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SOCIAL MARKETING VITAMIN A-RICH FOOD IN THAILAND

*A Model Nutrition Communication
for Behavior Change Process*



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Her Royal Highness Princess Maha Chakri Sirindhorn
visited the Social Marketing of Vitamin A-Rich Project
at Kanthararom district, Srisaket province, Thailand,
on April 9, 1992.

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Foreword

Increased consumption of vitamin A-rich foods through dietary diversification is considered the most sustainable means of controlling vitamin A deficiency. If children's diets are to be vitamin A enriched, their families must be first motivated and knowledgeable empowered. A nutrition communication based approach, one which makes use of social marketing techniques to promote the consumption of such foods, has been thought -- but not often proven -- to hold great promise for developing countries pursuing vitamin A deficiency reduction strategies.

To provide a proving ground for this theory, the U.S. Agency for International Development (AID) sponsored the "Social Marketing of Vitamin A-Rich Foods Project" in Northeast Thailand, over a three year period (1988-1991). It was conducted among 134 villages and approximately 122,000 people in Kanthararom District, Srisaket Province, by the Institute of Nutrition at Mahidol University (INMU). This document sets out the project process and highlights the valuable lessons learned over the course of this successful program, a program that achieved its behavioral change and vitamin A status objectives. As far as we know, this is the only vitamin A social marketing document which chronicles: 1) significantly improved knowledge, attitudes, and practices in the intervention area; 2) substantial improvement in the vitamin A and nutritional status of the target population; and 3) the sustainability potential of such interventions, reflected in the behavior of local government officials integrating food and nutrition activities into routine work and personal schedules.

AID is proud to be associated with the work INMU has done in promoting vitamin A-rich foods in Northeast Thailand. We are also pleased to assist in the distribution of the valuable lessons learned by sponsoring the printing of "Social Marketing Vitamin A-Rich Foods in Thailand" for worldwide distribution. It is our hope that other countries facing vitamin A deficiencies will find the Thai experiences contained in this report of interest.

Richard M. Seifman
Director
Office of Nutrition
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Preface

This publication originates from the *Social Marketing of Vitamin A-Rich Foods* project conducted by the Institute of Nutrition at Mahidol University (INMU) from October 1988 through September 1991 and funded by USAID. Since its completion, the project has received both national and international recognition for its achievements. It was one of only a handful of project presentations made at the Sixth International Conference of the International Nutrition Planners Forum (INPF) at UNESCO Headquarters in Paris from 4-6 September 1991; as well as the UNICEF/WHO Ending Hidden Hunger: A Policy Conference on Micronutrient Malnutrition [co-sponsored by the World Bank, CIDA, USAID, FAO and UNDP] in Montreal, Quebec, Canada from 10-12 October 1991. The International Vitamin A Consultative Group (IVACG) also presented the project along with six other case studies from around the world in its September 1992 publication entitled *Nutrition Communications in Vitamin A Programs: A Resource Book*. Requests for more information about the project have come from as far away as Botswana to some of Thailand's more closer, regional neighbors in Cambodia, the Lao People's Democratic Republic, Mongolia, Myanmar, Nepal and Papua New Guinea.

This publication's aim therefore is knowledge and information sharing to promote the more effective development of nutrition communication for behavior change programs. The knowledge gained and disseminated from this publication can potentially have several benefits including increasing our abilities to effectively and efficiently transfer the model process to other areas and/or nutritional problems. It can also aid in improving the design and implementation of future behavior change programs in a number of different allied areas (health, nutrition, education, community development). On a more academic note, the project's lessons and information can serve as a source of information for theory building concerning effective nutrition communication and behavioral modification. Nationally, it can provide data and input for amending policies, plans and operational procedures to avoid controllable constraining factors to program implementation and sustainability. And lastly, projects of this type provide funding agencies with a reference point for more concretely screening the designs of new nutrition communication programs. Once again, this would help to conserve yet maximize the every-dwindling resources for such programs.

On behalf of the Institute of Nutrition at Mahidol University, I hope this document motivates and empowers nutritionists, health professionals and program managers, policy makers and planners from other developing countries to launch similar nutrition communication initiatives aimed at combating vitamin A deficiency. It is equally hoped that the communication process described herein will be applied to address other nutritional disorders such as protein-energy malnutrition, iodine deficiency disorders, and iron deficiency.

Kraisid Tontisirin
Professor and Director
Institute of Nutrition

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A document such as this could not have been possible without the valuable contributions of many individuals and organizations. The *Social Marketing of Vitamin A-Rich Foods* project was made possible through a grant from the United States Agency for International Development. Dr. Frances Davidson, Dr. Norge Jerome, and Dr. Barbara Underwood provided unending encouragement and priceless comments and suggestions throughout the project's life. Their sincere belief in the project's benefit to nutritionists and allied health professionals as they strive to combat vitamin A deficiency is what made the project. We are also extremely grateful to Mr. Richard M. Seifman, Director of the Office of Nutrition, Bureau for Research and Development, USAID and Dr. Frances Davidson, VITAL and ISTI for their encouragement, funding and distribution support for this second edition.

A special note of appreciation goes to Mr. Narintr Tima of USAID Bangkok for his constant support and patience. Recognition also goes to Mr. Ashok Sethi of Manoff International for his assistance in initiating the project's formative research phase.

Sincere gratitude is also extended to special members of Mahidol University for their assistance in facilitating and/or evaluating the social marketing project. These include Dr. Emorn Udomkesmalee of INMU; Dr. Bencha Yoddumnern-Attig and her team from the Institute of Population and Social Research; Dr. Vena Sirisook and Mr. Prasit Leerapan of the Faculty of Social Sciences and Humanities. We are also sincerely grateful to the many support staff at INMU. Their dedication, hard work and cheerfulness, even in difficult times, was crucial at every project stage and in completing this new publication.

We are especially indebted to Dr. Bencha Yoddumnern-Attig, a medical anthropologist by training and a nutritional anthropologist by experience, whose detailed review helped focus the discussion, kept it brief but informative, and forced us to avoid the temptation for complexity that often arises. We are also grateful to Ms. Tanuma Dhusnanchalee and Mr. Somchoke Kunsanong who helped to polish this book's final presentation. Their fresh outlook, questions and attention to detail enhanced the work tremendously.

Last, but with highest regard, our heartfelt appreciation and greatest respect goes to all members of the social marketing project's committees, local government officials, community leaders and the people of Kanthararom district, Sisaket province, and Trakan Phutphon district, Ubol Ratchatani. Without their belief in the project and their willingness to join together in a spirit of true partnership and participation, the communication process and the social marketing project would not have been successful. We are forever grateful.

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Contents

FOREWORD	i
PREFACE	ii
ACKNOWLEDGEMENTS	iii
PROJECT TEAM	v
Chapter 1 Introduction	1
PART 1: UNDERTAKING THE NUTRITION COMMUNICATION CHALLENGE	
Chapter 2 Preliminary Research	9
Chapter 3 Project Design	15
Chapter 4 Formative Research and Audience Segmentation	23
Chapter 5 Communication Program Development	31
Chapter 6 Program Implementation and Monitoring	41
Chapter 7 Evaluation	51
PART 2: LESSONS LEARNED FROM THE CHALLENGE	
Chapter 8 Essential Elements for Nutrition Communication Programs	59
References	65

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Introduction

OVERVIEW

The World Summit for Children was a promise to the children of the 1990s to protect their lives, their growth, their health, and their rights.

Malnutrition exists in some form in all countries.

By controlling and preventing malnutrition, each nation's socioeconomic development could be increased.

Over 2,000 million children are experiencing micronutrient malnutrition via iron, iodine and vitamin A deficiencies.

Vitamin A deficiency affects nearly 60 million children in developing nations, and between 20 to 27% of Northeastern Thai preschool and school aged children.

Vitamin A and other micronutrient deficiencies can be overcome through coordinated supplementation, fortification, public health and dietary diversification programs.

Nutrition communication uses innovative techniques and technologies to encourage people to try new nutrition behaviors, adopt and sustain them.

Effective communication programs are built on people's recognized needs, beliefs and circumstances.

Effective communication programs are home- or community-based and participatory.

RENEWING THE CHALLENGE

In late September of 1990, the *World Summit for Children* was held at the United Nations headquarters in New York. In attendance were 159 national representatives, over 70 of whom were Presidents or Prime Ministers. Their common mission was to give every child a better future by signing and carrying out the directives of the World Declaration on the Survival, Protection and Development of Children.

This Declaration set forth an agreed program for ending mass malnutrition, preventable disease, and widespread illiteracy before the end of the decade. Among other major goals to be attained by the year 2000 are the reduction of child mortality and the virtual elimination of vitamin A deficiency. At a time when the world is changing rapidly, this agreement means that there is today a better chance than ever before of finding a place on the world's political agenda for the rights of children and for meeting the minimum needs of all families.

It is often said that children are our leaders of tomorrow and they are the world's most valuable resource. Over the years, United Nations agencies, non-governmental organizations and local governmental institutions have actively pursued programs to provide for children's needs. Deliberate efforts have been made to improve maternal and child health services, nutrition programs, and social services. These have been targeted at rural and urban children and especially those youngsters suffering from difficult circumstances ranging from wars and famines, on the one hand, to inadequate health service coverage on the other.

Despite these efforts, though, malnutrition exists in some form in all countries; it knows no political nor economic boundary. It occurs in developed nations as

well as developing ones largely because it strikes poor people who, for a variety of reasons, cannot eat balanced diets.

Current estimates indicate that globally over 780 million people are chronically undernourished. About 20% of the developing world's population do not have enough to eat. This is surprising since globally, enough food is produced to feed everyone.¹ Unfortunately, however, not everyone receives his/her adequate share, either for environmental, political, economic or sociocultural reasons. Above all, child malnutrition persists as a major unsolved problem of many nations.

FORMS OF MALNUTRITION

Malnutrition, particularly among children, manifests itself in different forms. *Protein-energy malnutrition* is widespread throughout the world, affecting primarily children. Approximately 192 million children under 5 years of age are suffering from acute or chronic protein-energy malnutrition. This average number increases during annual periods of food shortage in many developing countries, and in times of social unrest.²

On a smaller scale, 20% of the world's population, concentrated primarily in developing countries, are at risk for *micronutrient malnutrition*, with over 2,000 million children experiencing micronutrient deficiencies.² Iodine, iron and vitamin A deficiencies constitute the three micronutrient problems of greatest public health importance due to their high prevalence, related morbidity and mortality.^{3,4}

Specifically, about 16 to 18% of the world's population (or approximately 1 billion people) live in iodine deficient areas, which places them at risk of permanent brain damage, mental retardation, reproductive failure, decreased child survival, goiter and socioeconomic stagnation.³

Globally, about 1 billion people are anemic due to iron deficiency. In developing countries alone, iron deficiency anemia afflicts about 51% of children under 4 years

of age and 59% of women of childbearing age. This deficiency's consequences include impaired child development, reduced work capacity, and low economic productivity.³

Vitamin A deficiency in developing nations today affects about 10 million children clinically and nearly 50 million more children subclinically. The World Health Organization recognizes vitamin A deficiency as a public health problem in 37 countries.⁵

Of all of the micronutrient deficiencies, vitamin A deficiency is perhaps the most tragic for several reasons. First, it is the most preventable cause of irreversible blindness existent in the developing world today. At least 350,000 new cases of irreversible blindness diagnosed in children each year are caused by vitamin A deficiency, and over 60% of these children die within one year. Furthermore, children with subclinical vitamin A deficiency are at increased risk of dying from infections. Studies have shown that morbidity and mortality due to gastrointestinal and respiratory infections is greater in vitamin A deficient children than in non-deficient children. Even in its mildest form, vitamin A deficiency may seriously affect children's health, development, and survival.

The real tragedy is that vitamin A deficiency is one of the most preventable forms of micronutrient malnutrition because vitamin A is widely available, or can be produced economically, even in poor communities. Vitamin A can be obtained in the diet both as provitamin A (carotenoids) in green, yellow, and orange vegetables and fruits, or as preformed vitamin A (retinoids) in animal products such as eggs, milk and liver. Most vitamin A value in developing countries comes from carotene-containing plant sources. In fact, in Africa and Asia, vegetable products constitute 86% of the vitamin A intake. Thus, the home cultivation of vegetables and/or fruits and utilization of wild foods can provide important sources of vitamin A-rich foods for children and family diets.⁶

THAILAND'S SITUATION

During the last decade, Thailand has dramatically reduced the prevalence of protein-energy malnutrition in preschool children. Using the Thai growth standard, combined mild, moderate and severe malnutrition by weight for age dropped from approximately 51% in 1982 to 17% in 1991. For moderate and severe combined, the decline fell from about 15% to less than 1% in the same period.⁷

Thailand achieved these impressive results by implementing a three-fold development strategy of: 1) *political commitment* (via national poverty alleviation, health development, and food and nutrition plans); 2) *health manpower strengthening* through an extensive primary health care system; and 3) *intersectoral collaboration* with an emphasis on securing people's basic minimum needs.⁷

Thailand's food and nutrition picture, though, is not totally bright. As in other nations, the major micronutrient deficiencies persist, though they are being tackled through innovative technologies, communication techniques, and the hard work of government and non-government agents, academics and community members.

Iron deficiency affects approximately 30-50% of pregnant women and 20% of school-aged children.⁸ Goiter prevalence from iodine deficiency afflicts an average of 15% of school children with rates of up to 41% in some highly endemic northern areas.⁹

For vitamin A deficiency, while clinical cases are uncommon, in North and Northeast Thailand, 20 to 27% of preschool and school aged children exhibit subclinical deficiency.^{10,11} Higher incidence of infectious disease and vitamin A deficiency occur in the dry season as opposed to the rainy season.

More startlingly, subclinical deficiency rates are rising in certain rural areas of North and Northeast Thailand which significantly threaten child survival and development. A recent government survey has also noted a high prevalence of clinical and subclinical vitamin A deficiency in Southern Thailand.¹¹

CONCEPTUALIZATION

When we think about and try to conceptualize malnutrition in whatever form it may take, three perspectives arise.¹²

The *clinical perspective* emphasizes the malnutrition-infection cycle and its underlying determinants and physiological consequences.¹³ This perspective, along with its epidemiological facets, is valuable in showing the effect of malnutrition on morbidity and mortality and in searching for curative measures.

The second perspective views malnutrition as a *social indicator* where it affects children's quality of life by causing growth retardation, delayed development, low resistance to infection, low learning and work capacities. Improving nutritional status thus becomes the goal and means of social and economic development.¹⁴

For communication and educational purposes, however, malnutrition as a *cultural construct* is the most valuable perspective.¹² The emphasis here is on understanding community members' and mothers' beliefs, actions and recognized needs associated with malnutrition as well as child growth and development. Nutritionists and communication specialists then build upon these in designing nutrition messages and participatory action programs.

CONTROL AND PREVENTION

Whatever perspective is taken, though, by controlling and preventing malnutrition, each nation's and the world's socioeconomic development could be increased through improving child survival, learning abilities, productivity, self-reliance, and quality of life.

In general, the three ways by which malnutrition is conceptualized are reflected by existing intervention measures. Micronutrient deficiencies including vitamin A can be controlled by using appropriate combinations of the following strategies.

Supplementation entails using oral (pills, capsules) or injectible means to get a crucial

micronutrient directly into the body. Supplementation is usually an immediately effective short-term measure that is used while longer term solutions are being developed. Delivery channels include EPI systems, other primary health care structures, school systems and extension services.

Food fortification involves adding micronutrients to such vehicles such as salt, sugar, flour, etc. which are regularly eaten by vulnerable groups such as children, pregnant and lactating women.

Public health strategies aim at correcting critical environmental and health factors that prevent adequate absorption or utilization of micronutrients.

Dietary diversification, requires using nutrition communication techniques, through formal and informal channels, to educate people about how they can improve their diet. It also rests on helping them to see what concrete actions they can take to increase the production and consumption of micronutrient-rich foods at affordable prices.

Which of these strategies is appropriate oftentimes needs to be determined for each micronutrient on a country-by-country and sometimes community-by-community basis. On the one hand, in communities where nutrient-rich foods are regularly consumed, people have benefitted from counseling on food obtainment and preparation methods, along with child feeding practices.

Where centrally processed foods are widely consumed, like sugar or salt, nutrient fortification is possible. And in countries with good health system infrastructures, local health workers can readily disseminate supplements to target groups to control immediately urgent deficiencies.

But not all communities have access to micronutrient-rich foods. This has suggested strategies for modifying local food systems (such as the introduction of home gardens) to increase production.

In other areas, and especially for vitamin A deficiency, micro-nutrient malnutrition can be characterized as 'poverty in the midst of plenty.' By this we mean that while micronutrient-rich food sources are readily

available, they are not consumed in adequate amounts by vulnerable groups through a lack of awareness or other social, cultural and psychological forces.

Over the years, these prevention and control strategies have been proposed and undertaken for the three main micronutrient deficiencies. Currently, there is a movement towards coordinating these strategies since many of the population groups at risk for vitamin A, iron and iodine deficiencies frequently overlap. Moreover, intervention delivery systems, facilities as well as communication skills and educational methods for controlling one micronutrient deficiency may be the same as or compatible with those for controlling other micronutrient deficiencies.³ For example, a social marketing program for vitamin A-rich foods that advocates the increased production and consumption of dark green leafy vegetables could also easily address iron deficiency.

All of these strategies seek to change people's consumption practices. No matter if it is a vitamin A capsule, iodized salt or a dark green leafy vegetable, whether or not people will actually consume it rests on personal factors and environmental circumstances. Likewise, each offers both constraints and opportunities for communicating with people and educating them about new food and nutrition practices.

The aim of nutrition communication, therefore, is to use innovative techniques and technologies to encourage people (the public and professionals alike) to try out new health and nutrition behaviors, adopt and sustain them. The most effective means are those that are home- or community-based and participatory, where everyone (from project personnel, to local officials and community members) works together as a team to solve children's nutritional problems.^{12,15}

PURPOSE

This document's purpose lies in the international recognition that many nutrition-related problems in developing countries can

be solved if effective communication is used not only to *educate* people, but also to *change* their behavior patterns. The fundamental premise is that communication is part of the universe of health communication, but at the same time is distinct from other types of persuasive communication, whether in health, agriculture, education, or other spheres. Theories, models, practices, and approaches of successful programs can be described to reveal a clearer perspective about the target audiences for change and the steps needed to effect behavior change.¹⁶

It must also be noted here, though, that speculation exists about whether products or elements of such nutrition communication programs, like the social marketing one described here, can be used in or generalized to another locale, country or region. Much experience has shown that such a transfer is unlikely. Nevertheless, the methodologies, strategies, approaches and principles used can be applied to other situations, places and times. In other words, *it is the process, not the product, that can be transferred. By sharing the process and improving upon it, the professional community can make the most progress and better serve its individual constituencies.*¹⁶

This book serves as a case study of the process Thailand has used in controlling vitamin A deficiency at the district level through dietary diversification. It also acts as a guide to help program managers meet the challenge of *fitting a nutrition communication program to the community, while avoiding the tempting pitfall of 'fitting a community into a pre-packaged program.'* Experiences from Thailand and several other nations have steadfastly shown that the former italicized premise promotes community participation and program success; the latter, though, discourages them.

CONTENT: The Does and Does Not

In describing the *Social Marketing of Vitamin A-Rich Food* project (hereafter referred to as SM/VAF), the discussion

inherently draws on several basic methodological issues associated with planning, developing, implementing and managing nutrition communication activities. These issues have been presented in great detail in such excellent publications as *Operational Guidelines for Social Marketing Projects in Public Health* (1987) by R.C. Israel via UNESCO; *Communication for Child Survival* (1988) by M.R. Rasmussen *et al.* via the Academy for Educational Development in Washington, D.C.; and the very recent *Nutrition Communications in Vitamin A-Rich Programs: A Resource Book* (1992) by the International Vitamin A Consultative Group (IVACG). Readers are strongly encouraged to consult these sources, amongst others, for more in-depth, step-by-step guidelines for carrying out nutrition communication and social marketing projects.

Except for crucially important points, this book does not repeat information discussed in the above publications, especially in terms of 'recalling the basics' of communication strategies which is outstandingly presented in the IVACG resource book noted above.

Rather, this book does *complement* earlier works in two important ways. First, it illustrates how the many steps in a nutrition communication program can come together in a *participatory action* project, particularly one based on two-way communication between project personnel, local officials and community members.¹⁵ Second, while other nutrition communication books often stress the development of creative (often media-based) programs, the emphasis here is on balancing interpersonal action projects with media activities, since each is needed in a complete nutrition communication program.

Our concern here also does not rest on discussing current scientific advances and knowledge in vitamin A. The discussion also does not go into excessive detail about complex clinical techniques for assessing vitamin A status nor the pros and cons of quantitative versus qualitative research techniques. While these are important facets of program assessment and evaluation, and are crucial in the formative research stage,

they are more thoroughly discussed in texts and materials devoted specifically to them.

What this book does do is present some of the techniques that were valuable in the SM/VAF project, what information each provided, and thus what role they played in developing an effective communication project.

Likewise, this book does not provide lengthy details about vitamin A prevention and control from a nutritionist's or health professional's point of view or that of a communications specialist alone. This would unnecessarily bias the discussion and limit its usefulness, especially since all of these parties often must work closely together in planning and undertaking nutrition communication initiatives.

Rather, it does present a 'middle of the road' perspective wherein each of these change agents can commonly draw on the SM/VAF project's experiences and results. Using their own insights and creativity, they can then join together to replicate, amend or develop new techniques and strategies that can be applied to their own settings and nutritional problems.

ORGANIZATION

Presenting a complex project like the SM/VAF in a brief publication proved to be quite a challenge. After much thought, it was decided to divide the discussion into two main parts. Part 1 centers on *Undertaking the Nutrition Communication Challenge*, and it presents the project's six progressive stages: 1) preliminary research; 2) project design; 3) formative research and audience segmentation, 4) communication program development, 5) program implementation and monitoring, and 6) evaluation. The first two stages (preliminary research and project design) are parts of the pre-project planning process, while the remaining four stages involve activities undertaken after the project received funding.

Part 2 on *Lessons Learned from the Challenge* highlights several of the important essential elements needed to undertake dietary diversification projects using a combined nutrition communication/social marketing approach. Once again, while our emphasis is on vitamin A deficiency and the experiences gained from the SM/VAF project, the same process and lessons can be equally applied to other single micronutrient programs or ones aimed at addressing multiple nutritional disorders.



A school classroom



Maternal care and feeding

PART 1

**Undertaking the Nutrition
Communication Challenge**



Preliminary Research

OVERVIEW

The Social Marketing of Vitamin A-Rich Foods project was a three-year dietary diversification program that used nutrition communication as its main approach.

The project was conducted in Kanthararom district, Srisaket province, Northeast Thailand.

The project's preliminary research phase sought answers to four key questions:

What is the vitamin A status and fat/oil consumption practices of people living in the target area?

Who are the vulnerable groups for vitamin A deficiency?

What potential intervention strategies are available?

Which strategies are feasible given existing cultural, economic and environmental conditions?

These questions were answered using quantitative and qualitative research methods such as literature reviews, dietary assessment surveys, statistical data analysis, on-site observations and in-depth interviews.

PROJECT INTRODUCTION

From October 1988 - September 1991, the Institute of Nutrition at Mahidol University (INMU) conducted a USAID-sponsored project entitled the *Social Marketing of Vitamin A-Rich Foods (SM/VAF)*. The project was undertaken in Northeast Thailand, a region noted for its large, poor population, at risk of vitamin A deficiency.

After consulting regional and central authorities about vitamin A deficiency's prevalence, Kanthararom district, Srisaket province was selected as the intervention area. This district contained 134 villages and approximately 122,000 people. Trakan Phutphol district in adjacent Ubol Ratchatani province served as the control area.

Overall, the project tested two main hypotheses. The first was that district and community-wide education could improve people's knowledge, attitudes and practices concerning vitamin A-rich food consumption. Second, the adoption of new food consumption behaviors would lead to a decline in vitamin A deficiency among target group members.

The project's main target groups were preschool children (aged 5-60 months), pregnant and lactating women, though school-aged children were later added. The major community action program, which the project supported through creative media activities, was the home and school gardening of the ivy gourd plant (*Coccinia indica*), a dark green leafy vegetable high in vitamin A. This plant is culturally acceptable within the local diet and adaptable enough to be incorporated into a number of traditional and new food recipes.

This chapter describes the project's preliminary research activities undertaken before the formal project proposal was submitted to USAID. The main research objective was to collect important

information that would help identify the vitamin A deficiency problem and potential intervention strategies.

PRE-PROJECT CONSIDERATIONS

Because vitamin A deficiency has dietary origins, many cultural, socioeconomic and environmental factors exist that offer both constraints and opportunities for improving the diet.¹⁷

Of all of the vulnerable target groups, moreover, preschool aged children in Northeast and Northern Thailand are at highest risk of experiencing vitamin A deficiency's devastating consequences, including blindness and an increased chance of dying from infections.

Studies in Thailand and elsewhere have shown that children's vitamin A status can be improved through supplementation.¹⁰ It can also reduce complications associated with related diseases, thus improving a youngster's chances of surviving the early vulnerable years of childhood. But supplementation is at best a short-term solution. Long-term improvement can only be achieved through *dietary diversification* where families are given the right tools and instruction on how to increase the amount of vitamin A-rich foods in their diets year-round.¹⁸

Combating vitamin A deficiency thus centers not only on curative actions. It also depends upon changing people's food and nutrition behaviors. Such changes rely on efficient nutrition communication strategies which consider that people's food and nutrition decisions stem from personal and behavioral factors on the one hand, and environmental conditions on the other.

Vitamin A deficiency is therefore a complex problem, and its causes need to be widely, yet precisely, understood in order to develop interventions that are specific, adequate and as sustainable as possible.¹⁷

At the SM/VAF's pre-project stage, four crucial questions needed answering to define the vitamin A deficiency problem as closely

as possible. These questions were:

- 1) What is the vitamin A status and fat/oil consumption practices of people living in the target area?
- 2) Who are the vulnerable groups for vitamin A deficiency in the target area?
- 3) What potential intervention strategies are available?
- 4) Which strategies are feasible given existing cultural, economic and environmental conditions?

To find answers to these questions, SM/VAF project personnel used a number of quantitative and qualitative methods to uncover the vitamin A deficiency picture in Kanthararom, Srisaket province and Trakan Phuaphol, Ubol Ratchatani. These included literature reviews, in-depth interviews, dietary assessment surveys, statistical data analysis and on-site observations.

RESULTS OF PRIOR STUDIES

Before the SM/VAF began, several food and nutrition projects had already been conducted in Northeast Thailand. In particular, the Asian Institute of Technology (Bangkok) had undertaken food availability studies as part of a program to research food preservation techniques in Ubol Ratchatani province. Project reports and discussions with the project field officer indicated that at least from January through March, adequate vitamin A-rich foods were available; however, the actual supply was not known.

Such data, though, were not precise, and it was important to learn whether a sufficient supply of vitamin A-rich foods were available, but not being consumed. Consequently, the Institute of Nutrition conducted vitamin A status and market surveys in the proposed intervention and control areas from February - March 1987,

the peak vegetable availability season. In total, this preliminary feasibility investigation centered on three areas: vitamin A status, a market availability survey, and a school market garden assessment.

VITAMIN A STATUS

This phase assessed vitamin A status and fat consumption among children 2-6 years old and mothers aged 18-35 years in five households in each of 10 randomly selected villages in Kanthararom and Trakan Phutphol. The 24-hour dietary recall method was used, and interviews were held within the sample households. In total, 28 pregnant women, 39 lactating mothers and 81 preschool children were assessed in Kanthararom, while these numbers were 33, 48, and 75 respectively in Trakan Phutphol.

During data collection, experienced interviewers asked mothers to recall all foods which they had eaten during the preceding 24-hour period (from breakfast until dinner including snacks). For very young children, their mothers provided the necessary information. Measuring cups, spoons and food balances aided interviewees in estimating food intakes.

After the interview sessions, the recorded food quantities were converted to grams. The nutrient values for vitamin A, fat, protein and carbohydrate were computerized. Dietary nutrient adequacy was determined using Recommended Daily Allowances (RDA).

Cumulative results showed that all target group members ate a high carbohydrate diet low in protein. Even at the peak vegetable availability season, furthermore, over half of the respondents in both districts ate vitamin A-rich foods below the recommended daily allowance. Preschool children were the most vulnerable group, since over 80% consumed vitamin A below their RDA. Moreover, the survey also revealed remarkably low fat intake by all groups. Since vitamin A is fat soluble, this led to poor vitamin A absorption by the body.

MARKET SURVEY OF VITAMIN A-RICH FOODS, FATS AND OILS

To assess vitamin A-rich food availability, project personnel conducted a market survey covering all major markets in Kanthararom and Trakan Phutphol districts. The survey involved structured observations and informal interviews with all vendors selling important vitamin A-rich foods and fats. It assessed quantity (to standard and agreed units), food prices, average sales per day, and the seasonality of sales.

Results revealed that many vitamin A-rich foods (e.g., vegetables, fruits, animal livers, eggs) were available in major markets on a year-around basis. Fats such as pork and vegetable oils were also available. All of these items, moreover, were economically affordable, but community members considered animal livers as costly. Furthermore, village households generally did not have refrigerators, and village women also did not go to the market everyday. Since livers are perishable, they were not a regular food source.

While such foods might be available year around, prior experiences shed some doubt on whether *market availability* of vitamin A-rich foods could accurately represent *community availability*. In other words, were the foods available in the market being used regularly in communities?

Village-level observations then noted that most community members rely on foods produced or gathered in their own locality. This is an important finding for nutrition communication and dietary diversification programs. In short, the target food item(s) for promotion would have to be readily available in markets *as well as* communities. Otherwise, the item(s) might only be used by certain households and not by others.

SCHOOL MARKET GARDENS

In Thailand, every rural school must implement a school lunch program. Each school should also have a market garden to

support the lunch program by providing food items and income (through the sale of produce). Unfortunately however, government data only indicated the number and frequency of school lunch programs, with no information about the number or functional status of school market gardens.

As a result, project personnel surveyed school market gardens (permanent or seasonal) in Kanthararom and Trakan Phutphol districts. Results indicated that only 50 percent of the schools had market gardens, many of which were not functioning well due to management problems and a lack of water during the dry season. The production of vitamin A-rich foods at the time of the survey was extremely low. An estimate of the quantity consumed, sold or bartered therefore was not possible. During the rainy season (May to August), school market gardens would resume production of vitamin A-rich foods, though their effectiveness remained questionable. Local headmasters noted however that with proper knowledge and motivation, teachers and community members could produce enough vegetables for the entire year through school gardens.

VIABILITY FOR VITAMIN A-RICH FOOD PRODUCTION AND PROMOTION

While many factors may influence the promotion of vitamin A-rich foods, two stand out as most significant, namely, those related to consumption and those related to production. For consumption, prior studies and the market survey showed that vitamin A-rich foods were a part of the local diet, and most were affordable. Their consumption, therefore, was already a part of the local culture.

Production factors that may influence the adoption of garden interventions include access to water, access to land, access to inputs, household experience with gardens, available labor, and access to extension information. Moreover, each of these must

be considered in selecting the vegetable item(s) to be cultivated.

First, Northeast Thailand is noted for being climatically unstable, with alternating periods (years) of drought versus flood. To compensate for the former, household wells have been dug and large water storage tanks supplied for family use. While these are adequate for rainy periods and in fulfilling household needs during the hot dry season (March - May), water availability for gardening is limited during this latter period. Hence, the vegetable item(s) to be potentially used must be tolerant to extended dry periods and require a small area for cultivation.

Being traditional agriculturalists, gardening was not a new concept for community members in terms of knowledge or labor. Plant sources (such as herbs) not readily available in the wild were often grown around the house.

However, the intentional cultivation of specific non-cash crops was new for both villagers and agricultural extension agents alike. At the time, villagers were growing cash crops like onions, chilies, and garlic. Activities of district agricultural extension agents, furthermore, aimed heavily at household income generation through cash cropping, and information was readily available to the community.

The project's challenge was thus to promote a non-economically based vegetable through appropriate changes in community members and extension agents' attitudes and practices.

PRELIMINARY RESEARCH RESULTS

Young children, pregnant and lactating mothers ate a high carbohydrate diet low in fat, vitamin A and protein. These represent the vulnerable target groups.

Many vitamin A-rich foods, fats and oils were readily available year-round and are acceptable parts of the local cuisine.

Animal products, especially livers, were expensive and perishable.

Dietary diversification, as a long-term strategy, would need to focus on increasing the local production and consumption of vitamin A-rich vegetables.

The target food item(s) would have to be readily available in markets and communities.

With proper knowledge and motivation, teachers and community members could produce enough vegetables for the entire year through school gardens.

The major limiting factor to production was water availability. The target food item(s) should thus ideally be drought resistant.

A creative strategy would need to center on persuading local officials and community members to intentionally produce non-cash vitamin A-rich vegetables.



Clinical vitamin A assessment



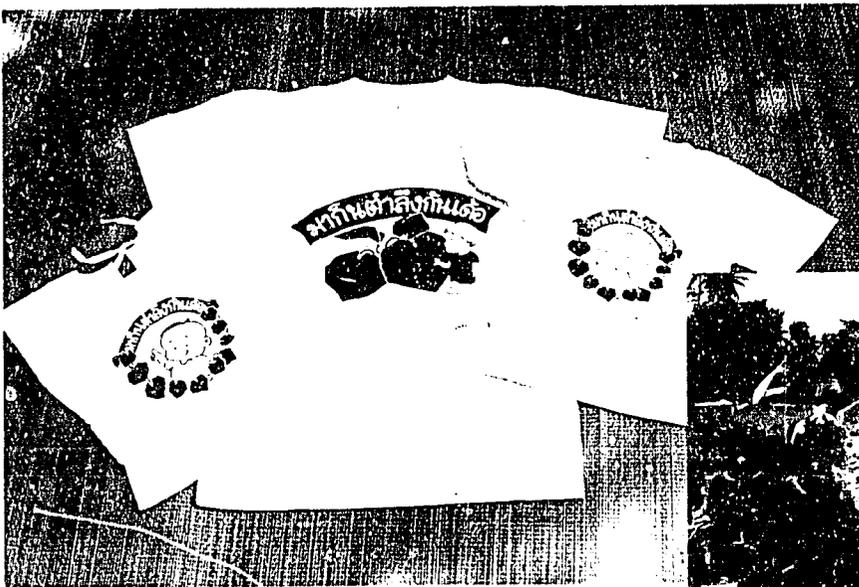
24-hour dietary recall



Market survey



Printed poster



'Walking' posters



Project Design

OVERVIEW

The SM/VAF project used social marketing to build a solid nutrition communication program and create a local "need and demand" for change.

The key aim was to reduce the psychological, social and practical obstacles which could hinder the adoption of new food and nutrition behaviors.

Social marketing also served as a common ground where community groups, local leaders, government officials, university researchers and private organizations could work as partners in promoting the increased production and consumption of vitamin A-rich foods.

In the promotion and education process, the project relied on a broad, two-way concept of communication and problem-solving.

Local officials, community members and project personnel worked as project collaborators in a decentralized, non-directive fashion.

An important initial step in designing and launching any nutrition communication program is gaining the support and confidence of national and local government administrators.

OBJECTIVES AND GOAL

Based on preliminary research findings, the SM/VAF project had four major objectives, namely:

- 1) to increase dietary intake of vitamin A-rich foods;
- 2) to improve knowledge, attitudes and practices regarding vitamin A-rich foods;
- 3) to raise vitamin A status of preschool children (5-60 months), pregnant and lactating mothers; and
- 4) to develop a model for improving vitamin A status through nutrition communication.

The SM/VAF project goals were therefore two-fold. The first was the same as that of nutrition communication, that is, to facilitate change in nutrition-related practices and, in turn, nutritional status.

The second goal went along with the last objective mentioned above. The project's goal in this case was to create a health promotion structure within Kanthararom district and its communities that would continue to function after the project ended. This would involve firmly establishing project activities by making them as much a part of local government services as possible.

PROJECT DESIGN

To fully evaluate comprehensive nutrition communication programs, the ideal study design should entail randomly assigning a large number of communities to test and control conditions.

Because of limited resources and the extensive overlap of media markets in Northeast Thailand, the SM/VAF project chose a simpler design of two purposively selected districts: Kanthararom (intervention area) and Trakan Phutphol (control area). Under this quasi-experimental research design, pre- and post-project evaluations were conducted in both districts. These assessed physiological changes in vitamin A status as well as behavioral changes in target group members' knowledge, attitudes and practices regarding vitamin A-rich food consumption. During project implementation, however, nutrition communication activities (interpersonal and media programs) were only conducted in Kanthararom district and not in the control area of Trakan Phutphol.

As noted in the last chapter, Kanthararom was selected as the intervention area after consultations with regional and central authorities. Its population was 122,000 people, while Trakan Phutphol's was 105,000.

Kanthararom was also chosen because the only AM/FM radio station in the area was not heard in Trakan Phutphol. Consequently, Kanthararom represented a media-isolated intervention area at least regarding radio.

The districts are also located in different provinces and approximately 100 kilometers away from each other. Therefore, the possibility that project activities in Kanthararom would be replicated in Trakan Phutphol by local government officials was reduced.

Both districts, moreover, are within one to two hours drive from the INMU Field Office in Ubol Ratchatani, which facilitated monitoring. However, no *direct* rail or road links existed between the two sites nor any known commercial activities. According to government data, volunteer village health workers were found in all communities in each district.

PROJECT ORGANIZATION

While the SM/VAF project was conducted from October 1988 - September 1991, the communication program was designed to run from approximately May 1989 through March 1991. This program called upon a nutrition communication framework and a social marketing strategy. Overall, the strategy included eight stages: formative research, audience segmentation, intervention development, creative strategy development, implementation, monitoring, re-implementation and evaluation.

Each stage comprised several steps, with the strategy itself being cyclical and iterative. During all project stages, results of experience fed back into and shaped later actions. For example, planning led to interventions; monitoring such interventions led to later changes in planning. On-going formative research into community members' needs and responses to action and media programs shaped all stages of the communication effort. This brought with it needed mid-course adjustments and re-thinking.

NUTRITION COMMUNICATION AND SOCIAL MARKETING

Nutrition communication is now an umbrella term for a wide range of information and education interventions that aim to influence nutritional status. This includes nutrition education and social marketing.¹⁶

One reason why social marketing has become popular in recent years is that nutrition communication's goal is to facilitate change in nutrition-related practices and status. This often requires increasing the demand for specific food products and extension services essential for improving nutritional status. Above all, it also calls for ensuring that people use those products and services appropriately.

Early nutrition education efforts emphasized giving people the knowledge

and information about how to improve their food and nutrition practices. However, experience has shown that while knowledge is an important base for change, it is not the sole factor responsible for motivating people to change their dietary habits. A host of other personal and environmental factors also play a role in the communication and behavior change process.^{19,21}

What was needed, therefore, were new communication techniques to encourage the behavior change process, and these came from the fields of marketing and advertising.

Commercial food advertising, for instance, has shown that changing people's dietary behaviors is not as difficult as it was once thought to be. By using any of several strategies, it is possible to motivate a particular audience to buy one brand of processed food over another.

Since vitamin A programs also aim at changing dietary behaviors, some commercial communication techniques are appropriate for use in bringing about needed behavior change that ensures a population's health and well-being.⁵ In particular, one new approach to nutrition education is *social marketing*, and it formed the base for the SM/VAF.

First introduced in 1971, the term 'social marketing' described the use of marketing principles and techniques to advance a social cause, idea or behavior.²² Since then, it has come to mean a strategic social-change management approach involving the design, implementation, and control of culturally acceptable programs aimed at increasing the acceptability of a social idea or practice in one or more groups of target adopters.²³ Social marketing embraces a consumer (people's) orientation, since creative strategies are aimed at fulfilling consumer needs and wants.

The SM/VAF project applied social marketing to organize the project (as noted earlier) and create a communication program that would satisfy community needs as well as enhance the project's ability to effect population-wide changes.

In total, the SM/VAF project had three main stages. First, it created a "nutrition information society" within the communities in order to give the people a firm knowledge base within which to place their current behaviors and the proposed new ones. Second, it focused on promoting a selected food item as an image of vitamin A-rich foods through meaningful messages. And third, these messages had to be accompanied by community action programs which community members themselves saw as meaningful and in which they could participate.

In applying the social marketing concept, project personnel used formative research to assess vitamin A's clinical-epidemiological and behavioral dimensions and identify community members' needs and wants. This initial research also segmented the intended audience into primary, secondary and tertiary target groups so as to develop and test new products and promotional messages prior to implementation.

The SM/VAF project then placed these audiences at the center of four of social marketing's core elements:

<i>PRODUCT</i>	that target audiences would want to obtain and utilize (such as vitamin A-rich vegetables, home gardens, nutrition ideas); which are offered at an acceptable
<i>PRICE</i>	in terms of monetary, opportunity, social, psychological costs;
<i>PLACE</i>	using a distribution system based on district and sub-district development personnel participation, so vitamin A-rich vegetables, agriculture and nutrition information could be made widely and easily available; and

PROMOTION utilizing local participation in designing and implementing communication strategies to promote vitamin A-rich vegetables and home gardening and educate people about their potential benefits and use.

- 1) promote, for non-economic reasons, a health product (vitamin A-rich vegetable) as an image, in order to
- 2) educate the public, and
- 3) create a need and demand for change, that would
- 4) encourage new personal and social life-styles through new health habits.

SOCIAL vs HEALTH MARKETING

Recently, much debate has arisen about the ethical use of social marketing for health promotion. The SM/VAF project made a specific distinction between the *social marketing of health products* and the *health marketing of health products*.

For example, a television commercial used a well-known dentist and a young girl to educate target audiences (children, adults) about dental health. The main intent, though, was to sell a brand-name toothpaste. This case, at least for Thailand, entailed the *social marketing of health products*, where social marketing was used to:

- 1) manipulate health messages, in order to
- 2) educate the public, and
- 3) create a need and demand for change; the main aim was to
- 4) sell a health product for
- 5) mainly self-motivated economic reasons.

The advertising process here involves *education for product promotion*; its intent is economically-based and self- (company-) centered.

The SM/VAF project represents *health marketing of health products*. The communication strategy involved using social marketing as a means to:

The advertising process is *product/image promotion for education and behavior change*; its intent is health-based and humanitarian.

Resistance to the term social marketing may be associated primarily with old-style promotion efforts and a "top-down" one-way communication approach. Modern social marketing, however, relies on a "top-down/bottom-up" two-way exchange, where promotion is only one of many procedures and decisions.¹⁶

TWO-WAY DEVELOPMENT AND COMMUNICATION

Thailand's primary health care system and nutrition education efforts center on joint community and district participation in planning, implementing and evaluating a community's health care and nutrition status as part of its overall social development process.¹⁵ Consequently, project activities had to fit within this wider community development context, if participation was to be initially achieved.

The project thus anchored itself in an integrated, two-way development process. Community members, personnel from various social development sectors (health, agriculture, education, rural development) plus the project's principal investigator and team served as *project collaborators*. Each collaborator participated in the project's development, implementation, monitoring and evaluation.

For instance, the SM/VAF project was intentionally *not* designed in detail prior to

its launch. Rather, the project held a series of monthly to bimonthly planning meetings during its length. These occurred from regional to village levels. Through these meetings, collaborators from different community and institutional sectors jointly defined program strategies and objectives.

At every stage, the project made an explicit and consistent effort to decentralize all project stages to promote local initiative and responsibility. Over time, this strategy helped to assure project ownership at district and community levels. The intent of project personnel was to only provide general project guidelines. Specific recommendations for project activities and implementation strategies came from other collaborators. This heightened their self-interest in the project. It also promoted the sustainability of activities which they, themselves, had designed and implemented.

For sustainable intervention activities, the communication process for planning, implementation and evaluation must also be two-way, neither solely "bottom-up" or "top-down." For this project, it entailed a framework called "Participatory Action for Integrated Nutrition Education (PAINE)." In this scheme, no level (top, bottom or intermediate) exercised strict hierarchical control over any other. In addition, no level had complete project ownership. Rather, their complementary activities created mutual support and coordination between levels.

A partnership also arose in sharing project duties and responsibilities. Any level's output (objectives, tools, actions plans and activities, project stages) became information, instead of directives, to the other levels. As a result, the roles of extension agents and community leaders became complementary over time. In short, they culminated in a process of "top-down support and coordination" and "bottom-up planning and implementation."

By heightening intersectoral communication and collaboration, this framework avoided problems of a purely "bottom-up" approach, such as weak

direction and support from the top. Further, it also avoided the pitfalls of a "top-down" approach, e.g., lack of awareness about local conditions and constraints.

CONCEPTUAL FRAMEWORK

Planning community-based studies requires clear theoretical and conceptual guidelines. Many theories of learning exist as well as models for attitude and community change. To reach out and collaborate with individuals and community groups requires that knowledge and insights from each must be kept in mind.

For the SM/VAF project six major factors played key roles in influencing the nutrition campaign. These factors were: change agent determinants, the social marketing action plan, communication process, campaign determinants, evaluation measures, and lastly, education/communication outcomes.

To begin, two main sets of determinants could affect project success, namely, those associated with change agents and the campaign, itself. Very rarely do projects consider change agent factors, though they are perhaps the most important aspects leading to project success or failure. Change agent determinants establish the campaign's foundation. They center on the change agent's intellectual, ideological and philosophical capabilities with respect to the project and its research population. For example, if a change agent cannot interact well with people, his/her chances of gaining acceptance by local officials and community members is hindered tremendously. This will affect the project's potential exposure to the public, and whether or not target group members will know about and learn new food and nutrition practices.

Change agent determinants also influence the social marketing action plan's components and process. If he/she does not have an adequate understanding about the local population (e.g., social, cultural, economic, environmental features), then they will not be able to develop effective

intervention and creative strategies.

Moreover, the social marketing action plan determines a project's communication process. In market-oriented programs, communication is largely one-way and aimed at the *social marketing of social products*. All campaign stages are not decentralized, and they do not directly involve the people in planning, implementing and monitoring the social marketing campaign. The SM/VAF project's health marketing action plan worked towards a PAINE communication process. Key factors in achieving a two-way concept of communication and nutrition education included (amongst others): decentralization, collaboration, guidance, role complementarity, mutual awareness and support, willingness, acceptance, tolerance and patience.

ADVOCACY

One important initial step in designing and launching any nutrition communication program is to get official program support by gaining the confidence of important national and local government administrators. With this support, project personnel can gain the ready cooperation of lower level officials, sometimes despite what the latter really believe or would like to do.

This calls upon project members to become nutrition advocates in proposing projects for official recognition. In certain instances, a well-known national leader may act as the project's spokesperson or sponsor. More often, however, it requires a collection of experts associated with the project to convince high level officials of a project's importance for the people and the nation.

For the SM/VAF project, its advocacy project entailed four main phases which culminated in a series of public relations activities among key officials within Thailand's Ministry of Public Health (i.e., Department of Health and the Division of Nutrition). These phases were *recognition; analysis; project feasibility; and projected benefits*. All these phases were communicated in

terms which were meaningful to government policy-makers and their work objectives. In summary form, these phases are as follows.

Recognition

Ministerial meetings were organized to legitimize nutrition improvement as a goal in national development. The information used in this education process was bold and dramatic, yet truthful. Data that everyone agreed reflected the nation's health and nutritional status was presented, along with acceptable viewpoints about the adverse extent of this situation on people's quality of life. Clear mention was also made about the impact of malnutrition on currently preferred development investments, such as those in education, curative care and regional development projects.

Analysis

Out of this commonly understood background information, project personnel next stressed that improvement of nutritional problems, like vitamin A deficiency, cannot be achieved through simplistic programs such as food giveaways or dole-outs. Dole-outs, as short-term interventions, may sometimes be needed. But in the long-run, they often lead to complex problems of apathy, passivity and high expectations of continued government assistance by community members. Long-term strategies require considerations of developing people's basic skills and participation in identifying their own problems and managing their own resources for nutritional improvement.

For food and nutrition programs especially, no single Ministry can shoulder the entire burden. It requires intersectoral cooperation and commitment. Once again, these points were met with agreement, largely because they are at the heart of Thailand's national basic minimum needs and quality of life programs.

Project Feasibility

This analysis enabled project personnel and ministerial officials to ascertain how the SM/VAF project's work plan and activities could potentially help in solving vitamin A deficiency and in line with Thailand's Five-Year Development Plan and objectives. It was also shown how the project could help to meet the nation's (and lower administrative levels') common nutrition, health and social development goals. It was at this point that the government's political will found expression and merged with the project, for it was in the officials' interests in solving the defined nutritional problem.

Also crucial was demonstrating how the project also fit within the official roles, duties and responsibilities of local level ministerial officials, and how it could give them incentive (through recognition) to assist in the project, improve their insights about community life, while creating and/or strengthening more positive relationships with villagers. Such enhanced relationships could also last beyond the life of the project and improve the implementation of future community programs.

In short, this stage presented the project's process and feasibility given existing governmental regulations and requirements. This was important since the project would require on-going official assistance as well as support during regularly scheduled project meetings.

Projected Benefits

The final step was to demonstrate how the SM/VAF project was one action which, after extensive testing, could possibly serve as a model for other new and innovative programs, such as the social marketing of iodized or double fortified (iodine, iron) salt. Project personnel focused their advocacy efforts on identifying opportunities which the project might provide for modifying current programs and projects not only in public health, but also for education, agriculture

and rural development.

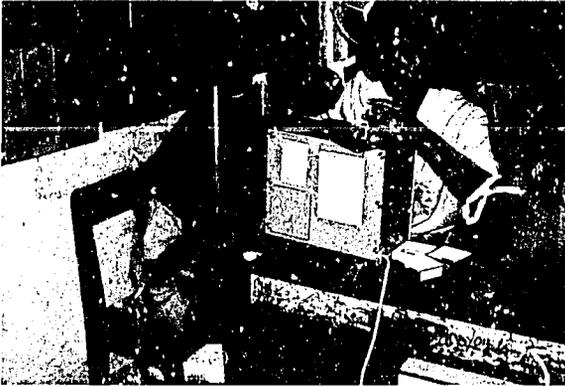
In summary, this process was not unlike presenting the SM/VAF project's original proposal as submitted to USAID. The difference rested, however, on its orientation to policy-makers and how it fit with their needs. As a result of this advocacy process, the SM/VAF project received formal support from Ministry of Public Health officials which was transferred down the governmental hierarchy to provincial and district administrators. Thereafter, the project's formative research and other stages could begin with the least amount of governmental obstacles.



Project planning meeting



Gaining project insights from a Buddhist monk



Dark adaptation testing



In-depth interviewing



*Group discussion with local
social development workers*

Formative Research and Audience Segmentation

Formative research was used continuously throughout the SM/VAF project to:

- 1) *design the communication program (e.g., identify factors that could influence the program; define audiences and their needs; food item(s) selection; select and pretest media, materials and channels);*
- 2) *monitor educational program progress; and,*
- 3) *evaluate the project's success.*

Audience segmentation divided the target population into similar groups based on common characteristics in participating and/or responding to the communication program.

INTRODUCTION

In the SM/VAF project, formative research was used to answer four key questions. The first two addressed quantitative measures and served as baseline surveys for project evaluation. The second two questions used qualitative research to uncover existing food practices and beliefs. The answers to these questions would help project personnel to develop the SM/VAF project's intervention and creative strategies.

1. *What is vitamin A deficiency's prevalence among target group members and their nutritional status?*

To answer this question, INMU's Division of Community Nutrition conducted indirect and direct assessments of nutritional and vitamin A status (via 24-hour dietary recall, dark adaptation, anthropometry, serum retinol) prior to and after the SM/VAF project intervention. Tests were conducted among preschool and school aged children, pregnant and lactating mothers in Kantharom and Trakan Phutphol.

2. *What are target group members' current levels of knowledge, attitude and practice (KAP) concerning the consumption of vitamin A-rich foods?*

To get answers to this question, members of Mahidol University's Faculty of Social Sciences and Humanities conducted a quantitative KAP survey before and after the communication program period and in the research and control areas. The survey was conducted with over 2,000 randomly selected women (pregnant and lactating mothers, mothers of pre-school children) using a structured interview schedule.

3. *What are community members knowledge, attitudes and behaviors (prior to project implementation) -- as qualitatively assessed -- concerning general nutrition and vitamin A-rich food consumption? Relatedly, what resistance points (obstacles to consuming vitamin A-rich foods) and facilitating factors (constructive knowledge, attitudes and practices; perceived needs) exist which can guide program planning and development?*

For these questions, INMU researchers conducted structured observations and in-depth interviews to gather household food security data and behavioral information from 60 community mothers with children aged 0-72 months as well as 105 local leaders and health care providers.

In addition, researchers from the Institute for Population and Social Research, Mahidol University, conducted 8 focus group sessions with a total of 70 mothers of children aged 0-60 months. Economic, social, cultural and psychological variables and underlying processes influencing food consumption patterns were investigated.

In total, these three formative research areas gave the project team clear knowledge about the local population in terms of the prevalence of vitamin A deficiency; individual knowledge, attitudes and practices concerning the consumption of vitamin A-rich foods; and the role of individual and community factors in influencing general nutrition and vitamin A-rich food consumption.

To place the answers to these questions in a proper perspective, the remaining part of this chapter summarizes salient information gained in the qualitative investigation as they impinged on program planning and development. Quantitative results (nutrition, vitamin A status; KAP) will be presented in the chapter entitled "Evaluation" through a comparison between baseline and summative evaluation results.

IN-DEPTH INTERVIEW AND FOCUS GROUP RESPONDENTS

On the average, the women interviewed ranged in age from 18 to 43 years, and the majority had a primary level education. They lived in families averaging six persons per household. Their primary occupation was rice farming; secondary occupations included cash cropping and wage labor. Annual family incomes from rice farming as well as subsidiary occupations averaged 5,000 baht (approximately 200 US\$). Most families owned their own land.

FOOD AVAILABILITY

A wide variety of foods were available within the research communities. Food items were either raised (via home gardening, small animal husbandry), gathered from around the village, and/or purchased at the district market or a "mobile" market which

periodically visited each community. Foods sold in mobile markets usually entailed inexpensive items such as chicken bones, sausage, mackerel, preserved fish, mustard greens (fresh and pickled), tomatoes, beans, pumpkin, oranges, bananas, and noodles for preparing desserts. Villagers preferred buying foods from shops and the mobile market, since the number of available natural food sources appeared to be declining.

Nevertheless, vegetables which could not be readily obtained naturally were also being grown by villagers. An average of 70% of village households had kitchen/home gardens.

Regarding potential meat protein sources, 80% of families possessed a buffalo and raised chickens, 75% owned a cow, and 12% had a pig. These animals, however, were not common household food sources. They were raised either as draft animals or for breeding and selling. Only on special occasions would they be slaughtered for family use.

During in-depth interviews and focus group discussions, village women stated that they did not routinely eat meat (chicken, pork, beef, liver) because such foods were not readily available or affordable through the mobile market. The district market was also too far away to provide a continuous supply, and it took time and money to go there. Fish, however, was one staple protein source.

FOOD PREPARATION AND CONSUMPTION

Community members in each research area ate three meals per day; family members ate together rather than separately. In addition to glutinous rice, each meal contained only one or two other dishes, depending on the kind and quantity of food available. More often than not, these dishes served as condiments for a glutinous rice-based meal instead of substantial independent portions.

The main food preparation methods were grinding, grilling, boiling, steaming and frying (i.e., stir-frying, deep-fat frying). Which method was selected depended upon five main factors: 1) the amount and variety of available raw materials, 2) the family's

purchasing power, 3) the customary way each food was prepared, 4) compatibility of different dishes (e.g., certain vegetables go well with certain curries), and 5) the frequency with which a certain method had recently been used.

In times of plenty (raw materials, money), different dishes would be prepared using different food items. When raw materials were in short supply, a single food item would be prepared in different ways. For vegetables, this usually involved stir-frying, boiling or baking. Meats and fish were customarily boiled, fried, grilled or steamed. Preparation methods were usually changed on a day-by-day basis so that family members did not become bored with one particular method. Fried foods (except for eggs) were newly prepared for each meal to avoid their becoming rancid.

Community members ate foods prepared with oil, and over half of the families had cooking oil readily available. For the Northeastern Thai, fried foods meant meat or egg fried with vegetables. The most common dishes were fried cucumber with egg; stir-fried morning glory; stir-fried mustard greens, Chinese kale, string bean or cabbage with minced pork; and fried egg with pumpkin. Once again, whether or not these foods were prepared depended upon the availability of ingredients, especially meat.

Older family members, however, did not like to eat oily foods with glutinous rice, although younger adult members and children did so. Coconut milk was also a common food item. However, it was usually only used in preparing desserts, some of which contained pumpkin.

In general therefore, household food security was not a significant problem due to many available and acceptable food sources and obtainment methods. Vitamin A-rich food sources were available, but no single item or group of items were routinely consumed on a daily or every other day basis. They formed a minor part of the glutinous rice-based diet.

At this stage, the main resistance points were family purchasing power and a limited supply of meat. Cash-crop raising and gardening were common practices, however. Thus, an adequate agricultural knowledge base existed, particularly in terms of

irrigation practices. Gardening, though, usually entailed growing food items which could be prepared in different ways and for varying uses (such as a food used for main dishes and desserts).

Hence, food promotion efforts needed to center on food items which were available from a number of sources, already a part of the local diet, and readily prepared in a number of ways (through existing recipes and new ones).

PREGNANT WOMEN AND NUTRITION

Most in-depth interview and focus group women believed that pregnant women should eat what they wanted; foods for pregnant women should not differ substantially from the routine diet. Nonetheless, elderly community members oftentimes adhered to traditional food beliefs and taboos. Frequently, they also had a powerful say over the food habits of pregnant women, particularly those experiencing their first birth. For example, it was felt that pregnant women should not eat foods containing fish, pork, meats, eggs, fats, oils or coconut milk, because these would cause the fetus to grow large and lead to a difficult delivery. Green vegetables and yellow fruits could cause indigestion and diarrhea.

The women also said that traditional food beliefs and taboos were on the decline. A wide variety of foods were readily available and a loss in appetite had a greater effect on restricting food intake than traditional beliefs.

In selecting new foods to eat, pregnant women applied a process of experimentation. If a pregnant woman desired a certain food, she would start by eating a small portion. If she experienced no ill effects, she would incorporate it into her regular diet (or whenever she desired it). Working along with this experimentation process was the number of prior pregnancies a woman had experienced. In essence, the more pregnancies a woman had, often accompanied by increased food experimentation, the more likely it became that her food intake would be varied.

For women who adhered strictly to traditional food beliefs, most were very poor. They wanted to eat a variety of foods, but they were afraid their babies would grow large and cause a difficult delivery. They would then have to go to a hospital to give birth and pay for hospital services, rather than use inexpensive traditional birth attendants in the village.

Consequently, it appears that the adherence to traditional food beliefs rested on two major factors: the degree elderly family members had influence over pregnant women's food choices and family economics.

During pregnancy therefore, six main factors determined a woman's food intake: 1) her food preferences, 2) bodily symptoms (e.g., flatulence, indigestion), 3) degree of elderly influence, 4) degree of health service provider influence, 5) number of previous pregnancies, and 6) economic status.

Of these, her physical state was one of the major personal determinants. Whenever they felt ill, pregnant women would reduce their food intake. They saw no association between this and the health of their unborn children. Although they might not adhere to traditional food beliefs, many women would not eat vitamin A-rich foods, for they believed such foods might cause physical discomfort and illness.

Most importantly, however, all pregnant women (and mothers, in general) wanted to have healthy children. They also saw a need for improved child care knowledge and information beginning at pregnancy. In addition, they believed that if a pregnant woman was not healthy, she would not be strong enough to deliver her child safely or care for it in the future. Hence, incentives existed for designing a communication program aimed at educating mothers about proper food consumption practices with a focus on their perceived need for improved child health, in general, as well as nutrition.

POST-PARTUM AND LACTATING MOTHERS

For women in the research areas, preparation for breast-feeding began right after delivery. Consequently, practices believed to stimulate milk flow were absent

during pregnancy.

After delivery, post-partum women observed a complex set of customary practices governing both the food they ate and the activities in which they could participate. Food restrictions aimed at assuring a steady flow of high quality breast milk. Post-partum foods permitted were characteristically white in color, a symbol of good quality or the correct milk concentration.

Post-partum food restrictions were thus believed to promote maternal health. The idea was that, if a woman was healthy and not susceptible to disease, she would most likely produce high quality milk.

A post-partum woman's diet mainly contained roasted glutinous rice, salt, grilled chicken and grilled pork. Elderly community members felt that if a woman ate savory, wet or oily foods, her uterus would remain wet. Dried foods, rice and salt would make the uterus dry and return to normal.

Vitamin A-rich foods that were restricted for post-partum and lactating women fall into four groups.

Vegetables. Common forbidden vegetables were acacia, ivy gourd, sweet basil, bamboo shoots, string bean, cucumber, margosa, mushrooms, bitter melon and cauliflower. These vegetables were believed to pollute breast milk or cause maternal illnesses such as vaginal irritation and bleeding, headaches or fever. Other vegetables could be eaten, if they were prepared without oil.

Fruits. Fruits were restricted during lactation since they were believed to pollute breast milk or cause stomach aches in the child. Such sour tasting fruits included oranges, mangoes, tamarinds, pineapple and guava. The others were sweet tasting fruits such as watermelon, jackfruit and banana.

Fish and Meat. Breast-feeding woman did not eat certain types of fish (e.g., catfish, carp, snakehead fish, scaleless fish). White buffalo, duck and birds were also forbidden because they might cause headaches or weakness. Grilled pork, chicken or beef however were allowed if they contained little fat.

Eggs and Liver. Eggs were not prohibited for post-partum women, except during the early post-partum period. Although liver

was rarely available in the villages, it was not a prohibited food. Its recommended method of preparation was grilling.

As with pregnancy, food restrictions are declining in frequency and duration for post-partum and lactating women. In several families, though, these remain through influential elderly community members.

Early on, project personnel realized that an approach for changing these influencers' attitudes and practices must be based on a non-conflict model. Project collaborators jointly felt that choosing project spokespersons who the elderly respected would be the most appropriate strategy for change. As it turned out, these persons were village monks (Buddhist priests).

NUTRITION AND THE CHILD

Infants Aged 0-3 Months

The vast majority of respondents stated that they breast-fed their children; the only exceptions were mothers who had insufficient milk. All respondents except one gave their children colostrum. Most often, infants were also given either pre-masticated rice (with or without mashed banana) or rice soup with ivy gourd as early as 2 to 3 days after birth. This was done to satisfy the child's hunger for longer periods of time so that caregivers could do other household activities. This practice was accepted even by mothers who received prenatal care and/or delivered at the hospital. As a child became older, the mother would begin feeding him/her fish and pork along with rice and ivy gourd. Feeding was done on-demand instead of being scheduled.

Children Aged 4-12 Months

During this period, a child's diet expanded, although breast-feeding remained the major source of vitamin A. Most mothers had positive knowledge and attitudes toward feeding a child a wide variety of foods, both meat and vegetable. Other than those mentioned above, additional foods which were given included egg, soybean milk, morning glory, spinach, bread, soups, cakes,

frog, minced meat, popcorn and oranges. The basic food, though, was still rice soup. Children very rarely, if ever, ate foods prepared with oil. In selecting foods for a child's diet, mothers used those that were readily available and accessible.

Some traditional food beliefs were still held by some mothers, especially those from families with influential elderly persons. For example, the elderly believed that children under one year should not eat fish, eggs or papaya, since these would cause gastrointestinal problems. Some also stated that pumpkin, eggs, fish and meat could cause tooth decay and/or parasitic infections.

Children Aged 13-24 Months

At this age, mothers gradually stopped preparing special foods for children. Since their children had teeth, mothers felt that they could chew meat and become accustomed to a mainly rice-based diet similar to adults. They were allowed to eat anything that they chose including fried foods. As with adult diets, the main determinants of food intake were food availability and/or money for purchasing food items.

Children Aged 25-72 Months

Children were fully weaned by 2 years of age. They consumed the same types of foods as adults, though spicy foods might be restricted. Eggs, in particular, stood out as a favored food/protein choice due to their ready availability and low cost. Mothers also wanted to give their children meat, but this was expensive. Of secondary importance were fruits and vegetables.

Most significantly, mothers of children of any age realized the importance of vegetables in a child's diet, however they did not feel it was necessary for children to eat them regularly. Favored vegetables of children included ivy gourd, swamp cabbage, cassava leaves, Chinese kale and celery cabbage.

Mothers also accepted physicians' advice that feeding oily foods was beneficial for a child's health. Nevertheless, fried foods were not a major part of the routine family diet,

largely because of an inability to buy meat regularly. Boiled foods were more common.

Mothers also realized that vitamins were important for child growth and development. They noted that if a child's vitamin intake was low, they would become sick and malnourished. Yet, mothers were generally unclear about the usefulness of specific vitamins. From the mothers' viewpoint, the most common vitamin A-rich foods were vegetables (i.e., ivy gourd, Chinese kale, celery cabbage, swamp cabbage), meat, animal liver and fruit (ripe mango and papaya).

SUMMARY

Overall, the formative research results showed a number of areas affecting general nutrition as well as vitamin A consumption, for example, family economics; traditional beliefs about food, pregnancy and child development; low levels of nutritional awareness; personal preferences; and family members' roles in affecting nutritional decision.

Of special importance, however, was information about "promotion." When mothers were informed that their children could become blind because they did not consume enough vitamin A-rich foods, the mothers were unconvinced. They had not seen any children going blind in the village. However, mothers did admit that their children were often sick from diarrheal disease, respiratory tract infections and other disorders associated with vitamin A deficiency. Rectifying this situation represented their main need and want, with a subsidiary one being increased access to food sources. The SM/VAF project thus focused on promoting child nutrition and health as opposed to blindness.

AUDIENCE SEGMENTATION

Through formative research data and discussions with community and government leaders, the SM/VAF project personnel got a thorough understanding about the life and food practices of the local people. They were then able to identify the target groups and

segment the population into specific audiences.

Specifically, clinical vitamin A assessments identified preschool and school aged children, pregnant and lactating mothers as the communication program's main target groups. The project then focused its communication effort on changing this group's food habits using two strategies.

The first strategy involved encouraging these individuals to be "agents of change," rather than simply "receivers" of messages and new practices. For example, school children were exceedingly active in propagating the ivy gourd and establishing school and home gardens. The second strategy rested on identifying and using influential audiences to help promote changes in target group behaviors.

Audience segmentation broke the total population into segments based on common characteristics in participating and/or responding to the campaign. The segmentation focused on three organizational levels (individual/family, community, and extra-community) and three types of support, namely, target group caretaking; inter-personal influence; program support.

For the SM/VAF communication program, the *primary audience* consisted of primary child caretakers such as mothers, grandmothers, and older siblings. These persons were largely responsible for daily child care, especially regarding nutrition. They also cared for and affected the food habits of pregnant and lactating mothers. The primary audience members' response to the nutrition campaign would rest on incorporating vitamin A-rich foods into the target group members' diets.

The *secondary audience* comprised community members who could teach, support and reinforce the practices and beliefs of the primary audience and target groups. This set contained such people as teachers, volunteer health workers, subdistrict and community extension workers, and community leaders.

The *tertiary audience* entailed persons who were largely external to the project communities. Some would be familiar with the villages, while others would not. Nonetheless, the project would need such individuals by virtue of their expertise or

official positions. On their part, they would serve as valuable sources of information for project development along with local community groups. Such persons included provincial and district health, education, agriculture and rural development personnel, local mass media representatives, communication and marketing specialists, and university researchers.



In-depth interviewing



Focus group discussion

IMPORTANT FORMATIVE RESEARCH RESULTS

Household food security was not a problem. About 70% of households had home gardens. Many food sources were available and acceptable, along with a wide range of food preparation and obtainment methods.

Vitamin A-rich food sources were also available, but no single item or group of items were routinely eaten.

Family purchasing power and inadequate meat supplies limited the diet.

Elderly community members often adhered to traditional food beliefs and practices, especially for pregnant, post-partum and lactating women as well as children. This limited the intake of vitamin A during crucial life events.

Food restrictions, however, were declining in significance.

Mothers realized the importance of vegetables and oils in children's diets, but these were not routinely eaten.

Mothers also knew the value of vitamins for child growth and development, and that without them their children could become sick and malnourished. They were generally unclear, however, about the usefulness or effects of specific vitamins. They did not realize vitamin A deficiency could lead to blindness

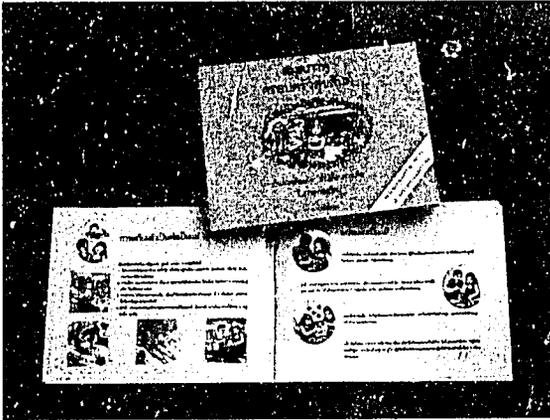
The main felt need of mothers was for information and guidance in promoting child health and nutrition.



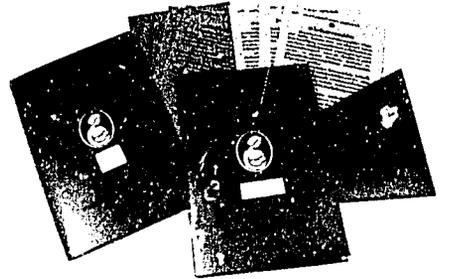
Project pamphlets



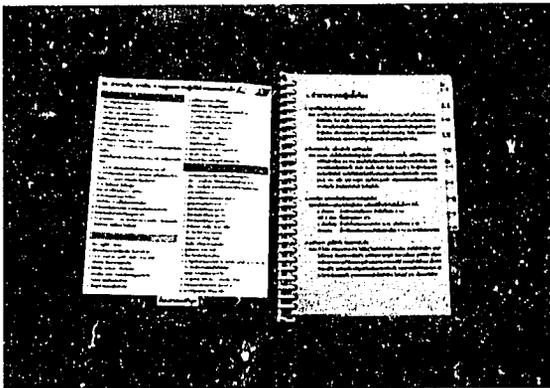
'From Teachers' Hearts to Parents' Hearts' newsletter



Happy Family Album



Radio program scripts



Health manual

Communication Program Development

After completing the field investigation, the next step is to develop the communication program. This entails:

- 1) creating working partnerships between all persons and organizations to be involved in the communication program;*
- 2) selecting the product to be promoted and pretesting it among the target population;*
- 3) selecting media and interpersonal channels for conveying messages;*
- 4) developing and pretesting creative messages that will inform and motivate target group members and reinforce their adoption of new behaviors;*
- 5) selecting effective program sponsors; and,*
- 6) developing media materials that can potentially be used as models by other project change agents.*

INTRODUCTION

By its very nature, a nutrition communication program is a cooperative, participatory endeavor. Although members of the Institute of Nutrition and high ranking officials in Thailand's Ministry of Public Health had final responsibility for the SM/VAF communication program, the

project's success depended upon the involvement, interest and support of personnel of other ministries, health professionals, university researchers, development workers in many sectors, local health workers and volunteers, media agencies, public officials, popular opinion leaders within the communities, and even funding agency personnel.

The need for cooperating with these various groups and expanding the project's circle as widely as possible was the most important management challenge. To a great extent, all of these parties were involved in the program's production; each had part "ownership" in it; and, over time, each became committed to its success.

This chapter describes the development of the SM/VAF project's communication program. It is divided into three main sections: project management (which in itself required multiple lines of communication), intervention strategy development, and creative strategy development.

PROJECT MANAGEMENT

A project manager and a project coordinator were responsible for all communication program activities. Under these two persons were two main subteams; one subteam was responsible for developing media communication programs, while the other helped in developing, implementing and monitoring action programs.

For each subteam, several subprograms were taken care of by at least two persons. The action program subteam, based in Srisaket, held monthly meetings with the project manager to report on the progress of subprograms and to fine-tune future actions.

The media communication subteam, based largely at INMU, conducted meetings as required. They also regularly received information to develop communication materials from a project field coordinator who lived in the area during the communication program.

But while a certain degree of division of labor existed, different subteam members often worked together and shared responsibilities for certain projects, such as the use of media to support action programs, and the input of action team members in developing community-sensitive and appropriate media materials.

An Interdisciplinary Team

From the very start, the project manager and her team realized the necessity of a holistic, interdisciplinary approach to make project activities fit within the communities. University researchers and specialists in agriculture, education, anthropology, biomedicine, communications, economics, public health, and nutrition were approached separately, informed about the SM/VAF project and encouraged to lend their expertise and insights into its development and implementation.

Special emphasis was placed on telling each specialist that his/her knowledge would help to fill in gaps that exist between disciplines. Thereafter, a technical interdisciplinary meeting was organized containing representatives from all disciplines.

At this meeting, participants were asked to react to the formative research results based on their own knowledge and understanding. Later on, the project manager and her teams once again consulted each disciplinary specialist separately to gain their individual (as opposed to group) perceptions on specific issues and the project overall.

Working with High Level Government Officials

At the project's beginning, the Director of the Nutrition Division, Ministry of Public Health (MOPH), was invited to be the project co-director. In this position, he received progress reports every three months. The project manager also visited him at appropriate times to gain his advice about how the project could be implemented in line with the Thai government's development

plans and social development delivery systems.

When the project was first launched, a project national policy committee was formed, consisting of members from the Nutrition Division of the MOPH, relevant government personnel from the regional and provincial levels who were working in the intervention and control areas, and project intervention team members.

During the project's planning period, this committee met once every two to three months to discuss the project's intervention plan and communication strategies. In the implementation period, meetings were held every three to six months at which time the intervention team reported on the project's status and they asked for advice about existing activities as well as future ones.

Working with Provincial Government Officials

Project personnel visited key government officials working in Srisaket province before formally starting the project. These visits aimed at acquainting the officials with the project's objectives and work plan, in addition to obtaining important information about how they felt the project could best fit with their own, as well as communities, existing needs.

Later on, MOPH officials asked the governor of Srisaket to nominate provincial and district committees to assist the project. For the planning period, these committees met once every two months at which time project intervention and communication activities were discussed. During the intervention stage, they met once every three to four months.

At each meeting, project personnel presented a status report. They also asked the committees to help propose and implement affiliated projects which would support their own governmental activities, within the existing system, as well as compliment the project and its objectives. For example, home gardening was proposed and accepted as one such activity.

Working with the District Committee

While the district committee was formally nominated by the governor, the project coordination team had already contacted key district officers well beforehand. Project personnel realized that the district would be the most key partner, and the sooner ideas and plans could begin, the quicker the project could commence on firm ground.

During one of the first formal meetings, district officials were presented with the project's formative research information, overall intervention approach and communication strategies. Project personnel then asked each of the main district officials from health, education, rural development and agriculture to identify some practical activities which could be implemented within their current scope of work while also helping to solve persisting health and nutritional problems.

To make this process systematic, each office was asked to submit a proposal to the district committee. Committee members then evaluated the proposals and assisted with budget allocations. The head district officer (*nai amphoe*), serving as committee chairman, managed the financial aspects for each granted project. One of the accepted proposals was for home gardening. Thereafter, the district committee met once every two to three months to monitor the progress of activities, identify problems and formulate feasible solutions.

In addition, the SM/VAF action program subteam followed-up and worked with local officers (e.g., subdistrict officials, village headmen and other leaders) during the actual implementation of activities. Project personnel also joined in with district-organized activities during the implementation period, ranging from the district hospital's "Healthy Child" contest to religious festivals and national celebrations. Project personnel provided advice and assistance but did not dictate about how activities should be run. Final decisions were left totally up to district and subdistrict development personnel and community leaders.

Even in certain circumstances where project personnel were aware that certain

activities and/or actions would not succeed, they abided by the wishes of the district committee and community action program organizers. The belief was that even unsuccessful efforts would help create a self-learning process for these officials. From their mistakes, they would learn better about how to implement future activities, including those which were not project-based but part of their regular duties.

During this time, and along with providing advice to district action program officials, project personnel also took action on other activities such as media program pretesting and implementation.

Working with Communities

By cooperating with the project district committee, project field workers were invited to meet with community leaders (e.g., headmen, members of village committees and mothers groups) during official monthly meetings. At this time, each field worker discussed the project, and he/she asked community leaders to voluntarily assist in undertaking activities which would help their communities to meet existing, recognized needs. Community leaders were kept informed about the project through media and interpersonal communication with the project coordinating team.

During the massive campaign period, the project asked for special community volunteers who were given a nominal wage for three months as an incentive as well as giving the project a sense of real value. After a three-month period, this monetary incentive ceased, yet nonetheless all community volunteers remained active project collaborators without any incentive whatsoever.

Working with Private and Non-governmental Organizations

Project personnel realized that nutrition communication programs should call upon experts in advertising to develop creative messages and materials along with mass media agents to assure effective messages/materials dissemination.

Early on, a meeting was held with advertising specialists in Bangkok to obtain their views about the creative strategy development. Out of this, one well-known advertising and marketing specialist agreed to be the project's technical advisor. He was instrumental in developing and targeting the project's media programs and messages.

In addition, non-governmental organizations (such as the Media Center for Development) assisted project personnel in developing and producing appropriate media. A meeting was also organized with the Srisaket Radio Announcers Association. At the meeting, the announcers agreed to voluntarily broadcast messages prepared by the project's media team during the entire intervention period. They also assisted in adapting messages, using their own insights and knowledge, to make them more appropriate and effective. Announcers also visited villages to promote the project and create a forum for sharing community members ideas and input into developing project activities even further.

Network Creation

The above stages represent the project's management and organization as it created working partnerships and a project network which reached from the central level (MOPH) down to the village. While this structure seems to be hierarchical, in actuality it was based on complimentary activities. For example, district and community action programs complimented the project intervention team's media programs, and each person (from the district on down to the community) was given, at least implicitly, a role and responsibility which fit within the project's organization. As a result, the project created a network of many individuals who carried out their duties based on how they thought each activity should be undertaken, not how project personnel felt or believed.

But how did project personnel know that activities were conducted as expected (and in certain cases unexpectedly)? Sensitivity and the ability to adjust immediately to new situations was crucial for the success of this project. From the very beginning, key project

collaborators were trained to listen to all persons involved, no matter whether they were the district head or a village mother. For example, early in 1990 a training session was organized for key Kanthararom district officials on applied psychology for field personnel. Its emphasis was on improving the quality of community participation.

The communication system was set to be as dynamic as possible in order to gain as much knowledge, information and insight into what was going on at each level. Members of all project committees (national on down to district) as well as project technical advisors were encouraged to visit the intervention area so that they could learn first-hand about what constraints and facilitating factors would need to be considered in designing and implementing all project activities. Yet, direct community visits, while being conducted intermittently, were limited to only occasions when they were absolutely necessary. This was done to minimize the effect of such visits on the local people, avoid imposing the project on them, and thus adversely affecting the project's outcome and sustainability.

INTERVENTION STRATEGY DEVELOPMENT

Beginning in January of 1989, the project's formative research results were presented at a project meeting attended by members of INMU, university researchers and other relevant parties as noted earlier. From these discussions, meeting participants decided that increasing target group consumption of beta-carotene, via leafy green vegetables (LGVs) along with fats and oils, would most likely be the best intervention strategy.

LGVs were selected over retinol from animal sources for three major reasons, i.e., village households did not have a means to refrigerate animal meats (especially liver), most women generally did not go to the market on a daily basis, and the cost of meat was prohibitively high.

Four types of vegetables were selected for testing based on vitamin A content and availability: 1) ivy gourd [*Coccinia indica*]; 2) swamp cabbage [*Ipomoea reptans*], 3) chinese

cabbage [*Brassica chinensis*], and 4) sesbania leaves [*Sesbania roxburghii*].

Product, Market and Behavioral Testing

These LGV's thus became the project's initial products. To determine if community members would accept LGVs into their diet, a period of *product testing* was done.

This testing period and its subsequent stages may, at first, appear to slow down the intervention process. For some researchers, it is viewed as an unwanted expense in terms of time, money and effort. However, neglecting this stage may later result in much greater losses of effort if the untested product(s) or strategy fail on the large scale.

Part of product testing also included market testing and behavior trials. Market testing involves promoting a product in a limited area to see how people respond. Behavioral trials help to determine if community members are able to use or prepare products correctly.

One week after the meeting where participants selected LGVs as the intervention products, small-scale market and behavioral tests were conducted with a representative group from the target population. This "strategy testing for intervention planning" stage had four main objectives:

- 1) to determine implementation strategies that would be practical and acceptable for community members;
- 2) to collect further data for understanding the target groups, especially in terms of changes in consumption behaviors after strategy testing;
- 3) to determine factors affecting the non-consumption of LGVs, fats and oils even after strategy testing; and
- 4) to provide core information for planning, developing and implementing the project's communication strategies.

Strategy testing involved 70 people from 7 different villages and subdistricts in Kanthararom. This group contained pregnant women as well as lactating mothers with children aged 0-3 months, 4-12 months, 13-24 months, and 25-72 months.

Testing lasted for two weeks. Twice during the first week, the quantity of vitamin A-rich foods consumed by each target group at each daily meal was collected using the 24-hour dietary recall method. Measuring cups and spoons, a calibrated bowl and food metric scale were used to assist in assessing amounts.

During the second week, target group mothers were asked to consume one of the four following LGVs each day at the recommended amounts:

- 1) boiled, steamed or fried ivy gourd at 3/4 bowl per day;
- 2) fresh, boiled or fried swamp cabbage at 15-20 tops per day;
- 3) boiled or fried chinese cabbage at 20-25 stalks per day; or
- 4) boiled sesbania leaves at one bowl a day.

For target group children, mothers were asked to feed them the following foods each day:

- 1) Children aged 0-3 months: mothers' milk only.
- 2) Children aged 4-12 months: either ground yolk, liver and pork; or ground ivy gourd and boiled swamp cabbage.
- 3) Children aged 13-24 months: either cooked ivy gourd (approximately three tablespoons per day); or cooked swamp cabbage (approximately 10 tops).
- 4) Children aged 25-72 months: either cooked ivy gourd (approximately four tablespoons per day); or cooked/fresh swamp cabbage (approximately 15 tops).

During and after this second week, 24-hour dietary recalls and interviews were repeated with the target groups. In addition, structured interviews were also undertaken to determine reactions of target group members towards consuming vitamin A-rich foods before and after strategy testing, as well as changes in eating behaviors and reasons for changes or non-changes.

Summary Results

Prior to testing, each of the target groups ate LGVs, fats and oils below the recommended daily amount. After the testing period, however, adequate consumption rates increased markedly. Since mothers were not forced to comply with the new diet, and were free to reject it at any time, these results reflected an acceptance of LGVs in the routine daily diet. It also confirmed the implicit hypothesis that LGVs would be an acceptable product for the social marketing campaign.

Interviews, moreover, identified the unavailability of LGVs and fats/oils as the most common obstacle to consumption. This did not mean that the mothers did not have access to such vegetables and fats/oils. They could be obtained, but only through purchasing or taking extra time gathering in the case of certain LGVs which grew wild.

Mothers, both before and after testing, did believe that eating green vegetables along with fats or oils would make children strong and healthy. They would also provide added nourishment for expectant and lactating mothers. The women also noted that eating vegetables regularly during the testing period helped them to digest their food and avoid problems of constipation and flatulence.

Product and market testing also showed that LGVs were acceptable for incorporation into these groups' daily diets in terms of personal preference. Behavioral trials, though, noted that mothers required more information about exactly how much of the LGVs needed to be consumed on a daily basis after the intervention period ended.

In short, most mothers possessed positive attitudes about adding LGVs and oils/fats to their routine family diets, especially if such

foods (and most notably LGVs) were made more readily available. Communication messages, moreover, would be most effective if they centered on the caring relationship a mother has towards her child and the mechanisms for promoting child health.

Identifying the Target LGV

The next step in the intervention process was determining exactly which product(s) to promote. Initially, university researchers suggested promoting all of the vegetables.

To see if this approach was feasible on a social marketing basis, the project manager consulted the project's advertising/marketing specialist. He strongly suggested that the project promote only one specific vegetable and promote it in such a way so that it could become an image representing other vegetables high in vitamin A. In this way, project resources could be focused, yet have a broad impact. Moreover, by promoting more than one vegetable, community members might become confused and concerned over "which one was best." His descriptive analogy was that no company promotes three products at the same time, all of which have the exact same benefits. The cost in advertising and other resources would be spread too thin, and no one single product would "catch the consumer's eye and stick in his/her mind."

Upon returning this recommendation to the panel, some doubt was expressed by panel members, but the project manager felt that promoting one vegetable would be the best mechanism overall, particularly in terms of project control and management. Of the three vegetables, therefore, the ivy gourd plant was chosen because it had the highest vitamin A content and children found it most palatable.

CREATIVE STRATEGY DEVELOPMENT

A creative strategy sets forth how and what will be said to different audience segments about the product being promoted, in this case the ivy gourd. It establishes a common approach and themes which tie

together all aspects of the promotion, and it grows directly out of program objectives and the results of formative research and intervention testing.

To be effective, messages must be phrased and delivered so that they excite the eye and ear of target audiences; they should also create affinity and generate trust between the acknowledged message sender and its receiver. At one and the same time, advocated behaviors must be promoted through media and messages which appeal to both the heart and the head.

Channels of Communication

Ideally and within a project's resource capabilities, a social marketing/nutrition communication program should incorporate a balanced mix of media and interpersonal channels. In selecting media channels especially, the rule should be to *select those media that will support interpersonal community action programs*. For instance, pamphlets on ivy gourd growing complement home gardening activities; radio programs support 'Meet the People' community visits by radio announcers; audio-visual materials on child care and nutrition support maternal counselling and traditional birth attendant training programs.

The use of multiple communication channels is important. Collectively, they reinforce each other as per their *reach* (number of target audiences who see or hear a message), *frequency* (average number of times a target audience hears or sees a specific message), and *content* (quantity and/or type of messages received) in a given period. Moreover, they also increase *coverage* when certain media may be available in some places but not in others (e.g., radio transmissions).

The SM/VAF project used seven different media and interpersonal channels. These also entailed several devices to advertise the ivy gourd and educate people about its production and consumption. These channels consisted of:

- 1) interpersonal/group communication (demonstrations, training sessions, competitions, exhibits, dramas,

outdoor shows, concerts),

- 2) public address systems,
- 3) radio spots and programs,
- 4) posters (displayed on homes, schools and other important village locations),
- 5) printed materials (manuals, T-shirts, direct mail, pamphlets, albums, newsletters),
- 6) billboards, and
- 7) audio-visual materials (videos, cassette tapes).

The objectives of the media channels (items 2 - 7) were to: (1) raise awareness and create a "nutrition information society," (2) reinforce activities carried out by other project collaborators (such as district and community action programs), and (3) position the consumption of vitamin A-rich foods and the ivy gourd in the minds of community members.

These media channels however depend largely on one-way communication, direct from the message source to the receiver. They need to be complemented by interpersonal, or face-to-face, communication (item 1 above) which is two-way. The strength of interpersonal communication is that there is an opportunity for questions, discussion and feedback. It is possible to check for understanding of a message and, if necessary, to explain specific points further, whereas a one-way communication flow may be satisfactory for giving simple facts.

The SM/VAF project's interpersonal communication objectives targeted: (1) obtaining feedback and clarifying community members' understanding about health and nutrition, (2) creating a common 'need and demand' for change through open discussions, (3) providing in-depth guidance and information on exactly the steps which can be taken to improve health and nutrition, and (4) promoting the correct usage of products (LGVs, oils/fat) through participatory learning experiences.

Unifying Message Identification

An effective social marketing/nutrition education message is one which is carefully crafted -- generally a single idea -- to sensitize, and motivate a target audience, while promoting a nutrition-enhancing product, service and/or practice.

Early on, the SM/VAF project sought such a primary promotional message that would establish a common theme for all activities. It also needed to set the campaign's overall tone and serve as a coordinating mechanism between all eight channels. The message needed to possess an emotional yet rationale appeal, in line with rural life as per image and mood (family-centered) and in support of data collected during the period. It also required appropriate phrasing to tie together all aspects of the home gardening and nutrition promotion and deliver them simultaneously under this main umbrella of understanding.

Rather than project personnel developing the project's unifying message, team members felt that the best persons who could elicit such a message would be the people themselves. Hence, members of local and district organizations voluntarily entered an informal "slogan writing" competition. The winning message was *A Mother Loves Her Child (Mae Rak Luuk)* which thereafter appeared on all project materials.

Message Process

An effective social marketing campaign often will utilize a variety of messages over time. Messages will vary according to the stage in the nutrition communication campaign, since what is effective at one stage of the process will not necessarily be effective at another.

Researchers have outlined a theoretical model of the adoption process people go through in accepting new products and practices. According to the model, individuals go through at least four distinct stages before adopting a behavioral change decision. These are: attention, interest, desire, and action.²⁴ Messages must be geared to these distinct stages of the adoption process. Moreover, effective

messages must be culturally relevant, believable and doable by the target audiences.

The *Mother Loves Her Child* slogan, as a unifying message, supported each of these adoption stages. While it aimed particularly at motivation, other messages required delivering based on the project's campaign behavior change objectives.

In Thailand and elsewhere, health educators often introduce new practices by solely stressing their health benefits. Often these fail, since they do not create an interest and, later, a need and demand for behavior change among the potential target adopters.

The SM/VAF project, however, reversed this process. The project initially used messages to *inform and create awareness*. The first main message was simply "Let's Eat Ivy Gourd." This message was communicated using the above mentioned mass media channels. It was also incorporated into existing local health education materials, some of which were not nutrition-centered.

The project then moved on to messages which could *motivate people's behaviors*. Since the project focused on home gardening, the main message was "Let's Grow Ivy Gourd." In addition to media programs, the project used community competitions and other interpersonal and group forums for encouraging ivy gourd cultivation and the sharing of information and knowledge. They initially centered on school children and later households.

In the project's final stages, messages focused on *reinforcing behaviors* and carried with it the main message "Healthy and Strong." At this stage, project personnel introduced the ivy gourd's health benefits since the people were already aware of the ivy gourd, possessed positive attitudes toward it, and were well-motivated in adopting new practices. The project also promoted food demonstrations and ivy gourd recipe competitions to maintain motivation and behavior changes. In particular, posters featured national and local folk singers as sponsors holding foods made of ivy gourd and communicating the message.

Message Development and Pretesting

To develop these messages, the SM/VAF project's media development subteam studied the project's formative research results as well as that of the product testing stage. From these, subteam members developed draft messages which were reviewed by communication specialists, content experts, and local health officers.

For printed materials, drafts were then shown (pretested) to at least 25 representatives of the target population (e.g., community mothers, local leaders) to gain their views about wording and design. In designing posters, for example, team members took actual size drafts and showed them to mothers. They would ask the mothers what they thought about the picture(s). Team members would then show examples of messages, separate from the pictures, and ask the people to pick what picture goes best with what message and why. When messages and pictures were not understood or perceived correctly by the target group, they were re-designed based on mothers' input and then pre-tested again.

For radio broadcast messages, local radio announcers were consulted and assisted in refining the messages which they, themselves, would broadcast.

The main point of this process was to make sure that the communication objective(s) would be reached through the message from the point of view of audience members themselves.

After the messages were finalized, they were disseminated to each of the intervention communities through media channels. The *Mother Loves Her Child* message was used throughout the intervention process, while the above three messages were staggered (introduced at approximately 4 to 6 month intervals). Thereafter, the media team once again visited the intervention area to gauge the response of community members and learn from them exactly how to improve these messages and subsequent ones.

Sponsors or Sources of Information

Every health campaign needs a credible "sponsor" to act as the source and integrator

of messages and information. This source may be a real person (actor/actress, religious leader, political leader, other well-respected persons) or fictitious characters that capture the campaign's appeal, mood and tone.

The SM/VAF project included several sponsors depending upon the media involved. For printed materials, the major sponsor was a caricature, namely, an ivy gourd cartoon character. Project staff originally developed several designs. They then pretested each to determine the one with the best image and overall appeal for both adults and children. The caricature used was an ivy gourd leaf with a smiling face. Adaptations were then made giving it arms and legs as well as showing it in groups (i.e., ivy gourd friends) as well as individually depending upon the project stage. Each of the messages noted above appeared in the Northeastern Thai dialect and accompanied the caricature. For interpersonal programs, sponsors included a Mr. Ivy Gourd actor, monks, radio announcers and popular local social development leaders.

Production Considerations

The production of media materials must be as professional as resources allow. Yet they must also be simple enough to serve as models for the development of 'copies' by other project collaborators.

For example, SM/VAF project pamphlets were most often of only two colors (green and white) with a simple design and a clear message. Later on, personnel of the district non-formal education office used these as a model for developing brochures about the benefits of eating the ivy gourd and how to produce ivy gourd noodles. Their locally-made materials, while not being as good in terms of quality as the project's, were quite acceptable. If the project's materials had been too elaborate, this might have discouraged their serving as models, since officials might not have felt that their own productions could meet up with the project's standards.

But the true test of all materials begins with their implementation.



School students with young ivy gourd plants



School lunch preparation



Mr. Ivy Gourd



Super Mr. Ivy Gourd, the hero of school dramas

Program Implementation and Monitoring

The SM/VAF project had three campaign implementation stages. The first stage, which lasted throughout the project, created and maintained a nutrition information society. This was followed by promoting the ivy gourd as an image representing other vitamin A-rich vegetables. The third stage entailed combining nutritional messages with concrete action programs designed and carried out by community and local government collaborators.

CREATING A NUTRITION INFORMATION SOCIETY

In the words of Dr. Arce Valyasevi,²⁵

In Thailand, we can't change eating habits by just transferring knowledge or information. Health education in the past has failed because of this reason. In the past when you told villagers to eat green vegetables, they had no idea what you meant. We must find a methodology that will fit into the infrastructure in order to create changes. All factors contributing to behaviors -- be they personal, group or environmental -- must be taken into consideration.

Traditional nutrition education campaigns adopted a *rational* perspective. That is, they tried to change people's attitudes and practices by providing them with information and knowledge. Emphasis was usually placed on *why* a dietary or related practice needed changing, but not always on *how* this could be feasibly and acceptably done. This was because people's

environmental circumstances, personal preferences, needs, beliefs and values were often given secondary importance, if not neglected altogether.

Unfortunately though, people are not always rational about making important decisions, particularly ones that try to change long-standing habits. Consequently, applying a marketing approach for nutrition communication requires a new, more holistic educational perspective. Special efforts need to be made to thoroughly understand a community's total way of life as well as the priorities of its members. Thereafter, the personal and environmental factors that affect decisions and actions can be adjusted to promote new nutritional practices.

This newer approach's importance lies firstly in changing the environment in which people live and in which their attitudes and behaviors are embedded. This then helps to place new attitudes and behaviors on firmer ground by creating a local 'need and demand' for change. This, in turn, facilitates people's acceptance of new behaviors.

Based on sound formative research about existing community constraints and target audience needs, the social marketing process works to create this new environment and reduce the psychological, social and practical obstacles which often hinder the adoption of new behaviors. Its main mechanisms, moreover, entail not only the use of mass media, but also coordinated interpersonal community action programs.

For the SM/VAF project specifically, formative research results showed that the two main felt needs of community members were improved child health and the need for more readily available, inexpensive, food sources. The project, therefore, directed its environmental change communication strategy largely at these needs. The main mechanism was not immediately informational but affective in nature by disseminating such messages as *A Mother Loves Her Child* and subsequent ones. The progressive behavioral objectives were to: 1) raise community members' awareness about

the project and its purposes; 2) increase their awareness about the importance of nutrition and good child rearing practices; and 3) increase their knowledge about the relationship between nutrition, child health and rearing practices, and the consumption of vitamin A-rich foods and fats/oils. Once again, the intent was to progressively build community members' interest, awareness and knowledge over time, rather than to directly and immediately tell them about vitamin A deficiency.

CREATING AN IVY GOURD IMAGE

The Process

The SM/VAF project's second stage involved boosting the ivy gourd's image. Before the project, community members viewed the ivy gourd as a common vegetable. They did not give it any special importance. In colloquial terms, it was a "so-so" vegetable. Only a limited number of dishes had it as a main ingredient.

To build its image, the project used a social advertising approach to spotlight the ivy gourd and provide information about its correct preparation and healthy benefits. This involved positioning the ivy gourd by changing the way community members (and local officials) viewed it within the backdrop of community life.

The ivy gourd was positioned using several different strategies, and these corresponded to the project's main messages. In the first phase, the ivy gourd was positioned based on its use within the family diet. The message was "Let's Eat Ivy Gourd." The project's communication strategy focused on fulfilling two specific behavioral objectives: 1) raising community members' awareness about the ivy gourd, and 2) getting them interested in it as a food item.

In the second phase, positioning rested on stressing the ivy gourd's benefits as a readily available food source and how it could be produced by schools and households. Messages centered on "Let's Grow Ivy Gourd," and the behavioral objectives entailed encouraging community members to grow ivy gourd and recognize the benefits of their actions.

During, this campaign stage, and in addition to other public relations activities, ivy gourd propagation contests were held. These were conducted at all district schools with school children as participants. After the competitions, the young ivy gourd plants were distributed to interested families. As a result, about 10,000 families, or half the number of households in Kanthararom district, began ivy gourd home gardening.

Once the ivy gourd became popular and readily available in the homes, the project's third campaign stage began. This stage centered on positioning the ivy gourd with respect to its vitamin A and nutritional benefits as well as different ways of preparing it. The main message was "Healthy and Strong with Ivy Gourd." The behavioral objectives were: 1) community members know the benefit of consuming more ivy gourd and cooking with oil; 2) community members realize how their ordinary dishes and recipes can be diversified by using the ivy gourd and oil; and 3) community members make ivy gourd and oil a part of their routine daily diet.

Overall, this image building was done along with activities to promote basic nutrition knowledge as well as community action programs associated with the next project stage. From these image building activities, furthermore, monitoring results showed that the ivy gourd was producing greater awareness among the people.

Media Communication Programs

The project used mass media and interpersonal programs to give community members a firm nutrition information foundation. They would need such information in order to build upon it and adapt it for use in their daily lives. This would include internalizing important food and nutrition knowledge and relating it to other vitamin A-rich foods. Mass media, especially, was a valuable tool in enhancing the ivy gourd's image in the minds of community members.

Media were staggered and scheduled in such a way that the communities were not "flooded" with information at the very beginning, but they received information in a

building block fashion. In this way, knowledge could be built upon knowledge.

In large part, mass media aimed nutrition messages at mothers. Message content consisted of two main areas: first, nutrition knowledge in general as well as proper child rearing practices. Second, the messages also provided important information about vitamin A-rich foods.

Besides mothers, the communication program also targeted other important audience groups. The first group included pregnant and lactating mothers and mothers of preschool children. The second group consisted of school children, while the third audience entailed grandmothers and traditional midwives.

Radio

Radio was very useful in creating a nutrition information society. To be effective, it required a variety of program styles (e.g., instructional, documentary, music/entertainment). Each program's content, moreover, had to be accurate, practical and clear. They were most effective when information could be linked with villagers' experiences and way of life.

As noted earlier, the district Radio Announcers Association lent their support to the project by agreeing to voluntarily announce project messages during their programs and throughout the intervention period. They were supplied monthly with ready-to-read messages and were encouraged to adapt them to fit their audiences. The heads of two radio stations also offered a half-hour program spot every Saturday. During this time, a pre-recorded program was played, and messages were carefully designed to aim at increasing the awareness, knowledge and attitudes of mothers. Overall, three sets of programs were broadcast:

- 1) nutrition and child care [*A Mother Loves Her Child* program broadcast every Saturday from 4:30-5:00 p.m.],
- 2) a 5-minute 'magazine' containing documentary programs [broadcast daily after the 8:00 a.m. news program in the Northeastern Thai dialect and

again after the 5:10 p.m. news using the Central Thai dialect], and

- 3) nutrition through music [six 20-second spots with 2 spots being broadcast every day].

Pamphlets and Posters

The project also distributed pamphlets and posters to district government offices, the district hospital, community leaders, mothers, teachers, students, village health workers, and interested community members, particularly those involved in ivy gourd growing contests.

Pamphlets talked about a variety of topics including the project, ivy gourd and supplementary foods, ivy gourd cultivation and care. Later on, the district non-formal education office distributed their own pamphlets (copies of project materials in design) on producing ivy gourd noodles.

Posters encompassed two types, i.e., paper posters and "walking" posters or T-shirts for infants, preschool and school aged children, and adults. These posters contained the ivy gourd character and appropriate messages.

Newsletters

The district primary school office along with local teachers published a small monthly newsletter entitled *From Teachers' Hearts to Parents' Hearts*. It was a seven series publication with 8,100 copies being distributed to families of children in grades 3 through 6 and in all project villages. The newsletter contained valuable educational information along with short articles on child health and nutrition. Articles were written by local teachers themselves, and the project supplied a manual to ensure that the content was accurate.

Public Address System and Cassette Tapes

In rural Thai communities, the village public address system (PAS) is a very

important communication media. It is most successful when villagers are self-motivated enough to operate the programs themselves on a regular basis. Programs, moreover, must be interesting and related to community life.

Recorded programs were sent through this medium two to three times per week at the district center. In 54 villages where the PAS was functioning, village leaders were given tapes and voluntarily broadcast them over their systems. Tape content followed the program's messages and behavioral objectives.

Buddhist monks received a tape recording of a prominent monk encouraging them to support community development projects such as the SM/VAF. The tape's intent was to help change the attitudes and practices of grandmothers in 85 villages. It could either be played by the monk during sermons or over the village PAS on Buddhist Sabbath days.

Well-known folk singers produced tapes incorporating the ivy gourd's appeal and home gardening's value. They also included the project's *A Mother Loves Her Child* message into popular local folk songs.

Outdoors

Two large 'outdoors' entailing project billboards (2.4 x 2.5 meters) were placed at the center of the district. They contained the project logo (ivy gourd cartoon character and the picture of a healthy child) along with the project messages. Community members also worked with project team members to construct over twenty smaller billboards (1.2 x 2.4 meters) which were placed at an eye-catching locations in each subdistrict.

Direct Mail

Direct mail consisted of information sheets sent to five target groups. *Mothers* (1,200 persons) in the intervention area received 8 separate editions giving them knowledge about child rearing practices and child feeding. These were distributed through the subdistrict health office and village health workers. *Subdistrict officials and*

village leaders (134 persons) also received 5 editions containing an update on the project's progress. In addition, 16 *project volunteers* received 5 editions containing a project status report and important information about ivy gourd cultivation. Eight thousand *active ivy gourd growers* were sent 3 editions giving them added knowledge about ivy gourd growing and care. And lastly, 147 *owners of noodle shops* were sent 2 editions encouraging them to use the ivy gourd in preparing noodle soups.

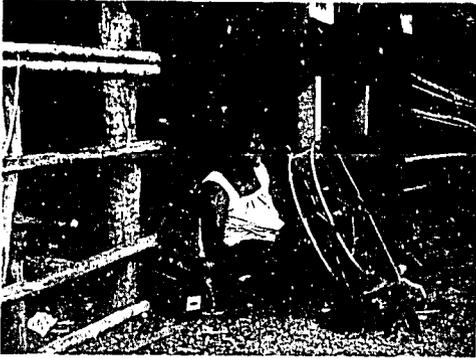
Health Manual and a Family Album

A health manual was developed and disseminated for use by local health workers. It contained two main sections. Inside the cover was a list of common questions about child health and nutrition. These questions were categorized by topic and color coded. The second section contained answers to the questions and other relevant information. An answer could be found by matching it with a question's color and number.

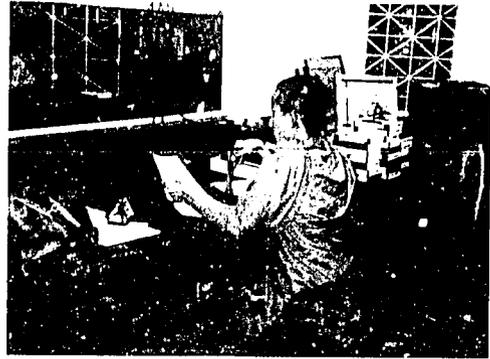
A "Happy Family Album" was also developed containing sections for family information and photographs, information on child growth and development, and recipes for vitamin A-rich foods. These were distributed to mothers through direct mail, during child immunizations, and at special occasions such as New Years.

Other Supportive Media

The project developed other media tools, all of which included the project logo and associated messages. These included such items as rulers, backpacks for students (as a prize in the ivy gourd growing competition), key chains and stickers.



Listening to radio programs



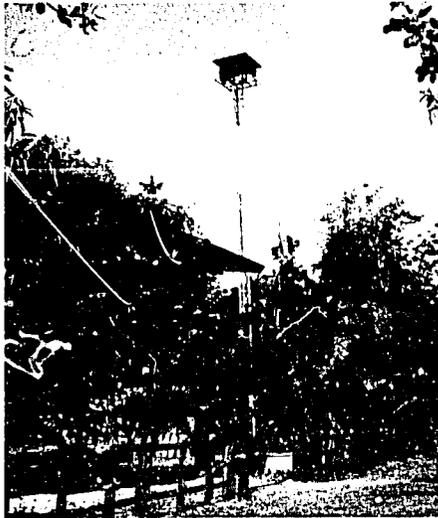
A monk taping a broadcast program



Direct mail



Community billboard construction



Village public address system and project tapes



*Project billboards
along the main road*



'Meet the People' visit by local radio announcers

COMMUNITY ACTION PROGRAMS

Social marketing projects such as this should not emphasize mass media alone. Media programs draw heavily upon project resources instead of those of the community. Instead, community-based programs involving interpersonal contact, like demonstration classes and other group interventions, rely more heavily on community and district resources at the start, and they are crucial in sustaining long-term behavioral changes.

Operating along with the project's mass media campaign were community action programs. These can be divided into two categories:

- 1) School-based (i.e., vegetable and ivy gourd gardening, poultry and fish raising, student short story and ivy gourd message writing competitions, drama and puppet shows), and
- 2) Community wide (i.e., 'Meet the People' visits by radio announcers, nutrition education programs by monks, village ivy gourd growing competitions, traditional birth attendant training, healthy child competition, project participation in local events).

The behavioral objectives for this stage were four-fold, namely: 1) local government officials create their own action activities with regard to improving nutrition in the area; 2) community members become aware of such programs; 3) community members take action in producing the ivy gourd and participating in other action programs; and 4) local government offices integrate activities into their own work schedules.

In this stage, district and sub-district development personnel along with community leaders worked together and devised the actual community action program campaign. First, they developed and submitted proposals to project coordinators about how they would like the ivy gourd promotion conducted. Their particular emphasis was on the program's orientation and practical community-based implementation.

As a result, many project activities were proposed, reviewed, and undertaken; the most prominent activity being home gardening. The project team then assisted in coordination, organization and implementation.

Training

Many proposals cited training as a necessary activity in giving people the information they needed to identify problems, develop appropriate solutions, and manage their own resources for home gardening management and nutrition education. Training sessions thus became integral activities. Project collaborators from district to community levels acted as trainers.

Sessions employed several educational techniques including formal and informal presentations, case studies, and experiential learning. For local health and rural development personnel, periodic workshops not only communicated project information. More importantly, they involved participants in a genuine dialogue to assess current activities and propose alternative or additional ones. Training included not only technical information. It also entailed practical skills development needed in working with communities. Topic areas included community assessment, community organizing, non-directive facilitation, and socio-cultural factors related to development, amongst others.

District medical and health personnel also trained local health workers and traditional birth attendants in child health/nutrition. The former also received a pre-tested health manual for their use. Agricultural workers gained knowledge in ivy gourd production. School teachers improved their skills in organizing school gardens and small animal husbandry projects. During project implementation, community members visited other villages to learn from their home gardening techniques.

Gardening

Home gardening was proposed and initially undertaken by the district agriculture

office. Local officials distributed small ivy gourd plants to 989 households from 95 villages in the intervention area. These households (containing pregnant and lactating mothers) were encouraged to grow the ivy gourd in an area three meters in length.

Thereafter, the district primary school office and the district agriculture office began a joint program of growing ivy gourd plants (beds of 10-15 meters in length) in 9 pilot schools. But while this strategy was good in initiating the ivy gourd campaign, it was somewhat slow in building campaign momentum.

The project then turned to using school children to bring the ivy gourd and project messages into each home. This strategy worked fantastically. Students from grades 3 to 6 competed in propagating the ivy gourd in gardens beginning in within schools. Later, when children were assigned to grow ivy gourd as part of a school learning project, parents became very enthusiastic to help build trellises and cultivate the ivy gourd. Through the children's information materials, as well as other project documents, community members learned about the advantages of the ivy gourd, and they continued to grow it in their kitchen gardens.

To promote district-wide coverage and improve school lunch program content, ivy gourd growing competitions were then held between district schools with awards given out. It must be noted, though, that these competitions (or others) were not intended to make the project a success. Rather, they were components in the process to build an acceptable environment, through increased community participation. This would, in turn, improve home gardening and nutrition education activities and the attainment of objectives.

Key members of the Kanthararom district committee, a group of agricultural officers and primary school administrators also conducted a study tour to an ivy gourd farm. After their visits, teachers significantly improved their school gardening activities.

From these efforts, ivy gourd home gardens spread to over half of the households in Kanthararom district due to the large number of students and teachers in each community. After the project's end, 73

out of the district's 74 schools continued to have viable vegetable gardens containing the ivy gourd plant.

Complementing these efforts, mobile drama groups performed day-long food and nutrition shows in all district schools. In the morning, puppet shows, songs and theatrical performances entertained and educated school children. During the afternoon, teachers participated in workshops on food preparation practices, nutrition, and vegetable cultivation. Teachers were encouraged to use their knowledge in improving their classroom and school curricula.

The drama's main messages communicated what foods were necessary for a healthy person and the necessity of eating more leafy green vegetables. Its sponsors were a Mr. Ivy Gourd and, later on, a Super Mr. Ivy Gourd. Thereafter, New Years cards containing pictures taken during the mobile drama group visit were sent to students in each school. Together with these, a message encouraged the students to enter a short story competition about the ivy gourd and its benefits.

Additional project and community manpower arose when the district education office organized a meeting of retired teachers. The education officials encouraged the teachers to participate in promoting home gardening, ivy gourd consumption, and better nutrition.

Community Programs

The project also recruited sub-district volunteers who were well-known and respected by villagers. They worked individually and collectively to encourage people to begin ivy gourd home gardens. They also provided information on its planting and caretaking requirements as well as its processing for consumption.

After the school ivy gourd growing competitions, district officials promoted these competitions within and between villages as a part of their action program schedule. In total, over 8,000 households voluntarily participated. Ivy gourd plants were obtained from the schools, and winning households were selected based on the quality of the

home gardens. In a relatively short time, community members' enthusiasm rose, with home gardening coverage expanding to include the entire district. Where once they did not exist, such gardens became common in virtually every household compound.

On their part, mothers participated in health/nutrition counseling sessions at health centers including cooking demonstrations. Pregnant mothers received a booklet on caring for newborns and newlyweds received a booklet on parenting skills. Newborns were given bibs with the project's *A Mother Loves Her Child* message and the ivy gourd cartoon character. The project's communication focus, while centering on vitamin A-rich foods, thus expanded to other nutrition-related areas and concerns.

Religion also played a promotional and educational role. Buddhist monks supported the project through meetings where they expressed ideas for project activities. In addition to a tape recording of a prominent monk, they were given information sheets containing maternal and child health information and poetry were also supplied for their use in preparing sermons. Messages were directed at elderly women in the villages.

At the invitation of local officials, project personnel also participated in local festivals associated with either official holidays or traditional celebrations (such as the King's Birthday, Thai New Years festival, National Children's Day). Entertaining, yet informative health/nutrition activities (e.g., food demonstrations, children's shows) were organized in conjunction with these events. By participating in these activities, project personnel acknowledged the importance of local events and indirectly increased people's awareness of the project itself and its messages.

Although radio is considered a mass media channel, the project also called upon announcers to participate in interpersonal programs. Well-known radio announcers agreed to jointly organize nine separate "Meet the People" programs along with project personnel. The announcers announced the program over the radio and joined the project's team during actual village activities. During one event, over 400 community members participated.

PROJECT SPIN-OFFS

Two important points need to be made. First, for home gardening, or other nutrition efforts, to be sustained, they should be placed as a part of wider community development. And second, they should meet the continuing needs of community members, in this case, child health, income generation and food security.

As the project progressed, local development offices began taking their own initiative and developed other activities as "spinoffs" of the project's home gardening activity and its community participation approach. For instance, the primary school office constructed a fish pond in a pilot school as a model for others. This complimented home gardening and school lunch program efforts.

The district veterinary office worked with the primary school office to start a poultry raising project in the 9 pilot schools. Personnel trained approximately 400 students and interested community members. Each school now has 50-200 chickens which, along with the ivy gourd, are used in their school lunch program. Schools with this program also sent chicks to other schools. Presently, both the poultry and fish raising activities continue to viable parts of school activities.

The district health office and district hospital complimented the project through their own supportive activities, especially those aimed at improving maternal and child health (e.g., "Healthy Child Competitions"). They also served as important dissemination points for project materials.

Ivy gourd home gardening also had market advantages. Villagers who grew surpluses either sold it to neighbors who were unable to cultivate it or in local markets. Further, the nonformal education office worked with community members to produce a noodle from the ivy gourd. These noodles were then sold in the district market with proceeds returning to the village. This office, moreover, has continued this program using its own resources and has integrated it into its regular work schedule.

MONITORING

Project monitoring recognized that no program, no matter how carefully designed, will proceed exactly according to plan. Constraints will be overlooked or their importance under-estimated, characteristics of the audiences will be misunderstood, some trials will proceed better than expected, some hypotheses will pay off, mistakes will be made, and important factors external to the project will change during the intervention. Monitoring is not an outsider's test of the implementor's performance; it is a research process which is expected to reveal new facts, situations, and constraints.²⁶

Monitoring activities stressed participation of all project constituents. At the village level, project coordinators worked with community members on weekly to monthly bases to assess the status of home gardens. They placed special emphasis on identifying any problems which needed correcting. Sub-district volunteers also assisted community members to implement new and/or corrective activities and evaluate their feasibility and effectiveness.

In April of each year, the Teacher's College of Ubol Ratchathani province collected information about project operations and follow-up activities, covering each of the 16 sub-districts. Meetings were held every three months with the heads of district offices to assess project progress and discuss areas which needed improvement. A provincial health office meeting was conducted every four months.

In the monitoring process, it was discovered that distributing ivy gourd plants and giving people basic information about cultivation was insufficient. Community members wanted information on constructing trellises on which the ivy gourd could grow. They also sought advice on pest control and fertilizers in addition to other aspects not expected at the outset. Hence, the project's educational component broadened and grew into an even more coordinated and participatory agricultural and health focus.

During implementation, this participation was crucial when the ivy gourd fell prey to mealy bugs, aphids, powdery mildew, and other infestations, although university agricultural experts had stated that the ivy

gourd was "pest" resistant. A meeting was then held with villagers, project volunteers, subdistrict and district officers, and agriculture experts to try to find a practical, ecologically sound solution. The latter arose out of incorporating "modern" and "traditional" knowledge.

Community members remembered a local herbal mixture containing neem leaves (*Azadirachta indica var siamensis*), galingale (*Alpinia galanga*) and lemon (citronella) grass (*Cymbopogon nardus rendle*). This mixture was then added to water and stored overnight. At the suggestion of extension agents, they then combined this mixture with detergent. In 16 villages, community members tested the solution and found it effective. They then worked to spread this new knowledge to other project villages.



Monitoring the project



Evaluation

Knowledge, attitude and practice (KAP), vitamin A intake and status, and anthropological evaluations jointly showed that the SM/VAF project achieved its objectives.

INTRODUCTION

Three different teams from Mahidol University evaluated the SM/VAF project. A team from the Faculty of Social Sciences and Humanities was responsible for the project's KAP evaluation. INMU's Division of Community Nutrition assessed changes in vitamin A status among the target groups. An anthropological investigation was also conducted by a medical anthropologist and her team from the Institute for Population and Social Research. This chapter summarizes each evaluation team's findings.

KNOWLEDGE, ATTITUDE AND PRACTICE CHANGES

The KAP evaluation targeted pregnant women, lactating mothers, mothers of preschool children, and married women. Before intervention activities began, 1,048 persons (622 from Kanthararom and 426 from Trakan Phutphol) were randomly selected and interviewed using a construct questionnaire. After the intervention period (approximately one and one-half years later), 1,085 persons (624 from Kanthararom and 461 from Trakan Phutphol) were randomly selected for interviewing using an equivalent questionnaire. Hence, a total of 2,133 cases comprised the sample size for this KAP evaluation. Data were analyzed using the SPSS[®] program. Both descriptive and analytical statistics were used.

Vitamin A-Rich Foods

To see if the project fulfilled its behavioral objectives, several crucial questions required answering. First, did the SM/VAF project lead to KAP changes? For knowledge, the experimental (Kanthararom) group showed significantly better knowledge after the intervention period than before ($t = -4.73$; $P < 0.005$), while the control group showed only a slight improvement and no statistically significant change ($t = -0.25$; $P > 0.05$).

Similarly, respondents from both areas had significantly better attitudes towards consuming vitamin A-rich foods. However, respondents in the intervention area showed a greater degree of positive change ($t = -5.95$; $P < 0.005$) than the control group ($t = -2.39$; $P < 0.05$).

Concerning practices, intervention activities appeared to have a considerable influence. Kanthararom respondents showed a statistically significant increase in eating vitamin A-rich foods after the intervention ended ($t = -2.45$; $P < 0.05$). In contrast, the control group showed a statistically significant *decrease* ($t = 3.78$; $P < 0.005$).

According to overall KAP profile data, only slight differences existed in KAP between the experimental and control groups before implementation. On the contrary, after the intervention project KAP differences between the two groups were much greater, with the experimental group showing a much higher KAP than the control.

Besides vitamin A-rich food consumption, the evaluation also assessed ivy gourd consumption. Results showed that Kanthararom women in the experimental area prepared and fed their children ivy gourd dishes more often than before the project started. They believed that ivy gourd possessed a high nutritive value, and most also stated that the ivy gourd was one of their families' and their children's favorite vegetables.

Furthermore, about 55% of sample families in Kanthararom still actively grew ivy gourd (at the time of the evaluation) compared to only 38% in the control area which either grew the ivy gourd or, more frequently, collected it around the homes ($\chi^2 = 28.9341$; $P < 0.01$). This information suggests to community nutritionists that changes in the environment are indispensable factors in the behavior change process.

Fats and Oils

Since vitamin A is a fat-soluble vitamin, this evaluation asked a second question: *Were there any changes in food preparation practices in terms of oil/fat use?* This question is especially important since, in general, the Northeastern Thai do not regularly use fats/oils in food preparation.

Evaluation results indicated that before the intervention began, only about 52% of Kanthararom families consumed fried vegetables at least once per week. After the intervention, this percentage increased to over 77%. In the control area, the percentages were markedly less at 43% (before intervention) and 56% (after intervention).

Other than lard or vegetable oils, coconut milk is another potential source of fat/oil. In Kanthararom and prior to the SM/VAF project's commencement, only 50% of families consumed foods cooked in coconut milk. This increased, however, after the project's activities to almost 76%. For the control area, coconut milk consumption also showed a slight increase, but the change was less than that which occurred in Kanthararom.

For ivy gourd especially, data also revealed that five times as many respondents in Kanthararom cooked ivy gourd with oil compared to control area respondents. Moreover, approximately 30% of Kanthararom respondents adopted the new methods of cooking ivy gourd with oil. Only 6% did so for the control area. This indicates that intervention activities aimed at changing people's food preparation practices succeeded.

Objective Attainment

KAP data indicated that the SM/VAF project successfully fulfilled its behavioral objective of improving knowledge, attitudes and practices regarding dietary intake of vitamin A-rich foods. The target group which appeared to be the most influenced by project interventions were mothers of children aged 24-72 months and, secondarily, mothers of children aged 3-24 months. Since even children outside of the project's target group were affected (i.e., children aged 61-72 months), this further indicates that mothers were educated effectively to improve their children's diets.

VITAMIN A STATUS

KAP data indicated that the SM/VAF project used an effective nutrition communication approach that led target group members to increasingly supplement their diets with LGVs, fats and oils. By implication, this means that the vitamin A status of target group members would, likewise, increase.

To check this assumption, the SM/VAF project conducted indirect and direct vitamin A status measurements. In Kanthararom district, these assessments were made in 12 subdistricts and 12 villages, while for Trakan Phutphol the study sites included 12 subdistricts and 16 villages. A simple random sampling methodology was used to select these subdistricts and villages. Target groups entailed all pregnant women, lactating mothers (up to two years in duration), preschool children, and 10 percent of school children in grades 3 and 4.

24-Hour Dietary Recall

Dietary recall assessments were conducted using the same procedures noted for the preliminary research phase. Results revealed that in 1989, no statistical difference existed between the intervention and control areas concerning target group members' intake of energy, animal protein, fat and vitamin A. By 1991 however, fat and vitamin A intake among Kanthararom target group

members had increased significantly. Similar statistically significant increases existed for pregnant women in Kanthararom (from 201 ± 425 RE in 1989 to 428 ± 391 RE in 1991) and also lactating mothers (269 ± 355 RE in 1989 and 476 ± 618 RE in 1991). No increases were evident for Trakan Phutphol district.

A cohort study of food intake of preschool children aged 2-5 years in 1989 and 4-7 years in 1991 also showed an increase in energy, protein, fat and vitamin A intake, but not at a statistically significant level.

Nonetheless, the percentage of target group members who consumed vegetables high in vitamin A (>400 RE/100 gm vegetable) is an adequate indicator of indirect vitamin A status. Results revealed that every target group in Kanthararom district showed statistically significant increases in consumption in 1991 compared to 1989. In the control district, only school children demonstrated such an increase.

Lastly, by 1991 all target groups in Kanthararom district had increased their consumption of eggs at a statistically higher rate than in 1989. A slightly similar pattern was noted for Trakan Phutphol but only among lactating mothers and school children.

From these results it can be concluded that project intervention activities improved knowledge, attitudes practices of target group members in Kanthararom district which led to the increased consumption of vitamin A-rich foods, animal protein and fat by 1991. This was especially the case for the daily consumption of vegetables containing vitamin A >400 RE/100 gms. as well as other vitamin A-rich foods like eggs.

Serum Retinol

Presently, there is no consistently reliable method of assessing vitamin A status clinically. Serum retinol analysis, especially, is a tentative test, since retinol concentrations may vary considerably on daily or longer bases.

Nonetheless, the SM/VAF project did try to assess serum vitamin A levels of preschool children following the procedures suggested by IVACC. Unfortunately however, levels among this target group in Kanthararom district did not show any improvement. Two

major factors may have played a role in this process: 1) a delay in transporting Kanthararom serum samples to the INMU laboratory for analysis; and, 2) anthropological data and district health records show a high prevalence (30-50%) of hookworm.

Physical Examinations and Dark Adaptation

Clinical signs of vitamin A deficiency (night blindness, xerosis, Bitot's spot) were assessed by a nurse and nutritionist who were trained and supervised by a physician. Results showed that no cases of Bitot's spot were evident in 1989 or 1991 in either district. Further, the percentage of xerosis declined in both Kanthararom and Trakan Phutphol districts among lactating mothers, pregnant women and preschool children. Among school children, however, xerosis increased slightly in both districts, but not at a statistically significant rate.

Regarding an inability to see in dim light, subjective dark adaptation testing among lactating mothers, pregnant women and preschool children noted a decline to 0% for both districts between 1989 and 1991. For Kanthararom school children, however, the percent of night blindness cases dropped at a statistically significant rate from 4.8% in 1989 to 1.4% in 1991 ($P = 0.04$). In Trakan Phutphol, though, this percentage increased significantly from 0% to 3.4% ($P = 0.01$). This same trend was evident in a cohort study of school children.

Likewise, the percentage of normal Kanthararom school children increased over time (from 95% in 1989 to 99% in 1991; and, for the cohort study, 94% and 99% from 1989 to 1991). A decrease in these percentages existed for Trakan Phutphol (100% in 1989 to 97% in 1991; in the cohort study, 100% to 96% from 1989 to 1991).

Anthropometric Assessment

Nutritional status as measured by mid-arm circumference, muscle circumference and skin-fold thickness of pregnant and lactating women as well as school children showed

improvement from 1989 to 1991 for both districts. This pattern, though, did not hold for nutrition status as assessed by weight for age using the Thai standard (Gomez classification). Among preschool children aged 0-72 months, 44.4% of Kanthararom subjects in 1989 were within the normal range. By 1991, the percentage within this same range increased significantly to 51.6% ($P = 0.0004$). In Trakan Phutphol however, normal levels improved from 56.3 to 57.2%, which is not statistically significant. Similar patterns in both cases were evident concerning height for age and weight for age.

ANTHROPOLOGICAL EVALUATION

The anthropological team obtained data through in-depth interviews, observations and conversations using a rapid assessment open-ended interview guide. The topics for discussion covered three main areas: the project's value; the extent to which the project has helped the community; and interest in continuing activities on a post-project basis.

Interviews were conducted at provincial, district, subdistrict and community levels with government personnel and village members who were aware of or active in the SM/VAF project. For the government, respondents were officials affiliated with the Ministries of Public Health, Agriculture, Education and Interior. At the community level, key informants comprised mothers, the elderly, monks, village headmen, teachers, school students and health post volunteers.

Results revealed that the project most successfully changed the behaviors of lactating women, mothers of preschool children, and school children. Elderly community members changed their practices, but in that they readily prepare vitamin A-rich foods for consumption by children. Pregnant women, though, were still influenced by food regulations and beliefs held by the elderly, yet these beliefs were declining in significance.

Positive impacts were also observed among government officials and the community. Specifically, provincial, district and sub-district health and agriculture

officials expressed an on-going commitment to continue the project's home gardening activities as an important part of their routine work after the project's completion. They stated that this is easily possible, since the project fits well with Thailand's national "Quality of Life" improvement policy, and the project's home gardening and nutrition education messages can receive continued official support.

Other clear indications of where the project showed success was in its motivating and transferability potential. As examples, one teacher was reassigned to a new school in a nearby district (which had not heard of the project), and he actively sought official support to begin a duplicate community nutrition program at the school. Further, a provincial health officer became interested in adapting the social marketing model to combat iodine deficiency through an iodized salt promotion. The SM/VAF project's radio spots, moreover, were adapted by the MOPH for use in combatting iodine deficiency disorders.

A district health officer who was transferred to another area committed himself to beginning the program in his new location. Sub-district health workers not involved in the project also actively approached their counterparts in the research area, asking them for printed materials and information about how to start similar projects. A major community day-care center not involved in the project also constructed its own ivy gourd garden.

But of special importance was the role home gardens played in family life. Several community members stated that ivy gourd gardening gave everyone in the family a chance to work more closely together. Each family member, from the oldest to the youngest, had a task and, through their cooperative efforts, family relationships are strengthened. In particular, the elderly viewed themselves as even more important actors in family health and welfare, as opposed to solely "recipients" of familial benefits.

A final, somewhat unexpected finding, also came to light. The physician in charge of the Kanthararom district hospital became intrigued with the project and how it might be having an impact on child health in total.

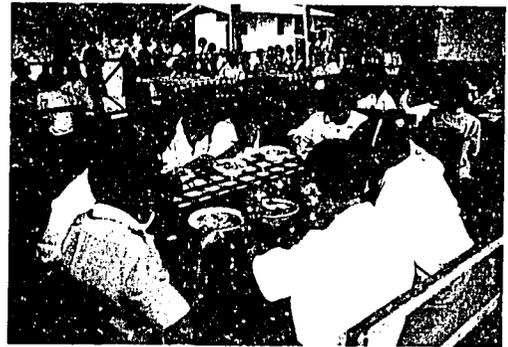
In looking through his records he discovered that the number of children coming to the hospital for simple childhood diseases steadily declined from before the project started to afterwards. He contributed this change not simply to the SM/VAF project alone. Rather, he felt the project served as a valuable coordinating point. Through its visibility, the project helped many other existing health activities (e.g., immunization program, growth monitoring, maternal and child care) to coordinate their activities and bring them more fully to bear on the local population.

From this data, and other indications, anthropological investigators concluded that a very good outlook existed for the sustainability of project activities.

Just recently, this outlook was proven correct. The Governor of Srisaket province officially announced that project activities should be expanded to the remaining districts in the province.



'Let's Grow Ivy Gourd' poster



Eating lunch at school



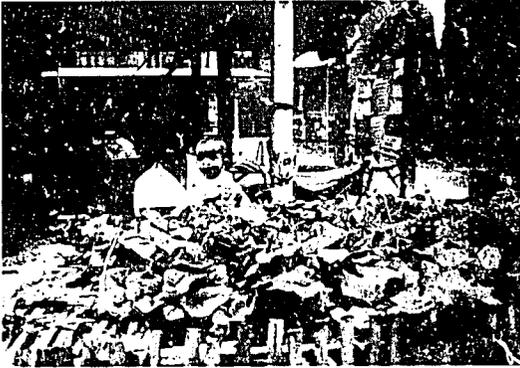
Project involvement in local festivals



Ivy gourd growing wild



Ivy gourd growing competition



Ivy gourd home gardens



Community participation in making ivy gourd noodles

PART 2

**Lessons Learned from the
Challenge**



Essential Elements for Nutrition Communication Programs

KEY REQUIREMENTS

The success of the SM/VAF project can be attributed to the comprehensive approach taken by project planners as summarized by a new model with the acronym SUTTILAK:

Strategic thinking

Understanding the target population

Talent and creativity to produce innovative and useful messages

Technology - use it appropriately and creatively, in multiple channels, stimulating interpersonal communication

Interactive orientation and an ability to work with others as partners in the behavior change process

Listen to the people, for they alone are expert about the practicality of an intervention and changes in their lives

Aim to make a healthy difference through effective communication and collaboration

Knowledge of theoretical and conceptual frameworks about what it takes to bring about behavior change

INTRODUCTION

A substantial number of successful nutrition communication programs have been conducted in various parts of the world, and most have significantly changed food and nutrition practices. Many programs, like the SM/VAF, have used the social marketing approach as a way to systematically conceptualize, implement and evaluate their actions.

What is occurring now is that many programs are receiving recognition, and their implementors are sharing their knowledge and coming up with common principles, strategies and processes for undertaking nutrition communication programs based on social marketing.¹⁶

This chapter summarizes those of the SM/VAF which can be extended elsewhere and incorporated into other project planning and implementation efforts. It stresses especially the essential elements needed for operationalizing programs while touching upon certain important technical details needed in designing media programs. Additional recommendations can be found by consulting the works cited in this book's references section.

INITIAL CONSIDERATIONS

One of the most commonly believed drawbacks of nutrition communication and social marketing programs is that they are expensive in terms of time and money. To a certain extent, this is a rational complaint, but one that is somewhat short-sighted. The SM/VAF project, among many others, demonstrates that while the cost in time and money is admittedly high, especially for first time efforts, once the investment is made, program implementation becomes much more cost-effective.¹⁶ It becomes even more so when program activities are integrated

into existing health and social services delivery systems and on-going routine work schedules. This promotes sustainability as well as transferability, especially where certain methods or materials can be readily adapted to address other health and nutrition problems.

By their very nature nutrition communication programs are complex. Nutrition problems stem from a multitude of causes, and solving them often rests on changing a range of behaviors and habits. Results, moreover, are often not readily 'seen' since many nutritional deficiencies like vitamin A deficiency are 'hidden' afflictions, until it becomes almost too late to solve them. Changes in food and nutrition habits, furthermore, have less tangible and less immediate payoffs than other preventive measures such as immunizations.¹⁶

Consequently, nutrition communication programs are persistently viewed as long-term intervention measures. Some people think that changing people's behaviors is too difficult, if not impossible. But once again, the SM/VAF project and many others have shown effective and affordable nutrition communication programs can change behaviors relatively quickly.

Nearly all food and nutrition projects, furthermore, offer an opportunity for nutrition communication. In several countries, social marketing is providing an effective work plan, since it rests on a "consumer orientation," focuses on identifying people's needs as a prerequisite for program development, and makes program activities relevant to the everyday needs and practicalities of community members. It is being used not only to change people's eating behaviors, but also to promote other intervention approaches including the consumption of megadose vitamin A capsules.¹⁶

Since it has been demonstrated that nutrition communication programs are feasible, affordable and successful, what then does it take to implement them?

COMMITMENT

One of the most debated questions in applying social marketing to health and

humanitarian endeavors is 'Why can't we sell a social idea like we sell soap?' One reason is that social ideas do not have a sense of ownership like the ownership associated with soap or other tangible products. The same holds for nutrition programs and their behavior change objectives. Selling nutrition is difficult, but promoting a product like the ivy gourd is not. The key to the behavior change process, therefore, is not ownership but *commitment*.

At the highest level, *political commitment is the most important* if financial and human resources are to be allocated for nutrition communication programs. This means that programs need to be advocated in terms meaningful to policy-makers. They need to be kept informed about the consequences of nutritional problems, the short- and long-term ways these problems can be dealt with, and the projected benefits nutrition communication programs can have on a nation's socioeconomic development, the quality of life of its people.

Likewise, the *social commitment* of lower level administrators (such as district officers and social development personnel) is also crucial. Early on, they need to know how they can make the difference in behavior change programs. Oftentimes, this issue is neglected, since heavy (if not total) emphasis is placed on the target groups for change.

If at all possible, the commitment and support of the medical or health care community is also needed in order to develop and implement nutrition communication interventions. Such coordination is often critical for long-term success.

But nutrition is a multi-faceted field, and it does not need to rely solely on the health and medical community for assistance. In the SM/VAF project, for example, the most active project collaborators who helped to design and implement the communication program were local agriculture, education and rural development workers. This shows that nutrition communication programs can be equally effective if implemented through other sectors.

In developing nutrition communication programs, therefore, an important first step is

to *identify and target the change agents* (local government officials, community leaders, other influential audiences) by gaining their confidence in the program, its benefits for the people as well as themselves. A nutrition communication program is almost impossible to undertake, if these change agents do not really believe in it. These people are an essential part of any program's life and potential sustainability.

REALISTIC EXPECTATIONS

Commitment, though, should be built on the realistic outcomes of nutrition programs. The results and projected benefits of programs must be discussed openly and honestly. Change agents should know what to expect and have the right attitudes towards the people involved, the activities to be implemented, and the responsibilities they must assume.

In the past, nutrition education expectations were often not achievable in terms of impacts and the time allowed for change. As a result, many programs were not successful. Some may have achieved their objectives, but not the expectations of those involved. Hence, they were not sustainable.

Nutrition communication through dietary diversification is a continuous development process. It requires cooperative efforts to attain changes and to maintain them. Program officers must be careful not to raise false expectations in themselves or other change agents, because even minor setbacks could threaten a program's outcome and sustainability.

What must be realized by everyone is that nutrition communication programs cannot be expected to solve all nutrition-related problems. It cannot solve many difficult infrastructural problems such as environmental degradation, accessibility to health care or other areas. What it can do, however, is to help maximize and mobilize existing resources at community and higher organizational levels to support change agents in improving health and nutrition status.

CONFIDENCE

Program expectations center around solving a problem. But the degree to which a problem is solved often depends on the confidence program personnel and other change agents have in their own abilities.

Because nutrition communication is seen as complex and sometimes unmanageable, change agents often react by implementing small-scale 'safe' projects (communication or otherwise), with the hope of seeing some positive results. These programs commonly take the form of 'blue-print' or pre-set 'technical packages' that may have little relevancy or impact on target communities. While these may bring about small changes, they are usually not sustainable, cost-effective or beneficial in the long-term.

A key to nutrition communication programs, therefore, is to encourage change agents to *think BIG*. This also requires giving them opportunities to strengthen their own project development, management and leadership abilities so that projects of any size can be planned and undertaken confidently and effectively.

COMMUNICATION

A close fit exists between how people behave, what they expect, and the environment in which they live. The day-to-day situation of rural poor people is very complex, and they are often faced with unpredictable changes in their physical, economic and social environments. They must often adapt themselves to unexpected (and often stressful) changes, and, in the process, they usually must take a great deal of risks.²⁷

Nutrition communicators are thus challenged to make the increased production and consumption of micronutrient-rich foods a part of community survival and coping strategies. One way of doing this is to *focus on what the community is already doing and in line with existing beliefs and needs*. Nutrition communication projects therefore need a clear "people's orientation," because success rests upon *people changing themselves*. They are the key actors in the change process.

RESEARCH

This people's orientation comes about through *preliminary and formative research*. Quantitative and especially qualitative studies lend insights into a program's target audience, its behavior, attitudes, values, political and environmental conditions. This type of research is an essential component of all nutrition communication programs. It is indispensable in designing messages and media as well as setting realistic behavior change objectives.

DESIGN

A program's desired behavior change (such as increasing the production and consumption of vitamin A-rich foods) should be feasible, relatively easy to undertake and require no heavy long-term inputs. Likewise, any products or services being promoted must be widely available and affordable in terms of money, time and other social costs.

But no matter how well a program is designed, it will not always work exactly as planned. Needed midcourse adjustments will be necessary. The key in developing a comprehensive strategy is to have a detailed work plan, but use it *flexibly*. Program participants should not be confused by sudden changes, and any modifications to this plan should be discussed among everyone involved. Careful field worker training and supervision, monitoring and program adjustments are also crucial management considerations.

In designing messages and media programs, it is important to blend an entertaining approach into "educational" programming. The presentation (poster, radio program, etc.) should be attention getting by relating message content to everyday life. It should be understandable, positive and short enough so that its information can be retained by the viewer over relatively long length of time.

To maintain interest and help target groups and audiences remember important information, a continuous series of innovative media approaches is needed. Also important is using a multi-channel approach so messages can effectively reach

and be retained by target audiences. The content and formatting of messages and media should be approved by project collaborators and by community members through pretesting.

Social marketing and other nutrition communication projects, though, should not rely solely on mass or traditional media. Rather, media should support community action programs where community members learn by doing.

COLLABORATION

One of the most common findings of researchers who evaluate community action programs is that *those which are most successful are ones which are planned, implemented, managed and monitored by the people themselves*.

Nevertheless, *what community members can do by themselves does have limits*. Those who think all can be left to the community will be disappointed. A community needs not only involvement, leadership and motivation, but also political and financial support, plus technical guidance.

To be successful, nutrition communication programs need to build positive partnerships between community members, local development agents from several sectors, and, ourselves, as change agents. The program's main change agents must therefore have an ability to *interact* and *work flexibly* with others as partners in the behavior change process.

They also need a thorough understanding of the target population in order to develop sensitive programs. This often requires them to *listen* to the people, for they are the experts about what is feasible in their given situations.

Overall, nutrition communication programs need to attain five main objectives to help assure program success. These are to:

- 1) decentralize project decision-making for planning, managing, implementing and monitoring activities;
- 2) promote a two-way communication process;

- 3) create positive relationships between project collaborators based on a common understanding and complimentary roles and responsibilities;
- 4) build a functioning team based on mutual awareness of each other's needs and resources; and
- 5) transfer project ownership to the people as early as possible.

INTEGRATED CONCENTRATION

The SM/VAF project indicates that nutrition communication programs need a three-fold concentration.

First, micronutrient concerns should be integrated into a participatory communication program, developed by the people themselves. This helps to ensure their relevance to community life and thus their impact.

Further, project objectives should become integral parts of how people see that they can fulfill their felt needs.

Finally, project activities must be integrated into larger institutional (government, non-government) and community development processes. While a nutrition communication project may focus on a nutrition problems, solutions must also take into consideration other areas of social development including education, agriculture and rural development.

By having a broader perspective, a nutrition communication program can increase its acceptability to local people and development agents; its appropriateness within local conditions; its institutionalization within the existing service system; and, ultimately, its sustainability. In this way, nutrition communication's goal of facilitating changes in nutrition practices and nutritional status can become a reality.

TEAM BUILDING

Nutrition has always been a multi-disciplinary field drawing on the concepts and techniques from biomedicine, chemistry,

anthropology, psychology, geography and so on. More recently, it has also embraced such private enterprise fields as marketing and advertising. One important criteria for nutrition communication success, therefore, is to build an interdisciplinary team whose joint expertise and insights can help design and undertake effective behavior change programs.

Two difficulties often arise in trying to put together such a team. The first rests on whether or not team members respect each others' knowledge and abilities enough to work closely together. The second centers on resources and whether or not a program can afford several experts.

Such teams, though, should be viewed by everyone as an investment both in terms of knowledge and money. Team members learn from each other which strengthens their future work. Monetary costs in bringing experts together, moreover, is often high, especially for first time efforts. But once the investment is made and working relationships develop, programs can be implemented more efficiently and cost-effectively. The value of cooperation between professionals, and between all change agents, therefore cannot be taken for granted, but must be constantly sustained through action.

But the key factor in building teams is that everyone involved must believe in the preventive strategy and the feasibility of nutrition communication efforts as a long-term measure to solve micronutrient malnutrition.

SUMMARY

The SM/VAF project demonstrates that successful nutrition communication programs require an integrated concept of nutrition, including both biomedical and behavioral science perspectives.

Above all, programs must create an interactive atmosphere. Project activities and responsibilities should be shared by communities, local development organizers and project personnel, all of whom act as *project collaborators* in a combined "top-down/bottom-up" approach. This emphasis on change agents and the deliberate use of

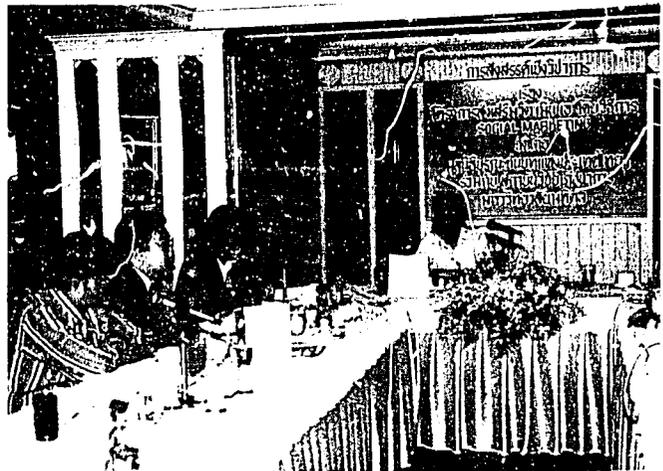
intersectoral collaboration is one of the unique qualities of the SM/VAF project.

Also crucial is combining nutritional messages with concrete actions, and an emphasis on careful, effective management.

Finally, the project itself must have a certain style which includes developing a variety of activities which meet the practicalities of village life. This is important because ultimately the community members are the one's who make the real difference. They are the ones who must change themselves.



'Healthy and Strong' with ivy gourd posters



Summary project meeting

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