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RECONNAISSANCE VISIT - KINGDOM OF THAILAND

July 25-30, 1988

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Kingdom of Thailand

Strengthening Community-Based Growth Monitoring and Nutritional Surveillance in Primary Health Care

Report of Reconnaissance Visit July 25-30, 1988

EXECUTIVE SUMMARY

Scope of Work

At the request of USAID/Bangkok and the ANE Bureau, Claudia Fishman, Senior Technical Advisor for the Academy for Educational Development's (AED) Nutrition Communication Project, visited Thailand July 25-30, 1988. The original request to which this trip responded (ref cable: Bangkok 00729, 1/6/88) sought technical assistance for the Ministry of Health Nutrition Division (MOH-ND) in constructing a plan for "Phase III Model Refinement and Testing." Phase I and II were carried out as part of an A.I.D.-supported growth monitoring operations research program [See Zerfas and Teller June 1988 report, An Overview of Operations Research in Thailand].

The final Scope of Work emerged following an interchange between A.I.D./W, USAID/Bangkok and AED (ref cables: Bangkok 04810, State 080728, BK 14879, State 100513, BK 17168 and Nurick/Parlato/Koniz-Booher meeting 5/12/88). The consultant was asked to:

1. review the status of the A.I.D.-supported activity and prepare a summary of progress to date, and,
2. assess the potential role of the Nutrition Communication Project (NCP) in addressing the need for nutrition education messages and materials in support of growth monitoring and promotion.

Implementation

Time planned in country was brief, and further contracted due to government and national holidays. Fishman spent only three working days with the Nutrition Division and an additional day with relevant academic researchers at Mahidol University Public Health School and Nutrition Institute.

In general, A.I.D./W's objectives for the visit were not clearly understood. Both USAID/Bangkok and the Nutrition Division had anticipated technical assistance in developing strategies to be tested in the third phase of research. The consultant offered this assistance for half of the three day visit. In the remaining time, she interviewed the researchers, excluding Dr. Chawalit Suntikitrungruang (the MOH-ND Principal Investigator, who was in Singapore for a year's training) about the project's results and current status. The report of Phase II activities had just been prepared in Thai the day before the consultant arrived. Major findings from this report were translated during the visit. (Appendix A)

Hence, Fishman was not in a position to perform a comprehensive progress review (SOW Part 1), as this would have required working with a final document from the MOH; or a longer period of time in country, field site visits, and ideally, interviews with regional nutritionists. Comments made here are based on what Fishman was told about the project by key Ministry and academic implementors in Thailand, as well as in Washington by Drs. Zerfas and Teller of LTS, who provided technical assistance to the Ministry of Health during the first two project phases.

Fishman was able to accomplish Part 2 of the SOW. She met the new Director of the Nutrition Division, Dr. Vallop Thaineua, and discussed his priorities for nutrition program implementation. It is clear that the Nutrition Division has a firm grasp of the problems inherent in growth monitoring and promotion in Thailand. They are requesting continued technical assistance to develop and implement the solutions nationally.

Next Steps

USAID/Bangkok (Narintr Tima) has requested that LTS and/or the Nutrition Communication Project provide assistance, and that the ANE Bureau contribute funding to this end. Specifically, Narintr has requested that LTS and/or AED:

- o Prepare a summary report that outlines the critical elements for the last phase of GM/P solution testing (or Phase III), and suggests how these elements could be incorporated in the Thai PHC system.

Then, if requested by the Royal Thai Government, NCP (which includes the collaboration of LTS) could:

- o help organize an in-country workshop to generate recommendations from academic researchers and MOH program implementors;
- o assist the MOH in reviewing these recommendations and finalizing an implementation and evaluation plan; and,

- o provide assistance for actual implementation.

In addition, it appears that the Nutrition Communication Project would be welcome to assist the MOH-ND in a communication development program in support of growth monitoring. Funding from the ANE Bureau or other sources would be required. UNICEF and Mahidol University have expressed their interest in collaborating in an NCP infant feeding communication project. This possibility would need to be explored in a subsequent visit, pending approval by the MOH, USAID/Bangkok and A.I.D./W.

I. RECONNAISSANCE VISIT FINDINGS

A. Community-Based Growth Monitoring in Primary Health Care: Program Status

1. Research Implementation

A.I.D. has provided technical assistance for a community-based growth monitoring operations research program to the Ministry of Health Nutrition Division (MOH-ND) since 1985. Dr. Chawalit Suntikitrunguang, Head of the Nutrition Division of the MOH, was the project's principal investigator. He was assisted by his staff at the Ministry (including Ms. Rachanee Mahathanakhun and Ms. Aree Limsirithong), scholars at Mahidol University Health Policy Studies Programs and the School of Public Health (primarily Ms. Valaithip Sachonvichan), as well as Drs. Fred Zervas and Charles Teller (International Nutrition Unit, LTS) from the United States. Funding for this technical assistance was provided by the ANE Bureau, USAID/Bangkok and S&T/N through an Office of International Health RSSA.

Below is a broad summary comparing the original project design to reports of what occurred, according to the Nutrition Division, MOH, and Zervas and Teller at LTS:

Pre-Research Phase

1983 1800 out of 40,000 A.I.D.-supported villages received extra training and provision of equipment (such as a manual grinder) for preparing weaning food multimixes from local sources.

PHASE I Baseline Assessment (Scheduled 1986-1987)

ORIGINAL DESIGN

1. Large sample assessment of the nutrition component of the Primary Health Care program to collect baseline program and epidemiological statistics, and identify villages where the program was implemented with success, as compared to where it was less successful. Criteria for success included percentage of village under five population who participated in weighing sessions (coverage) and prevalence of malnutrition.

2. In-depth study of sociocultural factors related to community and family participation in growth monitoring activities.

ACTIVITIES AS IMPLEMENTED

- 1986 162 villages (including 83 which received the extra support in 1983) were selected at random in four provinces in the North and Northeast Regions of Thailand. Survey and observation occurred in these villages following a set protocol. (See LTS Trip reports for January and October, 1986 and Chawalit Suntikitrungruang et al, Nutrition Division Research Report Series No. 1, 1987)
- 1987 Four villages (including three which received A.I.D. support in 1983) were studied using ethnographic methods (See Kanjana Sringeonyuang et al, Nutrition Division Research Report Series No. 1, 1988, Supplement 1: Case Study.

Phase II Program Research (Scheduled 1987-1988)

ORIGINAL DESIGN

Comparison of "Successful" v. "Less Successful" villages to seek elements for model community-based growth monitoring systems.

1. In-depth studies of health officers and mothers.
2. Search for causal factors related to reduced prevalence of malnutrition in "successful" villages.

ACTIVITIES AS IMPLEMENTED

- 1987 1. Indepth interviews conducted with health officers (Province, District and Tambon), health workers and mothers concerning decline in prevalence of malnutrition in "successful" villages.
2. Linked KAP survey on infant feeding of mothers and anthropometric measurements

of children. Total sample of 678 mother-child pairs from 23 villages in three provinces (Burilum, Khon Khaen and Uthaitani). For statistical analyses, villages grouped according to location and AID-assistance in 1983. Of 23 villages, 20 included in 1985 (Phase I) research. Grouping of villages by these criteria produced 13 clusters. Criteria for "success" or lack of success in GM program held stable from 1985 to 1987 in 10/13 clusters. (See LTS trip reports: Teller, August 1987; Zerfas, September 1987.)

Phase Three **Model Testing (Scheduled 1988-1989)**

ORIGINAL DESIGN

Development and testing of model strategies for growth monitoring and nutrition surveillance.

ACTIVITY AS IMPLEMENTED

1988 Pending Approval and funding

2. RESEARCH FINDINGS [1]

Results from Phase One research have been published by the Royal Thai Government, MOH Nutrition Division (see Sunti Kitrungruang et al, 1987) as well as in a series of reports submitted by LTS. Initial results for Phase II research are presented in Appendix A.

a. Nutritional Status

The quantitative survey (Referred to as Phase II, Part 2 above) was conducted with 678 mothers in three provinces. Using information from the trip report of A. Zerfas (September, 1987) and independent analyses, the Nutrition Division concluded that the major factors related to malnutrition in young children were as follows:

Family: low income, little savings,
household size over four

Maternal: poor reported health, no
antenatal care, few number of
hours spent caring for child

Child: fed under three times a day,
low birth weight, over one
year of age, incomplete
immunization

Maternal factors were found to be principally related to stunting (low height for age), whereas family and child factors were related to both stunting and wasting.

The quantitative analysis was complicated by some unforeseen circumstances. Ms. Valaithip Sachonvichan, Faculty of Public Health, Mahidol University, commented on the selection of field sites:

[1] Dr. Fred Zerfas, LTS, assisted in preparing this section, based on interviews conducted with Dr. Vallop Thaineua, Director of the Nutrition Division, and his staff, including Ms. Rachanee and Ms. Aree. In addition, PRICOR consultant to the PHC Management Division, Dr. Pirisit, and Ms. Valaithip, Mahidol consultant to the Phase II research, contributed their insights. Dr. Chawalit, the Principal Investigator for the Operations Research Project, had begun a one year's leave in Singapore, and

was unavailable for comment. He had left some notes, which were reviewed with his staff, and are presented in Appendix B.

The Burilum sub-province (Tambon) borders Kampuchea. The people are Khmer speaking. During the course of the research, Cambodians would flee from Kampuchea and take up residence, then depart. Entire villages often moved as a result of border clashes. The lack of stability in this region is exemplified, according to Valaithip, by the absence of latrines--the village only sets up what can be moved quickly, hence, no latrines.

Because of this, results from this area require review and might not be included in the total study. However, initial results from the quantitative research reflect the differences these unusual conditions might suggest. Burilum had poorer economic status, less use of health services and more use of supplementary foods, more recent illness and later weaning than the other two provinces. On the other hand, Burilum did not differ significantly from the other provinces in terms of nutritional status, weighing attendance, and feeding practices/opinions of mothers.

b. Program Operations

The more descriptive part of the research (Phase II, Part 1 above) included interviews with Village Health Volunteers (VHVs) and "housewives" in 25 villages. Questions asked during Phase I were repeated (including, for example, frequency of weighing, use of beam balance, understanding of nutrition status on growth chart, the weighing procedure, mother's retention of the growth chart.) The operational findings are generally similar from Phase I to Phase II, although the Nutrition Division has noted progress in some areas, including:

- o increased comprehension on the part of volunteers in implementing activities;
- o more focus on target groups; and,

- o more village involvement with nutrition problems.

Further information is still required on the basic information and ethnographic report for the 25 villages. For example, Ms. Valaithip indicated that the Health Officer in one sampled Tambon in Khon Khaen accords very little priority to nutrition, being far more concerned with water and sanitation. An overall finding of the study is that village participation is related to the priority given nutrition activities (amidst an overwhelming array including immunization, ORT, family planning, and clean water) by the Tambon Health Officer. As a result, many village volunteers are not well trained in growth monitoring, nutrition education is not done, and in general, there is no apparent formal "nutrition intervention" to speak of to account for either the "success" or "lack of success" in this tambon. Hence this intervening variable can have an unmeasured effect on program impact.

c. Issues related to measurement

In Phase One, the ability of certain village volunteers to weigh children and plot their weight by age accurately was suspect. For example, combining reading, recording and plotting tasks, weighing errors of more than 0.2 Kg and age calculation and plotting errors of more than 2 months occurred 10% of the time. With the introduction of new scales, it is anticipated this will improve, as well as a reduction in the rate of "digital preference" and rounding that occurred in the past study. Independently trained measurers were used to collect anthropometric data during Phase Two. However, comparisons of these data to past sets--which are compiled from village health records showing inconsistencies--must be done very carefully. Assessments of change in nutritional status or other time- place-related comparisons using service growth information must proceed with caution.

Quantitative analyses have so far been unable to discriminate among factors influencing the "success" or "lack of success" of villages in the study (i.e., by reduction of malnutrition and improvement in program coverage). The completion of village-level analysis and the ethnographic study (both yet to be presented by the Nutrition Division) will help this appraisal.

3. Nutrition Division Recommendations for Program Implementation/ "Phase Three"

From the study (Phase I and II combined,) the Nutrition Division recognizes the following weaknesses of the Nutrition in PHC Program:

- o Instrumentation - use of the growth chart, particularly for age calculation
- o Lack of understanding of nutrition activities by mothers and some Village Health Volunteers (VHV) and Village Health Communicators (VHC).
- o Lack of time, motivation and skills of the Tambon Health Center Officer (THO) for community preparation
- o Overall insufficient monitoring and supervision of the program.

They have suggested testing the following strategies during the next program phase, including:

- Increased and improved training of both VHVs and THOs;
- Simplifying the instrument (growth chart) and process of weighing and plotting;
- using an "at-risk approach", based on low birth weight, current age and nutritional status; and,
- supplementary feeding, via a "Revolving Fund", "Coupon System" and/or

food distribution through
VHVs.

An important step that must be taken prior to implementation is to determine the specific purposes of GM/P: screening, education, health jurisdiction and coordination and/or surveillance. This will dictate the methods and use of GM/P for each purpose.

As has been stated in previous reports on community-based growth monitoring in Thailand (Teller and Zerfas 1985-1988), the Thai case could provide a model for community-based growth promotion. While this would be valuable for the region (where Indonesia and the Philippines also produce exemplary results), it would be even more useful for countries sharing similar organizational constraints, such as: sub-provincial level health management, multiple cultural and ecological differences and village volunteer staff. In a relatively few years (1985-1988), the Thais have diagnosed most of the ills in a complex system. Many other countries (with the characteristics elucidated above) are just starting to set up GM/P systems and could avoid making costly mistakes if the Thai experience were available as a model.

In addition, Thai growth monitoring relies on community input and participation on many levels. In this regard, its success in building community awareness of children's weight gain, and directing community resources towards children failing to thrive is commendable.

B. POTENTIAL ROLE OF THE NUTRITION COMMUNICATION PROJECT TO HELP DEVELOP MESSAGES AND MATERIALS IN SUPPORT OF GROWTH MONITORING AND PROMOTION

Based on the presentation of the Phase Two Research findings, Fishman concluded that many of the GM/P problems encountered by the Ministry are related to staffing: Staff are too few, insufficiently trained, motivated, supervised, and given very little time to accomplish all their work. While problems fall within the domain of "equipment/staffing/training", one immediately actionable solution is to reduce the burden on this weak link in the system and improve nutrition education and communication.

The in-depth material generated by the Phase I and II research is more than adequate to begin developing culturally appropriate materials and messages on infant feeding. The KAP surveys could provide limited, but useful baseline data for monitoring program effectiveness. The Nutrition Division's own Education Materials staff as well as researchers at Mahidol University (Faculty of

Public Health and Nutrition Institute) have developed and tested a number of resources for improving nutrition education and the promotion component of GM/P. With the consent of the MOH, these materials and concepts could be integrated into the last phase of GM/P operations research--or put differently--program implementation in Thailand.

1. GM/P Communication Needs and Suggested Interventions

The consultant was not able to visit any field sites where growth monitoring is taking place. The following program issues are based on a review of the findings from the Phase Two independent research, research conducted by PRICOR, and discussions with MOH and Mahidol personnel. The recommendations were discussed with Dr. Vallop and his staff.

- a. At best, limited nutrition education is done by Village Health Volunteers (VHVs) or Village Health Communicators (VHCs) after weighing, although "nutrition education campaigns" occur in at least half the villages.

Suggestion

Use of posters, audio cassettes broadcast over the village public address system, leaflets or other village-based visual aids need to be developed to reach those not in contact with VHVs, and to enrich the information coming from them. In addition, improved orientation and training is required for VHVs during the weighing session.

- b. VHVs appear to have difficulty determining the age of children over one year brought for weighing. If they are to plot weight according to age on a growth chart, they must determine this within a two-month margin for the chart to be accurate.

Suggestion

A simple, perhaps province-specific calendar tied to events (Rice planing, harvesting, rains, Buddhist lent, etc.) might be developed to assist in determining ages of

children being measured. Ms. Valaithip Sachonvichan, who supervised the qualitative research during Phase II, believes there is sufficient material from their research to develop model calendars of this type. Also, Peace Corps Volunteers normally develop village calendars within days of assuming their posts, so there should be an ample supply of examples to simplify calculating age.

- c. Errors in weighing are frequent, and the process is complicated by the fear that some children have of the scales and the desire of parents to hasten the procedure.

This problem has been partially solved by introduction of new scales which limit the extent of rounding error.

Suggestion

It may be more practical to reduce the number of weighings performed in a village to the following schedule:

<u>Age</u>	<u>Frequency</u>
Birth	
0-3 months	Once
3-24 months	Monthly or bimonthly
> 24 months:	
2,3 degree	Monthly
Normal, 1	Twice yearly

Alternatives to scales have also been proposed for measuring children. Researchers at Chulalongkorn University have suggested using height and circumference measurements, analyzed using a calculation "wheel". However this requires three measurements (instead of one), which includes height--a difficult measure to assess accurately under field conditions.

- d. Only one in four mothers retains the growth chart, and a smaller percentage understands the colored weight-for-age nutritional status category. However, two thirds of the mothers understand the concept of weight gain and its numeric representation. It can be stated that the growth chart is not an effective educational tool in its current use. The chart also often requires considerable time to complete (mainly due to age calculation problems) and is therefore not an efficient assessment tool.

Suggestion

A decision must be made as to the purpose of the growth chart, and it must be redesigned to suit that purpose.

IF its primary purpose is to monitor changes in individual child growth, and its primary user is the health worker, then it should be easier for health workers to fill in. Regional nutritionists who participated in the Phase II research suggested that a simplified growth chart with fewer lines, or even just one line separating "normal from abnormal" was desired. The use of charts with "bubbles" of 100 grams may be easier for unskilled health workers to fill out than cross-hairs of a grid.

A simplified measurement system and recording system must be found to make screening and follow-up of children easier for health volunteers. In this case, the MOH-ND has selected nutritional status, but they might want to reconsider using this indicator.

An alternative graphic approach might be required to explain the weight concept to mothers. Ms. Valaithip, again, suggested that mothers perceive change in weight of their children by carrying them, or by the loosening and tightening of their clothing.

In sum, an alternative to growth charts should be explored to explain weight change to mothers and to enhance nutrition and health education. If it is

determined that growth charts are inappropriate for communicating with mothers, an alternative tracking system (perhaps one based solely on number grids that does not require plotting points) that will simplify record keeping and transfer at the Tambon level, could be developed.

e. Training and Management

The MOH needs to reassess the PHC network with particular emphasis on the village volunteer system concerning training, retraining, supervision and support.

Suggestion

The Nutrition Division needs to consider how to balance the current emphasis on measuring and quantifying growth with time and manpower spent in counseling and nutrition education. Training of qualified health paraprofessionals can follow, or a new curriculum can be developed for volunteer staff.

The PRICOR manual on alternative strategies for training health workers suggests four models that might be evaluated in the next phase of the program. A decentralized system, which integrates management at the MOH and provincial level is recommended. (See Appendix C for more details.)

A draft management model presented to the Nutrition Division for consideration appears below.

2. Management Model

National Health Objectives: (E.g. Eradicate 3rd degree malnutrition, decrease 2nd and 1st degree by 1990.)

	CENTRAL (MOH)	REGIONAL
Population Targets	By Region and Province	By District, Tambon Village
Success Indicators	Process Measures Data	Behavioral Objectives Micro data collection & analysis
Strategies for reaching goals	Guidelines	Implementation Plans Small system-- roll out gradually
o Training	Down to Provincial Trainers	Down to PHC worker
o Curriculum	Model-in main language	Grass roots input to make appropriate for local health workers
o Materials for mothers	Model-main points & behavioral objectives	Adopted for local conditions
o Mass Communi- cations	Motivation Reinforcement	Reinforcement Instructional
o Supervision	Reach down to THO Radio	Community involved Village self- monitoring Reach up to THO
Evaluation	Surveillance every 5-10 years KAP tracking	Evaluate behavior change Annual review of health indicators

III. NEXT STEPS

Fishman met with the new Director of the Nutrition Division, Dr. Vallop Thaineua, to determine his priorities for nutrition program implementation. His apparent primary goal is to eliminate Grade III malnutrition [under 60% of Thai reference Weight-for age reported at under 1% prevalence], then tackle Grade II [under 75% reference, 5% prevalence], then Grade I [under 90% reference, 36% prevalence of 36%]. The growth monitoring system is currently used to screen children in need of additional nutrition services and prevention activities which include breastfeeding promotion, monitoring of high risk pregnancies and supplementary feeding for both pregnant women (to prevent low birth weight) and children.

Dr. Vallop stressed that First Degree malnutrition and prevention of normal children from becoming malnourished are in the third priority position in terms of allocation of the RTG budget. He is open to suggestions for how these groups can be reached cost effectively. The MOH initiated a Coupon Program in April 1988 which provides coupons worth 3 Baht (12 cents) each that can be exchanged for locally available foods such as eggs, cereal, supplementary foods, and other high quality foods (in theory). These foods are to be given to children identified as suffering from Third degree malnutrition this year, second and possibly first in the years to come. The potential impact of the coupons is unclear as 3 baht represents very limited purchasing power, for example; two eggs or .25 kilo of cereal. Moreover, families are allowed to use only one coupon a day which prevents purchase of meat, of fish or poultry (which are shown in the poster publicizing availability of coupons.)

Dr. Vallop's official position on nutrition was to be released August 18, 1988. He is anxious to see what Rachanee, Aree and collaborators (which may include Drs. Teller and Zerfas at LTS, the Nutrition Communication Project of A.I.D., Valaithip at the Faculty of Public Health and Dr. Sakorn at the Nutrition Institute of Mahidol) suggest. He will then decide whether to use all or parts of their proposal in program implementation. He may ask that researchers at Mahidol, Chulalongkorn or elsewhere evaluate these efforts, or contribute their insights to the program design at the outset. He says he is willing to adopt suggestions coming from the Phase II research in line with his stated priorities. With continued support from A.I.D., Thailand could focus some of its energy on making the preventive side of growth monitoring more efficient and effective. Without support, the MOH will need to devote most of its budget to curing severe malnutrition rather than preventing its onset.

In the debriefing, Narintr Tima stressed that USAID/Bangkok fully wants to continue assisting the MOH in improving the Primary

Health Care System pertaining to infant nutrition. There are no bilateral funds as Thailand is not a priority country for child survival. USAID/Bangkok seeks the support of the ANE Bureau for implementation funds and technical assistance from the Nutrition Communication Project and/or LTS through whatever funding mechanism is available (the Office of Nutrition, the ANE Bureau). According to Narintr, this is a critical time to collaborate with the Thai MOH, as the new Director of the Nutrition Division, Dr. Vallop, is considered more willing to consider options and collaborators (e.g. Thai Universities) than his predecessor.

An additional consideration is that University Research Corporation's (URC) PRICOR project has been conducting operations research on primary health care in Thailand, including growth monitoring. Dr. Pirasit (of Chulalongkorn) was a full-time consultant to the MOH for the past year. The PRICOR project has developed a systematic way of analyzing PHC administration and support (see Appendix C). Originally, these models would have been tested later this year. However, PRICOR has indicated that there are no more funds for this activity. USAID/Bangkok requested that elements of the PRICOR model testing plan, which are relevant to growth monitoring, be incorporated in to Phase III activities where possible. Pirasit will be available with the project for at least another four months. After that time, he will be at the university, but willing to cooperate in any way possible.

Narintr made the following requests for next steps:

1. Prepare a summary report that outlines the critical elements for Phase III and suggests how these elements could be implemented in the Thai PHC system. This should be done by Drs. Teller and Zerfas of LTS, as soon as possible and forwarded to USAID/Bangkok for release to Dr. Vallop at the MOH.
2. Organize a workshop to occur as the first step of the Phase III implementation plan. The workshop should bring together academic researchers, MOH program implementors (from Nutrition Education as well as Growth Monitoring), Dr. Chawalit (who would need to take leave from his program in Singapore), Regional Nutritionists and several interested Provincial level health officers to develop a set of recommendations to the MOH for continued GM/P activities.
3. The MOH, Nutrition Division, should receive technical assistance to develop an

implementation and evaluation plan following the recommendations of the workshop.

4. The MOH would need to make its desire for further technical assistance known. Dr. Vallop would need to select among consultants from the United States, local university-based consultants, or a combination of the two, or ask for no further assistance.

IV. Additional Opportunities and Resources for the Nutrition Communication Project

Ministry of Health

Fishman met with Natthira Thongbuasirilai, responsible for developing and distributing MOH nutrition education materials. The Ministry has produced and moved into circulation a dozen pamphlets on maternal and child nutrition, as well as one flip chart covering infant feeding. Six of these pamphlets are meant for Tambon Health Officers, and are thus high literacy. The materials meant for VHVs and mothers are less dependent upon text. The MOH is moving more towards using slides for nutrition education, and is producing a new flip chart with the support of UNICEF. None of the materials has been evaluated.

Faculty of Public Health, Mahidol

Community research, social marketing and innovative media design have all been undertaken and evaluated in the past five years by faculty members, such individuals as Dr. Somchai, who received an award for a social marketing campaign to increase breastfeeding in urban areas. Somchai's group has recently produced a flip chart to teach parents about toddler malnutrition. It is in the pilot testing phase now, and will be released to the MOH following evaluation and modification, if necessary.

Somchai has also laid the groundwork for a baseline assessment of urban weaning practices, and hopes to conduct this survey in the fall. In all three interventions, Dr. Somchai follows standard social marketing principles and methods, using focus groups for background research, pretesting messages and materials, pilot testing the prototypes and evaluating the results. He serves as a consultant in this capacity in the ASEAN region. He welcomes any ideas for collaboration that the Nutrition Communication Project could suggest, as he is pursuing

more or less the same set of interventions, but feels he could use periodic technical assistance and funding for implementation.

Nutrition Institute, Mahidol

Dr. Suttalak at the Nutrition Institute of Mahidol is responsible for a number of communication projects undertaken at the Institute in recent years. These have included such activities as developing audiotape nutrition education modules for the Northeast region, using village public address systems and taped messages, and using mobile video units to motivate appropriate introduction of solids. A report summarizing some of these projects and their evaluation is forthcoming. Dr. Suttalak received her masters' degree at Stanford University in communication, working under Dennis Foote. She also studied at the Food Research Institute at Stanford.

Three other researchers at the Institute, Drs. Aree, Sakorn and Emorn described their research activities and desire to collaborate with the Nutrition Communication Project, if possible. The Institute is participating in the Social Marketing of Vitamin A project with Manoff. In addition, Aree is responsible for Thailand's contribution to the comparative nutrition habits study being conducted by the University of California, Davis for ASEAN nations (under the direction of Dr. Ernesto Pollit).

The Nutrition Institute is developing a draft proposal awaiting approval by the MOH to evaluate elements of the Growth Monitoring System. One specific area is to compare the effect of targeted versus "universal" growth monitoring. In many ways, Dr. Sakorn and the Institute could provide the strategic guidance missing in the current management structure of Phase III activities.

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APPENDICES

- A Summary of Phase II Activities - Nutrition Division 1988
- B Model Testing for the Quality Improvement of Nutrition Division 1988, notes prepared by Dr. Chawalit
- C Summary Report - Design of Model for Decentralized Primary Health Care Planning and Management at the Provincial Level - Dr. Prakrom Vuthipongse, Ministry of Public Health, May 1988

Appendix A

Summary of Phase II Activities

Nutrition Division

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1. Nutritional Status and Maternal, Family and Child Factors

This summary presents top-line data from the second phase of research conducted by the Nutrition Division, with support from USAID. The quantitative research that preceded it (1986-1987) revealed a multitude of factors related to nutritional status. To explore the statistical association of these factors with wasting (weight/height) and stunting (height/age), a quantitative survey was conducted with 678 mothers in three provinces in 1987. The research team also collected anthropometric measurements of children whose mothers were interviewed. Fourteen variables were shown to be correlated with either stunting or wasting. Table I below summarizes the relationships:

TABLE 1

Association of family, maternal and child-related variables to wasting (wt/height) and stunting (ht/age) in three provinces of Thailand, 1987 [1].

B= Burilum province [2] K= Khon Khaen [3] U=Uthaitani

<u>Factor</u>	<u>WEIGHT/HEIGHT</u>			<u>HEIGHT/AGE</u>		
	<u>B</u>	<u>K</u>	<u>U</u>	<u>B</u>	<u>K</u>	<u>U</u>
1. Income (in Baht)	<10,000 p<.1	ns	ns	<5000 p<.05	<5000 p<.05	ns
2. Savings	ns	ns	ns	<1000 p<.05	<1000	ns
3. Reported Health of Child	p<.05	ns	p<.05	ns	p<.1	ns
4. Health of Mother	ns	ns	p<.05	p<.05	ns	ns
5. Feed child 3XDay	p<.1	p<.05	ns	ns	ns	p<.1
6. Child has problems eating	p<.05	ns	ns	ns	ns	ns
7. Other rec'd antenatal care	ns	ns	ns	ns	p</05	ns
8. Immunization (DPT)	ns	ns	ns	ns	p<.05	ns
9. Hours spent caring for child	ns	ns	ns	ns	p<.1	ns
10. Birthweight <2500g	p<.1	ns	p<.05	p<.1	p<.05	p<.05
11. Age of child >1 year	ns	ns	p<.05	p<.1	p<.05	p<.05
12. Family size > 4 people	p<.1	ns	ns	ns	ns	ns
13. Birth Order	ns	ns	ns	ns	ns	p<.1
14. Child does not eat supplements	p<.05	ns	ns	ns	ns	ns

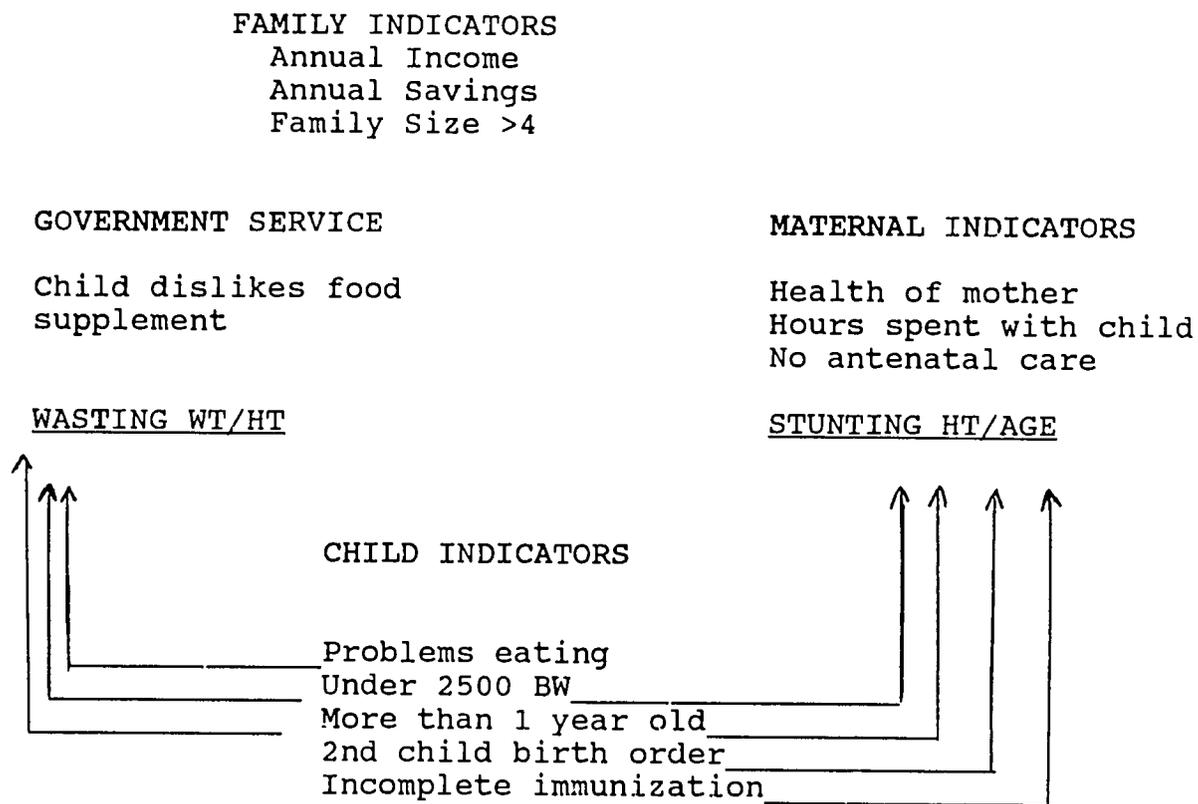
[1] Clean water and FP programs concurrent. These public health measures may have contributed to improved nutritional status.

[2] Burilum on Kampuchean border; population not stable.

[3] THO views nutrition as very low priority activity. Emphasizes water and sanitation.

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These variables have been combined into factors whose impact on stunting and wasting are modeled as shown below:



II. Comparison of the efficiency and effectiveness of the nutrition project in areas supported by USAID to non USAID-supported areas

There are no statistical differences in prevalence of stunting or wasting among research sites. Program efficiency does not appear to be associated with the presence or absence of USAID support. In Buriilum, where there were several Kampuchean border clashes, families located in USAID areas participated in the food supplement program more frequently.

Operations

A questionnaire was given to 50 respondents including Village Health Volunteers (VHVs) and 'housewives' (H) in 25 villages. Also data were collected from the "P101" form completed by Tambon Health Officers (THO). Results are summarized in Table 2 below:

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TABLE 2

1. Who makes appointment with mother	VHV	52%
	'Housewife' (H)	3%
	THO or personnel	45%
2. Total who come for weighing		87%
Total who do not come for weighing		13%
3. Of 13% who do not come, total who are visited at home by VHV		55%
Told to attend next session		13%
4. Who performs weighing	VHV or H	71%
	THO	29%
5. Conduct weighing every 3 months		87%
6. Use beam balance		90%
Children afraid of balance		42%
7. Hold village conference once/month		45%
Village Committee describes nutrition problems at Conf.		78%
VHV informs about problems		77%
8. Volunteers:		
Keep chart		45%
fill in P101 form themselves		51%
weigh every time		58%
know that nutritional status of child changes		97%
know if child's status improves		92%
knows if weight of child increases		94%
9. Parents:		
know result of weighing		74%
Keep growth chart		23%
10. Once nutrition problems assessed, how are they solved:		
Do more growth monitoring		90%
Volunteers visit at home		64%
Give nutrition education:		
VHV involved in campaign		58%
THO supervises		33%
11. Have nutrition fund		77%
Of these villages, use money to:		
Support supplementary food production		56%
Put money in bank		18%
Use to improve environment of village		11%
12. Have supplementary food production		77%

Distribute through sales	81%
Produce food every 3-4 months	31%
THO helps to produce	68%

3. DISCUSSION

Factors related to nutritional status of child.

The results support a previous study on psychosocial aspects of malnutrition (1988) and also Shan NPJ 1987, demonstrating that the economic status of the family accounts for most of the variability, and that income and savings are associated very clearly with children's nutritional status.

Mother's Attention to Children

The study found that attention of mothers to children is associated with nutritional status, but this factor is different from the psycho-social study which asked about mother's time. Hence, comparisons can not be made.

Children over one year of age

Chawalit (87) found that because mothers return to work normally after they stop breastfeeding at one year, and leave the child with an older child caretaker, most children stop being fed as frequently. The average age of a child 'caretaker' is 3-5 years.

Birthweight Birthweight under 2500 g and immunization gaps are important factors in nutritional status.

Government Service. There appears to be only one variable associated w/nutritional status: whether the child likes or dislikes the supplementary food. The supplementary food currently contains fish meal, previously it included beans. The weighing study shows no correlation of this new food with nutritional status compared to old food, though children seem to prefer the taste of the new food.

Comparing USAID and non-USAID Supported Areas

The difference between these two areas is not that great, largely due to direct government support of 50 % of Thai villages in the country's 5th Year Plan. All of the villages in non-USAID areas were covered by Thai government support.

The study found few differences between implementation of activities. Better cooking utensils for food demonstrations were

used in AID areas. The study also found greater distribution of supplementary food and participation in weighing in USAID areas.

Growth Monitoring and Nutritional Surveillance

Considerable progress has been made since the Phase I review in 1986-87.

1. The understanding of the Village Health Volunteer in implementing activities has increased;
2. There is increased monitoring of the target risk group
3. There is an increase in the introduction of nutrition problems to village conferences.

There are still several points requiring improvement:

1. 42% of the children are afraid of being weighed.
2. Only 23% of parents retain the growth chart

CONCLUSIONS

In primary health care, progress is made when people understand the nature of activities and participate voluntarily. Modifications in the program should be based on this principle.

1. Some factors, including family, mother and child-related variables and socioeconomic status can not be addressed by the growth monitoring program. It will require integration with other social sectors, and perhaps participation of the private sector, to solve these problems.
2. The nutrition program has problems and obstacles that remain to be solved. We need to improve the recording instrument to make gm/p more streamlined, and the means of measuring children so that the children will accept it better.
3. The management information system (MIS) needs to be improved.
4. We need to increase understanding and participation of the people in the program.

The relationship between these factors and growth retardation suggests the following programmatic modifications are in order:

1. Increase coverage of prenatal care;
2. Provide nutrition education to mother during prenatal visit;
3. Find means of increasing food purchasing power of household; and,
4. Follow children from one to two years carefully.

This brief summary of the top line data will be replaced by a full quantitative and ethnographic report.

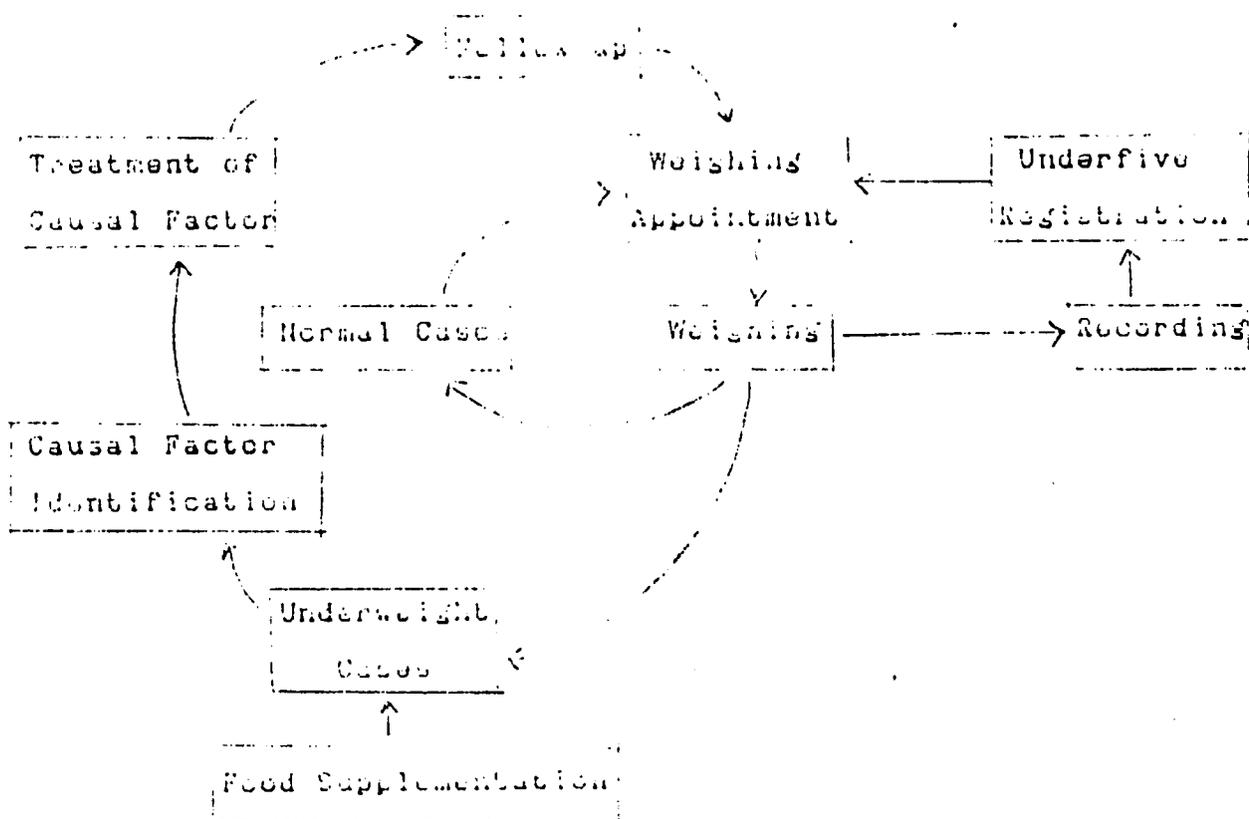
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Model testing for the quality improvement of Nutrition in PHC Programme.

Background & Rational

The Nutrition Programme in Thailand has utilized the PHC approach since 1976 (1). The programme has continuously trained and oriented village leaders together with village volunteers to be able to look after the growth of the underfives and take care of the underweight children. Community action diagramme was suggested to villagers as follow;

Diagramme 1 Community action diagramme of Nutrition in PHC Programme



Within the programme, a beam balanced scale, Growth charts and several nutritional education materials were given to the villagers. The growth chart is also an educational tool by itself in helping the mother to monitor the growth of her child.

2/1

After several years of implementation, coverage of villages and underfive have been found to be markedly increasing with a decreasing trend for the underweight group, details can be seen in Table 1.

Table 1 Result of the underfive weighing from 1982-1986.

	Village	Population	Nutrition Status			
			Normal	1 PEM	2 PEM	3 PEM
1982	-	1,000,000	49.21	35.68	13.00	2.13
1983	33,987	1,270,599	64.77	29.53	5.90	0.80
1984	34,375	1,540,100	70.67	24.95	4.20	0.27
1985	36,993	1,620,510	71.55	24.35	3.90	0.21
1986	52,030	2,277,509	74.91	21.84	3.12	0.13
1987	55,231	2,200,520	76.56	20.94	2.43	0.06

Source; Nutrition Division Weighing Report (2;3)

However, a national survey in 1986 carried out by the Nutrition Division and Mahidol University revealed a higher prevalence of 2 and 3 PEM from a sampling population in each region, comparative figures are shown in Table 2.

Table 2 Prevalence of underweight from National Survey and Community Weighing Report (4).

Region	Nutritional Status					
	National Survey (%)			Community Weighing Report (%)		
	Normal	1PEM	2+3PEM	Normal	1PEM	2+3PEM
Northeastern	55.5	39.5	9.0	66.98	28.32	4.7
Northern	57.8	42.2	6.0	76.72	20.55	2.74
Central	73.7	24.2	2.1	90.23	9.25	0.52
Eastern	-	-	-	85.50	12.93	1.57
Southern	59.0	36.3	4.2	76.07	20.84	3.09
Total	59.3	36.4	5.3	74.91	21.84	3.25

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Several studies (5,6,7) also revealed weakness being existed in the Nutrition in PHC Programme. The weaknesses can be listed as follows;

1. The inappropriateness of the instruments.

The growth chart is difficult to be used for a major portion of the villagers especially for the calculative of the age of the children.

2. The lack of understanding for nutrition activities at the community and household level.

The mothers and some volunteers are found to have very little understanding of the purpose of child weighing, growth charts were found to give to only 10% of the mothers in one of the province in Northeastern Region. During the weighing session, the growth monitoring cycle in diagramme 1 has not been completed in the step of actions towards the underweights.

3. The weak community preparation, supervision and monitoring system.

The health center workers were always lacking time and skills in doing community preparation before and during the programme implementation. The supervision and monitoring system were also found to be infrequent and inadequate.

To strengthen the existing Nutrition in PHC Programme, several alternative approaches are invented and need to be urgently tested to be able to use in the present 6th National Economic and Social Development Plan.

Radio
Cassettes
+ posters

3 of
volunteers
who remain

radio
training
course.

pa system
+ cassettes
or -
radio
broadcast
region.

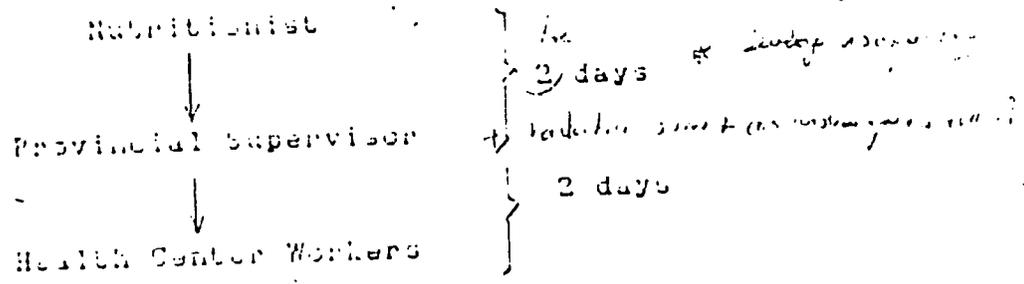
Alternative Strategy

1. Strengthening of the skills and conceptual thinking of the Health Center

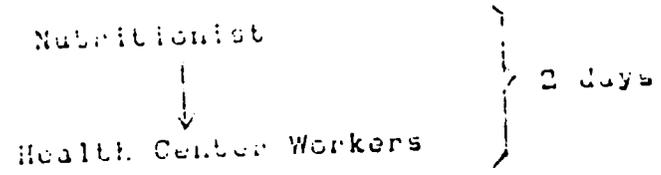
Workers; Weighing, interpreting, consulting, community preparation, supervision and monitoring.

Alternative 1: existing refresher training through PHC programme.

Alternative 2: through special training for the trainer programme.



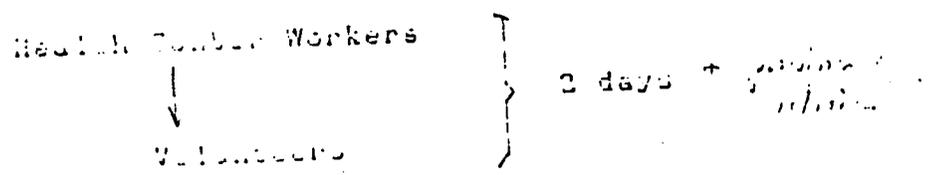
Alternative 3: Direct training of Health Center workers.



2. Strengthening of the skills of village nutrition volunteers (VNV):

Alternative 1: any training.

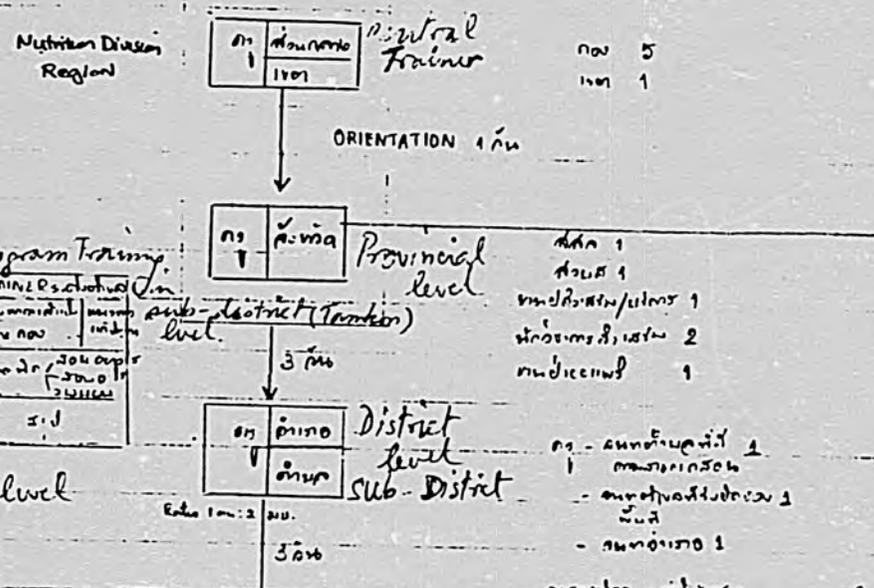
Alternative 2: Health Center Workers train the volunteers.



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PHASE 2



Schedule of Program Training

Week	Topic	Trainer	Location
1	Introduction	Nov 1	Nov 1
2	Introduction	Nov 1	Nov 1
3

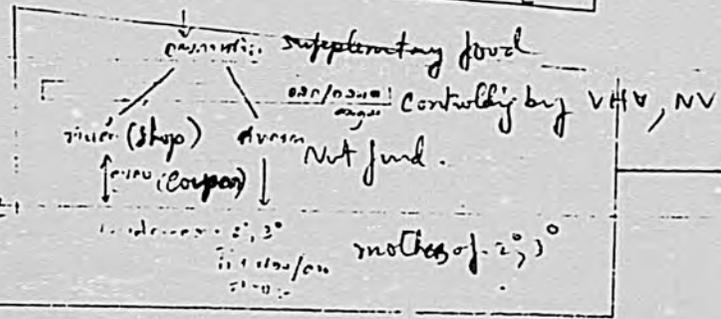
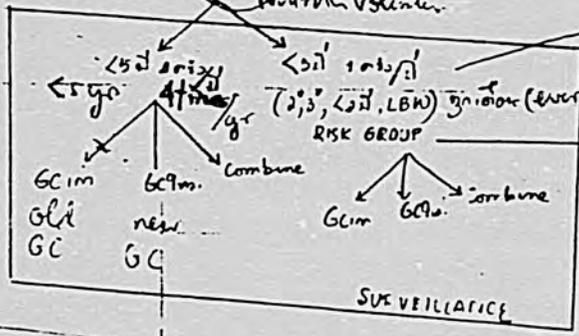
Schedule of Program for Village level

Day	Activity
1	...
2	...
3	...

Leader
VHV VHC

VHV VHC
Nutrition Volunteer

Family Planning Volunteer



what is the appropriate outlet for village

1. Environment Develop environment (Budget)

2 own - ...
Training cost ...
 200 x 100 ...
 200 x 15 x 240 = 7200
 100 x 15 x 240 = 3600
 100 x 15 x 200 = 3000

Perdi for Provincial Trainer
 (200 \$ + transport)

Perdi for Trainer at Tambon level

Perdi for Volunteer

3 supervise ...

4 on 9 days ...

5 Referral cost (transport of 3° → hospital)

6 GCn New GC cards

7 compare ...

Evaluation

food demonstration
 4 times/yr
 by Volunteer

1. Some don't want to achieve ...
 2. Bar-line survey
 3. Random Sample of weighing ...
 4. Success of Implementation ...
 5. CAP measurement

SUMMARY REPORT

Design of a Model for Decentralized Primary Health Care Planning and Management at the Provincial Level.

Dr. Prakrom Vuthipongse*

Background

In carrying out its primary health care (PHC) needs assessment during March to August, 1986, the joint MOPH/PRICOR team identified five significant operational problems in the delivery of PHC services. These five problems can be summarized as follows:

- 1) Centralized planning, programming and administration. Key decisions about the programs that will be conducted, the resources that will be allocated to them, and the targets that will be set for provincial activities are all made at the central level. Decisions about provincial personnel and staffing patterns are also made at the central level. Thus, the provinces, let alone the communities, have little control over the determination of which PHC services will be provided and how. Need for services is not determined locally but at the central level.
- 2) Standardization of programs. Centrally-developed programs are often imposed upon all provinces, regardless of need. This standardized approach to program planning has resulted in misallocation of resources, occasionally with ludicrous results (e.g., the continued annual issuance of poison for stray dogs to provinces without any strays).
- 3) Vertical structure and independence of programs. The vertical structure of PHC service delivery often leads to competition among programs for the time and attention of provincial, district and tambon level personnel, coordination problems, and excessive paperwork. For example, VHVs are often approached by various MOPH departments to work on their programs and by other ministries to work on theirs. Tambon health workers spend over 25% of their time on reporting.
- 4) Target-setting and reporting. Targets set at the central level are typically based on input or output targets (e.g., the number of health education visits to schools, number of patients treated for a particular disease) rather than health care effects (behavior: use of ORS) or impacts (reduction in incidence of tetanus). Such targets are seen as necessary to justify budget requests, however, they result in local level targets that are unrelated to health needs and priorities.

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5) Resource Allocation. Health resource allocation is heavily biased in favor of curative services. This results in a disproportionate share of health resources being invested in provincial and district hospitals. The effect is that the public increasingly bypasses less expensive health centers for more expensive hospitals, and there is less emphasis on preventing illness and promoting health, than on costly curative care.

Methodology

This study will be limited to problem analysis. The objective is to examine the current PHC service system which is also divided into three inter-related sub-systems, namely: service delivery, utilization and demand, and supporting systems. Both quantitative and qualitative approaches are utilized to analyze the situation regarding PHC management and performance.

Under the system analysis scheme, this study is divided into two parts: A macro and micro analysis. The macro analysis started with a review of related literature and documents then proceeded to the analysis of service statistics and secondary data. It concluded with interviews and private discussion with administrators or managers from various divisions and departments that are related to the PHC program.

The micro-level analysis focussed on the actual provision of PHC serves in Srisaket, a province with population size of 1.2 million. In Srisaket, three surveys were conducted with the dual purposes of both collecting baseline data and sorting and sifting out problems that needed to be corrected. These three surveys are the survey of mothers with children under two years, the survey of community key leaders and the rapid survey of family planning and MCH status. The data from the surveys were supplemented by the qualitative data from the group discussions of district health officers and directors of district hospitals, and from the group discussion with the chiefs of all sections in the Provincial Chief Medical Office. Data from in-depth interviews of the Chief of the District Health Offices, tambol health workers and village health volunteers added more richness to the qualitative data. Moreover, observation of service delivery performance and role play of some key events helped the research team in comprehending the PHC system and its problems.

Scope of Study

Special attention was paid to the PHC interventions that are the core set of child survival services. These include nutrition and growth monitoring, water and sanitation, diarrhea disease control and oral rehydration therapy, immunization, family planning and maternal and child health.

Findings

Results from the study are presented in two parts: macro and micro. At the macro level, the results are presented in two parts: national and provincial level which draw exclusively from the review of service statistics in Srisaket. The findings from the micro study are presented after the review of national and provincial findings.

A. Services at the National Level - (Macro)

1. Nutrition and growth monitoring

Data at the national level show significant improvement in the nutrition status of children. Protein and calorie deficiency at the second and third degrees declined substantially over time. Among children age five and under, the percentage of second and third degree malnutrition declined from 15.3 in 1982 to only 3.6 in 1985. The MOPH has set the goal to reduce the rate of second and third degree malnutrition to not more than two percent by 1991. The data for the trend of nutrition improvement are shown in Table 1. Readers should note that results from the situation analysis at the national level are presented only at the two sub-systems, i.e., the problems of the service receivers and of the service providers.

Nutritional Status	% of children weighed			
	1982	1983	1984	1985
Normal	47.0	64.8	70.7	73.7
1st degree malnutrition	37.7	28.5	24.8	23.1
2nd degree malnutrition	13.1	5.9	4.2	3.5
3rd degree malnutrition	2.2	0.8	0.3	0.1

Problems among the receivers It was found that, despite the overall improvement, regional variation still exists and that the northeast region in particular is still plagued by the high rate of malnutrition. The supplemental food recipes which were invented by the Nutrition Division and usually prepared by the VHVs or health workers were not popular due to taste and lack of compatibility with diet habits of the rural population in different regions.

The majority of mothers with children under five years still lacked a clear understanding of the goal and activities of the nutrition program. Their knowledge of nutrition and growth monitoring of their children is at a very minimal level. They only act according to what they have been told to do.

There were also problems with the establishment of nutrition funds. Only about 25% of the target figure was achieved. Moreover, among those funds established, many were not fully functional. The main reason for this is conflict with ideas of welfare and the free food given to those who are malnourished. Mothers whose children were normal were not interested in patronizing the nutrition fund. This led to eventual collapse of the funds.

Problems among the service providers. There is a lack of proper and good coordination between the Nutrition Division and the Agricultural Extension Division of the Ministry of Agriculture and Cooperatives, particularly in the plans for crops and soybean plantations. Promotion of better production could lead to a higher consumption of protein.

Many reports indicated that volunteers and health workers are ready to cooperate with the Nutrition Division. The problem

lies more with the mothers who indicated lack of basic knowledge of nutrition and the food supplement program.

Data from weighing of children seemed to vary very much and is unreliable.

The nutrition program should aim to gain more wide utilization through better audio-visual aids in the health education program.

The nutrition program overemphasizes the treatment aspect without adequate consideration of carefully planning.

2. Water and Sanitation

The coverage of the water and sanitation program has gradually improved over time. Statistics indicate that the percentage of households with potable water increased from 32 percent in 1982 to 54 percent in 1983, 62 percent in 1984 and to 66 percent in 1985. Similarly, the percentage of households with sanitary latrines increased from 42 percent in 1982 to 44 percent, 45 percent and 47 percent in 1983, 1984 and 1985 respectively.

Problems among the receivers Among the significant problems found are the following.

There has been more concern about water source than with potable water per se.

While the percentage of sanitary households increased it is more the result of exposure to these conditions when working in large cities. There is no increased knowledge of disease prevention.

Many villagers are still accustomed to old ways of living and prefer to maintain them.

Water filters are still not common and are considered a luxury.

Although sanitation funds have been set up, the poverty of the villagers make it difficult to pay back loans. This slows down the ability of the fund to serve other needy households.

Problems among the service providers. The personnel for water and sanitation are still too few. The VHV did not contribute and participate much in these activities.

The installation and maintenance of water pumps requires some special technical skills that are not locally available. Often the technology is not appropriate for the village.

The campaign by the Ministry of Interior for water jars (capacity 1,000 liters) creates the problem of increasing the breeding places for mosquitos.

The IEC program, particularly the use of radio, TV and posters should be tested first and evaluated for effectiveness and impact before being used on a wide scale.

3. Diarrheal Disease control and Oral Rehydration Therapy

General assessment of the incidence of diarrhea is difficult. Reported cases of diarrhea are more likely to be those who have contact with a health center or hospital for treatment. Those who do not contact the health outlets are undercounted. Therefore, reliable data regarding the incidence of diarrhea are not available and are omitted from the analysis at the macro level. Trying to assess the situation regarding the

use of oral rehydration salts from the service statistics may also be subject to bias. Service statistics do not usually include private contributions and shares. In addition, the calculation of ORS use based on those who sought treatment from a government outlet may overestimate the use rate because those who did not come for service may have lower use rates. Nevertheless, the analysis of macro data showed that the use of ORS was still far below the target figure. In 1984 only 2.9 percent of the target was achieved. In 1985, the achievement increased to 7.9% reflecting serious problems with the ORS program.

Problems with the receivers. The basic problem here is lack of knowledge about the use of ORS. There should be more IEC activities given to increase the knowledge about the benefits and how to prepare the ORS.

Problems among the service providers There is not enough ORS distributed by the Government Pharmaceutical Organization.

Unnecessary antibiotics are prescribed for diarrhea.

Health workers do not understand the benefit of homemade solutions of ORS.

There is a lack of reliable data for planning and evaluation.

Infrequent training and demonstration of ORS use. More should be given at suitable times for villagers.

ORS does not have good flavor.

More attention should be given to the expiration date of ORS.

More restrictions should be imposed on the amount and use directions of the ORS produced by commercial firms.

4. Immunization

Trends of the EPI program in Thailand over the four-year period from 1982 to 1985 are shown in Table 2.

Problems among the service receivers The sporadic incidence of whooping cough in various parts of Thailand may serve as an indicator of how the EPI program is performing.

Problems among the service providers There is a great drop in coverage for the second and third doses of DPT and OPV.

The percentage coverage of pregnant women who have been immunized with tetanus toxoid is still low.

The poor cold chain system in transporting and keeping the vaccines cause many of the doses to lose their potency. Many health centers still do not have a refrigerator.

There are no data for analysis and management information, making it very difficult for recruiting new cases and following up.

The health workers do not observe the EPI schedules of giving vaccines to children who are almost always older than the targeted age.

Vaccine	% coverage			
	1982	1983	1984	1985
BCG	73.0	74.6	75.7	79.6
DTP (3 doses)	21.0	47.6	53.3	62.0
OPV (3 doses)	34.0	45.7	52.7	62.7
Measles	-	-	5.9	29.1
IT	30.1	34.6	35.8	42.6

5. Family Planning

Family planning is generally successful and has exceeded targets over the years.

Service receivers Villagers do not prefer to obtain services from the local VHVs who can resupply the pill. Instead they prefer to use the local health center or district hospital. Underserved groups remaining in Thailand are hilltribes, the very poor and urban slum dwellers.

Service providers IUD and injectable services need increased training and support to improve quality. Staff spend less time for family planning than they used to. The most cost-effective outlet for family planning services has now become the district hospital.

6. Maternal and Child Health Care

MCH services have generally good coverage and has exceeded targets over the years.

Service receivers Despite good MCH coverage the IMR in some areas is still high. Low birthweight infants are still prevalent in Thailand. Knowledge of modern MCH practices is high but women still prefer traditional practices in many areas.

Service providers Traditional birth attendants and village volunteers are undertrained. Motivational techniques for ANC behavior is still inadequate. There is a need for greater promotion of use of MOPH outlets.

B. Services at the Provincial Level - (Micro)

1. Nutrition

Malnutrition is declining in Srisaket as the table below demonstrates:

Nutritional status	% of Under Fives			
	1982	1983	1984	1985
Normal	34.9	50.3	60.5	60.9
First degree PEM	43.9	39.3	33.6	32.9
Second degree PEM	18.5	9.6	6.1	5.9
Third degree PEM	2.7	0.8	0.1	0.2

In 1986 100% of village volunteers were trained in the nutrition program. In the same year 78% of target age children were weighed.

2. Water and Sanitation in Srisaket

The achievement of this program is portrayed in the following table:

Item	% Achievement of target				
	1982	1983	1984	1985	1986
Clean water source	10.59	58.95	71.35	85.19	77.11*
Sanitary latrine	22.67	24.86	25.80	27.69	27.70

* Change Population

The water and sanitation program lacks promotional support and public awareness.

3. Control of Diarrheal Diseases and Oral Rehydration Therapy

The achievement of this program in providing oral rehydration to under fives during the four years from 1983 to 1986 were 15%, 17%, 21% and 13% of the target. Among children over five the corresponding target achievement in delivering ORS was 26%, 31%, 162% and 192% respectively. Better understanding of ORT among parents of the latter group may account for the superior achievement.

4. Immunization in Srisaket

Achievement of immunization target coverage is presented below:

Vaccine	% Coverage	
	1985	1986
BCG	79.83	80.71
DTP 3 doses	63.58	63.24
OPV 3 doses	61.98	61.37
Measles	31.78	35.53
TT 2 doses	36.70	36.38

Lack of supplies and insufficient public awareness has prevented this program from greater achievement.

5. Family Planning in Srisaket

As already mentioned, family planning has experienced higher achievement than in other areas of PHC in Thailand and this is also true for Srisaket.

Method	% Achievement of target				
	1982	1983	1984	1985	1986
Pill	123.5	99.6	105.6	81.3	99.7
Injectable	59.8	141.4	153.6	263.9	87.6
IUD	95.8	69.8	493.2	60.3	58.3
Sterilization	88.7	50.8	170.7	85.5	72.3

6. MCH in Srisaket

As with family planning, MCH services in Srisaket are mostly up to standard.

Area	% Achievement of target				
	1982	1983	1984	1985	1986
ANC	75.8	64.3	79.8	105.3	78.5
Delivery	78.1	46.9	65.2	95.6	105.4
Postpartum care	76.8	110.4	97.4	102.5	84.5

Primary Health Care Policy

Base on the study of Primary Health Care Project in the 4th (1977-1981), 5th (1982-1986) and 6th (1987-1991) National Economic and Social Development Plan, it is found that Primary Health Care Action Plan and Policy has clearly responded from the Government, for example, Primary Health Care Project was inserted in the 4th National Economic and Social Development Plan, which is known as the beginning era of Primary Health Care. The first period of Primary Health Care Project emphasized the development of community organization in a wide range, i.e. training of

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VHVs/VHCs to cover 50 percents of all villages in the country. In the 5th National Health Plan, it searched for a Primary Health Care model for implementation and increased the number of VHCs and VHVs to cover the rest of the villages. In the 6th Plan (1987-1991), the Primary Health Care Project emphasizes the development of quality of Primary Health Care implementation as a mean to "Health for All by the year 2000".

Primary Health Care Management

According to the study of the documents concerning the Primary Health Care implementation, the issue of problems are identified as follows:

1. Planning and target setting aspects are unsuitable and unharmonious with areas all over the country because both of them are established by Central Bureau. There is an overgeneralization of application of PHC strategies by only experience from some specific areas.

2. Training aspects which was divided into 2 categories as follows:

- 2.1 Selection of VHV/VHC

- This selection was usually intervened by the influent group, some by prejudice promoted their relatives. The sociogram was abandoned. Furthermore some VHV/VHC did not understand their roles and duties.

- 2.2 Training

- The training handbook for the VHVs is well-prepared but the training techniques are poor. There are too many trainees per sessions and lecturers do not understand the PHC concept well enough. Training is too long and too theoretical. Training in health educational techniques is insufficient. Training materials often arrive too late for the training.

3. Supervision is generally recognized as important to the success of any program and all sources of information felt that the supervision system needs improvement.

- 3.1 Supervision were less than enough and some supervisors who worked in the present were not ready because of lack of the training supervisors.

- 3.2 Supervision could not be held regularly and was less effective due to lack of budget and vehicles.

4. The VHVs and VHCs lack adequate compensation for the work they are expected to do. The free health care they are provided is not adequate compensation.

5. Public Relations, even though the MOPH disseminated information concerning Primary Health Care through radio, newspapers, television, VHV/VHC newspaper and PHC newsletter, VHV/VHC still did not know their role and did not get good cooperation from the community.

6. The lack of systematic Primary Health Care evaluation made the Primary Health Care implementation inefficient.

7. There were inadequate Primary Health Care research studies on Primary Health Care concerning problems which arised from the implementation and problem of technical obstacles of health services delivery. It was still lack of Primary Health Care research on socio-cultural aspect which influenced on the changing of health behavior, for example, EPI, Nutrition, Family Planning. It is difficult to coordinate research efforts among other departments and other divisions in the Ministry of Public Health, even though the Office of Primary Health Care has established a research and evaluation unit for many years.

8. Information and Monitoring

8.1 Data concerning Primary Health Care management were not applied for changing rural health policy. The data and information were often late to be used in practice.

8.2 Health service statistics accumulated by Health Statistics Division were not relevant to the Primary Health Care activities. Furthermore, VHV/VHC should be trained to collect, analyze, and use the information of their own villages for planning and monitoring purposes. This is a critical point in getting VHV/VHC actively involved in PHC interventions.

9. Primary Health Care Organization and Coordination Development

9.1 There is a lack of intra-sectoral coordination. The cooperation at district level was scarcely found, particularly, in formal pattern.

9.2 There is a lack of sectoral cooperation among agencies with a role in PHC. Mostly, there is a lack of Ministry of Interior support for the PHC program. A structural obstacle is that the district hospital falls under the line authority of the PCMO while the district health office falls under the line authority of the Chief District Officer.

9.3 There is a lack of inter-divisional coordination at the MOPH level and below for PHC. Since various elements of PHC are undertaken by many divisions. The logistic and technical support was not organized in a systematic manner.

10. The budget situation for PHC is summarized below:

Plan	Budget (million baht)					
	1982	1983	1984	1985	1986	1987
Public health	6,652.31	7,902.40	8,617.60	9,044.32	9,426.86	9,525.1
Primary health care	15.66	64.12	58.37	77.18	79.37	78.6
PHC as % of total health	0.24	0.68	0.68	0.85	0.84	0.8

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The direct PHC budget covers such activities as training, curriculum development, training materials and on-site visits. Other divisions and departments have budgets which support PHC activities in their own right.

SITUATION ANALYSIS IN SRISAKET PROVINCE

To fully analyze PHC process, the system in Srisaket Province of northeast Thailand was studied. Three sub-systems are of special focus: services, service support and management.

1. Service Delivery

1.1 Service coverage

1.1.1 Nutrition

- (1) 98% of under-fives have been weighed.
- (2) 11% of ever-weighted children have growth charts.
- (3) Food supplement preparation is not demonstrated and the supplements are not attractive to local tastes.

1.1.2 Water and sanitation

- (1) 35% have latrines and, of these, 48% are sanitary latrines.
- (2) 12% have a year-round supply of rainwater for drinking.

1.1.3 Control of diarrheal disease

- (1) 42% of mothers can prepare ORS correctly.
- (2) 67% of village leaders can prepare ORS correctly.
- (3) 64% of mothers who gave ORS to their child mixed it correctly.
- (4) 23% of VHVs never had an ORS supply while 53% had no supply at the time of the interview.
- (5) 30% of villages had drug cooperatives.

1.1.4 Immunization

- (1) 26% of children in targetted ages had been immunized.
- (2) 31% of vaccinated children had a vaccination card.
- (3) 41% of mothers do not know the benefit of immunization.

1.1.5 Family planning

- (1) Family planning use in Srisaket is 63.0% which is lower than that for the northeast as a whole.
- (2) The preferred methods of contraception are the injectable, pills, female sterilization and the IUD.

1.1.6 Maternal care

- (1) ANC coverage is under the target, only 69.7% pregnant had one appointment for ANC.
- (2) Coverage of tetanus toxoid is 69.0% (one dose), under the target.
- (3) 56.6% of mothers who receive TT do not know what injection they received and the benefit of it.
- (4) 58.6% of women had home delivery 58.6% and of whom 55% delivered by TBAs, some have never been trained in safe delivery techniques.
- (5) 41.6% of women delivered their last child with a

TBA and did not receive a TT injection.

1.2 Factors affecting service coverage

1.2.1 Input factors include the following:

- (1) There are not enough staff. Those present are poorly distributed and lack essential knowledge of ORT, vaccination techniques, family planning and ANC.
- (2) The budget is too low and slow. Materials for demonstration activities are not appropriate to the local situation.
- (3) There is a lack of materials for demonstration, a lack of supplies for health education and the existing materials are of poor quality.

1.2.2 The services support process is weak.

2. Support Services

2.1 Training

Through observation and other qualitative techniques in six districts the following findings emerged.

2.1.1 In the area of training policy and planning, there is a lack of PCMO policy on training. The province adopts the MOPH policy directly with no internal technical meetings. Staff are usually sent elsewhere for technical meetings.

2.1.2 In the area of target setting the province adopts the central targets as sent down from the top.

2.1.3 The budget for training is slow or out of phase. This hurts the program by undermining community support or credibility of the program.

2.1.4 Material support suffers from lack of manuals, audio-visual aids, posters and flipcharts at all levels in the system.

2.1.5 Areas concerning the training process are as follows:

- (1) The tambon staff training curriculum does not match the needs of the trainees. Also, the trainees themselves lack a good understanding of their role. The training mostly relies on MOPH staff as the trainers and some of these lack essential skills in training and rely on lecture too much.
- (2) The VHV training curriculum misses important health problems that are prevalent in the community. The curriculum does not always match the needs of the VHVs. Again, the trainers are mostly MOPH staff and this does not support the PHC concept of inter-sectoral cooperation. There is too little use of teaching aids.

2.2 Supervision is a support service that is divided into different levels.

2.2.1 The provincial level supervision is conducted by section and unit chiefs of the PCMO.

- (1) 66% have never been trained in supervision.
- (2) 21% of unit chiefs and 71% of section chiefs are knowledgeable about supervisory activities.
- (3) There are too few supervisors and they lack adequate time to supervise.
- (4) There are no planning meetings prior to supervisory visits and this leaves the supervisor unprepared during visits.
- (5) The lateness of activity reports make supervisory information untimely for the purpose.

2.2.2 District supervision is the responsibility of the District Health Coordination Committee, but only 20% of tambon staff ever received a visit.

- (1) Only 17% of district supervisory staff were ever trained in supervision.
- (2) 56% of the health centers were unsatisfied with the district supervisors.
- (3) 35% of dissatisfied THC staff felt that technical supervision is inadequate, 32% felt that supervisors visit too seldom, 21% felt management advice from supervisors was inadequate.

2.2.3 Tambon level supervision is carried out by THC staff.

- (1) 50% of the THC staff were ever trained in supervision.
- (2) 41% of THC staff ever had refresher training in supervision.
- (3) 26% said the supervision is insufficient.
- (4) 15% said the technical advice is inadequate.

2.3 Community participation

Quantitative and qualitative data from surveys of VHVs, community leaders, mothers, THC workers, district and provincial staff are the basis for this assessment.

2.3.1 Community participation at the village level by PHC area is reviewed below:

- (1) EPI: MOPH staff do not delegate a role to the VHV and this results in low community involvement.
- (2) Environmental sanitation: The VHVs and VHCs see this work as important but lack motivational skills and equipment. There is low community involvement and local attitudes are still an obstacle.
- (3) ANC: The VHVs and VHCs and the community do not recognize the importance of ANC. The TBAs and model mothers do not carry out the motivation programs they were trained to do.

- (4) Nutrition: 66% of community leaders recognize the importance of nutrition but the community does not recognize the importance and does not give cooperation. Also the MOPH does not delegate responsibility enough to the VHVs and VHCs in this area.
- (5) Family planning: Women support family planning and VHVs and VHCs recognize its importance and perform well. Community leaders do not recognize the importance of family planning as much.
- (6) Control of diarrheal disease: The community leaders do not see the importance of ORT by the VHVs. The community also lacks appreciation and technical knowledge of ORT.

2.3.2 Tambon level community participation is summarized as follows: 21% of THC staff had good community participation, 59% said that it was hard to generate community support and the least community participation is for the area of sanitation. Only 26% of the community leaders support the sanitation program compared to 85% of VHVs, 76% of VHCs and 62% of village headmen.

3. Management

3.1 Policy and planning

The province takes the MOPH guidelines for policy and planning and adjusts targets according to the local situation, however these adjustments are very minor. Manager knowledge of MOPH policy is deficient especially regarding PHC.

3.2 Target setting

3.2.1 At the PCMO level, there is a problem with the quality and completeness of the baseline data from the districts and tambon.

3.2.2 At the district level there is not enough analysis of activities in relation to targets and that information from the tambon is merely forwarded to the province without examination.

3.2.3 At the tambon level there is too little participation of the THC staff in target setting; only 41% ever conducted target setting for their catchment area.

3.3 Reporting

3.3.1 At the provincial level, a fair amount of information is used for planning, targetting, supervision and budgetting. However, the managers do not feel they have adequate information to do the job well enough. Part of the problem is the volume of records and forms and the duplication of information. Also the quality of some of the information is doubtful. There is also some disorder in the way records and reports are filed.

3.3.2 At the district level the managers merely respond to the directive from above concerning reports and records. The staff at this level have no say in the type or frequency of information that must be processed to the provincial level. This results in little use of the existing information at the district level. Problems at the district include delays in receiving reports from the tambon level, lack of quality checks on the information from the tambon, lack of orderly maintenance of records and reports.

3.3.3 At the tambon level the THC staff also have no role in deciding the type and frequency of health information used in the system. The staff spend too much time filling out reports and too little time interpreting the information they have collected. The more salient problems with records at this level are the excessive volume and duplication of information, the lack of time to properly maintain all the forms, increased staff time in explaining all the forms and how to fill them out, the data are not timely and the records and forms are not orderly.

3.3.4 At the village level the VHV and VHC are supposed to fill out some simple forms for the tambon health staff. However, the volunteers do not see the importance of the forms resulting in the finding that 91% do not fill out these forms. Many of the volunteers do not know that they are expected to fill out forms while others do not have the forms to fill out. Some volunteers have no time to fill out the forms or do not feel the forms are important enough. The volunteers have not been trained in report filling and are not supervised in this area. Proper collection and utilization of health information at the community level has not been found.

3.4 Authority in decision making

3.4.1 At the provincial level, the section and unit chiefs only have limited authority in decision making.

3.4.2 At the district level, the district health officer has autonomy in modifying activities or initiating new activities, especially in those areas that do not require new budget support from the province. However, the DHO has very little autonomy in manipulating the budget issued by the province. Compared with the district hospital the district hospital director has more flexibility in budget allocation than the DHO.

3.4.3 At the tambon level, the THC have flexibility in their activities if no new budget support is required. The THC staff have virtually no control over budget allocations and even the money they collect from donations must be turned over to the province.

3.4.4 At the village level, the concept of PHC aims to promote local diagnosis of problems and development of solutions. However, there is little evidence to date that the community feels it has this power or ability to take the initiative in

improving the health status of its members. THC staff have not been found to take initiative in encouraging or training VHV/VHC to perform this function at the very beginning until they will be ultimately be able to do that themselves.

Recommendations

This report has been a brief summary of the study of the design of a model for decentralized primary health care and management at the provincial level. The study used a systems analysis approach and focused on three sub-systems as follows: (1) service provision, (2) service utilization and the needs of the target population, and (3) support service for PHC. These systems were analyzed at the macro (national) and micro (provincial) levels. The study also focussed on those areas of PHC which have the greatest potential impact on child survival, namely,

1. Nutrition
2. Clean water and sanitation
3. Control of diarrheal disease
4. Immunization
5. Family planning
6. Maternal and child health care

The finding from both the macro and micro studies indicated the need for improvement in PHC in Thailand. Specifically, the PHC management systems needs improvement to better serve the needs of the target population. Recommendations for achieving the above are as follows:

1) Improved PHC service system. This needs a greater emphasis on efficiency of service through the greater use of community resources. This is recommended specifically for the areas of maternal care, immunization, diarrheal disease control and family planning through workshops between the relevant staff and researchers.

2) Increased demand creation for PHC. This can be accomplished by increasing the capability of the community to assess its own health problems and to devise the means of resolving those problems. The use of training of important local groups is the means of promoting this goal.

3) Improved support services for PHC. This area emphasizes the training of health manpower to increase technical and supervisory skills. An increased effort needs to be made to increase the relevance of these activities with the goals and targets in PHC.

The province can pursue these goals through personnel training and development in PHC at the three levels of province, district and tambon. The training should emphasize those problem areas exposed by the analysis summarized in the foregoing pages. For example, at the micro level it is clearly indicated that there is a need in Srisaket for refresher training in technical skills related to the child survival areas of PHC, target children surveillance, follow-up of cases of second and third degree malnutrition, supervision and monitoring, management of

the EPI program and the control of diarrheal disease through the use of ORS. In addition, there is a need for training of staff in motivational skills to encourage the target population to seek services and recognize the importance of health education and to increase the awareness of the population of the benefits of the PHC services. These activities need additional training materials to increase knowledge and skills of the staff and the community residents.

In order to enable accurate assessment of trends and monitoring of PHC activities and progress in these areas, there should be development and improvement of the information system for PHC management. The data from such a system which promote the efficient implementation of the above and other activities. In addition the province should study the existing system of PHC information to learn more about its weaknesses and areas of duplication. This effort will help resolve the problem of the excessively heavy workload of the peripheral health staff in record filling and reporting (which consumes more than 20% of their time). Such an effort would free the staff to spend more time providing PHC services to the population in need.

In carrying out these recommendations, Srisaket Province should receive full support from the central headquarters in the area of policy, budget, materials (especially audio-visual aids) appropriate with the locally assessed needs.
