of the Ministry's pickup truck, and a sleepless night with dying patients in a small District hospital; Mrs. Kanjana Sringonyuang, Medical Sociologist, who shortened her honeymoon to begin testing out innovative social science methods in her new field of nutrition; her bridegroom, Luechai, also a medical sociologist, for his unselfish support in innumerable ways; Dr. Thavitong Hongrivatana, Director, Medical Social Sciences, Center for Health Policy Studies, Mahidol University, for providing timely, valuable insights into the research management of this project; and project co-director Dr. Chawalit Sontikitrunguang, his tireless leadership and enthusiasm in dealing with the multifaceted institutional issues involved in operations research.

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EXECUTIVE SUMMARY

This social science operations research project, intended to strengthen growth monitoring and nutritional surveillance in the Nutrition Program of the MOPH, was designed and funded jointly by the Nutrition Division and AID/Washington. Its main objective is to assess the efficiency and effectiveness of the existing growth monitoring activities and identify the main obstacles in their implementation within Primary Health Care strategies. As a result, it should provide the basis for the design of improved growth monitoring activities and nutritional surveillance system.

This first followup visit of the consultant was scheduled to coincide with further development, pretesting and finalization of the research instruments. Also, timely inputs were requested for the detailed planning of the research management and data processing and analysis. Here the Director of the Medical Social Sciences Program of Mahidol University agreed to serve as in-country consultant. In the process, on-the-job training of the project staff in techniques of nutritional epidemiology and in social science methods was provided.

The two-stage stratified and purposive sample designed to compare AID and non-AID intervention villages was modified to facilitate field logistics and management. A cohort study of existing individual child surveillance records and a survey/observation of the growth monitoring program will be carried out in 200 villages throughout the North and Northeast Regions. Subsequently, four research assistants will each live four months in four Northeast villages that will be purposively selected to maximize the contrast between more successful and less successful implementation of growth monitoring activities. Of the nine research instruments developed for this project, more attention was given to the development and field pretesting of the five more innovative ones. These include cohort weight-gain adequacy tally sheets, focus group, in-depth interview, participant and non-participant observation and malnutrition audits. Nine key output and impact indicators were constructed, and data from selected villages in Chiangmai and Phitsanuluke Provinces tested in dummy tables.

Preliminary analysis suggests some cause for concern over the reliability of the nutritional status field calculations, the validity of quarterly weight-for-age classifications for older children, and the usefulness of quarterly interpretation of changes in individual nutritional status classification when these occur so infrequently. The study should help identify the major causes of these problems and suggest their solution.

Five key issues that revolve around the appropriateness and capacity of the Nutrition Division and the MOPH to carry out this type of program assessment and ongoing evaluation are briefly discussed research. Finally, recommendations are made concerning the management of the field research and the data processing. The consultant fully agrees with AID/Bangkok's intention to support, under EPD-II project funds, a "phase 2" of this present study. This will entail an extension of the geographic scope and an expansion of the thematic coverage of the project to all components of the nutrition program.

In sum, preliminary data indicate significant declines in the prevalence of second and third degree malnutrition throughout the poverty areas of the country. State-of-the-art OR studies such as this one should be able to estimate the contribution of the nutrition program to these impressive declines. Their careful design is already an indication of the professionalism with which the Thai Government is working to improve the nutrition component of the next (6th) National Social and Economic Development Plan and its full intention to achieve Health for All by the Year 2000.

I. INTRODUCTION

The Royal Thai government has rapidly expanded the village level nutrition program to nearly 38,000 of the total 57,000 rural communities in Thailand. Around half of these villages have developed the package of growth monitoring, nutrition education and locally produced supplementary food.

As part of an AID loan under the extended rural primary health care expansion project (1982-85), some 1200 of the 19,000 villages have received additional resources to strengthen the nutrition activities in terms of training, personnel, supervision, supplies and revolving funds. The RTG has been interested in assessing this strengthened package as a basis for the formulation of an improved community nutrition program to be included in the next five-year development plan (1987-92).

In the Spring of 1985, the Nutrition Division of the MOPH, with the assistance of USAID Washington and Bangkok, designed a project to assess the growth monitoring and nutrition surveillance components of the community nutrition package. In October, the funds were transferred to the Department of Health, MOPH, with Dr. Pramukh Chandavimol, the Principal Medical Officer, designated as the Principal Investigator. By January of 1986, the Nutrition Division had assembled its interdisciplinary team to work on the year-long study, and requested the return of the consultant to assist with the following scope of work:

- 1 - Further development, pretesting and finalization of the research instruments.
- 2 - Training of the project staff in nutritional epidemiology techniques and social science methods applicable in the project.
- 3 - Planning the research management and the data processing and analysis.

During the 19-day visit, the first part was spent in Bangkok developing the instruments with the Nutrition Division and reviewing the surveillance data with the Epidemiology and Nutrition Divisions. Discussions were also held with social science colleagues at the School of Public Health and at the Center for Health Policy Studies, both of Mahidol University; with the Population Council and AID. Then an eight-day trip was made to the Northern Province of Phitsanuluke to pretest and revise the instruments, and to analyze regional and village level nutrition surveillance data; complete observation of the quarterly weighing sessions and extensive interviews with villagers and health workers were carried out on two separate days in the District of Nakorn Thai. Interviews and data collection were also performed in the Provincial and Regional Health Departments. The final week back in Bangkok was dedicated to finalization of the study instruments and training in their application; sample design and selection criteria for case study villages; dummy table design and development of key quantitative indicators; review and

modification of the research management plan by the Thai project consultant, Dr. Thavitong of Mahidol; and briefings with collaborating MOPH, AID, UNICEF and WHO personnel.

II. RESULTS

A. Research Design Modification and Management

While some modifications and adjustments were made on the original proposal, the basic objectives and conceptual frameworks at the program and family levels (see Figures 1 & 2) remained essentially the same. The general objectives are:

1 - To assess the efficiency and effectiveness of the existing growth monitoring activities and identify the main obstacles in their implementation within PHC strategies, and

2 - To provide the basis for the design of improved growth monitoring activities and nutritional surveillance system.

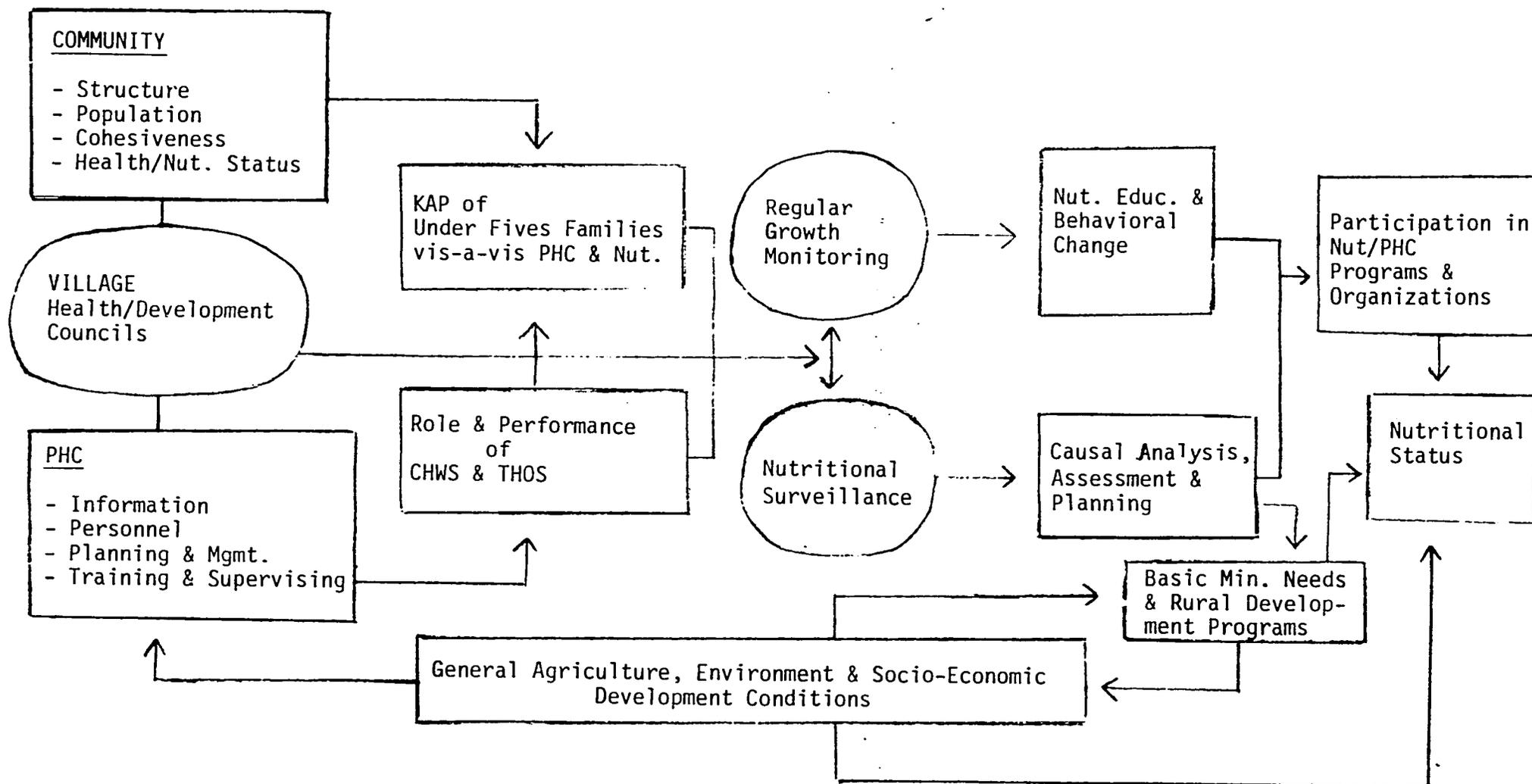
The modifications decided upon in the project are more a matter of emphasis than substance, and essentially were taken to make the project more manageable and practical. It will focus more narrowly and intensively on growth monitoring within the context of the nutrition program and PHC strategies. It will look into greater depth at a smaller number of communities (1/3 less in the survey and 1/2 less in the case study).

The project will be managed in such a way as to include the participation of the central, regional and provincial nutrition and PHC supervisors as a learning experience within the ongoing monitoring and evaluation process of a nutrition surveillance

FIGURE I

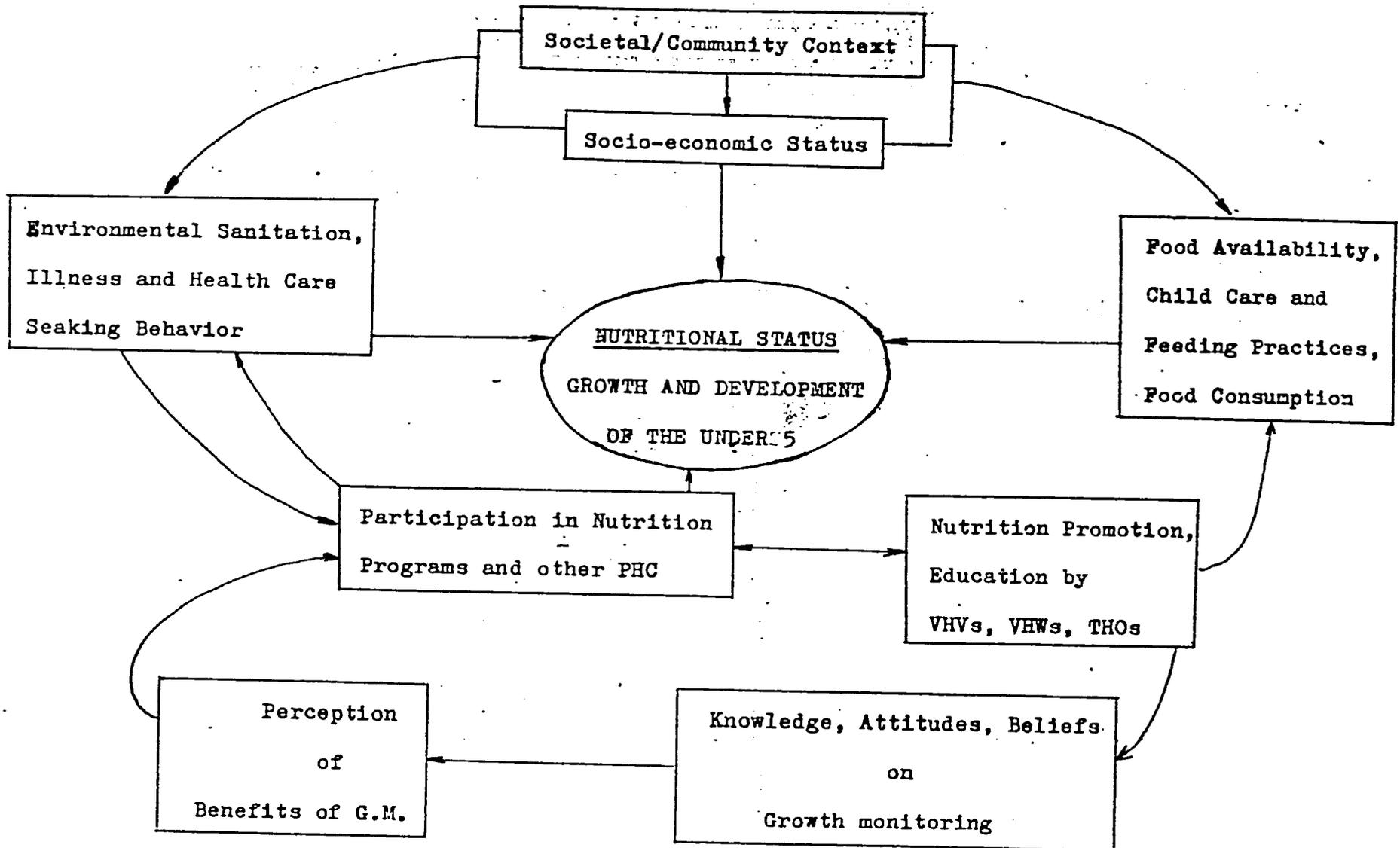
CONCEPTUAL FRAMEWORK AT COMMUNITY/TAMBON LEVEL

GROWTH MONITORING/NUTRITIONAL SURVEILLANCE IN PRIMARY HEALTH CARE & DEVELOPMENT PROGRAMS



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CONCEPTUAL FRAMEWORK FOR IN-DEPTH MOTHER/CHILD/FAMILY INTERVIEW



program. The use of sociological and epidemiological expertise from outside the Nutrition Division, both within the MOPH (on loan from other Departments) and consultants from Mahidol University and OIH/DHHS is intended to ensure the objectivity and impartiality of the study results. It should also serve as on-the-job training in these skills for the staff of the Nutrition Division.

The basic assumption of the research is that by better understanding the main obstacles to implementation of, and participation in, the growth monitoring activities, these can be strengthened to increase their effectiveness in contributing to the reduction of childhood malnutrition. A two-stage stratified and purposive sample is designed to permit comparison of tambons (sub-districts) and poverty-area villages that have been strengthened by the AID project inputs (i.e., AID villages) with neighboring and matched-pair villages without such additional inputs (i.e., non-AID villages) (See Table 1). The sample size of the survey includes 200 villages with 16,000 under-fives in the cohort study, and 4000 to be observed in the quarterly weighing. Moreover, the survey and cohort data will permit the construction of indicators for a scaling of successful/non-successful implementation of growth monitoring (Table 2). This scale will be used as the basis for the selection of four case study communities: two that maximize the expected contrast between more successful and less successful AID communities, and between

Table 1

REVISED ESTIMATES OF SAMPLE SIZE

Areas/Level	COHORT (Surveillance Record Book)	SURVEY (Observation of Quarterly Weighing)	CASE STUDY (In-Depth Mother Interview)
<u>Region</u>	2	2	1
<u>Province</u>	4	4	1
<u>District</u> (with AID Project villages)	10-12	10-12	1 ^a
<u>Tambon</u> With AID Villages	30-36	30-36	2 ^b
Without AID Villages	8-9	8-9	0
<u>Village</u> AID	± 120	± 120	3 ^c
Non-AID: In AID Tambon	40	40	1 ^c
: Not in AID Tambon	40	40	0
<u>Children (0-59m)</u> AID	9600 ^g	2400 ^d	60-120 ^e
Non-AID	6400 ^g	1600 ^d	20-40 ^e
<u>Weighings</u> AID	67,200 ^f		
Non-AID	44,800 ^f		

^aDistrict with high prevalence of II-III degree malnutrition, and a normal distribution of more successful and less successful nutrition program villages.

^bTambons with a number of extremely successful and non-successful villages.

^cOne pair being AID/more successful vs. AID/less successful; the other being AID/average success-non success matched pair with a non-AID village.

^dObservation of weighing techniques on 20 children per village; of recording/interpretation on another 20 children.

^eBetween 10-20 children presently or once in II-III degree matched with another 10-20 presently normal.

^fNumber of quarterly weighings per child can range from 1-14, with an average of around 7.

^gAverage number of children per village under 5 estimated at 80.

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Table 2

INDICATORS FOR THE SELECTION OF RELATIVELY SUCCESSFUL
AND UNSUCCESSFUL VILLAGES FOR CASE STUDY

<u>Phenomenon</u>	<u>Indicators</u>
RECORDING SYSTEM:	1. % of eligible quarters in which surveillance data were reported.
COVERAGE OF WEIGHINGS:	2. % of under-fives weighed each quarter.
FREQUENCY OF WEIGHINGS	3. % of eligible weighings that each child was weighed. 4. Median number of weighings of under-fives per year.
PREVALENCE OF MALNUTRITION	5. % of children in 2-3 degree malnutrition by age groups.
INCIDENCE OF MALNUTRITION	6. % of children becoming 2-3 degree malnourished each quarter. 7. % change in nutrition status categories, yearly or quarterly.
SELECTIVITY OF COVERAGE:	8. Relative coverage and frequency of weighing by malnutrition categories (cross-tabulation of #3 and #4).
ADEQUACY OF WEIGHT GAIN:	9. % who gain weight adequately, inadequately or lost weight between quarters.

an average AID and matched pair non-AID communities.

The Work Plan (Fig.3) was revised to reflect the availability of regional nutrition and research assistants, the timing of the quarterly weighings, and the seasonal availability of women in the case study communities. The survey will be carried out by a team of central and regional level nutritionists in four regions in the North and Northeast. Each regional team will be responsible for surveying 50 villages located in two districts which contain AID villages. The case study will be carried out by four research assistants, the medical sociologist and her assistant supervisor in 4 villages located in two tambons of the same district. The district will be purposely selected based on the availability of AID villages and on the relatively high prevalence of malnutrition.

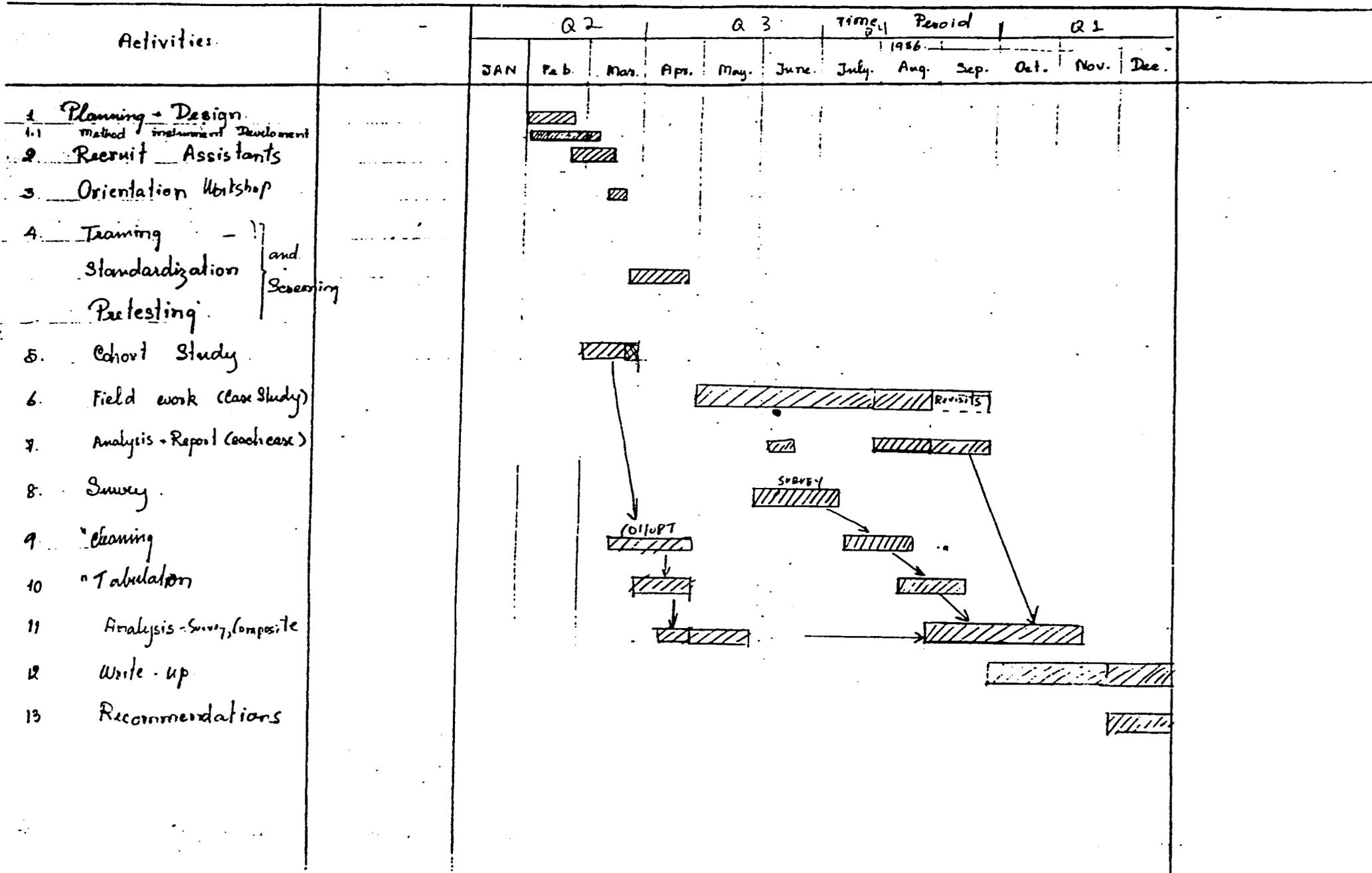
Dr. Thavitong, of Mahidol University, will participate in the review and refinement of the case study instruments, in the selection and training of the research assistants, in the orientation and supervisory workshops, and in the analysis of the information. Drs. Wasan and Narong, of the Epidemiology Division of the MOPH, will be involved in the computerized data processing and analysis of the cohort study. They expect to be able to handle the over 100,000 entries on hard disk micro computers with 20 megabyte capacity.

B. Instrument Development and Pretesting

The proposed sequence of instrument implementation and their

FIGURE 3

WORK PLAN - STRENGTHENING GROWTH MONITORING PROJECT



2/2

interrelationships are presented in Figure 4, and draft copies of four of the instruments are included in Annex 1. Of the nine instruments, it was the more innovative ones (#2,3,6,8 and 9) that needed most attention and pretesting, while the others (eg. #1,4,5 and 7) were left mainly for fine-tuning. For the development of each instrument, both the respondent and the interviewer/observer capabilities and socio-cultural characteristics had to be taken into consideration. It was made clear right from the beginning that we were experimenting and pretesting with new instruments, and that some of them would probably have been either eliminated or greatly modified if they did not work out satisfactorily.

The following is a listing of the key questions that each instrument is designed to help answer.

1 - NUTRITIONAL SURVEILLANCE SYSTEM CROSS-SECTIONAL ANALYSIS

- o What are the differences between AID and non-AID poverty villages of the same Tambons in the trends in prevalence of 2/3 degree malnutrition in the same villages since start of implementation?
- o What are these AID/non-AID differences in the coverage of the quarterly weighing of the under-five population?
- o What are these AID/non-AID differences in the quarterly reporting of the weighings?

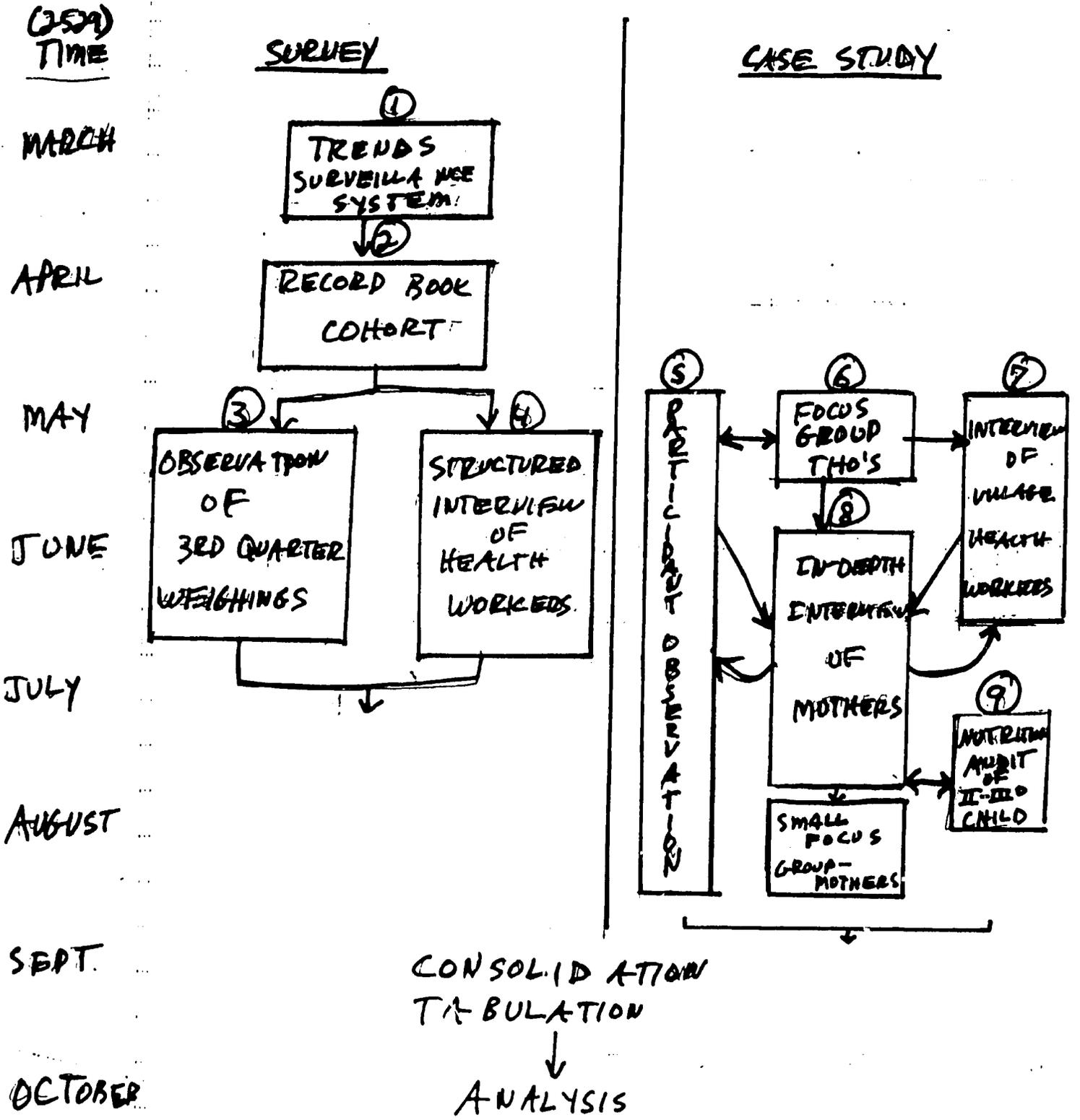
2 - RECORD BOOK COHORT CODING SHEET

- o The selectivity (by nutritional status) of coverage?
- o How frequently is the same child weighed per year, and since birth?

FIGURE 4

PROPOSED
INSTRUMENT SEQUENCE

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- o What is the median number of weighings per child per year?
- o The reliability of the age and the nutritional status hand calculations?
- o The adequacy of weight gain?
- o The incidence of malnutrition?

3 - QUARTERLY WEIGHING OBSERVATION

- o What are the main sources of error in the data on weight and age?
- o How efficiently is the weighing session run?
- o What is the degree of health personnel participation?
- o Do the mothers participate directly?
- o What is the frequency and quality of the interpretation and advice given?

4 - STRUCTURED INTERVIEW WITH COMMUNITY HEALTH WORKERS

- o What are the main obstacles in the implementation of the growth monitoring program?
- o How supportive of the growth monitoring activities are other nutrition components of the program?
- o What is the level of community involvement in the program?
- o Have there been any perceived benefits from the nutrition program?

5 - PARTICIPANT OBSERVATION IN THE COMMUNITY

- o What is the degree of involvement in the nutrition program of the village development council?
- o To what extent does participation in growth monitoring induce behavior change and followup?
- o What efforts are made to extend coverage of weighing to the highest risk families to the malnourished children? Are there home visits to those who don't attend?

- What are the social, economic, political, religious and psychological factors that affect participation in the nutrition program?

6 - FOCUS GROUPS

- What are some of the basic values, norms and behavior concerning infant and child health and nutrition?
- What consensus exists about the importance, appropriateness, relevance and benefits of growth monitoring?
- What are some of the obstacles and problems in implementing growth monitoring that are not well understood by the Ministry of Health?
- What recommendations do you have about improving the growth monitoring component?

7 - SEMI-STRUCTURED INTERVIEW OF VILLAGE HEALTH WORKERS

- How effective has their training been?
- What are their opinions on the importance, appropriateness and impact of the growth monitoring component?
- How do they perceive their role in helping improve the food and nutrition situation of the village?
- How integrated is the nutrition program in the PHC program?

8 - IN-DEPTH MOTHER'S INTERVIEW

- What is the food, nutrition, health and socioeconomic status of families in the village?
- What are some of the feeding, child rearing, hygiene and illness practices that affect nutritional status?
- What is the degree of understanding of their own child's growth chart?
- What are the perceived benefits of participation in growth monitoring?
- What are the reasons for the degree of participation in the weighing sessions?

- o How effective is the nutrition advice of the tambon health officer and other village health workers?

9 - CAUSAL AUDIT OF 2-3 DEGREE MALNOURISHED CHILDREN

- o Can the health workers assess together the causes of malnutrition in these moderately/severely malnourished children?
- o What were the reasons why the nutrition program was unable to prevent and/or recuperate these children?
- o Did the growth monitoring/nutrition surveillance program adequately provide early warning of the child's risk of becoming malnourished?

The three instruments pretested in Nakorr Thai were the record book sheet (#2 in Annex I), the observation of quarterly weighings (#3), and the in-depth interview of mothers (#8). Of the three, the record book turned out to be the simplest, the observation format the most difficult. The latter, adapted from a generic document produced by the INU/OIH team for the PRICOR II Thesarus (see Annex II), went through about five different formats, trying to balance the time and effort spent in quantifiable detail for each child with that of qualitative information for the children and weighing session in general.

The two new instruments that were not formally pretested, but discussed in some detail with the medical sociologist and Dr. Chawalit, were the focus group and the nutritional audit. After much discussion, the focus group guideline for the tambon health officers was developed, but for the village health volunteers and the mothers tentatively abandoned. It was felt that this social

marketing technique was somewhat inappropriate culturally for most of the isolated Northeastern Thai villages to be included in the case study (see Keys Issues section for further discussion). What did seem appropriate, after some initial probing at the weighing session, were informal, ad-hoc, focus group discussions with a small number of women who are kin or close neighbors or in affinity groups.

The nutritional audit for all second and third degree children was an idea developed to respond to the concern that we were asking originally only the mother, not the health team, about the causes of malnutrition in each child. Now the idea is to get the tambon health officer together with the village health volunteer, relevant health communicator and possibly the woman's group leader to "audit", with the growth chart (see example in Annex III) and other records in hand, the reasons why each of the children became moderately or severely malnourished. Did the growth monitoring program provide adequate early warning of the child's risk of becoming malnourished, and if so, whether the family participated in the nutrition program, and, if so, why was it unable to prevent and/or recuperate the child? The audit should be done just after the second quarterly weighing which the research assistant attended so that the assistant would have been able to follow closely the events of the interim quarter and "participate" in the audit too.

C. Training

Three types of on-the-job training occurred in this two and one-half week consultancy. The first was in techniques of cohort analysis of the weighing record book data. New concepts of a "successful" program were introduced to the staff, including (refer back to Table 2): continuity or frequency of participation in the weighing per child per year or since birth; and adequacy of weight gain per child per quarter or per year. Both types of indicators are now thought to be of enough importance to be considered as new indicators in the routine surveillance system.

A second has to do with the design of questions in the survey questionnaires. The basic problem is the biased, leading or suggestive question. The response bias which produces information to please the interviewer was obvious in most of the first draft instruments. It is particularly important for the regional nutrition supervisors and trainers to overcome this natural tendency.

The third area was applied nutrition training of the medical sociologist whose substantive field had been sanitation. Conceptual and empirical causal models and certain social science methods and techniques were imparted. Family factors often overlooked such as critical age/life cycle periods, child care practices, household resource management and powerlessness, as well as growth monitoring program factors such as continuity of

care, quality of communication between health workers and mothers, and food supplementation requirements were among those emphasized.

D. Data Analysis Trials

Available data at the national, regional, provincial, district, tambon and village levels were briefly analyzed in order to test most of the outcome and impact indicators. Initial concerns were raised over the reliability, validity and representativity of the data. Examples of each of these concerns are given below.

Trends in the prevalence of second and third degree malnutrition in the AID villages are seemingly quite impressive. Data from 38 Provinces with AID (poverty) villages (see Table 3) show a 53% decline in prevalence between the Fall quarter of 1982 and Fall of 1984 from 12.7% in 41,646 children to 6.0% in 46,608 children. Of the 30 provinces reporting in 1982, nearly a quarter (or seven) had a two-year decline of over 70%. While data on comparative non-AID poverty villages are not available, data from the entire country for this period are. They also indicate a decline in this same period from 6.7% to 4.3% (or 36%) among over 1.5 million children.

A preliminary analysis of the trends in prevalence of malnutrition from the nutrition surveillance system was done on two tambons in the Province where we did the pretesting (Table 4). Between Fall, 1983 and Fall, 1985, the data reporting was incom-

Table 3

TRENDS IN PREVALENCE OF II/III DEGREE MALNUTRITION RECORDED
IN AID PROJECT VILLAGES, FALL QUARTERS OF 1982,
1983 and 1984*

Level	Fall, 1982	Fall, 1983	Fall, 1984
# Districts	100	111	111
# Tambons (Sub-districts)	333	332	331
# Villages	813	963	1004
# Children 0-59 mo. weighed	41,646	45,700	46,603
% Weighed (estimated)	64.0	59.3	58.0
% in II/III Degree Malnutrition	12.7	9.0	6.0
% Decline in Malnutrition since Fall, 1982	---	23.6	52.8

*Quarter I of 2526 - Quarter I of 2528

Source: Nutrition Division, MOPH

Table 4

TRENDS IN COVERAGE AND PREVALENCE OF II/III DEGREE MALNUTRITION
OF CHILDREN UNDER 5 IN AID AND NON-AID VILLAGES IN TAMBONS OF
PHITSANULUKE PROVINCE, FALL OF 1983 TO FALL OF 1985

Tambon (# of villages)	Fall 1983		Fall 1984		Fall 1985	
	% Coverage	% II/III	% Coverage	% II/III	% Coverage	% II/III
<u>Tambon in Nakorn Thai</u>						
OLD AID (N=3)	71.8	9.3	78.9	7.8	96.5	9.4
NEW AID * (N=5)	62.4	13.2	96.2	13.5	68.7	6.2
NON-AID (N=11)	63.6	5.7	92.2	10.5	79.8	6.8
<u>Tambon Bopo</u>						
AID (N=3)	85.7	16.7	46.5	3.5	29.5 ^a	4.2
NON-AID (N=6)	78.9 ^b	14.4 ^b	80.7	3.0	56.2	10.7

^aOnly 1 of the 3 villages reported coverage

^bFall 1982

*Became AID villages in 1984

Source: Regional Nutrition Office, Nakorn Sawan and Provincial Health
Office, Phitsanuluke

plete in some villages so as to hinder analysis. The declines in prevalence seemed to be somewhat steeper in AID villages, but the trends in coverage were up and down in both types of villages. The set of five villages in Nakorn Thai that had pre-project data and then became AID-recipients in 1984 showed a decline in the first year from 13.5% to 6.2%; there was an increase coverage in the first year from 62 to 96%; then a decline to 69% at the start of the second project year. While these are small numbers, we think there is probably just as much to learn by looking at trends among AID-supported villages than by comparing them with non-AID villages.

One concern raised about these data has to do with the selectivity of the children weighed. Coverage of all children under five is around 60% in the AID villages and between 40-60% in the whole country. There is some indication from spot checking a few village record books that the malnourished tend to have lower coverage than the normal children. In one pretest village, the change in tambon health officer helped increase the quarterly coverage from 30 to 86 children, but also increased the prevalence of II-III degree malnutrition from 3.2% to 9.3%. The day we observed, 3 of the 5 II-III degree children from the previous quarter didn't show up at the weighing. There are some tambons we were taken to that would be classified as highly successful in terms of coverage. One in which we pretested instruments is located in an isolated mountain (and high security)

area near the Laotian border. In Table 5, we see coverage rates in the 80 and 90 percent range of children participating in the program over the past two years. The median frequency of participation of children with 9 eligible quarterly weighings was 8 weighings.

Another concern is about the reliability of the data. From the record books (see example sheet in Annex IV) on six villages in Chiangmai Province, we checked up on the accuracy of the nutritional status calculations based on the given age and weight of the child. While some communities had few errors, two communities had many: in the third quarter weighing in one, 12 of 40 (30%) calculations were wrong; in another community, 9 of 83 (11%) were wrong. But the direction of the error is what most raised our attention: in both communities, most of the errors made during this past year were systematically in the same direction: towards higher (eg., better) nutritional status. Some 23 errors of 25 in one and 17 of 18 in the other were recorded normals when they should have been grade I's, or I's when they really were in grade II.*

A third concern has to do with the validity of the weight-for-age indicator without any controls for age. A four-year old child in second degree who is stunted but has been growing

* This bias will be looked at in future analysis.

Table 5

FREQUENCY OF PARTICIPATION IN QUARTERLY WEIGHINGS IN 2½ YEAR PERIOD,
CHILDREN BORN IN 1982 AND LATER, TRIAL TAMBON IN NAKORN THAI
DISTRICT, PHITSANULUKE PROVINCE, NORTHERN REGION

Tambon X in Nakorn Thai	Total Eligible # of Weighings	Under Fives Weighed		Median # of Weighings Per Child by Total # of Weighing Sessions		
		#	%	9	8	7
Village 1	54	49	90.7	9	---	---
2	304	238	78.3	8	7	6
3	97	78	80.4	8	6	---
4	236	210	89.0	---	7	6.5
5	140	132	94.3	9	7.5	7
6	51	45	88.2	7.5	8	7
7	216	190	88.0	8.5	---	---
TOTAL	1098	942	85.8	8	7	6

Source: Village records books and Tambon Health Officers records,
Nutrition Surveillance System, MOPH

normally over the past year or two is certainly not at the same high risk as the eight month old child who has just fallen into second degree. To correct this, transition matrices by age and weight gain adequacy indicators will be developed from the cohort analysis.

In one of the more complex trial analyses from the record book cohort data, we looked at the change in nutrition status from one quarter to the next (Table 6), and in three consecutive quarters (Table 7). If there was no change, then the adequacy of the weight gain* was assessed for all children on Table 6, for just the malnourished children in Table 7.** In the final column is a sum of those children who either lowered a grade, did not gain an adequate amount of weight or lost weight within the same status category.

These pretest data on two villages in Chiangmai Province show several patterns. First, there is very little change in nutritional status from one quarter to the next (13.6%) or within three quarter (5.6%). In some other villages we looked at, no

* According to standards taken from the data corresponding to 90% of the mean reference Bangkok children, 1975 Nutrition Survey.

** As these are dummy tables, the difference here is for illustrated purposes.

Table 6

TRANSITION MATRIX: CHANGES IN NUTRITIONAL STATUS AND ADEQUACY OF WEIGHT GAIN, QUARTERS I TO II, 1984-85, PRETEST VILLAGE #8, CHIANGMAI PROVINCE

Age Group & Nutritional Status at Beginning (Q1)	Total Weighed Both Quarters	CHANGE (Between Quarters 1 to 2)				
		Improved Grade	Stayed in Same Grade		Worsened Grade	% Inadequate or Lower Grade
			Adequate gain*	Inadequate Gain or Lost Weight		
<u>3 - 11 months</u>						
Normal	12	0	6	5	1	50.0
I	1	1	0	0	0	0.0
II/III	0	0	0	0	0	---
<u>12 - 23 months</u>						
Normal	23	0	5	16	2	78.3
I	6	0	2	4	0	67.0
II/III	0	0	0	0	0	---
<u>24 - 60 months</u>						
Normal	17	0	10	3	4	41.2
I	7	1	5	1	0	16.7
II/III	0	0	0	0	0	---
TOTAL (N)	66	2	28	29	7	36
%	100.0	3.0	42.4	43.9	10.6	54.5

*Adequate quarterly weight gain: Age 3 - 11 months = \geq 1.0kg.
 Age 12 - 23 months = \geq .6kg.
 Age 24 - 60 months = \geq .3kg.

Source: Nutritional Surveillance System, Nutrition Division, MOPH, Bangkok, Thailand

1986

Table 7

TRANSITION MATRIX: CHANGES IN NUTRITIONAL STATUS AND ADEQUACY OF WEIGHT GAIN*, QUARTERS I, II AND III, 1984-85, PRETEST VILLAGE #3, CHIANGMAI PROVINCE

Age Group & Nutritional Status at Beginning (Q1)	Total Weighed (All 3 quarters)	Improved Grade	Stayed in Same Grade			Mixed Pattern	Worsened Grade	Total Inadequate or Lower Grade
			In Normal	In Grades I, II or III				
				Adequate Wt. Gain	Inadequate Gain or Wt. Loss			
<u>0 - 5 months</u>								
N	2		2					0
I	2	1			1			1
II/III	0							0
<u>6 - 11 months</u>								
N	0							0
I	1				1			1
II/III	2				2			2
<u>12 - 23 months</u>								
N	18		17				1	1
I	4			2	2			2
II/III	1			1				0
<u>24 - 59 months</u>								
N	11		10			1		0
I	6			6				0
II/III	7			5	2			2
<u>TOTAL</u>								
N	54	1	29	14	8	1	1	9
%	100.0	1.9	53.7	25.9	14.8	1.9	1.9	16.7

*Adequate quarterly weight gain: 0 - 5 months = \geq 1.5kg.
 6 - 11 months = \geq .8kg.
 12 - 23 months = \geq .5kg.
 24 - 59 months = \geq .3kg.

Source: Nutritional Surveillance System, Nutrition Division, MOPH Bangkok, Thailand

one changes status during the quarter. This suggests that based on the current procedures, this lack of status change means that there are few mother who are communicated anything "new" by the health personnel. On the other hand, of those who remained in the same grade, about half in Table 6 and one third in Table 7 did not gain adequate weight for their age group. Most of the inadequate weight gain in Table 6 is found in the normal children between 6 and 23 months, the most vulnerable group. Looking at the weight gain among the malnourished children over 24 months in Table 7, we see that all six of the first degree and five of the seven second degree children gained adequately. Thus, if weight gain criteria were to be included for interpretation each quarter, then the mothers and health workers would have something "new" to discuss in a much higher percentage of the cases.

A list of some 60 of the key variables on which data will be collected in this study are presented in Table 8. It follows the sequence of the AID "Logical Framework", but with one important difference: the category of operational processes. Eighteen of the variables come under this category, and generally follow the generic list of the growth monitoring thesaurus that the INU/OIH advisory group developed for AID/Washington. Most of these operational process variables will be gathered in the observation instrument (#3 in Annex I).

Table 8

THAILAND OPERATIONS RESEARCH

LIST OF KEY VARIABLES

IMPACT

Prevalence of malnutrition
Incidence of malnutrition
Adequacy of weight gain

EFFECT

Knowledge of significance of growth card
Perception of benefits of growth monitoring
~~Attitudes toward growth monitoring~~
Opinions on growth monitoring program
Nutrition/growth promotion practices
Beliefs/taboo that affect young child nutrition
Community involvement in problem-solving nutrition actions
Community awareness of their own nutrition problems

OUTPUTS

Availability of nutrition surveillance data
Construction of community growth chart
Coverage of quarterly weighings
Frequency of weighings
Selectivity of weighings
Availability of followup nutrition actions (food supplementa-
tion, feeding, nutrition education, food demonstration,
dietary management of diarrheal disease) to growth
monitoring
Village health workers trained in growth monitoring
Referrals of malnourished children
Completed growth charts
Tambon health officer trained in growth monitoring and pro-
viding adequate supervision
Village development council and mother's committee actively
supporting quarterly weighings

OPERATIONAL PROCESSES

Census updating
Registration of newborns and immigrants
Appointments, announcements of weighing date
Scales in working order
Scales calibrated
Mechanics of weighing children
Participation of mother and other community members in the
weighings

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Reading of the weight
Plotting of the weight
Calculation of the age
Plotting of the age
Completing four parts of growth card
Fill out record book correctly
Interpretation of growth card
Informing and showing mother result
Advice given to mother after filling out growth card
Scheduling of monthly weighings for II-III degree children
Planning home visits of children who missed quarterly weighing

INPUTS

Training of THO, VHV, VHC, Mothers Committee
Supervision of mechanics and usefulness of growth monitoring
Scales and baby/child holders
Growth charts
Record books
Incentives to community health workers
Nutrition Fund
Social preparation
Local for quarterly weighings

NUTRITION PROGRAM

Nutrition surveillance system design
Specification of growth monitoring tasks
Training and supervision strategy

VILLAGE/TAMBON BACKGROUND

Social structure
Community organization
Support from government development programs
Socioeconomic status of families
Food production, availability
Demographic characteristics
Basic values, norms and beliefs concerning infant and child nutrition

III. KEY ISSUES

There were a number of key issues that arose during the course of the consultancy that, without going into detail now, are worthy of mention.

1. Adequacy of the Nutrition Surveillance System to Assess the Trends in Nutritional Status in the Country: This system has registered sharp declines in second and third degree malnutrition, from 15% in the 1979-82 period to 6.7% in late 1983 and 4.0% in mid-1985. Several agencies are reported to be questioning the reliability of these data. The early data come from a broad period of time and may not be comparable to the data coming from a different set of villages later on. Moreover, with from 40-60% coverage of the underfives, it is not clear if the more malnourished might not be under-represented in the weighings, as mentioned in the previous section. The decennial national nutrition survey will be carried out in Spring of 1986, and should be able to answer some of the questions about the trends over the past decade. Meanwhile, the cohort data analysis and observational study should help answer the more specific questions about the trends in the same children and communities, and about the selectivity of coverage and reliability of the data.

2. Survey Evaluation of the AID Nutrition Activities of the Rural PHC Expansion Project: AID-Bangkok proposed as part of EPD-2, a two-stage evaluation, including a survey as stage one

and a case study as stage two, and asked this consultant's opinion. Unfortunately, the AID survey would have been carried out around the same time as the decennial national nutrition survey and by the same regional nutrition staff. It would have also coincided with the survey phase of this growth monitoring strengthening operations research project. My main concern was the duplication of efforts and the amount of time that this would take the regional nutritionists away from their important ongoing training and supervisory duties. A private consultant firm could do the survey, but the costs were estimated to be prohibitive at this time. In a meeting with AID and UNICEF, it was generally agreed that the decennial survey could help to answer the most important question concerning the trends in malnutrition. Moreover, the differences in the nutrition resource support between AID and non-AID villages were often not perceived at the tambon level. AID resources earmarked for certain villages within a tambon were being spread throughout the tambon more or less evenly. Thus, one might expect more differences between tambons with and without AID support than between villages within the same tambon. For this and other reasons, this consultant felt that what was more important than the survey was phase two of the EPD-2 study that could expand on the scope and geographic coverage of the present study.

3. Research Capacity of the Nutrition Division of the Ministry of Public Health: To what extent does the Division have

the personnel, data management skills and equipment and field experience to carry out applied nutrition research? How appropriate is it for this Division to assess and evaluate its own programs? A compromise position emerged whereby as part of the ongoing monitoring and evaluation component of the surveillance program, the Division would benefit by such participation, but that the social science and data management capacity would need to be developed with assistance from other MOPH staff and outside consultants. Moreover, the more sensitive and critical evaluation methods should be carried out more objectively by persons who are not employees of the MOPH.

4. Computerization of the Surveillance System: Should the raw data from the record books be routinely transmitted to Bangkok for computerization? What is the role of hand tabulation and analysis at the peripheral levels? What is the capacity of micro computers to assist in this process? Which of the computerized analyses being done for this research project might become part of the routine data processing system of the Health Statistics or Epidemiology Departments of the Ministry, or of the Nutrition Division? The approach suggested is that micro computers, being the wave of the future, should be useful in helping the peripheral levels to understand and interpret the data, and reduce the great amount of time they now spend in data clerk routines. The computerized cohort study procedures might be continued on a sample basis, but the field people should be

able to use the format for making hand-tabulated instant analysis. On the other hand, the social science data management of the complex set of variables for this study might best be handled by a research institute, in this case, the Center for Health Policy Studies.

5. Appropriateness of Certain Social Science Methods: The main issue, as alluded to above, was the cultural appropriateness of focus group research as a social marketing tool for application in the less developed rural areas of North and Northeast Thailand. All of the other methods, except for the nutritional audit, has been applied with some degree of success in Thailand. The limited experience of focus group research had met with less success. We felt it important to use focus group at the early stages of the case study in order to learn about other problems and obstacles that had not been seriously considered before, and develop new hypotheses that could then be tested in the interviews, observations and daily interaction with the villagers. It required the informal gathering of a homogeneous group of the same level of health workers and villagers who did not know each other and would feel relatively free to express their values, attitudes, opinions and beliefs on a wide range of topics. Through a discussion facilitated by the medical sociologist, the group could come up with a consensus or degree of differences on these issues relating to the growth monitoring program and health and nutrition in general. The sociologist

found, though, that while focus group could be done with the tambon health officers, it would culturally inappropriate to gather village level people together and expect them to freely discuss these issues. She suggested getting small informal groups of mothers who are part of closely-knit affinity groups to discuss some of these issues. This could even be done during the lengthy weighing sessions. More pretesting along these lines would be necessary before the method was ready for use.

IV. RECOMMENDATIONS

1. The capacity to carry out operations research (OR) within the Nutrition Division should be strengthened by this project.

This project should consider, as an objective, the training of central and regional level staff in methods and techniques of operations research. These can form an integral part of ongoing monitoring and evaluation activities which, in and of themselves, should become essential components of the MOPH's nutritional surveillance system.

2. The cohort study phase should be initiated as early as possible (in March) and before the regional nutritionists become involved in the National Nutrition Survey.

This phase, based on the village surveillance record book is the basis for the timely selection of the case study

villages, for much of the epidemiological determination of the more successful and less successful villages, as well as for the analysis of the reliability of the surveillance data.

3. Efforts to simplify the study, reduce its geographic scope, and limit the focus to growth monitoring will help to make the field work and data processing more manageable.

This study should be viewed as a unique opportunity to develop needed social science and epidemiological methods for assessment and ongoing evaluation. It is not intended to evaluate the effectiveness of the entire nutrition program. Moreover, great care must be taken in the selection, screening, training and standardization of the research assistants. Towards this end of simplification and methods testing, the principal investigators should have the authority to modify the original budget as they see fit.

4. The survey phase of the Community Nutrition Assessment Proposal to USAID/Bangkok for EPD II funding should be dropped (as stated in the previous section), but the case study phase should be supported as an expansion of the geographic scope and thematic substance of this current study.

The USAID/Bangkok Mission is to be commended for its intention to support the MOPH Nutrition Division's proposal to assess the entire program. The case study can be viewed as an

extension of the geographic scope of the present study and as an expansion in order to cover all of the components of the Nutrition Program. As such, it will stand to benefit from the methods being developed under the present study and be able to capitalize on the investment in the same trained staff. AID/Washington should continue to support outside consultants as requested by the MOPH, which, in collaboration with Thai consultants, can help to strengthen this expanded study in the design, analysis and report writing stages.

ANNEX I

DRAFTS OF SELECTED RESEARCH INSTRUMENTS*

*The numbers correspond to those in Figure 4

CONHORT
 (Instrument 2)

Instrument 2
 Instrument 1
 Instrument 3
 Instrument 4

Child Number	DATE OF BIRTH	AGE	NUTRITIONAL STATUS
Child 1 2526	1983	02	
Child 2 2526	1983	02	
Child 3 2526	1983	03	
Child 4 2526	1983	04	
Child 1 2527	1984	01	
Child 2 2527	1984	02	
Child 3 2527	1984	03	
Child 4 2527	1984	04	

Best Available Document

2
 2.6 *Do the assistants be able to weigh by himself?*

2.6 ผู้รวมเหลือในการชั่งน้ำหนักเด็กสามารถชั่งน้ำหนักด้วยตนเองได้หรือไม่
 (สังเกตโทนการพูดของให้จึงใหญ่)

ได้ คือ

ไม่ได้ คือ

2.7 ในขณะที่ทำการชั่งน้ำหนักของเด็กและบันทึกผล *while weighing, do child's feet touch the floor?*
 ไม่แตะพื้น ปล่อยให้เท้าแตะพื้น

2.8 *Who record the name and weight?*
 ผู้บันทึกชื่อและน้ำหนักใคร

- ผสม
- อสม.
- รพ.สต.
- ผู้ใหญ่บ้านหรือผู้รวมผู้ใหญ่บ้าน
- แม่บ้านโภชนาการ
- แม่เด็ก
- อื่นๆ (ระบุ)

2.9 *Who interprete?*
 ผู้แปลผลการชั่งน้ำหนักใคร

- ผสม
- อสม.
- ผู้ใหญ่บ้านหรือผู้รวมผู้ใหญ่บ้าน
- รพ.สต.
- แม่บ้านโภชนาการ
- แม่เด็ก
- อื่นๆ (ระบุ)

2.10 *Does he interprete the result suddenly?*
 การแปลผลในทันทีหรือไม่

- ทันที
- ภายหลังการชั่งน้ำหนักในวันนั้น
- ไม่แปลผลในวันนั้น

2.11 *Does the assistant write the weight on child's arm?*
 ผู้รวมผู้ชั่งน้ำหนักเด็กเขียนน้ำหนักเด็กบนแขนหรือไม่

- เขียน
- ไม่ได้เขียน

10	9	8	7	6	5	4	3	2	1	Direction	(no.)
									all	ကရား	(1) ၂၄၂၀၂၁၂၁၂၀၂၁၂၁၂၀၂၁၂
									some	ကရား	(၂) ၂၀၀၂၁၂၁၂၁၂၁၂၁၂၁၂၁၂
									none	အိတ်	clothes off
									all the hand of weighing scale in Balance position	ကရား	ကရား
									Does mother assist in weighing	ကရား	ကရား
									yes	ကရား	ကရား
									no	ကရား	Does she read the weight correctly
									Right away	ကရား	ကရား
									After	ကရား	ကရား
									Don't know	ကရား	ကရား
											Observations

DRAFT

FOCUS GROUP GUIDELINES FOR TAMBON HEALTH OFFICER

1. Organization and Personnel
 1. How does your Tambon differ from the others?
 2. Is it suitable for health development? If not, what are the problems and how can it be improved?
 3. How about your community preparation methods in order to make nutrition program successful?
 4. How about your methods to make the housewife and other health volunteers involved in the nutrition program?
2. Training, Supervision and Support
 1. Are the content and training methods suitable for implementation and dissemination? Timing?
 2. Your suggestions on the training process.
 3. How about supervision (process, frequency, content)?
 4. Is it useful for your problem solving? Any suggestions?
 5. How about technical and logistic support? Suitable or not? Suggestions.
3. Motivations and Career Aspirations
 1. How do you feel about your present working situation (morale, incentives, work progress opportunity, etc.)
 2. Do they support or inhibit your work?
4. Opinions on Nutrition Components
 1. Which nutrition activities are carried out in your responsible villages? How often?
 2. Can you do all on time (according to your work plan)?
 3. On the basis of the community's socio-cultural context, are these activities suitable or not? Why?
 4. How many villagers (VDC, VHV, VHC, Housewife Group, etc.) are involved in each, and how often?
 5. Do you think these activities are able to significantly improve the nutrition problems in the villages? Any suggestions?
5. Weighing and Growth Chart Use
 1. Do you think that weighing every child every three months or every month is suitable or not? (Compare with community's daily life and your work load). If not, why, and any suggestions?
 2. How much can weighing 2&3 degree children can reduce the malnutrition problem in your villages? If not, why not? Can you carry on these activities in every month, or not? If not, why not?
 3. In your experience, how interested are the mothers of malnourished children in the weighing activities? Do they always have their children weighed? Do they perceive any benefit from the weighing activity? If so, what benefits?
 4. If the 2/3 degree malnourished do not show up at the weighing session, do you do anything? What?
 5. Is the weighing scale suitable or not? Any problems?
 6. Who in the community do think is best to do the following activities: recording, age calculation, interpretation? Why?
 7. What do you think the villagers can do by themselves? Are there any activities that may be too difficult or too sophisticated for the VHV, VHC, Housewife group (eg. age calculation, plotting, interpretation)? If yes, do you have any suggestions?

(Focus Group Guidelines for THO cont.)

8. Do mothers understand the growth chart? Do they know their children's nutrition status? Their weight gain?
 9. What do you think about letting the mothers keep their children's growth chart?
 10. Does it help the mother better understand and use the chart if she keeps it?
 11. How about yourself, do you ever use the weighing record in your work? In which types of activities? Clinic work too?
 12. Is there a community growth chart already filled out in any community? What is its purpose? Can the village development committee understand it or not? Does it make the villages (esp. the VDC) more conscious about the problem and actively participate in problem solving or not?
6. Nutrition/ Health-seeking Behavior
1. Do you think that each mother has different practices for a healthy child, an ill child and a child who refuse to eat? What are some of these?
 2. Do they recognize when a child is becoming malnourished?
 3. What are mother's practices for their child's illness, such as for a cold, diarrhea, fever, etc.?
 4. In the case of mothers who have 2/3 degree malnutrition, what do they do and how?

IN-DEPTH INTERVIEW OF MOTHER

Questions for mother with underfive child.

1. General information

Have a checklist for observation:

- no of family member

- no of respondent's children, no of underfives

- education level, illiterate?

- Occupation (main & second)

- Land occupying, how many?

* - Any income generating activity during planting interval, what? how? how much increasing per annum?

- How many harvested rice last year? how many being sold? what price? how many being stored? adequate?

- How many events and crops harvested (exclude rice) last year?

- Any debt? Any interest? How much?

Quality of house

Consumption available

any, motorcycle

Radio, TV

Small unshelved rice mill & resources

Sense of powerlessness about things

Women labor force participation outside home, how full, time spent.

2.

Food production and distribution ^{availability} within the village

- In each season, what kind of food available for household consumption?

- Any purchasing of food by cash? how much?

* - During preharvesting season, are there adequate storage of rice and food for your children, if not adequate, how do you?

What kind of food ^{are} available during the preharvesting season?

3.1

Feeding Practice when did you start to introduce weaning foods?

- What kind of milk being fed to your child?

- Were you practicing breast feeding since the birth of your child? if not, why?

* - How long time you practiced ^{full} breast feeding? Partial breast feeding?

- Any solid food for your child, at what age? what food?
- Any taboo during lactating period?
- - Any Dietary restriction during pregnant period?

3.2. Child care, Hygiene Practices, Illness Behavior

Observe - Hygiene Practices

Wearing? when?

- When you were out, who take care of your child / out with you?
- * How the child care taker prepare food for your child?
- Where's the playground? How many bath/day?
- How many time for hair shampooing / day? nail cleaning? (from observation).
- * - Where defecation? What action follow defecation?
- If any sickness?
 - 1.1. cold fever, cough → what action?
 - (in sequential steps)
 - 1.2 high fever, convulsion → what action?
 - 1.3. diarrhea → what action?
- ... do you think of any relationship among diarrhea & wt loss?
- * → Do what's the normal growth characteristics of the baby?
- What's the characteristics of a normal healthy child?
- Do you wash your hand before cooking? (observe)
- Any different for caretaking & food cooking for your child when
 - he is healthy
 - he is sick
 - he refuses to have food.

10.7. Any advice for feeding status? Who to whom?

10.8. Any referring? Who to whom? (for 2; 3)

11. From the latest weighing, did you know the nutritional status?

* 12. If any of your child in 2; 3 PEM, any advice received from the officers? What? How?

~~13.~~

The following questions, show G-C during interviewing

* 11. Any improvement of the nutritional status (3rd → 2nd or 2nd → 1st), how did you produce it?

* 12. Any worsening of the nutritional status, what happened? How did you feel?

Advice for interviewer

The following questions are for mothers who have regular weaning children

* 13. Show the OC.

ask the mother, ^{**} what happened during A, B? what causes?
what feeling?

14. If the weight has been increasing all the time, but still in
1° PEM, ^{**} How did you feel? Any action for improvement? ^{How?}
_{Why?}

5. Participation in other nutrition actions

Why 1. Any of these activities in your village?

Activities

- | | |
|---|--|
| 1. Supplementary food production & distribution | } - yes/no
- when started
- present situation
- who did & maintain? |
| 2. Feeding Station | |
| 3. Nutrition Fund | |
| 4. Nutrition Education | |
| 5. Food and demonstration | |

2. Are you involve in ^{receiving} ~~receiving~~ supplementary food

- sharing in nutrition Fund
- buying supp. food from ^{Fund} that food
- involve in supp. food production
- participate in food demonstration

* if participate? how much to what extent? why? when started
if not? why?

3. Are you Nutrition Fund Committee ^{member} ~~members~~? What position?
4. Are you mother groups member, when did you received training?
Any community activities?

b. Nutrition Promotion by VHV, VHC, T#O

- Any VHV, VHC ~~also~~ participate in weighing?
- Any advice, action given by VHV, VHC; mother, volunteers to your ~~malnourished~~ malnourished child, How, How often?
- ~~In normal child~~
If normal, any advice, action? ^{what if you get advice?}
^{also wanted it?}
- Any home visit? How frequent? What activities during home visit? (for 2, 3rd PFT only)

ANNEX II

THESAURUS FOR OPERATIONS RESEARCH:
COMMUNITY HEALTH WORKER SUB-SYSTEM

GROWTH PROMOTION

Activities at Community Level and at Clinic Level

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International Nutrition Unit (LTS/OIH)

January 10, 1986

COMMUNITY HEALTH WORKER SYSTEM SERVICE SUB-SYSTEM: GROWTH PROMOTION

A. Activities at the Community Level

<u>Activity</u>	<u>Task Definition</u>	<u>Performance Indicators</u>
1. Planning a strategy for growth promotion in the community.	<ol style="list-style-type: none"> 1. Information to leaders and the community at large and program promotion. 2. Identification of families or groups at risk of nutritional problems. 3. Schedule home visits and/or appointments for growth promotion to high & low risk families. 	<ul style="list-style-type: none"> - No. meetings with community leaders or groups for program promotion. - List and classification of families by risk. - Periodic scheduling of home visits and/or appointments.
2. Home visiting and registration of families and children in the community.	<ol style="list-style-type: none"> 1. Home visits to families with children under 3-5 years. 2. Registration of children. 3. Assessment of nutritional risk. 4. Schedule for follow-up (home visits or rallies planned). 	<ul style="list-style-type: none"> - No. of families visited; enrolled. - No. of children registered. - No. of high-risk families and children enrolled. - No. of registration cards and appointments given.
3. Home visiting and registration of newborns, and new families and children arriving.	<ol style="list-style-type: none"> 1. Home visits to families with newborns. 2. Registration of newborns. 3. Home visits to new families arriving on the community. 4. Registration of new families and children. 	<ul style="list-style-type: none"> - No. of families with newborns visited. - No. of newborns registered over a specified period. - No. of new families visited over a specified period, e.g. yearly. - No. of new families and children enrolled over a given period, e.g. yearly.
4. Home visiting and/or "rallies" for implementation of growth promotion and other PHC activities (immunizations, ORT, etc).	<p>If home visiting:</p> <ol style="list-style-type: none"> 1. Visiting the family as scheduled and perform tasks 5 to 12. <p>If "rallies":</p> <ol style="list-style-type: none"> 1. Inform the community by all appropriate means on the scheduled date. 2. Once in the "rally", perform activities 5 to 12. 	<ul style="list-style-type: none"> - No. of families visited as compared to those registered, by risk category. - No. of information messages inviting to "rallies". - No. of "rallies" planned and actually performed in a given period.

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COMMUNITY HEALTH WORKER SYSTEM SERVICE SUB-SYSTEM: GROWTH PROMOTION

A. Activities at the Community Level (cont.)

<u>Activity</u>	<u>Task Definition</u>	<u>Performance Indicators</u>
5. Child's measurement with mother's participation.	<ol style="list-style-type: none"> 1. Have all equipment and materials ready for the home visiting or rally. 2. Ask the mother for the child's Road to Health Chart or other records, if pertinent. 3. Make sure that all necessary information has been recorded. 4. Check on child's age and record it (may need checking birth date again). 5. Jointly with the mother as either measurer or assistant, measure the child (weight, arm circumference, etc.) following established procedures. 	<ul style="list-style-type: none"> - Checklist of equipment and materials ready. - No. of "Road to Health" charts handed to mothers. - Completeness of the information in the "Road to Health" charts. - No. of charts with accurate age information, by source. - No. of children periodically measured. - Frequency distribution of measurements. - Proportion of children measured, by age and risk category. - Proportion of children under follow-up (successive measurements at specified intervals).
6. Registering the results of measurement, e.g. plotting the weight in "Road to Health" chart, if pertinent.	<ol style="list-style-type: none"> 1. With mother's participation, plot the weight value observed in the appropriate place of the "Road to Health" chart or have the mother plotting it under CHW supervision. If other anthropometry measurements, register them in the appropriate instrument. 2. If not the first measurement, draw the line between points to have a growth chart. 	<ul style="list-style-type: none"> - No. of mothers able to plot the weight value on the "Road to Health" chart. - Proportion of mothers actually plotting the values in the chart. - No. of "Road to Health" cards with proper drawing of a growth curve.
7. Interpreting the child's measurements and discussing the results with the mother.	<ol style="list-style-type: none"> 1. With mother's participation, define the growth status of the child according to established procedures for either single observations or change between successive measurements (growth line). If possible, review the long term growth pattern. 2. Discuss with the mother on the implications of the child's growth status and the reasons for any eventual growth failure. 	<ul style="list-style-type: none"> - time in - % of growth monitoring session where discussion on the growth status took place.

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COMMUNITY HEALTH WORKER SYSTEM SERVICE SUB-SYSTEM: GROWTH PROMOTION

A. Activities at the Community Level (cont.)

<u>Activity</u>	<u>Task Definition</u>	<u>Performance Indicators</u>
8. Providing health education and nutritional counseling.	<ol style="list-style-type: none"> 3. Find out about the child's health status over the preceding period, e.g. recent morbidity (diarrhea, measles, etc.), and about feeding pattern, particularly weaning practices and diet during and after illnesses. 4. Check on mother's compliance with previous recommendations. 1. Discuss with mother appropriate feeding practices according to child's age, growth status and current feeding pattern, particularly on weaning practices, with due consideration to the family's socioeconomic status and cultural context. 2. If pertinent, discuss on the need to continue breast-feeding for as long as possible (even during illnesses), with appropriate supplementation after 4-6 months. 3. Discuss means to increase awareness and involvement of other family members (father, other children) in child's care. 4. Discuss means to prevent diarrhea and infections, e.g. hygienic practices, immunizations, etc. 5. Discuss appropriate dietary management of illnesses, both during and after (convalescence period), emphasizing extra feeding (increased frequency and/or quantity) after diarrhea. 	<ul style="list-style-type: none"> - Proportion of "Road to Health" cards containing information on morbidity and feeding practices. - Proportion of mothers who complied. - Proportion of children measured whose mother's were given nutrition counseling, e.g. on how to improve current weaning practices. - Proportion of mothers of breast-fed children receiving advice and being advised on continued breast-feeding and appropriate supplementation. - No. of discussions to increase awareness and involvement. - No. of discussion on diarrhea and infection. - No. of discussions on dietary management.
9. Enrollment in food distribution programs, if pertinent.	<ol style="list-style-type: none"> 1. Depending upon availability of food programs, and the growth status of the child, and following established procedures, register or refer the child for food distribution programs. 2. Record any referral and follow the mother/child's participation in food distribution programs and continued growth monitoring. 	<ul style="list-style-type: none"> - % of malnourished children referred to and enrolled in food supplementation programs. - No. of referrals to food programs.

COMMUNITY HEALTH WORKER SYSTEM SERVICE SUB-SYSTEM: GROWTH PROMOTION

A. Activities at the Community Level (cont.)

<u>Activity</u>	<u>Task Definition</u>	<u>Performance Indicators</u>
10. Referral to upper levels of PHC system, if needed.	<ol style="list-style-type: none"> 1. If pertinent because of disease or severe malnutrition, and following established procedures, refer the child for special medical or other care. 2. Fill in referral form, if any, and record the referral in clinical records and/or other instruments. 3. Inform the mother about the need to continue growth monitoring. 4. Check on mother/child's attendance to the referral service and follow-up for feed back. 	<ul style="list-style-type: none"> - No. of sick or malnourished children referred for special care. - No. of referrals. - No. of mothers informed about continuity. - No. of referral cases seeking health care. - No. of referral cases actually attended.
11. Encourage periodic check-ups and give appointment according to risk status.	<ol style="list-style-type: none"> 1. Discuss with the mother on the importance of continued growth and health monitoring. 2. Set up an appointment for next visit and measurement session, and write the date down in the "Road to Health" card or other appointment card. 	<ul style="list-style-type: none"> - No. of discussions on continuity. - No. of appointments set up.
12. Register the growth promotion information on the appropriate instruments.	<ol style="list-style-type: none"> 1. Once the growth promotion session is over, register pertinent data on the established forms, e.g. daily tally sheets, summary records, etc. 2. Periodically review the daily records and check for completeness of the information. 3. Take note on additional actions required from observing the daily records and act accordingly (e.g. contact referral services, etc. 	<ul style="list-style-type: none"> - No. of summary records filled out with complete information. - No. of summary records with missing data. - No. of contacts with referral services.
13. Prepare periodic summary of the information.	<ol style="list-style-type: none"> 1. Transfer daily information to summary forms, as frequently as established in the norms. 2. Complete and review summarized forms. 	<ul style="list-style-type: none"> - No. of summary forms filled out. - Proportion of summary forms reviewed.

COMMUNITY HEALTH WORKER SYSTEM SERVICE SUB-SYSTEM: GROWTH PROMOTION

A. Activities at the Community Level (cont.)

Activity

Task Definition

Performance Indicators

	3. Estimate basic indicators e.g. coverage.	- No. of indicators estimated.
	4. Send summarized reports to upper levels of PHC System, as established.	- No. of reports sent.
14. Periodically discuss summary data with the community.	1. Prepare summary data for discussion with the community, e.g. summary tables of coverage, community growth chart, etc.	- No. of tables, charts prepared.
	2. Review summary data in group sessions with the community.	- No. of community meetings used to discuss summary data.
	3. Identify problems requiring attention.	
	4. Elicit community commitment to help in solving problems identified, e.g. how to increase coverage.	- No. of meetings held with community.
15. Discuss summary data and special problems or cases with the supervisor.	1. Review summary data with supervisors and discuss about coverage, effectiveness and problems requiring attention.	- No. of supervision visits used to review and discuss summary data on coverage, effectiveness and eventual problems.
	2. Take advantage of all supervision visits to discuss on special cases, problems, difficult situations, needs and advice.	- No. of supervision visits in which special cases, problems and difficulties were brought by the CHW for discussion.
16. Periodic self-evaluation assessment and refining strategy for growth promotion in the community.	1. Review of summary data and indicators of performance, coverage and effectiveness (yearly).	- No. of indicators reviewed.
	2. Re-orientation of strategy for growth promotion, if needed, and discussions with the community for support.	- No. of discussions with community.

COMMUNITY HEALTH WORKER SYSTEM SERVICE SUB-SYSTEM: GROWTH PROMOTION

B. Activities at the Clinic Level

<u>Activity</u>	<u>Task Definition</u>	<u>Performance Indicators</u>
1. Planning a strategy for growth promotion in the community.	<ol style="list-style-type: none"> 1. Information to leaders and the community at large and program promotion. 2. Identification of families or groups at risk of nutritional problems. 3. Schedule home visits for growth promotion to high risk families. 	<ul style="list-style-type: none"> - Type and number of communications with leaders and the community. - List and classification of families by risk. - Proportion of high risk families visited for growth promotion.
2. Registration of families and children for growth promotion.	<ol style="list-style-type: none"> 1. Registration of families and children attending the clinic. 2. Assessment of nutritional risk. 3. Schedule follow-up and give appointments. 	<ul style="list-style-type: none"> - % of families and children enrolled in growth promotion. - No. of high risk families and children enrolled. - No. of registration cards and appointments given.
3. Home visiting and registration of newborns.	<ol style="list-style-type: none"> 1. Through post-natal home visits of the MCH program, registration of newborns and appointment for growth promotion. 	<ul style="list-style-type: none"> - Proportion of newborn visited and enrolled in the program.
4. Home visiting of high risks to reinforce motivation and stress appointment for growth promotion.	<ol style="list-style-type: none"> 1. Repeating home visits to high risk families, particularly those failing to meet appointments. 2. Encourage them to participate in growth promotion and give appointments. 	<ul style="list-style-type: none"> - Proportion of repeated visits to high-risk families. - No. of registration cards and appointments given to high risk families through home visiting.
5-13, 15. Similar to activities at the community level.		

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ANNEX V

PERSONS CONTACTED

USAID/Bangkok

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